Law Offices

UST site# 4806

Rel./LUST #1716
Cowman Campbell Paint Co.

RECEIVED
APR 29 1997
DEPT. OF ECOLOGY

BETTS PATTERSON & MINES, P.S.

800 Financial Center
1215 Fourth Avenue
Seattle, Washington 98161-1090
Fax: 206-343-7053
Phone: 206-292-9988

Entered on 3-25-99 SEK

Ronald D. Allen

April 25, 1997

DEPARTMENT OF ECOLOGY
NWRO/TCP TANKS UNIT

INTERIM CLEANUP REPORT	☑
SITE CHARACTERIZATON	☐
FINAL CLEANUP REPORT	☐
OTHER GW monitoring	☐
AFFECTED MEDIA: SOIL	☑
OTHER ____ GW	☑
INSPECTOR (INIT.) ____ DATE 4-30-97	

Mr. Joseph Hickey
Washington Department of Ecology
Northwest Regional Office
Leaking Underground Storage Tank Division
3190 160th Street Southeast
Bellevue, WA 98008

Re: C&C Paint Company Property
~~5221 Ballard Avenue Northwest~~ 5232 SHILSHOLE AVE NW 11/8/2011
Seattle, Washington

Dear Mr. Hickey:

Enclosed is a copy of Columbia Environmental, Inc.'s most recent Quarterly Groundwater Monitoring Report for the above-referenced property. The report is dated April 21, 1997, and contains well testing data on samples collected April 3, 1997. Copies of laboratory results are also attached.

In accordance with the plan set forth in our May 17, 1996 correspondence, future monitoring of this site shall take place on an annual basis. Should you require further information, please contact the undersigned.

Very truly yours,

Ronald D. Allen

RDA:dmp

Enclosure

cc: Mr. Harold Cowman
Mr. Robert Campbell
Columbia Environmental

960930144/042597/1545/21910005

Columbia Environmental Inc.
200 S. 333rd St. • Suite 120 • Federal Way, WA 98003 • Seattle 206/838-7261 Tacoma 206/927-1588 Fax 206/838-5744

April 21, 1997

Hal Cowman
CZS Enterprises Inc.
5221 Ballard Avenue Northwest
Seattle, Washington 98107

RE: Quarterly Groundwater Monitoring
C & C Paint Company Property
5221 Ballard Avenue Northwest
Seattle, Washington
Project Number 95603-2

References: 1) Bison Environmental Northwest, Inc., February 19, 1991: "Site Assessment, C & C Paint Company".

2) Columbia Environmental, Inc., February 12, 1996: "Phase 2 Environmental Site Assessment", same site.

Dear Hal:

Columbia Environmental, Inc., is pleased to provide this Quarterly Groundwater Monitoring report for the C & C Paints property in Seattle, Washington.

As discussed in the referenced reports, soil and groundwater contamination is known to be present in the loading dock area of the site due to the past presence of six underground storage tanks (USTs) in this area. Five of the six tanks had contained mineral spirits, and contamination of soil and groundwater by mineral spirits was discovered during removal of the USTs in 1990. Ten groundwater monitoring wells have been installed on the property and in the adjacent Shilshole Avenue right-of-way to delineate the plume of soil and groundwater contamination. A layer of free product was observed to be present on the groundwater surface in one of these monitoring wells, designated MW1, following its installation during 1991.

Use of a free product recovery canister was initiated in MW1 during the early months of 1996. The canister did not function properly in separating the water and product, and liquid removed from the well during this process was a mixture of product and water. However, during attempts to correct this problem, the layer of free product disappeared, and has not been observed to be present since the spring of 1996.

SCOPE OF WORK

The scope of work for this project included:

- The collection and laboratory analysis of groundwater samples from six of the monitoring wells.
- Preparation of this report.

METHODOLOGY

The wells were sampled on April 3, 1997, by an environmental engineer from our firm. Groundwater sampling was conducted in accordance with WDOE and EPA guidelines as described below.

Prior to sampling, each well was checked for the presence of free product using a disposable bailer. The depth to groundwater was then measured relative to the north edge of the well casing using an electronic water level indicator. Measurements were accurate to the nearest 0.01 foot. The well was then purged by removing a minimum of 3 volumes of water, after which a sample was collected. Monitoring wells MW1 and MW7 were purged and sampled using disposable PTE bailers. The remaining wells were purged and sampled using a reusable PVC bailer.

