UNDERGROUND STORAGE TANK DECOMMISSIONING AND SITE ASSESSMENT MORSE CONSTRUCTION GROUP 5500 SOUTH 1ST STREET **EVERETT, WASHINGTON 98203**

INCIDENT NUMBER 17401

RECEIVED OCT 26 1994

DEPT. OF ECOLOGY

SUBMITTED TO:

MORSE CONSTRUCTION GROUP 5500 SOUTH 1ST STREET **EVERETT, WASHINGTON 98203**

PREPARED BY:

DLH ENVIRONMENTAL CONSULTING 1335 NORTH NORTHLAKE WAY SUITE 101 SEATTLE, WASHINGTON 98103

OCTOBER 11, 1994 \(\)

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DEPARTMENT OF ECOLOGY NWRO/TCP TANKS UNIT	
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1.0 PROJECT DESCRIPTION/SCOPE OF WORK

The subject site is located at 5500 South 1st Street in Everett, Washington.

The site consists of a large office building, a welding shop area, a sheet metal storage area, and undeveloped but graded property for equipment storage. The surrounding area consists of residential and undeveloped property. A site sketch is located in Appendix A.

One, 1200-gallon, leaded gasoline tank was removed from the property. The rectangular tank, that was removed from the site, was located on the northeast corner of the property. The tank appeared to be custom made, probably by the Morris Construction. The tank was approximately 1200-gallons in size and stored leaded gasoline.

NOTE: The original 30-day "notice to remove" form indicated that the tank stored unleaded gasoline instead of leaded.

Washington State Department of Ecology (WDOE) requirements indicate that a site assessment be conducted during tank decommissioning activities. As part of the site assessment, associated soils were sampled to determine if contamination was WDOE also requires agency notification if contamination is confirmed.

The scope of work for this study included visual inspection of the tank and laboratory analysis of soil samples collected from the tank excavation and stockpiled soils.

2.0 METHODS OF INVESTIGATION

A $15- ext{x}$ $30- ext{foot}$ excavation pit was dug to remove the Tank. from the excavation was stockpiled, and soil samples were collected to determine if contamination was present. Odors were noted during soil excavation.

All tank removal and excavation of soil activities were conducted by T.M. Services Corporation of Arlington, Washington (WDOE Service Provider #S000108). Donna Hewitt of DLH Environmental Consulting (WDOE Decommissioning Supervisor #W00975) was on site during all tank removal activities. Laboratory analysis was conducted by CCI Laboratories located in Everett, Washington.

Eight soil samples for hydrocarbon analysis were collected from the bottom and side walls of the tank excavations and from stockpiled soils. The soil samples were placed in sterilized glassware furnished by the project laboratory. In an effort to minimize the possible loss of any volatile hydrocarbons that may Morse Construction Group October 11, 1994

have been present in the soil, the samples were stored in an iced chest until delivered to the laboratory.

All EPA established sample handling protocols, including chain of custody procedures, were observed during the course of the project. Laboratory results and chain of custody forms are located in Appendix B.

Samples were analyzed for qasoline using Method WTPH-G/BTEX for Total Petroleum Hydrocarbon (TPH) and WTPH-D for diesel content according to the WDOE document "Guidance for Site Checks and Site Assessments for Underground Storage Tanks, "February, 1991 (Revised October, 1992).

3.0 RESULTS OF INVESTIGATION

Hydrocarbon odors were noted in soils located around the south and east ends of the tank where the tank fills and pump were located.

Laboratory results indicated that hydrocarbon contamination was present. The laboratory indicated that the original WTPH-G analysis appeared to indicate diesel contamination instead of gasoline contamination, and therefore two samples were re-run using Method WTPH-D to confirm the presence of diesel vs. gasoline. Analytical results indicated that the contamination was diesel.

3.1 Surface Soil Conditions

A concrete was pad was on top of the tank. This was removed by Morris Construction prior to tank removal operations and therefore no surface soils were noted above the tank.

