UST # 583072
SIT 2.3.3

Delta
Environmental
Consultants, Inc.

1200-112th Avenue N.E.
Suite C-146
Bellevue, Washington 98004-6931
425/450-7726
FAX: 425/450-8837

RELEASE # 583079
SEATTE HOUSING AUTHORITY
FORMER CHEVRON 209335
SEATTLE

March 28, 2001
Project CW29-335-C.4C01

Mr. Ron Walker
Chevron Products Company
14711 Northeast 29th Place, Suite 100
Bellevue, Washington 98007

Re: Environmental Investigation
Former Chevron Service Station #209335
1225 North 45th Street
Seattle, Washington

Dear Mr. Walker:

This letter presents the results of an environmental investigation conducted by Delta Environmental Consultants, Inc. (Delta) at former Chevron Service Station 209335, located at the address referenced above (Figure 1). The purpose of this investigation was to assess and document soil quality with respect to petroleum hydrocarbons at the site during the removal of an undocumented underground storage tank (UST) at the site.

The scope of work for the environmental investigation was performed on February 5, 2001 and consisted of the following tasks:

- Field screen the soil excavated and the soil within the UST excavation using a photo-ionization detector (PID).
- Observe and document the removal of one 1000-gallon steel UST.
- Collect soil samples from the UST excavation.
- Submit soil samples and appropriate documentation to a Chevron approved laboratory for analysis.

SITE DESCRIPTION\PREVIOUS INVESTIGATION

Former Chevron Service Station 209335 is located at the southwest corner of the intersection of North 45th Street and Stone Way South in Seattle, Washington (Figure 1).

CKM
ENTERED
12/20/01

The area surrounding the site is primarily commercial, but the outlying area is residential. The property is currently being used as a parking lot for the Seattle Housing Authority.

Delta performed a soil and groundwater investigation at the site in October 2000. During this investigation, five soil borings were drilled and completed as groundwater monitoring wells (MW-1 through MW-5). During drilling of the initial boring for MW-2, the auger encountered an object that was suspected to be an underground storage tank. The drill rig was moved and MW-2 was completed farther to the south.

This project was performed in order to confirm the existence of an undocumented UST, and if encountered, remove the UST and assess the soil conditions per WAC173-360-390. The UST was located on the central west side of the site. The UST was presumed to be a former heating oil tank based on the location of the tank relative to the former service station building.

TANK REMOVAL OPERATIONS

Removal of the UST was performed by Wyser Construction Inc. (Wyser) of Everett, Washington on February 5, 2001. Wyser began excavating in the area of the soil boring and quickly determined that it was a steel UST which had been encountered. The steel tank was approximately four feet in diameter by 12 feet long. Hydrocarbon odors were observed at the tank fill hole, implying that the UST had contained gasoline at one time. Prior to removal of the UST, Marine Vacuum Service (Mar Vac) of Seattle, Washington pumped the remaining liquid out the tank. The liquid consisted primarily of water. Sound Testing of Seattle, Washington then pumped carbon dioxide into the tank in order to render the UST inert. The Bill of Lading/Product Transport Manifest for the UST and the liquid contents, and the Marine Chemist Certificate from Sound Testing is included in Attachment A. A copy of the Washington State Department of Ecology (Ecology) "Underground Storage Tank – Site Check/Site Assessment Checklist" is also included in Attachment A.

One hole was observed on the top of the UST which had likely been caused by the drill auger during the previous soil and groundwater investigation. The hole was approximately 1.5 inches by 0.5 inches in size, and there was no evidence of any liquid escaping from the hole. Some rust and pitting was observed on the UST. No other holes were observed and there was no evidence of fuel on the outside of the UST. The UST was transported off site and disposed by Mar Vac at their Seattle facility.

UST EXCAVATION/SOIL SAMPLING

The excavated material consisted primarily of olive brown silty sand with gravel and cobbles. Delta screened the soil with a PID on February 5, 2001. There were no odors detected in the soil and PID readings in the material did not exceed background levels. One bottom soil sample and four sidewall soil samples were collected from the UST excavation by Delta on February 5, 2001. The soil samples were collected from undisturbed soil within the excavation. The sample locations were based on Washington State Department of Ecology guidelines.

The material excavated during the UST removal activities was temporarily stockpiled adjacent to the excavation. Based on field observations and PID readings, the soil was backfilled into the excavation. The final dimensions of the UST excavation were approximately 11 feet by 13 feet by 7.5 feet deep. The soil sample locations are shown on Figure 1. Soil sampling and PID field screening methodology is presented in Attachment B.