Groundwater samples were transferred to sterilized, preserved glassware which had been provided by the project laboratory. A label indicating the sample number, project number, sampler, and date and time of sampling, was affixed to each sample, and the sample was recorded on a chain-of-custody form. Samples were stored in an iced chest on site and during transport to the laboratory.

To avoid cross-contamination, all non-disposable sampling and measurement equipment was cleaned and rinsed with laboratory-grade detergent and distilled water before and after each use. In addition, the wells were sampled in the order of increasing probability of contamination as judged based on past laboratory results.

Water produced by purging the wells and decontaminating equipment was sealed in clearly labelled 55-gallon drums which remained on the site.

Laboratory Analysis

Samples were taken to OnSite Environmental of Redmond, Washington for analysis. Mineral spirits are in the gasoline petroleum hydrocarbon range. Based on Washington Department of Ecology guidance documents, the mineral spirits were quantified as gasoline using the WTPH-G analysis. The samples were also analyzed for the gasoline/mineral spirits constituents benzene, toluene, ethylbenzene, and xylenes (BTEX) based on the past presence of these contaminants in some wells.

RESULTS

No free product was observed in any of the six wells sampled on April 3, 1997. A sheen and hydrocarbon odors were noted during sampling of MW1, and hydrocarbon odors were noted during sampling of MW7. Due to the silty nature of the surrounding soil, groundwater recharge within the wells was relatively slow. Each well was allowed at least 1 hour of recovery time between purging and sampling. The wells were capped during the recovery period to minimize contaminant volatilization from groundwater within the wells.

Depth-to-groundwater measurements and groundwater elevations obtained during our previous survey and the current sampling event are summarized in the following table (all measurements are in feet):

TABLE A: GROUNDWATER SURVEY RESULTS

Monitoring Well	Monitoring Well Elevation	Date	Depth to Groundwater	Groundwater Elevation
MW1	19.72	01/30/96	4.60	15.11
		09/11/96	5.04	14.68
		12/10/96	4.84	14.88
		4/3/97	Not Measured	-
MW2	19.74	01/30/96	4.54	15.20
		06/20/96	4.63	15.11
		09/11/96	5.34	14.40
		12/10/96	3.14	16.60
		4/3/97	4.29	15.45
MW3	19.80	01/30/96	4.71	15.09
		09/11/96	5.27	14.53
MW4	20.00	01/30/96	5.17	14.83
		09/11/96	5.72	14.28
MW5	19.57	01/30/96	5.19	14.38
		09/11/96	5.73	13.84
MW6	20.39	01/30/96	4.57	15.82
		09/11/96	3.48	16.91
MW7	20.65	01/30/96	2.97	17.68
		06/20/96	2.08	18.57
		09/11/96	3.11	17.54
		12/10/96	2.98	17.67
		4/3/97	2.77	17.88

TABLE A (continued): GROUNDWATER SURVEY RESULTS

Monitoring Well	Monitoring Well Elevation	Date	Depth to Groundwater	Groundwater Elevation
MW8	21.29	01/30/96	3.90	17.39
		06/20/96	3.94	17.35
		09/11/96	4.14	17.15
		12/10/96	3.97	17.32
		4/3/97	3.86	17.43
MW9	23.98	01/30/96	4.32	19.66
		06/20/96	4.47	19.51
		09/11/96	4.65	19.33
		12/10/96	4.31	19.67
		4/3/97	3.98	20.00
MW10	19.89	01/30/96	6.06	13.83
		06/20/96	5.78	14.11
		09/11/96	6.43	13.46
		12/10/96	5.64	14.25
		4/3/97	5.81	14.08

As indicated by the above table, the groundwater elevations within the sampled wells have increased slightly since the previous sampling event in December of 1996. The magnitude of the increased elevation ranged from 0.11 feet in MW8 to 0.33 feet in MW9 (the depth to groundwater measured in MW2 during the previous round of sampling is thought to be erroneous, and therefore the decrease in elevation of 1.15 feet has been discounted). The changes indicate that the water table is beginning to rise from recharge cause by seasonal rainfall. The groundwater gradient on the site appears to be similar to the previous gradients, sloping downward to the west-southwest.