3.2 Subsurface Soil Conditions

Subsurface soils surrounding the tank were a mixture of imported gravel and fine sand. The property representative indicated that the fine sandy material was imported sand used for sand blasting in their steel fabrication operations. The sand was clean and had not been used for sand blasting activities. A layer of unconsolidated bricks was noted approximately one to two feet below ground surface. Site representatives indicated that at one time the site had been a brick yard. Native clays and decomposing organic soils (due to adjacent drainage ditch) were also noted.

3.3 Groundwater

No groundwater was encountered; however, seepage from the adjacent drainage ditch occurred. No sheen was noted on the water. Morse Construction Group Page 5

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3.4 Observation of Tank Removal Activities

The tank was pumped, cleaned, and rinsed prior to our arrival. T.M. services inerted the tank using dry ice, and an Everett Fire Marshall verbally approved tank removal operations.

After removal, a visual inspection of the tank indicated that it was in good condition with no cracks or heavy corrosion.

3.5 Hydrocarbon Testing

Hydrocarbon odors were noted in soils surrounding the south and east ends of the tank excavation so soils were overexcavated to remove potentially contaminated soil. Soil samples were collected from stockpiled soils and excavation walls and bottoms.

Soil samples were analyzed for Total Petroleum Hydrocarbon (TPH) content using Methods WTPH-G/BTEX and WTPH-D and Lead. The results of laboratory analyses are presented in Table A below. Laboratory reports are located in Appendix B.

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TABLE A SOIL ANALYSIS RESULTS

Sample #	Sample Location	Analytical Methods	Results
9194-01	North wall composite	WTPH-G/BTEX	ND
9194-02	West wall composite	WTPH-G/BTEX	ND
9194-03	Underneath tank	WTPH-G/BTEX WTPH-D	19 ppm 420 ppm
9194-04	East wall composite	WTPH-G/BTEX	ND
9194-05	Underneath tank, south end	WTPH-G/BTEX	ND
9194-06	Stockpiled soil composite	WTPH-G/BTEX WTPH-D Lead	78 ppm 1100 ppm ND
9194-07	East wall, overexcavated	WTPH-G/BTEX	ND
9194-08	South wall, overexcavation	WTPH-G/BTEX	ND

WTPH-G =Washington Total Petroleum Hydrocarbon (Analytical Method) for Gasoline.

Washington Total Petroleum Hydrocarbon (Analytical WTPH-D =Method) for Diesel.

Benzene, Toluene, Ethylbenzene, and Total Xylenes BTEX =

ND =None Detected

Parts Per Million = mqq

4.0 WASHINGTON STATE DEPARTMENT OF ECOLOGY (WDOE) REQUIREMENTS

The WDOE requires UST checklists and site assessment forms to be filled out during UST decommissioning projects. These forms have been completed and are located in Appendix C. Copies of the checklists were sent to the WDOE UST Section on October 11, 1994.

In the event of confirmation of soil contamination, WDOE authorities are to be contacted and site information reported. The agency was contacted on October 6, 1994 and they issued incident number 17401 to this event.

October 11, 1994

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5.0 CONCLUSIONS

WDOE soil clean-up requirements for heavy oil and diesel is 200 ppm TPH and 100 ppm TPH for gasoline . A review of the results of laboratory analysis indicates that diesel contamination was encountered underneath the tank and in stockpiled soils. Therefore, the tank excavation pit was over excavated approximately three feet deep until no odors or potentially contaminated soils were noted. Soil samples collected from the overexcavated walls were not contaminated due to laboratory analysis. Stockpiled soils were placed on 6-mil, black, plastic and are to be cleaned on-site using tilling and aeration methods.

The tank was removed according to current regulations and will be scraped by the owners.

6.0 RECOMMENDATIONS

The stockpiled soils should be aerated and tilled on a weekly basis. Confirmation soil sampling should be done in approximately 6 months to insure that the soils meet current clean-up levels for Diesel. A final clean-up report is required 90 days after clean-up is complete.