ANALYTICAL PARAMETERS

Soil samples were analyzed for one or more of the following parameters:

PARAMETER	METHOD
Total Petroleum Hydrocarbons as gasoline (TPH-gasoline)	Northwest Method NWTPH-Gx
TPH-diesel and oil	Northwest Method NWTPH-Dx w/Silica Gel Clean-up
BTEX Compounds	EPA Method 8021B
Total Lead	EPA 6000/7000 Series Methods

The soil samples were analyzed by North Creek Analytical, Inc., of Bothell, Washington.

SOIL ANALYTICAL RESULTS

Soil sample analytical results are presented in Table 1. Laboratory methods, analytical reports, and chain-of-custody documentation are contained in Attachment C.

CONCLUSIONS

Concentrations of TPH-gasoline, TPH-diesel, TPH-oil, and BTEX compounds were not detected above laboratory reporting limits in any of the soil samples collected from the excavation. Concentrations of total lead in the soil samples ranged from 2.74 milligrams per kilogram (mg/kg) to 18.6 mg/kg. The soil generated during this project was used as backfill material in the excavation. Clean fill material was imported to the site to backfill the excavation to grade. The excavation was backfilled, compacted, and patched with asphalt.

Delta appreciates this opportunity to be of continuing service. If you have any questions regarding the contents of this report, please call.

Sincerely,

Delta Environmental Consultants, Inc.

Matthew Miller
Project Manager

Attachments: Table 1 - Soil Analytical Results
Figure 1 - Soil Sample Location Map
Attachment A - Bill of Lading – Product Transfer Manifest
Underground Storage Tank Site Check/Site Assessment Checklist
Attachment B - Investigative Procedures
Attachment C - Laboratory Analytical Methods and Reports
Chain-of-Custody Documentation

cc: Ben Forsen, Department of Ecology
Brett Hunter, Chevron Products Company
Larry Hard, Seattle Housing Authority

