REPORT
SUPPLEMENTAL PHASE II ENVIRONMENTAL SITE ASSESSMENT
TOWN & COUNTRY JEEP/EAGLE DEALERSHIP
13711 AURORA AVENUE NORTH
SEATTLE, WASHINGTON

For

CHRYSLER REALTY CORPORATION
D&M JOB NO.: 16940-091-005
August 6, 1996

DAMES & MOORE

DAMES & MOORE
500 MARKET PLACE TOWER, 2025 FIRST AVENUE, SEATTLE, WASHINGTON 98121
(206) 728-0744 FAX: (206) 727-3350

August 6, 1996

Mr. Andrew R. Bucchiere, P.E.
Chrysler Realty Corporation
9336 Lovewell Court
Elk Grove, California 95758

Supplemental Phase II ESA Report
Town & Country Jeep/Eagle
13711 Aurora Avenue North, Seattle, Washington
CRC Property No. WA6527
D&M Job No.: 16940-091-005

Dear Mr. Bucchiere:

Presented in this report are the results of the Supplemental Phase II Environmental Site Assessment (ESA) for the Town & Country Jeep/Eagle dealership property located at 13711 Aurora Avenue North in Seattle, Washington. The ESA was performed in accordance with our Work Plan (CRC Scope 2B) authorized June 12, 1996 (as amended June 18, 1996). The ESA consisted of assessment of soils beneath known and suspected former fuel underground storage tank locations north of the former service station.

Diesel and oil range TPH was either undetected or detected at concentrations well below the site-specific cleanup level of 800 mg/kg. Based on the results of the Supplemental Phase II ESA, evidence of impacts to soil from the former and suspected USTs was not identified and further investigation or remedial action is not warranted.

Dames & Moore appreciates this opportunity to be of service to CRC. Please feel free to contact us if you have any questions or comments regarding this report or require additional information.

Very truly yours,

DAMES & MOORE, INC.

Julie K. Harvey
Project Manager

for Jim Brake, R.G.
Senior Geologist

Enclosure

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16940-091-005

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EXECUTIVE SUMMARY

This report documents the results of our Supplemental Phase II Environmental Site Assessment of the Town & Country Jeep/Eagle facility in Seattle, Washington. This assessment is provided as an addendum to our initial Hydraulic Lift Removal and Independent Remedial Action performed for the parcel. The purpose of this Supplemental ESA was to conduct additional subsurface investigations in the vicinity of two known and two suspected former fuel underground storage tank (UST) locations north of the former service station building.

Four soil borings were completed and soil samples were collected from beneath the former UST locations. TPH in the diesel and oil range was either undetected or detected at concentrations well below the site-specific cleanup level of 800 mg/kg. Evidence of impacts to soil from the former and suspected USTs was not identified and further investigation or remedial action is not warranted.

1.0 INTRODUCTION AND BACKGROUND

This report presents the results of a supplemental Phase II Environmental Site Assessment (ESA) of the Town & Country Jeep/Eagle dealership located at 13711 Aurora Avenue North in Seattle, Washington (Figure 1). This assessment was conducted by Dames & Moore Inc. in accordance with the Work Plan (CRC Scope 2B) authorized June 12, 1996 (as amended June 18, 1996) and the Master Service Agreement between Dames & Moore and Chrysler Realty Corporation (CRC). This assessment is provided as a supplement to Dames & Moore's "Hydraulic Lift Removal and Independent Remedial Action, 13711 Aurora Avenue North, Former North Seattle Chrysler Plymouth, Seattle, Washington" report dated September 11, 1995 which was previously submitted to Ecology.

Based on a 1962 City of Seattle Building Department site plan (Appendix A), two 20,000 gallon fuel oil USTs were associated with a fuel oil loading rack located on the northern portion of the 13711 Aurora Avenue North parcel. The USTs were removed in August 1988 by Earth Consultants, Inc. (ECI). Field screening of soil samples collected during UST removal indicated TPH was present in the subsurface soils beneath the western side of each fuel oil UST location. To further evaluate the results of the thin layer chromotography (TLC) field screening, ECI completed two soil borings at the western end of each of the former 20,000 gallon USTs. Although TPH concentrations detected (74.5 mg/kg to 90.1 mg/kg) in soil samples collected at 5, 10, and 15 feet below ground surface (bgs) in each of the borings do not exceed the site-specific cleanup levels, the analytical method used for analysis is not clear and the quality of the data is uncertain.

The 1962 City of Seattle Building Department site plan (Appendix A) also indicates fill ports for two USTs located directly south of the fuel oil USTs. These USTs were not encountered during the fuel oil UST removal, therefore we suspect the USTs were not installed.

2.0 PURPOSE AND SCOPE

The purpose of this investigation was to evaluate the soils underlying four former known or suspected fuel UST locations by collecting onsite soil samples. In order to assess the soils, Dames & Moore performed the following scope:

- Completed four borings (B-43 through B-46) at locations identified as the former USTs north of the former service stations to evaluate soil quality and determine whether releases from the USTs had occurred.
- Collected soil samples from each boring at five foot intervals for field screening purposes.
- Submitted selected soil samples to an Ecology-accredited laboratory for chemical analyses.

- Compiled and analyzed the data obtained relative to applicable MTCA soil cleanup levels and groundwater standards.

3.0 FIELD METHODOLOGY

The subsurface investigation included drilling, soil sampling, field screening of soil samples, and decontamination. All field activities were performed under the supervision of a qualified Dames & Moore geologist.

3.1 DRILLING

On June 20, 1996, Dames & Moore conducted subsurface drilling and soil sampling at the parcel to assess the areas identified during the Phase I ESA as areas of potential environmental concern. The soil borings were drilled by Layne Environmental of Tacoma, Washington, using a CME-75 drilling rig equipped with hollow stem augers. Coordination and monitoring of drilling and soil sampling activities was performed by a qualified Dames & Moore geologist. Subsurface soil samples were collected by driving a Dames & Moore U-type split-spoon sampler into the bottom of the boring at selected depth intervals. Detailed logs of the subsurface soils were maintained by the Dames & Moore geologist. Soils were classified in accordance with the Unified Soil Classification System and evidence of soil contamination such as soil staining, discoloration, or odors were noted. Logs of the borings are provided in Appendix B.

A total of 4 soil borings (B-43 through B-46) were completed at the former UST locations (Figure 2). The borings were drilled to total depths of 20 feet bgs, except B-43, which met refusal at 17 feet bgs. Soil samples were collected from the approximate bases of the former tank excavations when native soils were encountered.

Upon completion of drilling, the soil borings were backfilled with bentonite chips, hydrated with tap water, and capped with concrete and asphalt cold-patch flush with the surrounding parking area. The soil boring locations are shown on Figure 2.

3.2 SOIL SAMPLING AND FIELD SCREENING

Soil samples were collected for field screening and sampling purposes at intervals of 5 feet beginning at 5 feet bgs. There was no sample recovery at 10 feet bgs in borings B-43 and B-44, and at 15 feet in boring B-46 due to either rocks blocking the sampler or high soil density.

Evidence of a release was not observed during field screening. Total volatile organic vapors were not detected by the organic vapor monitor (OVM) that was used to screen bore hole and soil sample vapors during drilling. Soil samples for laboratory analyses were collected and submitted to North Creek Analytical of Bothell, Washington, an Ecology-accredited laboratory, for analysis for heavy oil and diesel range petroleum hydrocarbons by Washington method WTPH-D extended.

3.3 DECONTAMINATION

Quality assurance/quality control procedures were performed to prevent cross-contamination between samples. All sampling equipment was decontaminated using a triple-wash procedure consisting of (1) tap water with alconox scrub wash, (2) tap water rinse, and (3) deionized water final rinse. New, sterilized nitrile gloves were used while obtaining the samples.

The drilling equipment was decontaminated by pressure washing prior to use at the site. The equipment was again pressure washed prior to drilling each soil boring and prior to demobilizing off the site.