Confirmation soil sampling and final reporting can be conducted by DLH Environmental Consulting.

7.0 LIMITATIONS

This report has been prepared for specific application to this project in a manner consistent with the level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the

Recommendations and conclusions contained in this report are based on evaluation of technical information made available and reviewed during the course of this survey. Our work product and judgements rendered meet the standard of care of our profession at this time. No other warranty, expressed or implied, is made concerning the professional conclusions and recommendations included in this report.

DLH Environmental Consulting shall not be responsible for conditions or consequences arising from relevant facts that were withheld, concealed, or not fully disclosed at the time this evaluation was performed.

DLH Environmental Consulting has no control over the accuracy of information provided by outside consultants, contractors, and agencies and, therefore, disclaims responsibility for any

Morse Construction Group Page 8

October 11, 1994

inaccuracies incurred. Also, DLH Environmental Consulting accepts no responsibility for verifying compliance with government regulations for hazardous material and waste use or storage at the subject facility.

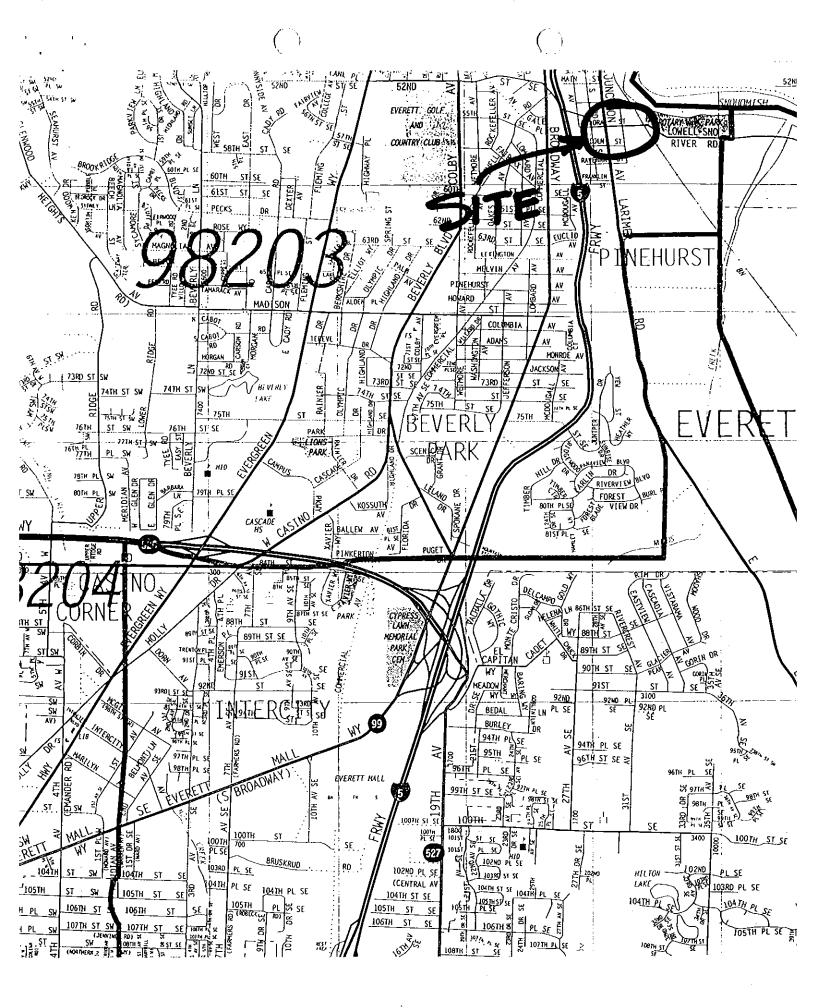
The underlying philosophy in formulating the conclusions and recommendations was to reduce uncertainties regarding the property and pertaining to environmental hazards, to the degree possible. Therefore, the results of this assessment should be viewed as reasonably accurate estimates, given the project limitations of the existing environmental condition of the property.

