Waste Characterization and Soil Excavation Report

1512 Highway 97 Ellensburg, Washington

October 21, 2011 Project No. 81117058

Prepared for:

Love's Travel Stops & Country Stores Oklahoma City, Oklahoma

Prepared by:

Terracon Consultants, Inc. Mountlake Terrace, Washington





October 21, 2011

Love's Travel Stops & Country Stores P.O. Box 26210 Oklahoma City, OK 73126

Attn: Mr. Michael Key

Re: Waste Characterization and Soil Excavation Report 1512 Highway 97 Ellensburg, Washington Terracon Project No. 81117058

Dear Mr. Key:

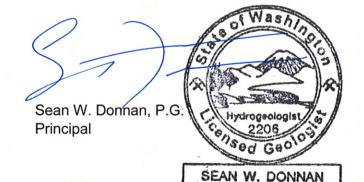
Terracon Consultants, Inc. (Terracon) is pleased to submit this report documenting the waste characterization sampling and laboratory analysis and subsequent remedial excavation conducted at the above-referenced site. Our services were completed in accordance with our proposal dated July 8, 2011, and with the subsequent supplement to agreement for services dated August 18, 2011.

We appreciate the opportunity to perform these services for Love's Travel Stops & Country Stores. Please contact either of the undersigned at (425) 771-3304 if you have questions regarding the information provided in the report.

Sincerely,

Terracon

Chad Kean, CHMM, CPSWQ Project Manager



Terracon Consultants, Inc. 21905 64th Avenue West, Suite 100 Mountlake Terrace, Washington 98043 P [425] 771-3304 F [425] 771-3549 terracon.com

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WASTE CHARACTERIZATION AND SOIL EXCAVATION REPORT

LOVE'S TRAVEL STOP 1512 HIGHWAY 97 ELLENSBURG, WASHINGTON

TERRACON PROJECT NO. 81117058 OCTOBER 21, 2011

1.0 INTRODUCTION

1.1 Site Description

Site Location/Address	1512 Highway 97 Ellensburg, Kittitas County, Washington 98922				
General Site Description	The site consists of Kittitas County tax parcel 376133 and comprises approximately 5.78 acres. The site is currently improved with an approximately 6,056 square-foot commercial building.				

A topographic map indicating the approximate location of the site is included as Figure 1 of Appendix A. A site plan showing the swale/excavation location is included as Figure 2 of Appendix A.

1.2 **Project Information**

Terracon understands that the site has been developed with the existing commercial fueling station since 1996. It is our understanding that a stormwater swale located at the site became clogged with silt and needed to be cleaned out so that the stormwater treatment system could work properly. Based on emails that were forwarded to Terracon the swale needed to be cleaned out and the excavation sediment needed to be characterized.

Terracon was retained by Love's Travel Stops & Country Stores (Love's) to conduct waste characterization soil sampling of the swale sediment, remove and dispose of the swale sediment and to place quarry spalls in the swale following sediment removal. The swale sediment removal and disposal activities were performed by Ken Leingang Excavation, Inc. (Leingang) of Yakima, Washington, along with placement of quarry spalls under direct contract to Terracon.

Jon Morrow, the City of Ellensburg Stormwater Manager, defined the scope of the project



through both verbal and email correspondence between Love's and Terracon. In addition Mr. Morrow oversaw field operations at the site in person during the removal of the sediment and placement of the quarry spalls.

1.3 Scope of Work

Terracon's services were completed in accordance with our proposal dated July 8, 2011, and with the subsequent supplement to agreement for services dated August 18, 2011. Our scope of services included completion of the following tasks:

- Task 1. Terracon coordinated with the excavation contractor, the client, and the selected permitted facility to complete waste profile generator application materials to facilitate final off-site disposition of excavation spoils.
- Task 2. Terracon coordinated meeting with Jon Morrow, City of Ellensburg Stormwater Manager, prior to start of work at the site to discuss best management practices, erosion control and the stream buffer area requirements. In addition Terracon scheduled the onsite work to allow Mr. Morrow to be onsite during the excavation.
- Task 3. Supervised and documented the excavation of impacted sediment. The excavating contractor, under subcontract to our firm, exhumed the impacted sediment.
- Task 4. Excavated sediment was exported from the site by the earthwork contractor. Sediment was transported to an appropriate disposal facility for final disposition.
- Task 5. Prepared this report summarizing the results of our findings, remedial excavation of petroleum impacted sediment, and conclusions and recommendations for additional work, if any.

1.4 **Project Objectives**

The objectives of this project were to provide waste characterization of the stormwater swale sediment and oversee excavation and disposal activities associated with the removal of sediment from the stormwater swale. In addition Terracon oversaw the placement of quarry spalls to stabilize the stormwater swale following removal of the sediment. In the event analytical results indicated that a release has occurred, recommend additional steps to address petroleum contaminated sediment in the stormwater swale and surrounding areas.

1.5 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings,

Waste Characterization and Soil Excavation Report 1512 Highway 97 Ellensburg, WA October 21, 2011 Terracon Project No. 81117058



conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. Our services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-97.