3.4 INVESTIGATIVE DERIVED WASTE

Soil cuttings and decontamination water were placed in DOT-approved, labelled, 55-gallon drums and temporarily stored on site. Based on the analytical results (see Section 5.0), the soil cuttings classify as Class 1 soils under Ecology's end use criteria for petroleum-contaminated soils. Hence, soil cuttings were transported to a CRC-owned property in Bellevue, Washington, and used as backfill. Decontamination water was disposed in the onsite oil/water separator.

4.0 SELECTION OF CLEANUP LEVELS

As discussed in the Hydraulic Lift Removal and Independent Remedial Action report for the parcel dated September 11, 1995, Ecology's Petroleum Contaminated Soils Rating Matrix (Ecology, 1992) was used to develop alternative site-specific cleanup levels that are protective of groundwater. A soil cleanup value of 800 mg/kg for diesel and oil range hydrocarbons was calculated using the matrix and was selected as the site-specific cleanup level for this parcel. Ecology verbally concurred with the use of this clean-up level for the site in a telephone conversation on July 6, 1995.

5.0 RESULTS OF SUPPLEMENTAL PHASE II ASSESSMENT

The laboratory results of the soil samples are summarized in Table 1 and the laboratory analytical reports and chain-of-custody forms are provided in Appendix C. TPH in the diesel and oil range was either undetected or detected at concentrations well below the site-specific cleanup level of 800 mg/kg.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the Supplemental Phase II ESA, evidence of impacts to soil from the former and suspected USTs was not identified and further investigation or remedial action is not warranted.

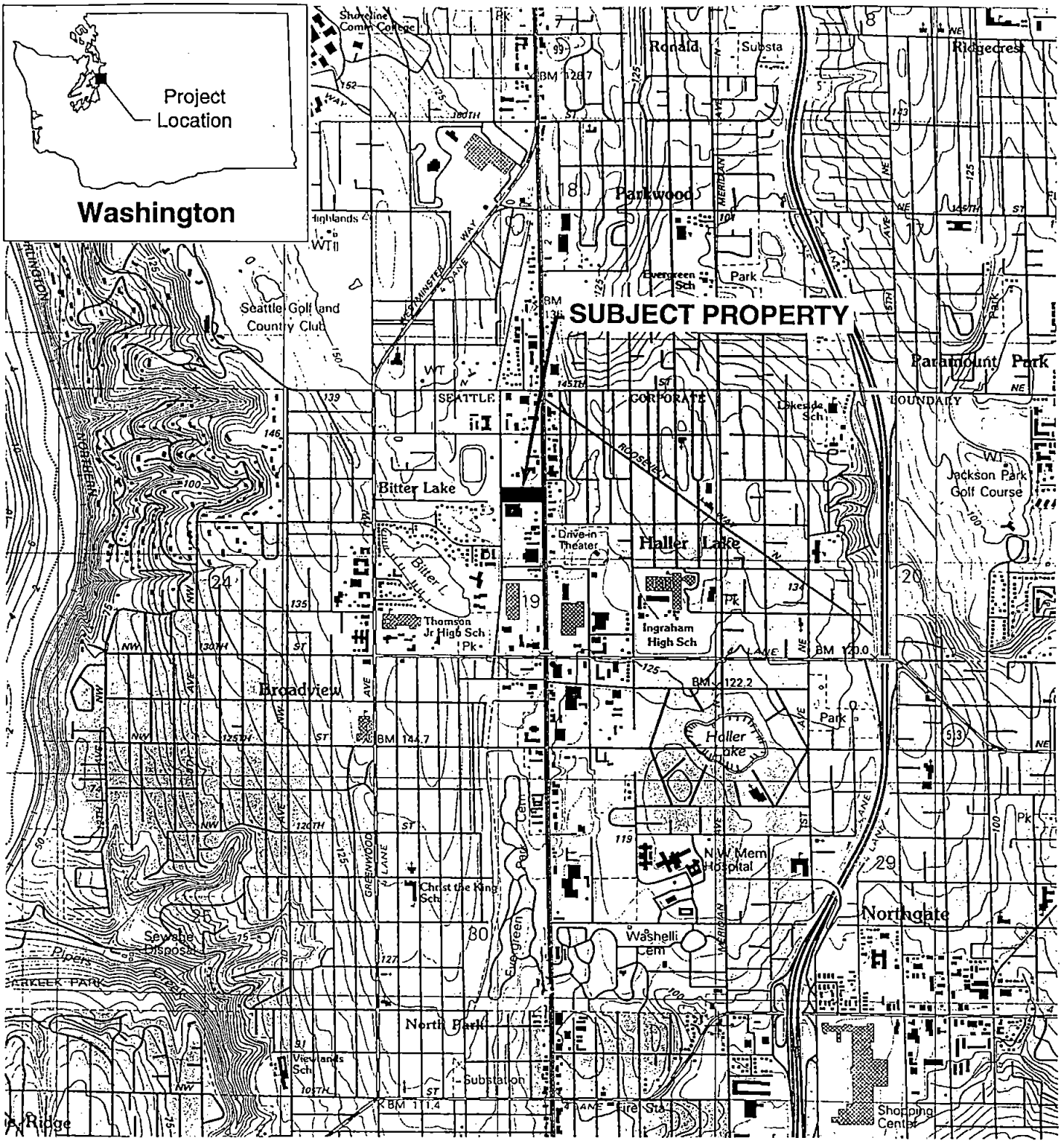
7.0 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

The conclusions presented in this report are professional opinions based upon our visual observations of the parcel and vicinity and the results of the Supplemental Phase II subsurface investigation as described in this report. This report is intended exclusively for the purpose outlined herein and applied only to the indicated parcel location and project. This report is intended for the sole use of CRC. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or re-use of the document or the findings, conclusions, or recommendations presented is at the sole risk of the said user.

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
TOWN & COUNTRY JEEP/EAGLE
SEATTLE, WASHINGTON

Sample Number (boring number and depth of sample)	Date Collected	Analytical Results (WTPH-D extended)	
		Diesel Range TPH (mg/kg)	Oil Range TPH (mg/kg)
B-43-15'	6/20/96	10.5	< 25
B-44-15'	6/20/96	< 10	< 25
B-45-15'	6/20/96	18.1	25.9
B-46-20'	6/20/96	< 10	< 25

TPH - Total Petroleum Hydrocarbons



SOURCE: USGS 7.5-minute topographic-bathymetric map, Seattle North, Washington, dated 1983