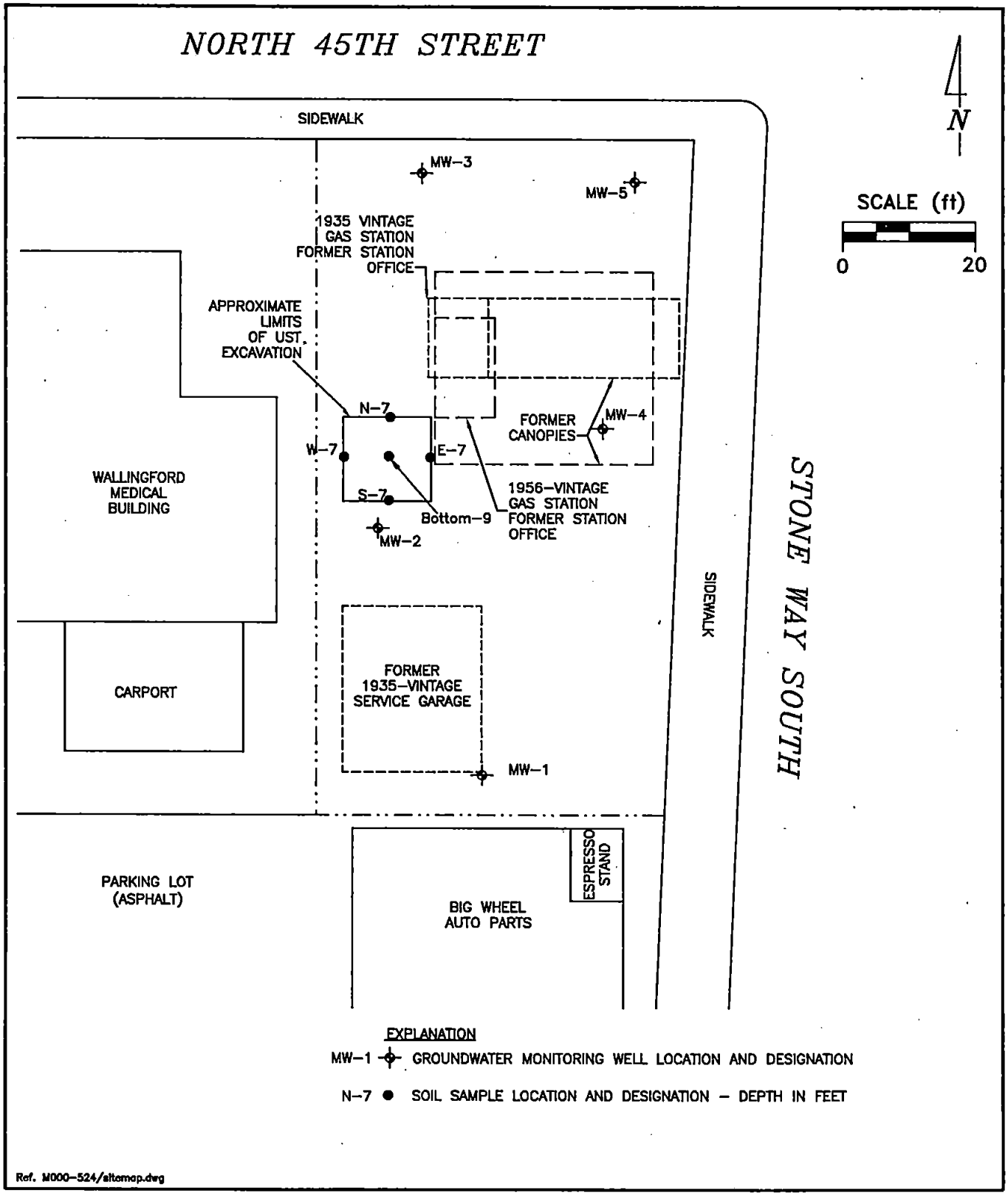
TABLE 1
SOIL ANALYTICAL RESULTS

Former Chevron Service Station 20-9335
Vacant Lot East of 1225 North 45th Street
Seattle, Washington

Sample I.D. - Depth	Date	TPH-Gasoline (mg/kg)	TPH-Diesel (mg/kg)	TPH-Oil (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total Lead (mg/kg)
N-7	02/05/01	ND	ND	ND	ND	ND	ND	ND	18.6
S-7	02/05/01	ND	ND	ND	ND	ND	ND	ND	11.4
W-7	02/05/01	ND	ND	ND	ND	ND	ND	ND	2.74
E-7	02/05/01	ND	ND	ND	ND	ND	ND	ND	4.67
BOTTOM-9	02/05/01	ND	ND	ND	ND	ND	ND	ND	11.1
MTCA Method A Cleanup Levels		**100**	**200**	**200**	**0.5**	**40**	**20**	**20**	**250**
Laboratory Reporting Limits:		**5.00**	**10**	**25**	**0.050**	**0.050**	**0.050**	**0.10**	**0.312-0.350**

Concentrations in milligrams per kilogram (mg/kg)
ND = Not detected at the laboratory reporting limits
Sample locations are shown on Figure 1
Certified Analytical Results are attached
TPH as Gasoline - Analysis by Northwest Method NWTPH-Gx
TPH as Diesel and oil - Analysis by Northwest Method NWTPH-Dx with Acid/Silica Gel Clean-up
BTEX Compounds - Analysis by EPA Method 8021B
Total Lead - Analysis by EPA 6000/7000 Series Methods

QA/QC MM 3/23/01



Ref. M000-524/sitemap.dwg

Environmental Consultants, Inc.	SOIL SAMPLE LOCATION MAP Former Chevron Service Station #209335 Vacant Lot East of 1225 North 45th Street Seattle (Wallingford), Washington	FIGURE: 1 PROJECT: M000-524

ATTACHMENT A

BILL OF LADING – PRODUCT TRANSFER MANIFEST

MARINE CHEMIST CERTIFICATE

UNDERGROUND STORAGE TANK SITE CHECK/SITE ASSESSMENT CHECKLIST

BILL OF LADING
PRODUCT TRANSPORT MANIFEST
MARINE VACUUM SERVICE INC.
24 HOUR EMERGENCY PHONE NUMBER (206) 762-0240

TRUCK NUMBER 01 DATE 2-5-01

TO DESTINATION
NAME MARINE VACUUM SERVICE INC.
STREET 1516 S GRAHAM ST
CITY / STATE SEATTLE WA 98108

FROM SHIPPER
NAME WHYSER
STREET N 45 1ST
CITY / STATE Seattle

QUANTITY	PROPER SHIPPING NAME	UN (PLACARD) NUMBER
1 Tank	pickup 1 Tank 1000 GAL	N/A
25 GAL	SAND.	
18	Empty Drum SLUDGE	

SHIPPER X DATE DRIVER Sylvester 2/5/2001 DATE

NOTE:

PG 1 - M.V.S. PG 2 - DESTINATION PG 3 - SHIPPER

BILL OF LADING
PRODUCT TRANSPORT MANIFEST
MARINE VACUUM SERVICE INC.
24 HOUR EMERGENCY PHONE NUMBER (206) 762-0240

TRUCK NUMBER 26 DATE 2-5-2001

TO DESTINATION
NAME MARINE VACUUM SERVICE INC.
STREET 1516 S GRAHAM ST
CITY / STATE SEATTLE WA 98108

FROM SHIPPER
NAME WHYCER
STREET 45 N ST
CITY / STATE

QUANTITY	PROPER SHIPPING NAME	UN (PLACARD) NUMBER
1000 GAL	P/U Vac Tank	N/A
	SLUDGE	

SHIPPER X DATE DRIVER Sylvester 2/5/2001 DATE

NOTE:

PG 1 - M.V.S. PG 2 - DESTINATION PG 3 - SHIPPER

SOUND TESTING, INC.
932-0206
24 HOUR SERVICE

MARINE CHEMIST CERTIFICATE

SERIAL NO. K15297

Page 1 of 1

DAN/MIKE	WYSER	2/5/2001
Survey Requested by	Vessel Owner or Agent	Date
N/A	U.S.T.	45th & STONE
Vessel	Type of Vessel	Specific Location of Vessel
GASOLINE	<18% O2, INERT	1:25 P.
Last Three (3) Loadings	Tests Performed	Time Survey Completed

ONE (1) 1000 GAL
U.S.T.