Laboratory Results

The results of laboratory analysis of samples collected during this study are included in Appendix B of this report. Table B in Appendix B summarizes the results of groundwater analysis from the current and previous sampling events.

As indicated in Table B, concentrations of mineral spirits in excess of the regulatory cleanup level of 1.0 parts per million (ppm) were detected in MW1 and MW7 during this sampling event. The reported mineral spirits concentrations of 190 and 17 ppm in MW1 and MW7, respectively, are within the same general range of concentrations reported during 1996 sampling events. Some BTEX constituents in MW7, and all BTEX constituents in MW1, exceeded regulatory cleanup levels for these contaminants.

With the exception of trace BTEX constituents which were well below regulatory cleanup levels, no mineral spirits or BTEX concentrations were reported in MW2 or MW10. As in previous sampling events, no mineral spirits or BTEX were detected in MW8 or MW9.

Mineral spirits
MW's 4&5
contaminated, too
see Appx B

CONCLUSIONS

The following conclusions are offered based on information obtained during this sampling event and previous work on the site:

Concentrations of mineral spirits in excess of the regulatory cleanup level of 1.0 parts per million (ppm) were detected in MW1 and MW7 during this sampling event. These wells have historically contained elevated mineral spirits concentrations, and a free product layer has been present in MW1.

As in the previous three sampling events, the free product layer which had been present on the groundwater surface in MW1 was not observed during this sampling event. Concentrations of mineral spirits in groundwater within both MW1 and MW7 appeared to have remained relatively stable over the last four quarterly monitoring events.

With the exception of trace concentrations of some BTEX constituents in MW2 and MW10, no mineral spirits or BTEX constituents were detected in groundwater samples from the other four wells. This is generally consistent with previous results, which suggest that MW2 and MW10 are located near the boundary of the contaminant plume, and that MW8 and MW9 are outside of the contaminated area.

This concludes our recommended quarterly monitoring for this site. We recommend that at a minimum, monitoring be continued on an annual basis, with sampling occurring during February or March.

The state cleanup levels for petroleum products are currently based on "worst case" scenarios such as residential site use and use of groundwater for drinking purposes. This has resulted in relatively stringent cleanup levels for industrial sites such as your facility. To address this situation, the Washington Department of Ecology is currently preparing a guidance document for Risk Based Corrective Actions (RBCA) on industrial sites contaminated with petroleum products. This document is expected to be released within a 1 to 2 year time frame. We will keep you informed of developments in this area.

We recommend that a copy of this report be provided to the Washington Department of Ecology's Northwest Regional Office for their records.

LIMITATIONS

This report has been prepared for the exclusive use of the client and their representatives for specific application to the C & C Paints Property in Seattle, Washington. The scope of work for this project is limited to known contamination in the vicinity of the shipping yard. Other areas of contamination may be present which are not addressed by this report. The work for this project was conducted in a manner consistent with generally accepted environmental science practices for consultants acting under similar conditions in the area, and in accordance with the terms of the client's request. No other warranty is expressed or implied.

If new information on the site is developed during future environmental studies, Columbia Environmental, Inc., should be allowed to review this information, to reevaluate the conclusions of this report, and to provide amendments as required.

* * *

We appreciate the opportunity to provide environmental consulting services on this project. Should you have any questions or if there is additional information that you require, please do not hesitate to contact us.

Sincerely,

Columbia Environmental, Inc.

Henry Perrin
Environmental Engineer
Washington State Registered UST Site Assessor