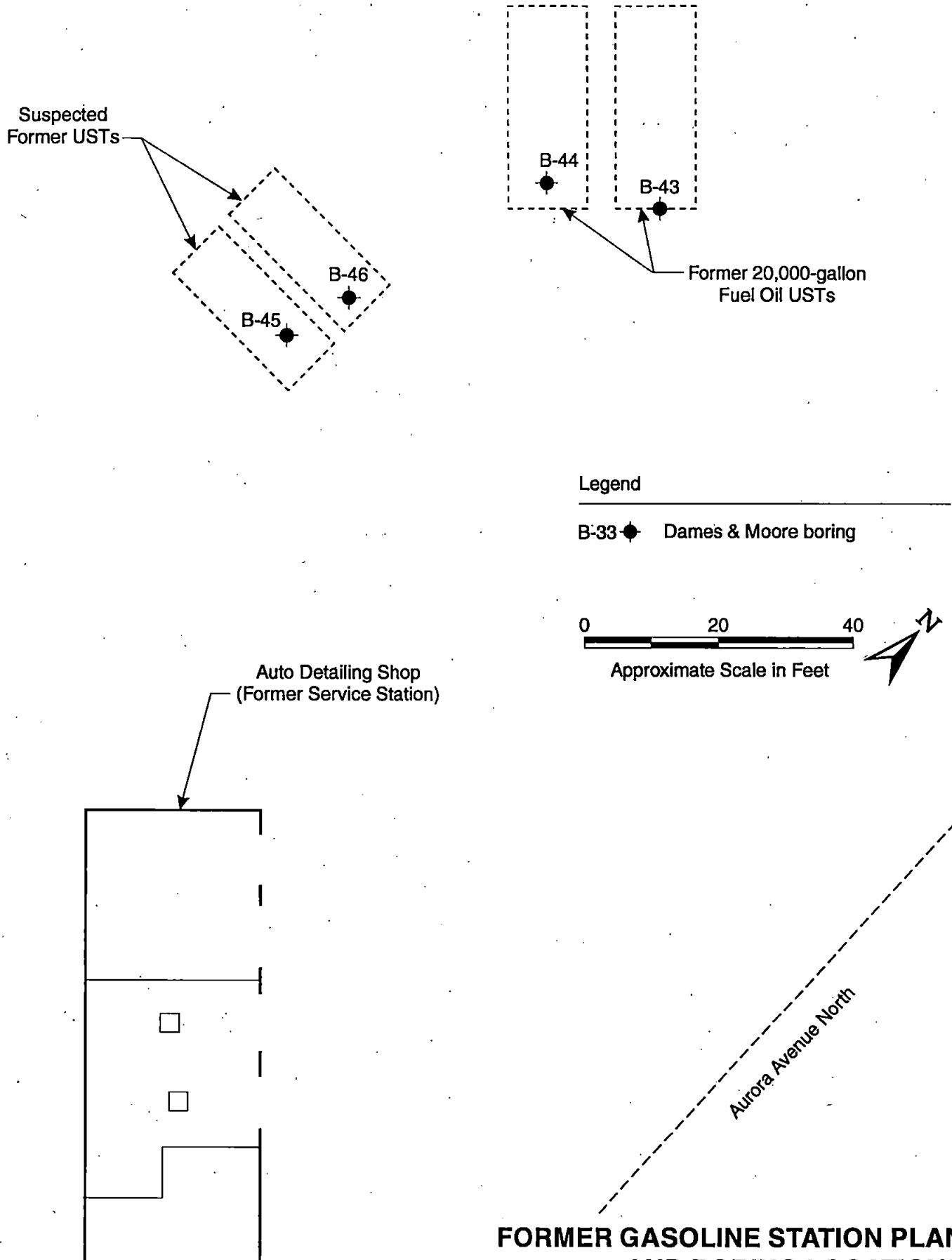
SITE VICINITY

Job No. 16940-091-005

DAMES & MOORE

Former North Seattle Chrysler Plymouth
Seattle, Washington
FIGURE 1

16940_47.CDR

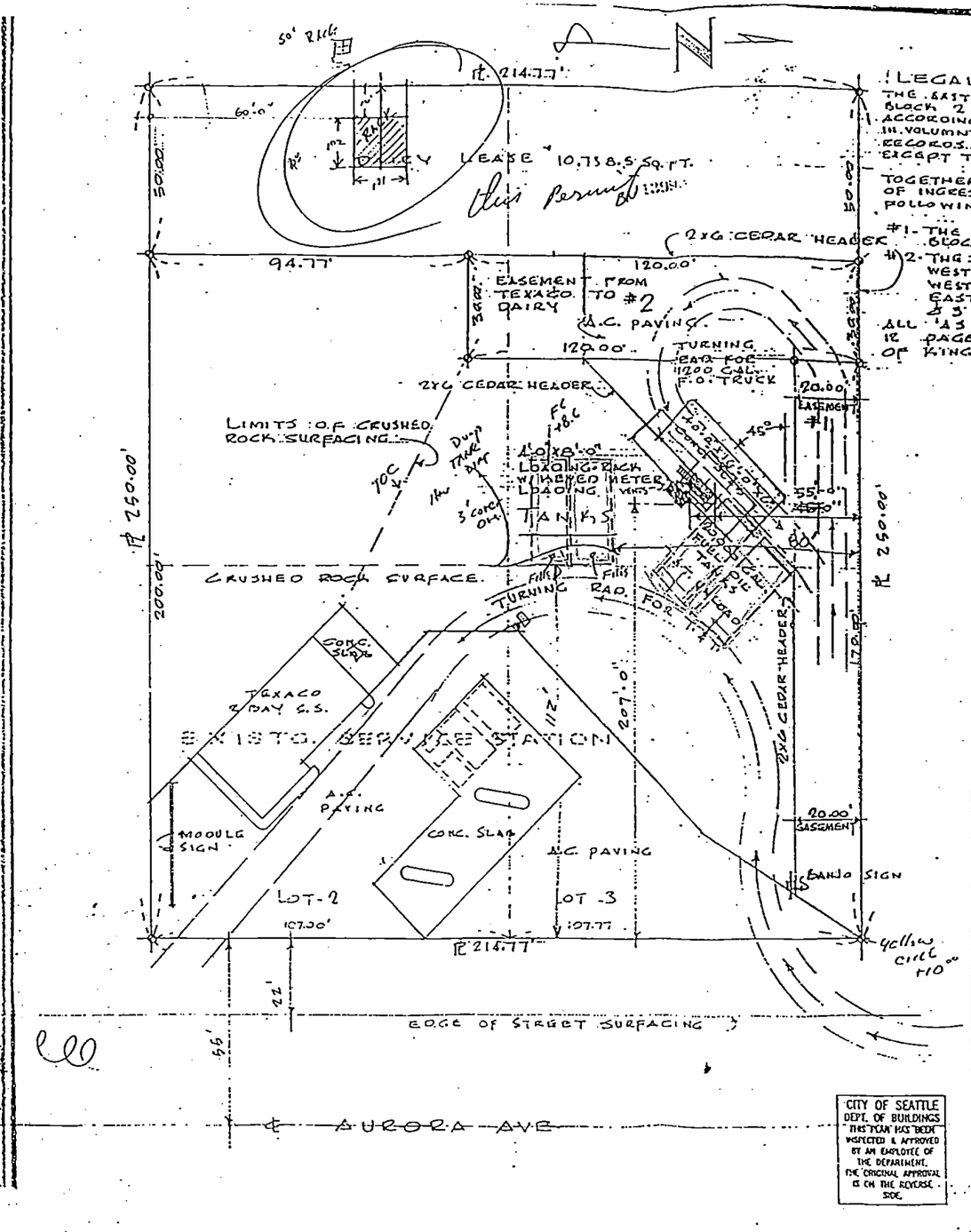


FORMER GASOLINE STATION PLAN AND BORING LOCATIONS 13711 AURORA AVENUE NORTH PARCEL

Job No. 16940-091-005

DAMES & MOORE

Former North Seattle Chrysler Plymouth
Seattle, Washington
FIGURE 2



LEGAL DESCRIPTION

THE EASTERLY 225.00' OF LOTS 2 & 3 BLOCK 2, ALLENDALE ADDITION ACCORDING TO PLAT THEREOF RECORDED IN VOLUME 12, PAGE 95 OF PLATS, RECORDS OF KING COUNTY WASHINGTON, EXCEPT THE EASTERLY 225.00' THEREOF.

TOGETHER WITH THE MUTUAL RIGHT OF INGRESS & EGRESS OVER THE FOLLOWING DESCRIBED PROPERTIES:

#1- THE NORTHERLY 20.00' OF LOT 3 BLOCK 2, ALLENDALE ADDITION

#2- THE NORTHERLY 120.00' OF THE WESTERLY 30.00' OF THE WESTERLY 90.00' OF THE EASTERLY 225.00' OF LOTS 2 & 3, BLOCK 2, ALLENDALE ADDITION ALL AS RECORDED IN VOLUME 12 PAGE 96 OF PLATS, RECORDS OF KING COUNTY, WASHINGTON.