INERTED WITH CARBON DIOXIDE (CO_2)
GATE FOR EXCAVATION
GATE FOR TRANSPORT

KEEP ALL OPENINGS SECURED

END

KEEP ALL OPENINGS SECURED.

In the event of any physical or atmospheric changes affecting the STANDARD SAFETY DESIGNATIONS assigned to any of the above spaces this certificate is voided; or if there is any question about the conditions, immediately stop all work and contact the undersigned Marine Chemist.

QUALIFICATIONS: Transfer of ballast or manipulation of valves or closure equipment tending to alter conditions in pipelines, tanks, or compartments subject to gas accumulation, unless specifically approved in this certificate, requires inspection and a new certificate for spaces so affected. All lines, vents, heating coils, valves, and similar enclosed appurtenances shall be considered "not safe" unless otherwise specifically designated. Movement of the vessel from its specific location voids the certificate unless shifting of the vessel within the facility has been specifically authorized on this certificate.

STANDARD SAFETY DESIGNATIONS (partial list, paraphrased from NFPA 306 Subsections 2-3.1 through 2-3.6).

SAFE FOR WORKERS: In the compartment or space so designated (a) the oxygen content of the atmosphere shall be at least 19.5 percent and not greater than 22 percent by volume; (b) the concentration of flammable materials shall be below 10 percent of the lower explosive limit; (c) any toxic materials in the atmosphere associated with cargo, fuel, tank coatings, inerting mediums, or fumigants shall be within permissible concentrations at the time of the inspection.

NOT SAFE FOR WORKERS: In the compartment or space so designated, entry shall not be permitted.

ENTER WITH RESTRICTIONS: In the compartment or space so designated, entry for work shall be permitted only if conditions of proper protective equipment, or clothing, or time, or all of the aforementioned, as appropriate, are as specified.

SAFE FOR HOT WORK: In the compartment or space so designated (a) the oxygen content of the atmosphere shall not exceed 22 percent by volume; (b) the concentration of flammable materials in the atmosphere shall be less than 10 percent of the lower explosive limit; (c) the residues, scale, or preservative coatings shall be cleaned sufficiently to prevent the spread of fire and shall not be capable of producing a higher concentration than permitted by (a) or (b); (d) all adjacent spaces, containing or having contained flammable or combustible materials shall be sufficiently cleaned of residues, scale, or preservative coatings to prevent the spread of fire; or shall be inerted. Ships fuel tanks, lube tanks, or engine room or fire room bilges, or other machinery spaces, shall be treated in accordance with the Marine Chemist's requirements.

SAFE FOR LIMITED HOT WORK: In the compartment or space so designated (a) portions of the space shall meet the requirements Safe for Hot Work and Partial Cleaning, as applicable, or (b) the space shall be inerted, adjacent spaces shall meet the requirements for Safe for Hot Work, and hot work shall be restricted to specific locations, or (c) portions of the space shall meet the requirements of Safe for Hot Work, as applicable; and the nature or type of hot work shall be limited or restricted.

NOT SAFE FOR HOT WORK : In the compartment or space so designated, hot work shall not be permitted.

CHEMISTS ENDORSEMENT. This is to certify that I have personally determined that all spaces in the foregoing list are in accordance with NFPA 306 Control of Gas Hazards on Vessels and have found the condition of each to be in accordance with its assigned designation.

e undersigned acknowledges receipt of this Certificate under Section 2-6 of NFPA 306 and lerstands conditions and limitations under which it was issued."

This Certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

ined [signature] WYSER 4/5/01 Signed [signature] 667

Name Company Date Marine Chemist Certificate No.

MARINE CHEMIST RECORD

SOUND TESTING, INC.

932-0206

4-9-97

Printed in U.S.A.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

FOR OFFICE USE ONLY
Site #: _____
Owner #: _____

INSTRUCTIONS

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person certified by IFCI or a Washington registered professional engineer who is competent, by means of examination, experience, or education, to perform site assessments. **The results of the site check or site assessment must be included with this checklist.** This form must be submitted to Ecology at the address shown below within 30 days after completion of the site check/site assessment.

SITE INFORMATION: Include the Ecology site ID number if the tanks are registered with Ecology. This number may be found on the tank owner's invoice or tank permit.