Tim Stott
Project Manager

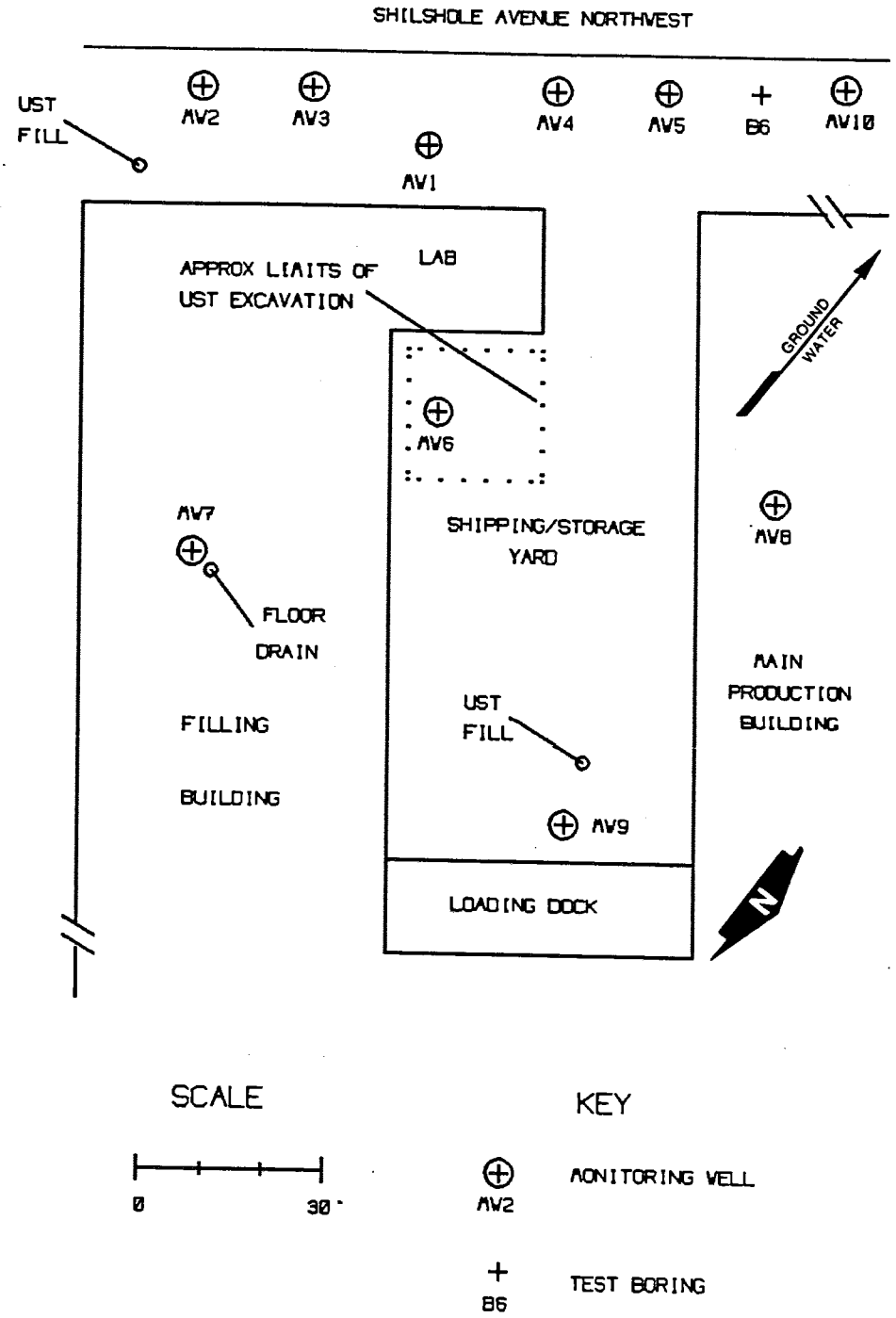
Attachments:
Appendix A: Site Location Map & Site Plans (3)
Appendix B: Laboratory Results (9)