REFERENCE DRAWINGS & SPECIFICATIONS

SPEC OR DWG NO.	LAST REV. DATE	TITLE
CP-4166		8'-0"x8'-0" STEEL RACK
DD-7887		TYP. DETAILS
DS-12C/102-56		GROUNDING & BONDING DETAILS
SEATTLE		SPECIFICATIONS

APPROVAL RECORD

	DATE	BY
DIVISION OFFICE		
DIVISION OFFICE		
REGIONAL OFFICE		
NEW YORK OFFICE		

REVISION RECORD

DATE	BY	DESCRIPTION
△ 11-30-62	JCH	ADDED CONSTRUCTION DETAILS
△ 7-5-62	JCH	ADDED PROPERTY DESCRIPTION
△		
△		
△		

SYMBOL	DESCRIPTION	REMARKS
	FENCE	
	GUYING WIRE & POLE	
	INLAND LIGHT	
	MEASURE	
	WATER AIR & WATER	
	FLAGPOLE SPOT	
	FLOODLIGHT TYPE	
	FLOODLIGHT POLE	
	AIR STAND HOSE TYPE	
	AIR STAND POINT TYPE	
	AIR & WATER STAND WALL TYPE	
	AIR & WATER WELL	
	AIR WELL	
	INLAND LIGHT POLE	
	INLAND LIGHT POLE WITH AIR & WATER	
	CONCRETE PUMP ISLAND	S.A. / S.A.
INDICATE PRODUCT	ELEC. OPERATING GASOLINE PUMP	
INDICATE PRODUCT	COMPUTING DISPENSER	
	H.P. SUBMERSIBLE PUMP	
	UNDER GROUND TANKS GAL. GASOLINE	
	GAL. FUEL OIL	
	GAL. WASTE OIL	
	OIL DISPLAY CABINET	
	GAUGE HOE	
	FILL HOE	
	VERTICAL CHECK VALVE OR IMPACT CHECK VALVE	
	RETRACTING FITTING HOSE TYPE / PIPE TYPE	
	VENT CAP	
	AIR COMPRESSOR	H.P.
	ROTATING AUTO LIFT ROLL TYPE	
	NON-ROTATING AUTO LIFT FRAME CONTACT TYPE	
	REGISTERING HOSE AIR, WATER OR FLAGPOLE POLE	
	REGISTERING HOSE AIR, WATER AND SPECIAL POLE	
	WATER HOSE BIBB	
	FIRE EXTINGUISHER	
	SITE	
	FILL LINES FROM FILL RISERS TO TANKS	
	VENT LINES FROM TANKS	
	GASOLINE LINES FROM TANKS TO DISPENSERS	
	WATER LINE	
	SEWAGE & DRAINAGE LINES	
T	TELEPHONE LINE	
	ELECTRIC LIGHT AND POWER	
	COMPRESSED AIR LINES	
E.L.	EXISTING ELEVATIONS	
F.G.	FINAL FINISHED ELEVATIONS	

BM 13

TEXACO INC.
DOMESTIC SALES DEPARTMENT
SEATTLE DIVISION

GENERAL ARRANGEMENT PLAN FOR KEY LOCK, P.O. BULK SALES
137TH ST. & AURORA AVE
SEATTLE WASH.
SCALE 1" = 40' DATE 9-19-62
DRAWN BY J.C.H. TRACED BY
CHECKED BY
APPROVED W.P. Kelly DISTRICT SALES MGR. NO. CP-4166

CITY OF SEATTLE
DEPT. OF BUILDINGS
THIS PLAN HAS BEEN INSPECTED & APPROVED BY AN EMPLOYEE OF THE DEPARTMENT. THE ORIGINAL APPROVAL IS ON THE REVERSE SIDE.

13711 Aurora Avenue North

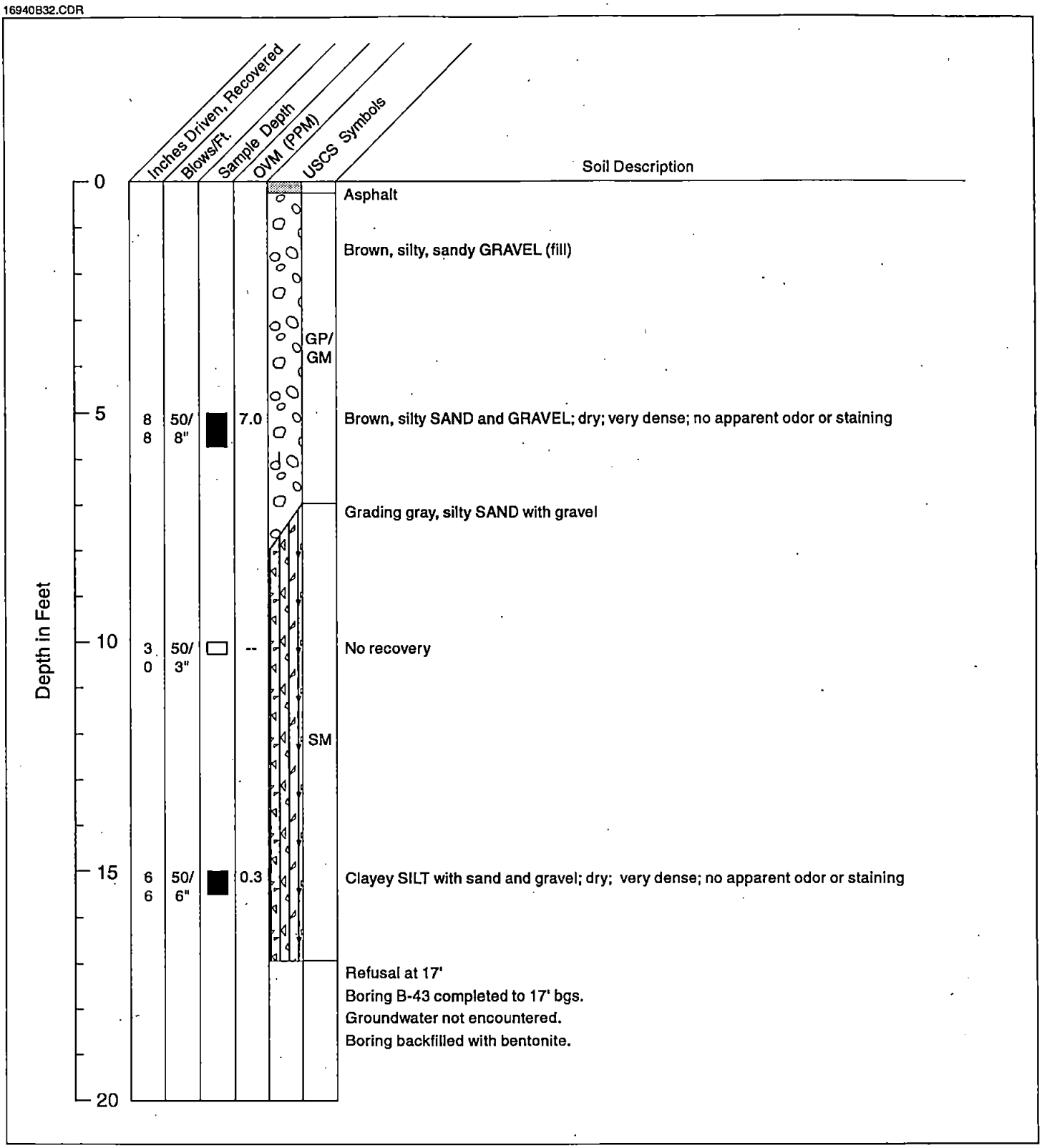
Scale 1" = 40'