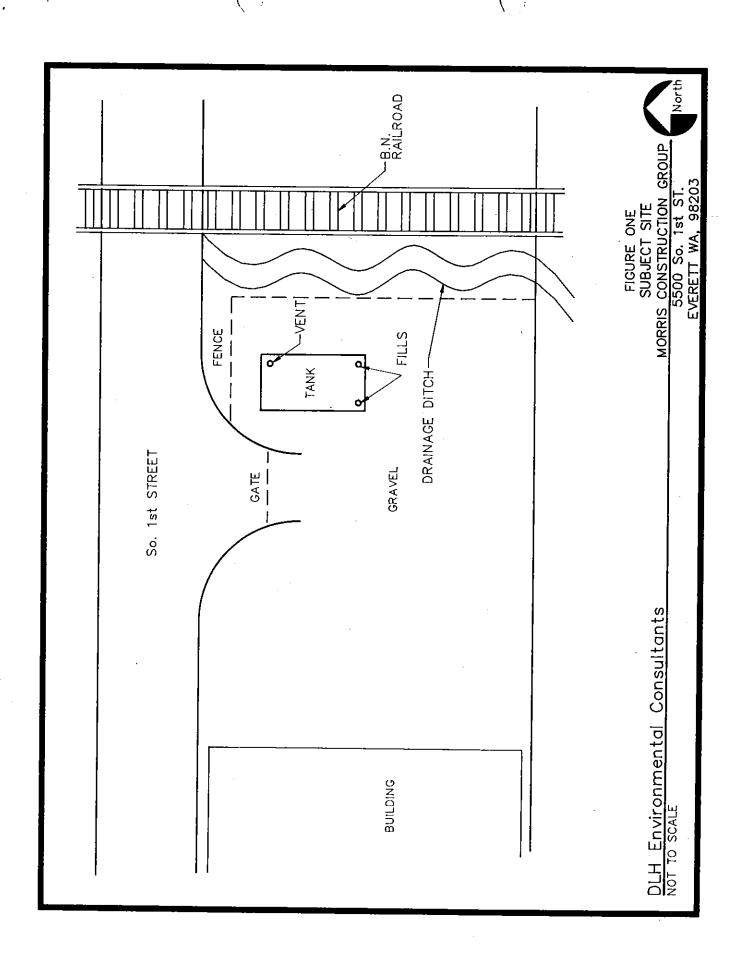
This report is for the exclusive use of Morse Construction Group and their representatives. If new information becomes available as a result of future site work, which may include excavations, borings, studies, etc., DLH Environmental Consulting reserves the right to reevaluate the conclusions of this report and to provide amendments as required.