TANK INFORMATION: Please list all tanks for which the site check or site assessment is being conducted. Use the owner's tank ID numbers if available, and indicate tank capacity and substance stored.

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT: Please check the appropriate item.

CHECKLIST: Please initial each item in the appropriate box.

SITE ASSESSOR INFORMATION: This information must be signed by the registered site assessor who is responsible for conducting the site check/site assessment.

Underground Storage Tank Section
Department of Ecology
PO Box 47655
Olympia WA 98504-7655

SITE INFORMATION

Site ID Number (Available from Ecology if the tanks are registered): _____
Site/Business Name: Former Chevron Service Station # 209335
Site Address: 1225 North 45th Street (Street) Telephone: (___)_____
Seattle (Wallingford) (City) Washington (State) (Zip Code)

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
	1,000 gallon	Gasoline

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

___ Investigate suspected release due to on-site environmental contamination.
___ Investigate suspected release due to off-site environmental contamination.
___ Extend temporary closure of UST system for more than 12 months.
___ UST system undergoing change-in-service.
___ UST system permanently closed with tank removed.
___ Abandoned tank containing product.
___ Required by Ecology or delegated agency for UST system closed before 12/22/88.
✓ Other (describe): Undocumented tank containing water/residual product

CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.	YES	NO
1. The location of the UST site is shown on a vicinity map.	✓ MM	
2. A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	✓ MM	
3. A summary of UST system data is provided. (see Section 3.1.)		✓ MM
4. The soils characteristics at the UST site are described. (see Section 5.2)	✓ MM	
5. Is there any apparent groundwater in the tank excavation?		✓ MM
6. A brief description of the surrounding land use is provided. (see Section 3.1)	✓ MM	
7. Information has been provided indicating the number and types of samples collected, methods used to collect and analyze the samples, and the name and address of the laboratory used to perform the analyses.	✓ MM	
8. A sketch or sketches showing the following items is provided:		
- location and ID number for all field samples collected	✓ MM	
- groundwater samples distinguished from soil samples (if applicable)	NA	
- samples collected from stockpiled excavated soil		✓ MM
- tank and piping locations and limits of excavation pit	✓ MM	
- adjacent structures and streets	✓ MM	
- approximate locations of any on-site and nearby utilities		✓ MM
9. If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (see Section 3.4)	NA	
10. A table is provided showing laboratory results for each sample collected including; sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.	✓ MM	
11. Any factors that may have compromised the quality of the data or validity of the results are described.	NA	
12. The results of this site check/site assessment indicate that a confirmed release of a regulated substance has occurred.		✓ MM

SITE ASSESSOR INFORMATION

Matthew Miller — Person registered with Ecology

Delta Environmental Consultants — Firm Affiliated with

Business Address: 1200 - 112th Avenue NE, C-140 — Street

Telephone: (425) 450-7707

Bellevue — City

WA — State

98004-3769 — Zip Code

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

2/27/1 — Date

Matthew Miller — Signature of Person Registered with Ecology

ATTACHMENT B

INVESTIGATIVE PROCEDURES

ATTACHMENT B

Soil Sampling Procedures

Soil samples for chemical analysis were collected directly from the backhoe bucket by scraping aside approximately six inches of soil and then collecting newly exposed material in laboratory-supplied glass jars with Teflon® lined lids. Each sample was affixed with a waterproof label showing project identification, sample designation, approximate depth, date, and the sampler's initials. The samples were placed on ice for transport to the laboratory accompanied by chain-of-custody documentation shown in Attachment B.

Organic Vapor Screening

Soil samples were screened in the field for ionizable organic compounds using a Photovac Model 2020 photo-ionization detector (PID) with a 10.6 eV light source. The test procedure involved collecting a discrete soil sample from the excavation or stockpiles, and placing it in a resealable bag. The bag was allowed to warm to ambient temperature for approximately twenty minutes, then the bag was pierced and the head-space within the bag was tested for total organic vapor, measured in parts per million, (ppm; volume/volume). The detection limit of the instrument ranges from 0.1 ppm to 2,000 ppm. It should be noted that the PID measurements are considered semi-quantitative data since the instrument detects all organic compounds with ionization potentials less than 10 electron volts (eV).