Source: Seattle Building Department

APPENDIX B

GEOLOGIC LOGS OF SOIL BORINGS

16940B32.CDR



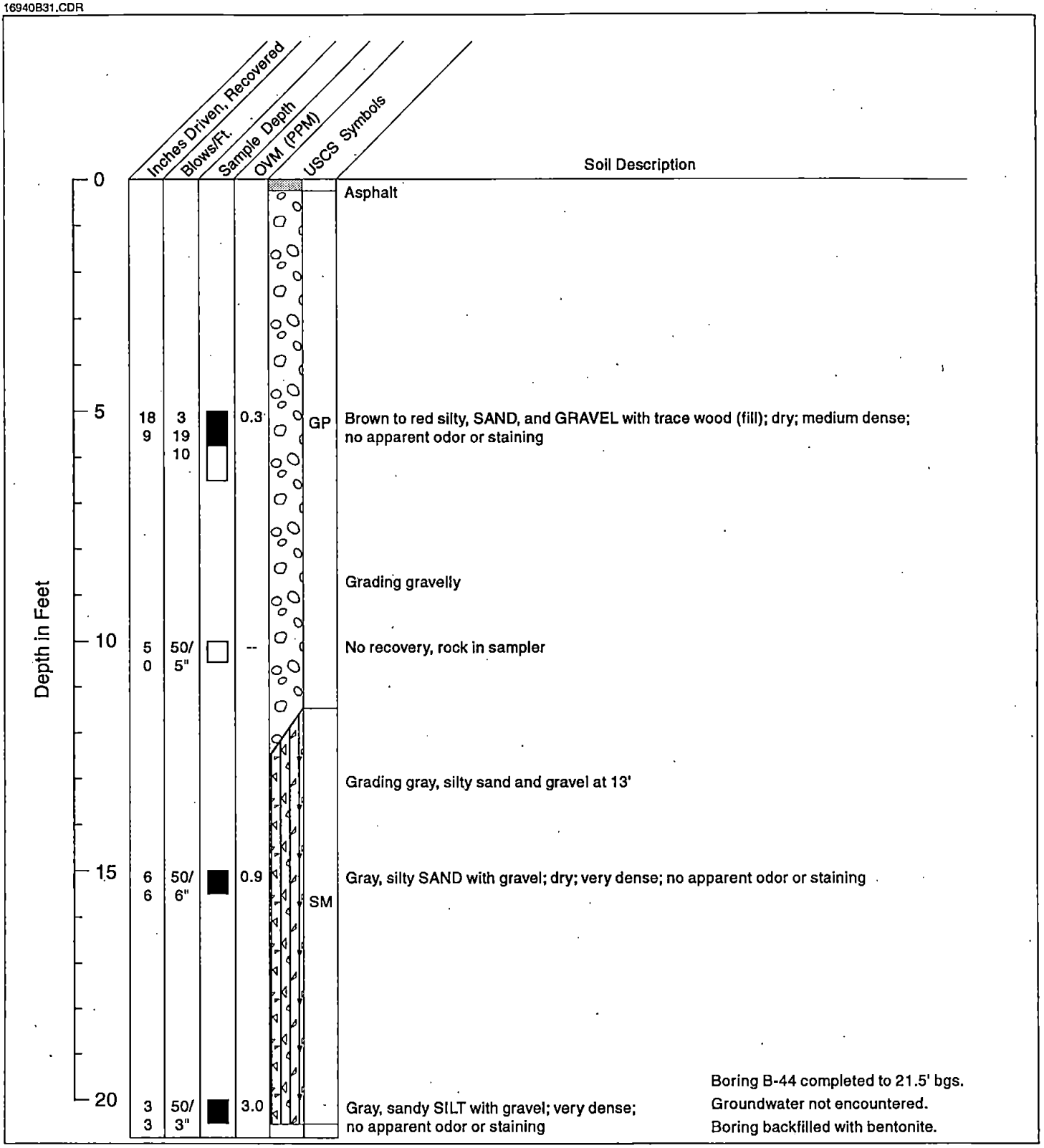
Geologist: VDA
Drilling method: 8" HSA, CME-75
Sampling method: SS-SPT, 140# Hammer
Drill contractor: Layne Environmental
Drill date: 6/20/96

B-43
GEOLOGIC BORING LOG

Job No. 16940-091-005
DAMES & MOORE

Former North Seattle Chrysler Plymouth
Seattle, Washington

16940B31.CDR



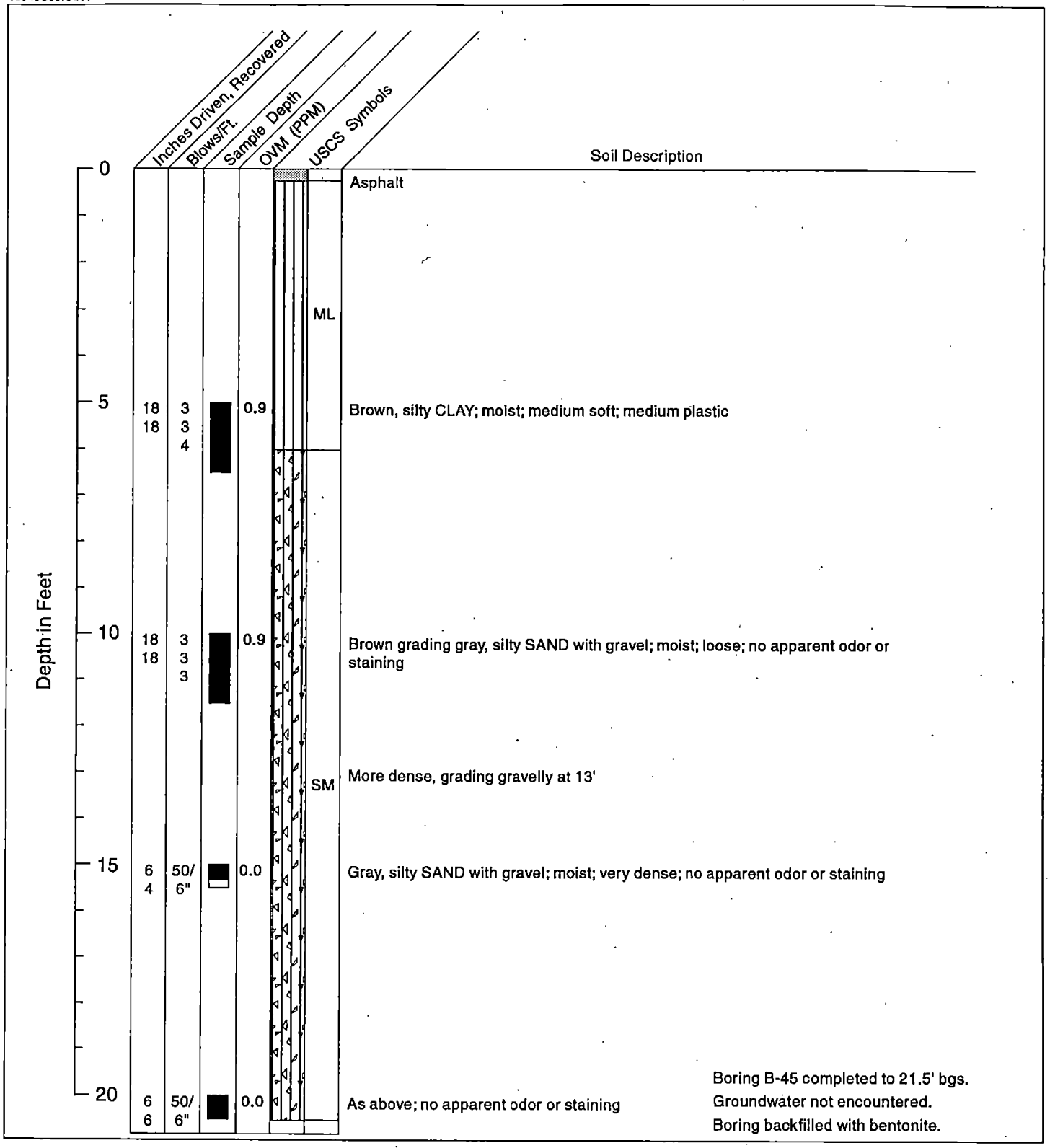
Geologist: VDA
Drilling method: 8" HSA, CME-75
Sampling method: SS-SPT, 140# Hammer
Drill contractor: Layne Environmental
Drill date: 6/20/96