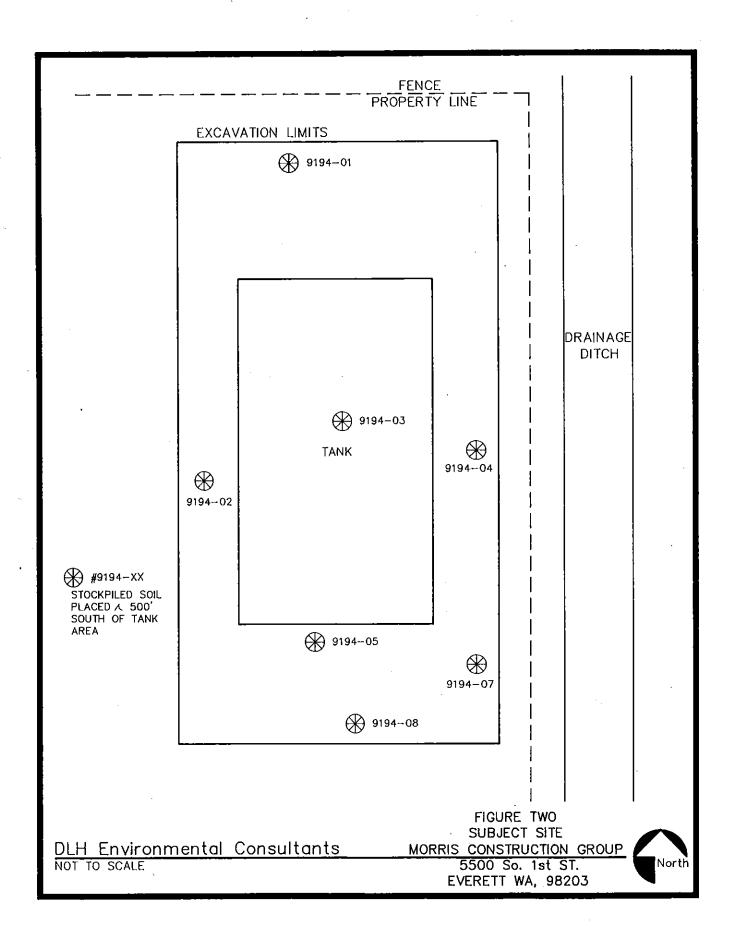
APPENDIX A

SITE MAP, SITE PHOTOGRAPHS

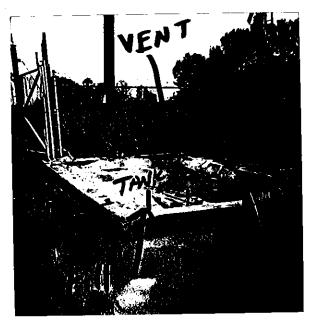
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SITE PHOTOGRAPHS

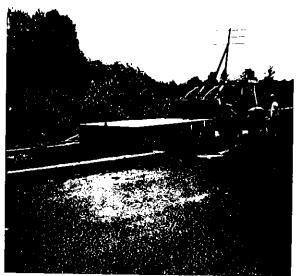


9/1/94- FACING NORTH



9/194 TANK REMOUNE

SITE PHOTOGRAPHS



9/-/94 TANK REMOVAL



EXCAVATION South wall

(<u>)</u> SITE PHOTOGRÁPHS

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9/1/94 StockpileD Soil

APPENDIX

PERMITS, LABORATORY DATA, CHAIN OF CUSTODY FORMS

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FIRE DEPARTMENT

City of Everett, Washington

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CLIENT: MORSE CONSTRUCTION GROUP

5500 SOUTH 1ST STREET

EVERETT, WA 98203

DATE: CCIL JOB #: 9/8/94

409005

CCIL SAMPLE #:

DATF RECEIVED:

9/1/94

WDOE ACCREDITATION #:

C142

CLIENT CONTACT: LLOYD ARCHIBALD

CLIENT PROJECT ID: CLIENT SAMPLE ID:

SAMPLED BY DLH ENVIRONMENTAL CONSULTING

9194-01 9/1/94

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ACTION ANALYSIS ANALYSIS RESULTS* UNITS** LEVEL"" DATE BY METHOD ANALYTE 100MC/KC 9/7/94 KLP WTPH-G ND(<5) MG/KG IPH-GASOLINE

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[&]quot; UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

⁻ ACTIONS LEVELS ARE PROVIDED ONLY WHEN PARAMETER DATA IS USED FOR A GENERALLY CONSISTENT APPLICATION. WHEN PROVIDED, THEY SHOULD DE UÇEO AS QUIDELIKES ONLY. THE APPROPRIATE REGULATORY DOCUMENT SHOULD BE CONSULTED REFORE MAKING ANY ATAC JACTULANA NO CHEAR ENDICIDED



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WDOE ACCREDITATION #:

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CLIENT CONTACT: LLOYD ARCHIBALD

CLIENT PROJECT ID:

SAMPLED BY DLH ENVIRONMENTAL CONSULTING

CLIENT SAMPLE ID: 9194-02 9/1/94

ANALYTE	METHOD	RESULTS"	UNITS"	ACTION LEVEL***	ANALYSIS DATE	ANALYSIS BY
TPH-GASOLINE	WTPH-G	ND(<5)	MG/KG	100MG/KG	9/7/94	KLP