cc: Ronald Allen, Betts Patterson & Mines

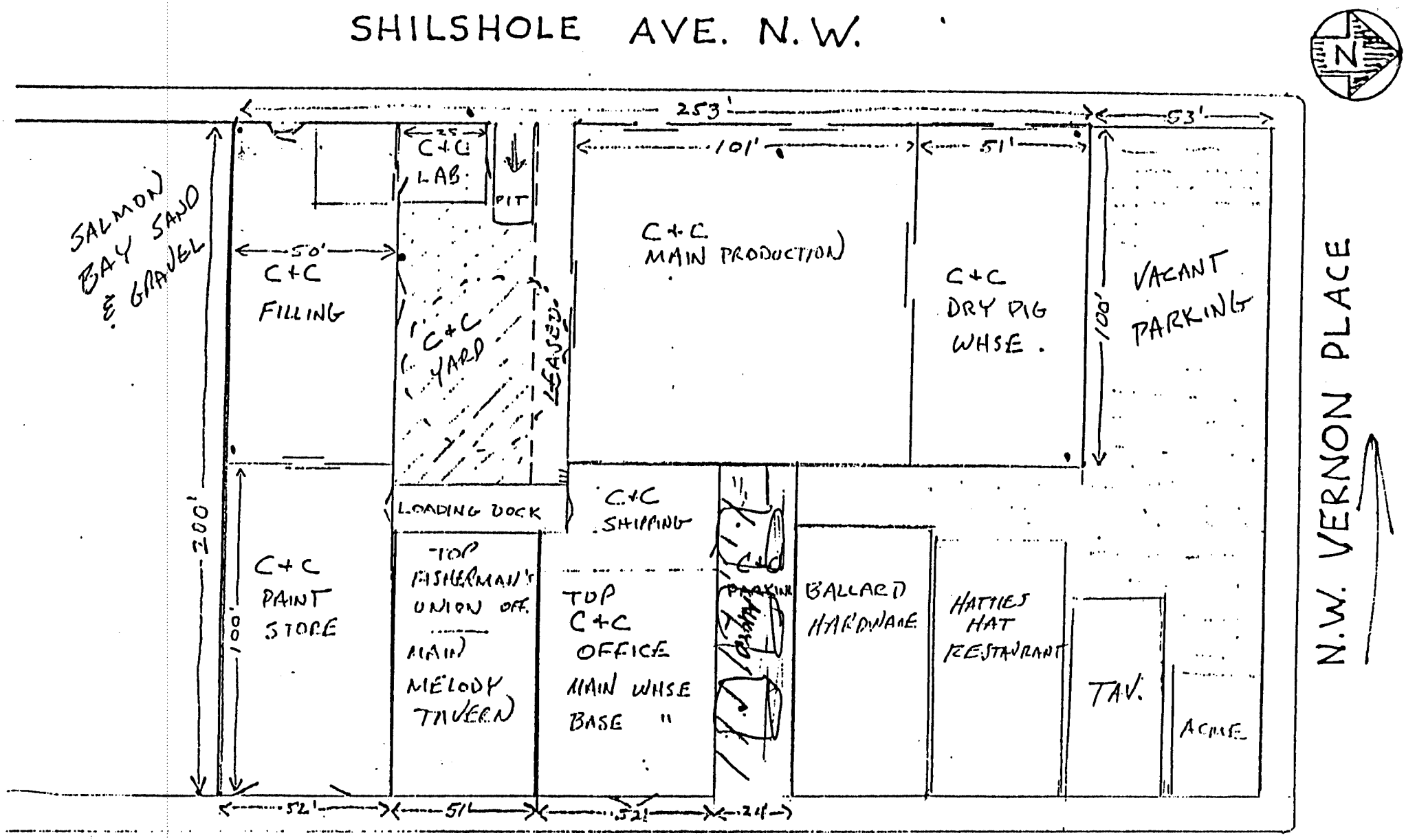
Appendix A

Site Location Map & Site Plans

SITE LOCATION C&C Paints Seattle, Washington	Columbia Environmental, Inc. Project Number 95603-2 April 1997



SITE PLAN C&C Paints Seattle, Washington	Columbia Environmental, Inc. Project Number 95603-2 April 1997



SCALE: 1/10" = 4'