B-44
GEOLOGIC BORING LOG

Job No. 16940-091-005
DAMES & MOORE

Former North Seattle Chrysler Plymouth
Seattle, Washington

16940B30.CDR



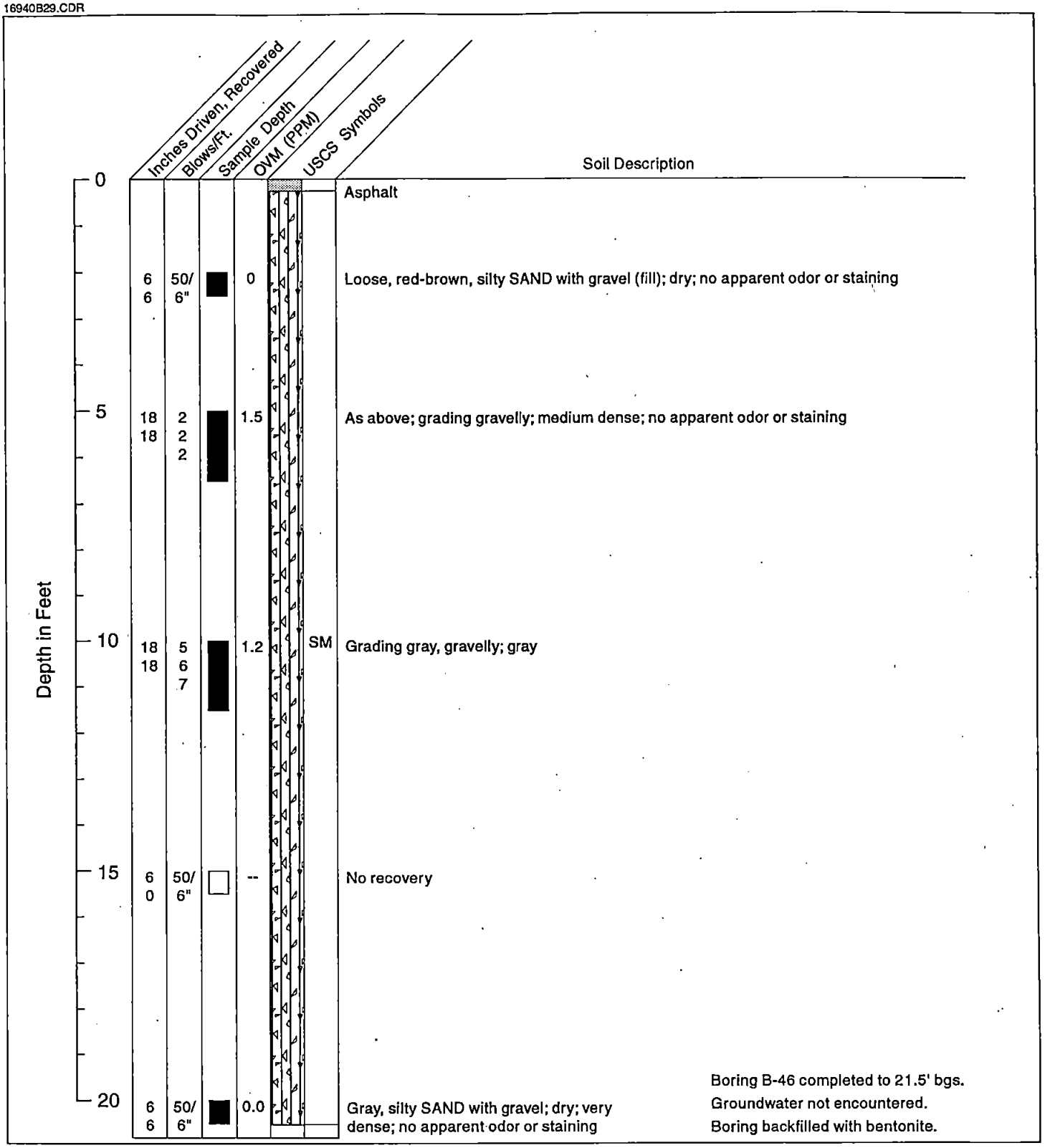
Geologist: VDA
Drilling method: 8" HSA, CME-75
Sampling method: SS-SPT, 140# Hammer
Drill contractor: Layne Environmental
Drill date: 6/20/96

B-45
GEOLOGIC BORING LOG

Job No. 16940-091-005
DAMES & MOORE

Former North Seattle Chrysler Plymouth
Seattle, Washington

16940B29.CDR



Geologist: VDA
Drilling method: 8" HSA, CME-75
Sampling method: SS-SPT, 140# Hammer
Drill contractor: Layne Environmental
Drill date: 6/20/96

B-46
GEOLOGIC BORING LOG

Job No. 16940-091-005
DAMES & MOORE

Former North Seattle Chrysler Plymouth
Seattle, Washington

APPENDIX C

ANALYTICAL LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS, SOIL SAMPLES

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

BOTHELL ■ (206) 481-9200 ■ FAX 485-2992
SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
PORTLAND ■ (503) 643-9200 ■ FAX 644-2202

Dames and Moore	Project:	T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported: 6/28/96

Project Summary

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B41-2 1/2	B606384-01	Soil	6/20/96
B42-2 1/2	B606384-02	Soil	6/20/96
B-43-15	B606384-04	Soil	6/20/96
B-44-15	B606384-06	Soil	6/20/96
B-45-15	B606384-10	Soil	6/20/96
B-46-20	B606384-14	Soil	6/20/96
B-47-2 1/2	B606384-15	Soil	6/20/96

Laura Dutton

Laura L Dutton, Project Manager

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

BOTHELL ■ (206) 481-9200 ■ FAX 485-2992
SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
PORTLAND ■ (503) 643-9200 ■ FAX 644-2202

Dames and Moore	Project:	T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported: 6/28/96

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B41-2 1/2			**B606384-01**				**Soil, dry wt.**	
Diesel Range Hydrocarbons	6060604	6/25/96	6/26/96		10.0	**13.1**	mg/kg (ppm)	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**35.8**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*73.8*	%	
B42-2 1/2			**B606384-02**				**Soil, dry wt.**	
Diesel Range Hydrocarbons	6060636	6/27/96	6/28/96		10.0	ND	mg/kg (ppm)	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*101*	%	
B-43-15			**B606384-04**				**Soil, dry wt.**	
Diesel Range Hydrocarbons	6060604	6/25/96	6/26/96		10.0	**10.5**	mg/kg (ppm)	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*75.3*	%	
B-44-15			**B606384-06**				**Soil, dry wt.**	
Diesel Range Hydrocarbons	6060604	6/25/96	6/26/96		10.0	ND	mg/kg (ppm)	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*80.5*	%	
B-45-15			**B606384-10**				**Soil, dry wt.**	
Diesel Range Hydrocarbons	6060604	6/25/96	6/26/96		10.0	**18.1**	mg/kg (ppm)	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**25.9**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*86.6*	%	
B-46-20			**B606384-14**				**Soil, dry wt.**	
Diesel Range Hydrocarbons	6060604	6/25/96	6/26/96		10.0	ND	mg/kg (ppm)	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*87.1*	%	
B-47-2 1/2			**B606384-15**				**Soil, dry wt.**	
Diesel Range Hydrocarbons	6060604	6/25/96	6/26/96		10.0	**13.8**	mg/kg (ppm)	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**63.9**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*93.5*	%	

North Creek Analytical, Inc.