ATTACHMENT C

LABORATORY ANALYTICAL METHODS AND REPORTS

CHAIN-OF-CUSTODY DOCUMENTATION

ATTACHMENT C

Laboratory Analytical Methods

Analysis for TPH-gasoline was performed according to Northwest Method NWTPH-Gx. Analysis for TPH-diesel and oil was performed according to Northwest Method NWTPH-Dx with Acid/Silica gel Clean-up. Benzene, toluene, ethyl benzene, and xylenes analysis was performed in accordance with EPA Method 8021B. A methanol solvent extraction was used for the TPH analysis with final detection by gas chromatography using a flame-ionization detector. A headspace or purge and trap technique was utilized for BTEX analysis. Final detection was by gas chromatography using a photoionization detector. Analysis for total lead was performed according to EPA 6000/7000 Series Methods.

www.ncalabs.com

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N-7	B1B0115-01	Soil	02/05/01 12:00	02/06/01 19:45
S-7	B1B0115-02	Soil	02/05/01 12:00	02/06/01 19:45
W-7	B1B0115-03	Soil	02/05/01 12:00	02/06/01 19:45
E-7	B1B0115-04	Soil	02/05/01 12:00	02/06/01 19:45
BOTTOM-9	B1B0115-05	Soil	02/05/01 12:00	02/06/01 19:45

Jeanne Garthwaite, Project Manager

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B

North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
N-7 (B1B0115-01) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry	1	1B12006	02/12/01	02/13/01	NWTPH-Gx/8021B	
Benzene	ND	0.0500	"	"	"	"	"	"	
Toluene	ND	0.0500	"	"	"	"	"	"	
Ethylbenzene	ND	0.0500	"	"	"	"	"	"	
Xylenes (total)	ND	0.100	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	*93.2 %*	*50-150*			"	"	"	"	
Surrogate: 4-BFB (PID)	*95.8 %*	*50-150*			"	"	"	"	
S-7 (B1B0115-02) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry	1	1B12006	02/12/01	02/13/01	NWTPH-Gx/8021B	
Benzene	ND	0.0500	"	"	"	"	"	"	
Toluene	ND	0.0500	"	"	"	"	"	"	
Ethylbenzene	ND	0.0500	"	"	"	"	"	"	
Xylenes (total)	ND	0.100	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	*96.4 %*	*50-150*			"	"	"	"	
Surrogate: 4-BFB (PID)	*98.3 %*	*50-150*			"	"	"	"	
W-7 (B1B0115-03) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry	1	1B12006	02/12/01	02/13/01	NWTPH-Gx/8021B	
Benzene	ND	0.0500	"	"	"	"	"	"	
Toluene	ND	0.0500	"	"	"	"	"	"	
Ethylbenzene	ND	0.0500	"	"	"	"	"	"	
Xylenes (total)	ND	0.100	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	*92.4 %*	*50-150*			"	"	"	"	
Surrogate: 4-BFB (PID)	*94.1 %*	*50-150*			"	"	"	"	

JmG

Jeanne Garthwaite, Project Manager

www.ncalabs.com

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E-7 (B1B0115-04) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry	1	1B12006	02/12/01	02/13/01	NWTPH-Gx/8021B	
Benzene	ND	0.0500	"	"	"	"	"	"	
Toluene	ND	0.0500	"	"	"	"	"	"	
Ethylbenzene	ND	0.0500	"	"	"	"	"	"	
Xylenes (total)	ND	0.100	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	*81.6 %*	*50-150*			"	"	"	"	
Surrogate: 4-BFB (PID)	*93.0 %*	*50-150*			"	"	"	"	
BOTTOM-9 (B1B0115-05) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry	1	1B12006	02/12/01	02/14/01	NWTPH-Gx/8021B	
Benzene	ND	0.0500	"	"	"	"	"	"	
Toluene	ND	0.0500	"	"	"	"	"	"	
Ethylbenzene	ND	0.0500	"	"	"	"	"	"	
Xylenes (total)	ND	0.100	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	*92.7 %*	*50-150*			"	"	"	"	
Surrogate: 4-BFB (PID)	*92.5 %*	*50-150*			"	"	"	"	

Jeanne Garthwaite, Project Manager

www.ncalabs.com

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541.383.9310 fax 541.382.7588

Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
N-7 (B1B0115-01) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Diesel Range Hydrocarbons	ND	10.0	mg/kg dry	1	1B12012	02/13/01	02/13/01	NWTPH-Dx SG	
Lube Oil Range Hydrocarbons	ND	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	*55.2 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*73.5 %*	*50-150*			"	"	"	"	
S-7 (B1B0115-02) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Diesel Range Hydrocarbons	ND	10.0	mg/kg dry	1	1B12012	02/13/01	02/13/01	NWTPH-Dx SG	
Lube Oil Range Hydrocarbons	ND	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	*77.1 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*79.4 %*	*50-150*			"	"	"	"	
W-7 (B1B0115-03) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Diesel Range Hydrocarbons	ND	10.0	mg/kg dry	1	1B12012	02/13/01	02/13/01	NWTPH-Dx SG	
Lube Oil Range Hydrocarbons	ND	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	*75.5 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*91.2 %*	*50-150*			"	"	"	"	
E-7 (B1B0115-04) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Diesel Range Hydrocarbons	ND	10.0	mg/kg dry	1	1B12012	02/13/01	02/13/01	NWTPH-Dx SG	
Lube Oil Range Hydrocarbons	ND	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	*75.1 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*79.0 %*	*50-150*			"	"	"	"	
BOTTOM-9 (B1B0115-05) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Diesel Range Hydrocarbons	ND	10.0	mg/kg dry	1	1B12012	02/13/01	02/13/01	NWTPH-Dx SG	
Lube Oil Range Hydrocarbons	ND	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	*56.8 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*88.0 %*	*50-150*			"	"	"	"	