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3229 Pino St. Everett, WA 98201 208 258-4548 FAX 206 259-6289 Seattle 206 292-9059

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CLIENT CONTACT: LLOYD ARCHIBALD

CLIENT PROJECT ID:

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CLIENT SAMPLE ID: 9194-04 9/1/94

DATA RESULTS

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CLIENT SAMPLE ID: 9194-06 9/1/94

	NOTE: I	ATA RESUL	TS BERRY	(Alexandra)	apanyo ja	
ANALYTE	METHOD	RESULTS*	UNITS**	ACTION	ANALYSIS DATE	ANALYSIS By
TPH-GASOLINE	WTPH-G	78 ¹	M@/KG	100HOWA	0/0/014	
BENZENE	EPA-8020	ND(<0,3)	MG/KG	100MG/KG .5MG/KG	9/8/94 9/8/94	KLP KLP
TOLUENE	EPA-8020	ND(<0.3)	MG/KG	40MG/KG	9/8/94	KLP
ETHYLBENZENE	EPA-8020	ND(<0.3)	MG/KG	20MG/KG	9/8/94	KLĖ
XYLENES	EPA-8020	ND(<0.9)	MG/KG	20MG/KG	9/8/94	KLP
TPH-DIESEL	WTPH-D	1100	MG/KG	200MG/KG	9/13/94	KLP
LEAD	EPA-7420	ND(<20)	MG/KG		9/15/94	SJB

¹ GASOLINE RESULT IS LIKELY CAUSED BY FRONT OF DIESEL RANGE PRODUCT ELUTING IN **GASOLINE RANGE**

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EVERETT, WA 98203

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C142

CLIENT CONTACT: LLOYD ARCHIBALD

CLIENT PROJECT ID: CLIENT SAMPLE ID.

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9194-07 9/1/94

DATA RESULTS

ANALYTE

METHOD

RESULTS*

UNITS**

ACTION **LEVEL**" **ANALYSIS**

ANALYSIS BY

DATE

TPH-GASOLINE

WTPH-G

ND(<5)

MG/KG

100MG/KG

9/8/94

KLP

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WDOE ACCREDITATION #:

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CLIENT CONTACT: LLOYD ARCHIBALD

CLIENT PROJECT ID:

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CLIENT SAMPLE ID: 9194-08 9/1/94

DATA RESULTS

ACTION ANALYSIS **ANALYSIS ANALYTE METHOD** RESULTS* UNITS** LEVEL*** DATE BY **TPH-GASOLINE** WTPH-G ND(<5) MG/KG 100MG/KG 9/8/94 KLP

APPROVED BY:

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SURROGATE RECOVERY

CCIL SAMPLE ID	ANALYTE	SUR ID	EXP'D AMT	AMT RECV	% RECV
409005-01	WTPH-G	. ान	10.0	9,2	92
409005-02	WIDHG	TET	10.0	8.3	83
409005-03	WTPH-G	TFT	2,5	2.2	89
409005-03	WTPH-D	C2S	10.0	7.9	79
409005-04	WTPH-G	TFT	10.0	8.3	83
409005-05	WTPH-G	TPT	10.0	9.2	92
40 9005 -08	WTPH-G	TFT	2.5	23	92
409005-06	EPA-8020	ान	2.5	2.5	100
409005-08	WTPH-D	CS2	•		(00
409005-07	WTPH-G	रम	10.0	9,4	84
409005-04	WTPH-G	TFT	10,0	7.8	78

^{*} SURROGATE DILUTED OUT OF CALIBRATION RANGE

APPROVED BY:

CCI Laboratories
3229 Pine
Everett, WA 98201
Phone (206) 258-4548
(206) 292-9059 Se

Chain of Custody / Laboratory Analysis Request

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APPENDIX C

WASHINGTON STATE DEPARTMENT OF ECOLOGY SITE CHECKLISTS AND SITE ASSESSMENT **FORMS**