**Refer to end of report for text of notes.*

Laura Dutton

Laura L Dutton, Project Manager

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

BOTHELL ■ (206) 481-9200 ■ FAX 485-2992
SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
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Dames and Moore	Project:	T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported: 6/28/96

Volatile Organic Compounds by EPA Method 8240B

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B41-2 1/2			**B606384-01**				**Soil, dry wt.**	
Acetone	6060692	6/28/96	6/28/96		2.00	ND	mg/kg (ppm)	
Benzene	"	"	"		0.200	ND	"	
Bromodichloromethane	"	"	"		0.200	ND	"	
Bromoform	"	"	"		0.200	ND	"	
Bromomethane	"	"	"		0.200	ND	"	
2-Butanone	"	"	"		2.00	ND	"	
Carbon disulfide	"	"	"		0.200	ND	"	
Carbon tetrachloride	"	"	"		0.200	ND	"	
Chlorobenzene	"	"	"		0.200	ND	"	
Chloroethane	"	"	"		0.200	ND	"	
Chloroform	"	"	"		0.200	ND	"	
Chloromethane	"	"	"		0.200	ND	"	
Dibromochloromethane	"	"	"		0.200	ND	"	
1,1-Dichloroethane	"	"	"		0.200	ND	"	
1,2-Dichloroethane	"	"	"		0.200	ND	"	
1,1-Dichloroethene	"	"	"		0.200	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.200	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.200	ND	"	
1,2-Dichloropropane	"	"	"		0.200	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.200	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.200	ND	"	
Ethylbenzene	"	"	"		0.200	ND	"	
2-Hexanone	"	"	"		2.00	ND	"	
Methylene chloride	"	"	"		1.00	ND	"	
4-Methyl-2-pentanone	"	"	"		2.00	ND	"	
Styrene	"	"	"		0.200	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.200	ND	"	
Tetrachloroethene	"	"	"		0.200	ND	"	
Toluene	"	"	"		0.200	ND	"	
1,1,1-Trichloroethane	"	"	"		0.200	ND	"	
1,1,2-Trichloroethane	"	"	"		0.200	ND	"	
Trichloroethene	"	"	"		0.200	ND	"	
Vinyl chloride	"	"	"		0.200	ND	"	
Xylenes (total)	"	"	"		0.400	ND	"	
Surrogate: 1,2-DCA-d4	"	"	"	*70.0-121*		*84.1*	*%*	
Surrogate: Toluene-d8	"	"	"	*81.0-117*		*97.0*	"	
Surrogate: 4-BFB	"	"	"	*74.0-121*		*99.6*	"	

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Laura Dutton

Laura L Dutton, Project Manager

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Environmental Laboratory Services

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SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
PORTLAND ■ (503) 643-9200 ■ FAX 644-2202

Dames and Moore	Project:	T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported: 6/28/96

Volatile Organic Compounds by EPA Method 8240B

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B42-2 1/2			**B606384-02**				**Soil, dry wt.**	
Acetone	6060692	6/28/96	6/28/96		2.00	ND	mg/kg (ppm)	
Benzene	"	"	"		0.200	ND	"	
Bromodichloromethane	"	"	"		0.200	ND	"	
Bromoform	"	"	"		0.200	ND	"	
Bromomethane	"	"	"		0.200	ND	"	
2-Butanone	"	"	"		2.00	ND	"	
Carbon disulfide	"	"	"		0.200	ND	"	
Carbon tetrachloride	"	"	"		0.200	ND	"	
Chlorobenzene	"	"	"		0.200	ND	"	
Chloroethane	"	"	"		0.200	ND	"	
Chloroform	"	"	"		0.200	ND	"	
Chloromethane	"	"	"		0.200	ND	"	
Dibromochloromethane	"	"	"		0.200	ND	"	
1,1-Dichloroethane	"	"	"		0.200	ND	"	
1,2-Dichloroethane	"	"	"		0.200	ND	"	
1,1-Dichloroethene	"	"	"		0.200	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.200	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.200	ND	"	
1,2-Dichloropropane	"	"	"		0.200	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.200	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.200	ND	"	
Ethylbenzene	"	"	"		0.200	ND	"	
2-Hexanone	"	"	"		2.00	ND	"	
Methylene chloride	"	"	"		1.00	ND	"	
4-Methyl-2-pentanone	"	"	"		2.00	ND	"	
Styrene	"	"	"		0.200	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.200	ND	"	
Tetrachloroethene	"	"	"		0.200	ND	"	
Toluene	"	"	"		0.200	ND	"	
1,1,1-Trichloroethane	"	"	"		0.200	ND	"	
1,1,2-Trichloroethane	"	"	"		0.200	ND	"	
Trichloroethene	"	"	"		0.200	ND	"	
Vinyl chloride	"	"	"		0.200	ND	"	
Xylenes (total)	"	"	"		0.400	ND	"	
Surrogate: 1,2-DCA-d4	"	"	"	*70.0-121*		*83.8*	*%*	
Surrogate: Toluene-d8	"	"	"	*81.0-117*		*95.9*	"	
Surrogate: 4-BFB	"	"	"	*74.0-121*		*92.3*	"	

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Dames and Moore	Project:	T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported: 6/28/96

Volatile Organic Compounds by EPA Method 8240B

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-47-2 1/2			B606384-15				Soil, dry wt.	
Acetone	6060692	6/28/96	6/28/96		2.00	ND	mg/kg (ppm)	
Benzene	"	"	"		0.200	ND	"	
Bromodichloromethane	"	"	"		0.200	ND	"	
Bromoform	"	"	"		0.200	ND	"	
Bromomethane	"	"	"		0.200	ND	"	
2-Butanone	"	"	"		2.00	ND	"	
Carbon disulfide	"	"	"		0.200	ND	"	
Carbon tetrachloride	"	"	"		0.200	ND	"	
Chlorobenzene	"	"	"		0.200	ND	"	
Chloroethane	"	"	"		0.200	ND	"	
Chloroform	"	"	"		0.200	ND	"	
Chloromethane	"	"	"		0.200	ND	"	
Dibromochloromethane	"	"	"		0.200	ND	"	
1,1-Dichloroethane	"	"	"		0.200	ND	"	
1,2-Dichloroethane	"	"	"		0.200	ND	"	
1,1-Dichloroethene	"	"	"		0.200	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.200	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.200	ND	"	
1,2-Dichloropropane	"	"	"		0.200	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.200	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.200	ND	"	
Ethylbenzene	"	"	"		0.200	ND	"	
2-Hexanone	"	"	"		2.00	ND	"	
Methylene chloride	"	"	"		1.00	ND	"	
4-Methyl-2-pentanone	"	"	"		2.00	ND	"	
Styrene	"	"	"		0.200	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.200	ND	"	
Tetrachloroethene	"	"	"		0.200	ND	"	
Toluene	"	"	"		0.200	ND	"	
1,1,1-Trichloroethane	"	"	"		0.200	ND	"	
1,1,2-Trichloroethane	"	"	"		0.200	ND	"	
Trichloroethene	"	"	"		0.200	ND	"	
Vinyl chloride	"	"	"		0.200	ND	"	
Xylenes (total)	"	"	"		0.400	ND	"	
Surrogate: 1,2-DCA-d4	"	"	"	*70.0-121*		*88.4*	%	
Surrogate: Toluene-d8	"	"	"	*81.0-117*		*100*	"	
Surrogate: 4-BFB	"	"	"	*74.0-121*		*91.8*	"	

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Dames and Moore	Project:	T&C Chrysler	Sampled:	6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received:	6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported:	6/28/96

Dry Weight Determination

Sample Name	Lab ID	Matrix	Result	Units
B41-2 1/2	B606384-01	Soil	92.5	%
B42-2 1/2	B606384-02	Soil	92.4	%
B-43-15	B606384-04	Soil	89.8	%
B-44-15	B606384-06	Soil	92.5	%
B-45-15	B606384-10	Soil	89.9	%
B-46-20	B606384-14	Soil	92.4	%
B-47-2 1/2	B606384-15	Soil	93.2	%

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Dames and Moore	Project:	T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported: 6/28/96