Jeanne Garthwaite, Project Manager

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
N-7 (B1B0115-01) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Lead	**18.6**	0.350	mg/kg dry	1	1B13004	02/13/01	02/15/01	EPA 6020	
S-7 (B1B0115-02) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Lead	**11.4**	0.333	mg/kg dry	1	1B13004	02/13/01	02/15/01	EPA 6020	
W-7 (B1B0115-03) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Lead	**2.74**	0.327	mg/kg dry	1	1B13004	02/13/01	02/15/01	EPA 6020	
E-7 (B1B0115-04) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Lead	**4.67**	0.316	mg/kg dry	1	1B13004	02/13/01	02/15/01	EPA 6020	
BOTTOM-9 (B1B0115-05) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Lead	**11.1**	0.312	mg/kg dry	1	1B13004	02/13/01	02/15/01	EPA 6020	

JmG
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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
N-7 (B1B0115-01) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Dry Weight	**93.3**	1.00	%	1	1B13010	02/13/01	02/14/01	BSOPSPL003R07	
S-7 (B1B0115-02) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Dry Weight	**95.4**	1.00	%	1	1B13010	02/13/01	02/14/01	BSOPSPL003R07	
W-7 (B1B0115-03) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Dry Weight	**94.8**	1.00	%	1	1B13010	02/13/01	02/14/01	BSOPSPL003R07	
E-7 (B1B0115-04) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Dry Weight	**91.0**	1.00	%	1	1B13010	02/13/01	02/14/01	BSOPSPL003R07	
BOTTOM-9 (B1B0115-05) Soil Sampled: 02/05/01 12:00 Received: 02/06/01 19:45									
Dry Weight	**91.1**	1.00	%	1	1B13010	02/13/01	02/14/01	BSOPSPL003R07	

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B12006: Prepared 02/12/01 Using EPA 5030B (MeOH)										
Blank (1B12006-BLK1)										
Gasoline Range Hydrocarbons	ND	5.00	mg/kg wet							
Benzene	ND	0.0500	"							
Toluene	ND	0.0500	"							
Ethylbenzene	ND	0.0500	"							
Xylenes (total)	ND	0.100	"							
Surrogate: 4-BFB (FID)	*4.15*		"	*4.00*		*104*	*50-150*			
Surrogate: 4-BFB (PID)	*4.08*		"	*4.00*		*102*	*50-150*			
LCS (1B12006-BS1)										
Gasoline Range Hydrocarbons	25.2	5.00	mg/kg wet	25.0		101	70-130			
Surrogate: 4-BFB (FID)	*3.96*		"	*4.00*		*99.0*	*50-150*			
Duplicate (1B12006-DUP1)					**Source: B1B0115-02**					
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry		ND			28.0	50	
Surrogate: 4-BFB (FID)	*4.18*		"	*4.19*		*99.8*	*50-150*			
Duplicate (1B12006-DUP2)					**Source: B1B0115-03**					
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry		ND			21.9	50	
Surrogate: 4-BFB (FID)	*3.99*		"	*4.22*		*94.5*	*50-150*			
Matrix Spike (1B12006-MS1)					**Source: B1B0115-01**					
Benzene	0.510	0.0500	mg/kg dry	0.536	ND	95.1	60-140			
Toluene	0.518	0.0500	"	0.536	ND	96.6	60-140			
Ethylbenzene	0.561	0.0500	"	0.536	ND	105	60-140			
Xylenes (total)	1.67	0.100	"	1.61	ND	103	60-140			
Surrogate: 4-BFB (PID)	*4.16*		"	*4.29*		*97.0*	*50-150*			
Matrix Spike Dup (1B12006-MSD1)					**Source: B1B0115-01**					
Benzene	0.502	0.0500	mg/kg dry	0.536	ND	93.7	60-140	1.58	20	
Toluene	0.510	0.0500	"	0.536	ND	95.1	60-140	1.56	20	
Ethylbenzene	0.545	0.0500	"	0.536	ND	102	60-140	2.89	20	
Xylenes (total)	1.65	0.100	"	1.61	ND	101	60-140	1.20	20	
Surrogate: 4-BFB (PID)	*4.14*		"	*4.29*		*96.5*	*50-150*			