HAC 10-13-93

Appendix B

Laboratory Results

TABLE B:
Summary of Analytical Results
Project No. 95603-2

Monitoring Well	Date	Mineral Spirits (ppm)*	B (ppm)	T (ppm)	E (ppm)	X (ppm)
MW1	11/27/95	24,000	0.93	41	550	855
	06/20/96	210	.0085	0.30	14	226
	09/11/96	190	ND	ND	13	58
	12/10/96	190	0.007	0.27	14	64
	04/03/97	190	0.0076	0.26	13	65
MW2	11/27/95	ND	ND	ND	.0066	0.027
	06/20/96	1.1	-	-	-	-
	09/11/96	0.90	ND	0.023	0.079	0.379
	12/10/96	ND	ND	ND	0.0011	0.0023
	04/03/97	ND	ND	0.0032	ND	ND
MW3	11/27/95	ND	ND	ND	ND	ND
MW4	11/27/95	78	0.004	0.04	4.6	20.8
MW5	11/27/95	28	0.004	0.011	1.5	7.4
MW6	01/29/96	0.68	.0035	ND	.0022	0.112
MW7	01/29/96	61	0.002	0.34	3.5	3.2
	06/20/9[illegible]	16	-	-	-	-
	09/11/9[illegible]	9.0	ND	0.003	0.87	0.203
	12/10/96	15	ND	0.0068	1.3	3.63
	04/03/97	17	ND	.0054	1.1	3.92
MW8	01/29/96	ND	ND	ND	ND	0.001
	06/20/96	ND	-	-	-	-
	09/11/96	ND	ND	ND	ND	ND
	12/10/96	ND	-	-	-	-
	04/03/97	ND	ND	ND	ND	ND
Groundwater Cleanup Level		1.0	0.005	0.04	0.03	0.02

TABLE B (continued):
Summary of Analytical Results
Project No. 95603-2

Monitoring Well	Date	Mineral Spirits (ppm)*	B (ppm)	T (ppm)	E (ppm)	X (ppm)
MW9	01/29/96	ND	ND	ND	ND	ND
	06/20/96	ND	-	-	-	-
	09/11/96	ND	ND	ND	ND	ND
	12/10/96	ND	-	-	-	-
	04/03/97	ND	ND	ND	ND	ND
MW10	01/29/96	0.93	ND	ND	0.062	0.397
	06/20/96	1.1	-	-	-	-
	09/11/96	0.58	ND	ND	0.043	0.171
	12/10/96	ND	ND	ND	ND	0.0012
	04/03/97	ND	ND	ND	0.0021	0.0052
Groundwater Cleanup Level		**1.0**	**0.005**	**0.04**	**0.03**	**0.02**

NOTES:

1) * Quantified as gasoline using the WTPH-G analysis.
2) ppm denotes parts per million.
3) Cleanup levels are "Method A" Cleanup Levels as specified in the Model Toxics Control Act, Chapter 173-340 WAC.
4) ND denotes none detected. Refer to laboratory report for detection limit.
5) B, T, E, and X denote benzene, toluene, ethylbenzene and xylenes.
6) - indicates sample not analyzed for parameter.

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

APR 1 . 1997

April 9, 1997

Henry Perrin
Columbia Environmental Inc.
200 South 333rd Street, Suite 120
Federal Way, WA 98003

Re: Analytical Data for Project 95603-2
Laboratory Reference No. 9704-023

Dear Henry:

Enclosed are the results of the analyses, and associated quality control data, of samples submitted on April 4, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Karl P. Hornyik
Project Chemist

Enclosures

Date of Report: April 9, 1997
Samples Submitted: April 4, 1997
Lab Traveler: 04-023
Project: 95603-2

EPA 602 & WTPH-G

Date Extracted:	4-04-97					
Date Analyzed:	4-4&7-97					
Matrix: Water						
Units: ug/L (ppb)						
Lab ID:	04-023-1			04-023-2		
Client ID:	**MW9**			**MW8**		
Dilution Factor	1			1		
	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	ND		1.0
Toluene	ND		1.0	ND		1.0
Ethyl Benzene	ND		1.0	ND		1.0
m,p-Xylene	ND		1.0	ND		1.0
o-Xylene	ND		1.0	ND		1.0
TPH-Gas	ND		100	ND		100
Fluorobenzene Surrogate Recovery	75%			104%		

Date of Report: April 9, 1997
Samples Submitted: April 4, 1997
Lab Traveler: 04-023
Project: 95603-2

EPA 602 & WTPH-G

Date Extracted: 4-04-97
Date Analyzed: 4-4&7-97

Matrix: Water
Units: ug/L (ppb)

Lab ID:	04-023-3			04-023-4		
Client ID:	**MW10**			**MW2**		
Dilution Factor	1			1		
	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	ND		1.0
Toluene	ND		1.0	3.2		1.0
Ethyl Benzene	2.1		1.0	ND		1.0
m,p-Xylene	5.2		1.0	ND		1.0
o-Xylene	ND		1.0	ND		1.0
TPH-Gas	ND		100	ND		100
Fluorobenzene Surrogate Recovery	86%			83%		