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)
Quality Control

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 6060604	**Date Prepared: 6/25/96**									
Blank	**6060604-BLK2**				**Soil, dry wt.**					
Diesel Range Hydrocarbons	6/25/96			**ND**	mg/kg (ppm)	**10.0**				
Heavy Oil Range Hydrocarbons	"			**ND**	"	**25.0**				
Surrogate: 2-FBP	"	*11.5*		*10.4*	"	*50.0-150*	*90.4*			
Blank Spike	**6060604-BS2**				**Soil, dry wt.**					
Diesel Range Hydrocarbons	6/25/96	68.1		72.1	mg/kg (ppm)	66.0-131	**106**			
Surrogate: 2-FBP	"	*11.5*		*10.4*	"	*50.0-150*	*90.4*			
Duplicate	**6060604-DUP1**		**B606384-01**		**Soil, dry wt.**					
Diesel Range Hydrocarbons	6/26/96		13.1	12.7	mg/kg (ppm)			48.0	**3.10**	
Surrogate: 2-FBP	"	*12.4*		*9.39*	"	*50.0-150*	*75.7*			
Duplicate	**6060604-DUP2**		**B606410-02**		**Soil, dry wt.**					
Diesel Range Hydrocarbons	6/25/96		ND	ND	mg/kg (ppm)			48.0	**n/a**	
Surrogate: 2-FBP	"	*14.3*		*12.7*	"	*50.0-150*	*88.8*			

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Dames and Moore	Project: T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number: 16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager: Julie Harvey	Reported: 6/28/96

Volatile Organic Compounds by EPA Method 8240B
Quality Control

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 6060692	**Date Prepared: 6/28/96**									
Blank	**6060692-BLK1**				**Soil, dry wt.**					
Acetone	6/28/96			ND	mg/kg (ppm)	2.00				
Benzene	"			ND	"	0.200				
Bromodichloromethane	"			ND	"	0.200				
Bromoform	"			ND	"	0.200				
Bromomethane	"			ND	"	0.200				
2-Butanone	"			ND	"	2.00				
Carbon disulfide	"			ND	"	0.200				
Carbon tetrachloride	"			ND	"	0.200				
Chlorobenzene	"			ND	"	0.200				
Chloroethane	"			ND	"	0.200				
Chloroform	"			ND	"	0.200				
Chloromethane	"			ND	"	0.200				
Dibromochloromethane	"			ND	"	0.200				
1,1-Dichloroethane	"			ND	"	0.200				
1,2-Dichloroethane	"			ND	"	0.200				
1,1-Dichloroethene	"			ND	"	0.200				
cis-1,2-Dichloroethene	"			ND	"	0.200				
trans-1,2-Dichloroethene	"			ND	"	0.200				
1,2-Dichloropropane	"			ND	"	0.200				
cis-1,3-Dichloropropene	"			ND	"	0.200				
trans-1,3-Dichloropropene	"			ND	"	0.200				
Ethylbenzene	"			ND	"	0.200				
2-Hexanone	"			ND	"	2.00				
Methylene chloride	"			ND	"	1.00				
4-Methyl-2-pentanone	"			ND	"	2.00				
Styrene	"			ND	"	0.200				
1,1,2,2-Tetrachloroethane	"			ND	"	0.200				
Tetrachloroethene	"			ND	"	0.200				
Toluene	"			ND	"	0.200				
1,1,1-Trichloroethane	"			ND	"	0.200				
1,1,2-Trichloroethane	"			ND	"	0.200				
Trichloroethene	"			ND	"	0.200				
Vinyl chloride	"			ND	"	0.200				
Xylenes (total)	"			ND	"	0.400				
Surrogate: 1,2-DCA-d4	"	*2.50*		*2.30*	"	*70.0-121*	*92.0*			
Surrogate: Toluene-d8	"	*2.50*		*2.64*	"	*81.0-117*	*106*			
Surrogate: 4-BFB	"	*2.50*		*2.47*	"	*74.0-121*	*98.8*			

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Dames and Moore	Project:	T&C Chrysler	Sampled: 6/20/96
500 Market Place Tower, 2025 1st Ave	Project Number:	16940-091-005	Received: 6/21/96
Seattle, WA 98121	Project Manager:	Julie Harvey	Reported: 6/28/96

Volatile Organic Compounds by EPA Method 8240B
Quality Control

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	6060692-MS1		B606384-15		Soil, dry wt.					
Benzene	6/28/96	0.537	ND	0.479	mg/kg (ppm)	47.0-117	**89.2**			
Chlorobenzene	"	0.537	ND	0.494	"	44.0-121	**92.0**			
1,1-Dichloroethene	"	0.537	ND	0.385	"	21.0-126	**71.7**			
Toluene	"	0.537	ND	0.511	"	48.0-115	**95.2**			
Trichloroethene	"	0.537	ND	0.448	"	35.0-125	**83.4**			
Surrogate: 1,2-DCA-d4	"	*2.68*		*2.19*	"	*70.0-121*	*81.7*			
Surrogate: Toluene-d8	"	*2.68*		*2.64*	"	*81.0-117*	*98.5*			
Surrogate: 4-BFB	"	*2.68*		*2.51*	"	*74.0-121*	*93.7*			
Matrix Spike Dup	6060692-MSD1		B606384-15		Soil, dry wt.					
Benzene	6/28/96	0.537	ND	0.501	mg/kg (ppm)	47.0-117	**93.3**	11.0	**4.49**	
Chlorobenzene	"	0.537	ND	0.510	"	44.0-121	**95.0**	13.0	**3.21**	
1,1-Dichloroethene	"	0.537	ND	0.389	"	21.0-126	**72.4**	13.0	**0.972**	
Toluene	"	0.537	ND	0.527	"	48.0-115	**98.1**	15.0	**3.00**	
Trichloroethene	"	0.537	ND	0.468	"	35.0-125	**87.2**	11.0	**4.45**	
Surrogate: 1,2-DCA-d4	"	*2.68*		*2.25*	"	*70.0-121*	*84.0*			
Surrogate: Toluene-d8	"	*2.68*		*2.63*	"	*81.0-117*	*98.1*			
Surrogate: 4-BFB	"	*2.68*		*2.49*	"	*74.0-121*	*92.9*			

North Creek Analytical, Inc.

**Refer to end of report for text of notes.*

Laura Dutton

Laura L Dutton, Project Manager

B606507

DAMES & MOORE

500 Market Place Tower • 2025 First Avenue • Seattle, Washington 98121 • (206) 728-0744

Chain of Custody

Date 6/20/96 Page 1 of 1

Project Number: 16940-091-005
Project Manager: J. Harvey
Laboratory: NCA
Turn around time: 5-DAY

Sampler's Initials: VA
Sampler's Signature: V. A.

Analysis Request: TRC Chrysler

Sample ID	Date	Time	Matrix	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020	Base/Neutral/Acids 625/8270 (GC/MS)	BTX 602/8015	Polycyclic Aromatic Hydrocarbons 610/8310	Pesticides/PCBs 608/8080	WTPH-DEXT	VOC's 8240			Priority Pollutant Metals (13)	EP TOX Metals (8)			Comments/ Instructions	Number of Containers
B41A-2½	6/20	855	Soil								X	X							B606384-01	2
B42-2½	↓	920	↓								X	X							-02	2
B-43-5	↓	1130	↓																-03	1
B-43-15	↓	1155	↓								X								-04	1
B-44-5	↓	1250	↓																-05	1
B-44-15	↓	1315	↓								X								-06	1
B-44-20	↓	1325	↓																-07	1
B-45-5	↓	1435	↓																-08	1
B-45-10	↓	1440	↓																-09	1
B-45-15	↓	1450	↓								X	no sample received @ 6/21							SUB XTRA sample -10	1
B-45-20	↓	1510	↓																-11	1
B-46-5	↓	1600	↓																-12	1
B-46-10	↓	1610	↓																-13	1
B-46-20	↓	1625	↓								X								-14	1
B-47-2½	↓	1730	↓								X	X							-15	2

Special Instructions/Comments:

Relinquished by:
(Sig) V. A.
(Printed) VANCE ATKINS
(Company) DAMES & MOORE
(Time) 6/21/96 (Date) 0800

Received by (lab):
(Sig) Lisa Hurley
(Printed) LISA HURLEY
(Company) NCA
(Time) 12:00 (Date) 6/21/96

Sample Receipt
Total no. of containers:
Chain of custody seals:
Rec'd good condition/cold:
Conforms to record:
Lab number:

11° No C/S