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B12012: Prepared 02/12/01 Using EPA 3550B										
Blank (1B12012-BLK1)										
Diesel Range Hydrocarbons	ND	10.0	mg/kg wet							
Lube Oil Range Hydrocarbons	ND	25.0	"							
Surrogate: 2-FBP	*8.41*		"	*10.7*		*78.6*	*50-150*			
Surrogate: Octacosane	*9.04*		"	*10.7*		*84.5*	*50-150*			
LCS (1B12012-BS1)										
Diesel Range Hydrocarbons	54.4	10.0	mg/kg wet	66.7		81.6	50-150			
Surrogate: 2-FBP	*8.89*		"	*10.7*		*83.1*	*50-150*			
Duplicate (1B12012-DUP1)					**Source: B1B0115-01**					
Diesel Range Hydrocarbons	ND	10.0	mg/kg dry		ND				50	
Lube Oil Range Hydrocarbons	ND	25.0	"		ND			35.2	50	
Surrogate: 2-FBP	*8.70*		"	*11.4*		*76.3*	*50-150*			
Surrogate: Octacosane	*9.25*		"	*11.4*		*81.1*	*50-150*			

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B13004: Prepared 02/13/01 Using EPA 3050B										
Blank (1B13004-BLK1)										
Lead	ND	0.500	mg/kg wet							
LCS (1B13004-BS1)										
Lead	25.9	0.500	mg/kg wet	25.0		104	80-120			
Matrix Spike (1B13004-MS1)					**Source: B1B0115-01**					
Lead	36.8	0.350	mg/kg dry	18.7	18.6	97.3	70-130			
Matrix Spike Dup (1B13004-MSD1)					**Source: B1B0115-01**					
Lead	36.2	0.350	mg/kg dry	18.7	18.6	94.1	70-130	1.64	20	

Jeanne Garthwaite, Project Manager

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1B13010: Prepared 02/13/01 Using Dry Weight										
Blank (1B13010-BLK1)										
Dry Weight	100	1.00	%							

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Delta Environmental	Project: Chevron #20-9335	
1200 112th Ave. NE C146	Project Number: CW29-335-C	**Reported:**
Bellevue WA, 98004	Project Manager: Matt Miller	02/20/01 11:14

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Environmental Laboratory Network
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CHEVRON U.S.A., Inc. CHAIN OF CUSTODY REPORT B1B0115

CHEVRON INFORMATION

Facility Number: 20-9335
Site Address: 1225 North 45th Street
City, State, ZIP: Seattle Wa
Service Code:
Service Order: 4594465
Cost Element: 75100100
Chevron Project Manager: Ron Walker

- ☐ Site Assesment
- ☐ Remediation
- ☐ O & M
- ☐ GWM

CONSULTANT INFORMATION

Name: Delta Environmental Project# CW29-335-C
Address: 1200 112th Avenue NE Suite C-146
Bellevue, Wa 98004-3769
Phone: (425) 450-7707 Fax: (425) 450-8837
Project Manager: Matthew Miller Airbill#:
Sample Collection by: Matthew Miller

Laboratory Turnaround Time

- ☐ 1 Business Day
- ☐ 3 Business Days
- ☐ 5 Business Days
- ☒ 10 Business Days
- ☐ 3 Day Air Samples (Please Select One)

☐ AK ☐ OR ☐ WA ☒ NW Series

SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CON-TAINERS	TPH-HCID	TPH-Gas	BTEX Only EPA 8021 Mod.	TPH-Gas + BTEX	TPH-Diesel	TPH-Diesel Extended	TPH-Diesel-Ext. w/SG Cleanup	Halogen. Volatiles EPA 8021	Pesticides/PCBs or PCBs Only	GC/MS Volatiles EPA 8260	GC/MS SemiVols. EPA 8270	PAH's: 8270 SIM or 8310	Lead: (Total) or Dissolved TCLP or RCRA Metals (8)						NCA SAMPLE NUMBER
1. N-7	2/5/1	S	1				X			X						X						01
2. S-7							X			X						X						02
3. W-7							X			X						X						03
4. E-7							X			X						X						04
5. Bottom-9							X			X						X						05
6.																						
7.																						
8.																						
9.																						
10.																						

Relinquished by:	Firm:	Date & Time	Received by:	Firm:	Date & Time
1. Matthew Miller	Delta	2/6/1	Robert Jones	NCA	2/6/01 14:45
2.	NCA	2/6/01 19:45	Laura Lynch		2/6/01 19:45
3.					

RECEIVED
APR 02 2001
DEPT OF ECOLOGY

Additional Comments:
Bill Ron Walker of Chevron in Bellevue, Wa.

W/O 14.2°

SAMPLES WERE NOT @ 2-6C UPON RECEIPT

Chev CoC, Rev. 3.3, 2/99