Date of Report: April 9, 1997
Samples Submitted: April 4, 1997
Lab Traveler: 04-023
Project: 95603-2

EPA 602 & WTPH-G

Date Extracted:	4-04-97					
Date Analyzed:	4-4&7-97					
Matrix: Water						
Units: ug/L (ppb)						
Lab ID:	04-023-5			04-023-6		
Client ID:	**MW7**			**MW1**		
Dilution Factor	5			1000		
	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		5.0	7.6	D1	5.0
Toluene	5.4		5.0	260	D1	5.0
Ethyl Benzene	1100	D	250	13000		1000
m,p-Xylene	3600	D	250	51000		1000
o-Xylene	320		5.0	14000		1000
TPH-Gas	17000		500	190000		100000
Fluorobenzene Surrogate Recovery	91%			79%		

Date of Report: April 9, 1997
Samples Submitted: April 4, 1997
Lab Traveler: 04-023
Project: 95603-2

EPA 602 & WTPH-G
METHOD BLANK QUALITY CONTROL

Date Extracted: 4-04-97
Date Analyzed: 4-04-97

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0404W1

Dilution Factor 1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100
Fluorobenzene Surrogate Recovery	83%		

Date of Report: April 9, 1997
Samples Submitted: April 4, 1997
Lab Traveler: 04-023
Project: 95603-2

EPA 602 & WTPH-G
DUPLICATE QUALITY CONTROL

Date Extracted: 3-27-97
Date Analyzed: 3-27-97

Matrix: Water
Units: ug/L (ppb)

Lab ID:	03-095-1	03-095-1	
	Original	**Duplicate**	**RPD**
Dilution Factor	1	1	
Benzene	ND	ND	NA
Toluene	ND	ND	NA
Ethyl Benzene	ND	ND	NA
m,p-Xylene	ND	ND	NA
o-Xylene	ND	ND	NA
TPH-Gas	ND	ND	NA
Fluorobenzene Surrogate Recovery	80%	79%	

Date of Report: April 9, 1997
Samples Submitted: April 4, 1997
Lab Traveler: 04-023
Project: 95603-2

EPA 602 & WTPH-G
MS/MSD QUALITY CONTROL

Date Extracted: 3-27-97
Date Analyzed: 3-27-97

Matrix: Water
Units: ug/L (ppb)

Lab ID	03-095-1		03-095-1		
spiked @ 50 ppb	**MS**	Percent	**MSD**	Percent	
Dilution Factor	1	Recovery	1	Recovery	RPD
Benzene	43.9	88	43.6	87	0.69
Toluene	44.4	89	43.4	87	2.3
Ethyl Benzene	44.4	89	44.9	90	1.1
m,p-Xylene	44.3	89	42.6	85	3.9
o-Xylene	43.9	88	43.3	87	1.4
Fluorobenzene Surrogate Recovery	85%		81%		

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limited due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

04-023

(KH)

Columbia Environmental Inc.

200 S. 333rd St. • Suite 120 • Federal Way, WA 98003
Seattle 206/838-7281 Tacoma 206/927-1568 Fax 206/838-5744

CHAIN OF CUSTODY RECORD
Page 1 of 1
Project# 956032
Project Name
Client
Results to Henry Perry

Sample #	Location	Sample Description	Date	Time	Sample Type	Analysis Required
MW9		2 VOAs	4/3	1:30	W	WTPH-G/BTEX
MW8		↓	↓	2:30	↓	↓
MW10				2:50		
MW2				3:00		
MW7				3:15		
MW[illegible]				3:30		

Sample Type: A=Air B=Bulk S=Soil W=Water Other-Describe

Special Instructions

SIGNATURES: (Name, Company, Date and Time) Laboratory Name: Onsite

Relinquished by: [signature] 4/4/97 AM 2. Relinquished by: A. Franzen

Received by: A Franzen 4/4/97 1000 Received by: [signature] 4/4/97

Delivered by: Hand UPS Airborne Fed X Other Gunv.