1.6 Additional Scope Limitations

This report was intended to reduce, but not eliminate, uncertainty regarding the existence of recognized environmental conditions in connection with the subject site. Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this project. Subsurface conditions may vary from those encountered at the time of construction or at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services. If, during future site development, different subsurface conditions from those encountered during our explorations are observed or appear to be present, we must be advised promptly so that we can review these conditions and reconsider or modify our conclusions and recommendations where necessary.

1.7 Reliance

This Waste Characterization and Soil Excavation Report is certified to, can be relied upon by, and has been prepared for the exclusive use of the following entities: Love's and their respective successors, assigns, affiliates, and subsidiaries.

Use or reliance by any other party is prohibited without the written authorization of Love's and Terracon.

Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in accordance with our proposal dated July 8, 2011, and with the subsequent supplement to agreement for services dated August 18, 2011. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.



2.0 WASTE CHARACTERIZATION

2.1 Methodology and Soil Sampling

On July 21, 2011, Terracon advanced one hand auger boring to a maximum depth of approximately 2 feet below ground surface in the swale at the site. One soil sample was collected from the hand auger boring. The sample was collected from the interval of most likely environmental impact as determined in the field by the sampling professional. The sample was collected in an effort to characterize the swale sediment prior to disposal.

The soil sample was collected by hand from a hand auger using disposable gloves and placed directly into laboratory supplied glassware. The sample containers for soil were labeled with the Terracon job number, site name, date, time, exploration number, sample number, and sampling personnel. Sample containers were placed in a chilled cooler immediately after sampling, and subsequently transported to the analytical laboratory under strict chain-of-custody procedures.

The sample was delivered to Friedman & Bruya, Inc., a State of Washington State accredited analytical laboratory, in strict accordance with the industry standard chain-of-custody procedures. The sample was analyzed for gasoline-range total petroleum hydrocarbons (TPH) using Northwest Method NWTPH-Gx, diesel- and heavier than diesel-range TPH using NWTPH-Dx, volatile compounds by EPA Method 8260C and polycyclic aromatic hydrocarbons (PAH) by EPA Method 8270 SIM. In addition the sample was analyzed for RCRA-8 TCLP Metals by EPA Method 1311/200.8/1631E. The soil sample collected was submitted using standard (10-day) turnaround time. TCLP analysis was conducted to meet the requirements of landfill acceptance criteria.

Terracon's site activities included the following tasks:

- 1. Soil sampling;
- 2. Analytical laboratory testing;
- 3. Determine if additional remedial excavation is warranted in the event that a release is identified;

2.2 Analytical Laboratory Testing

The soil sample was submitted for chemical analysis to Freidman & Bruya, Inc., a Washington State accredited laboratory. The sample was analyzed for gasoline-range total petroleum hydrocarbons (TPH) using Northwest Method NWTPH-Gx, diesel- and heavier than diesel-range TPH using NWTPH-Dx, volatile compounds by EPA Method 8260C and polycyclic aromatic hydrocarbons (PAH) by EPA Method 8270 SIM. In addition the sample was analyzed for RCRA-8 TCLP Metals by EPA Method 1311/200.8/1631E.

The executed chain-of-custody forms and laboratory analytical certificates are provided in



Appendix C. All analyses were completed using standard turnaround times.

Data packages were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering holding times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate recovery, and detection limits.

2.3 Analytical Laboratory Results

One soil sample was collected at a depth of two feet from the environmental soil boring (B-1). Soil quality summary results are presented in Tables 1, 2 and 3 below. The complete laboratory report and chain-of-custody are included in Appendix C. Additional discussion and interpretation of analytical results relative to applicable cleanup levels is included in Section 4.

Table 1 below summarizes the TPH and VOCs with Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels for unrestricted land use.

Sample	Sample	Total Petroleum Hydrocarbons (mg/kg)		Volatile Organic Compounds (mg/kg)					
Number	Depth (ft)	Gasoline- Range	Diesel- Range	Oil- Range	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
811170 58-DP- 01	2	9.4	2,800	2,600	ND (<0.03)	ND (<0.05)	0.079	1.14	0.33
MTCA M Cleanu	lethod A p Level	100	2,000	2,000	0.03	7	6	9	5

Table 1. Summarized Soil TPH and VOC Analytical Results

mg/kg: milligrams per kilogram (parts-per-million); ND: Not detected above indicated laboratory minimum reporting limit. Bold values exceed MTCA Method A cleanup levels. Please refer to Appendix C for the complete set of analytes and analytical results.

In addition, other VOCs were identified at low concentrations in sample 81117058-DP-01 as summarized in Table 2 below.

	Depth	Analyte (mg/kg)						
Sample	(ft)	n-	1,3,5-	1,2,4-	sec-	p-		
	X -7	Propylbenzene	Trimethylbenzene	Trimethylbenzene	Butylbenzene	Isopropyltoluene		
81117058- DP-01	2	0.057	0.33	0.72	0.050	0.055		
MTCA Me Cleanup Lev	thod A /el	NE	NE	NE	NE	NE		
MTCA Method B Cleanup Level		NE	NE	NE	NE	NE		

mg/kg: milligrams per kilogram (parts-per-million); NE: Not established; Please refer to Appendix C for the complete



set of analytes and analytical results.

VOCs not listed in Tables 1 and 2 above were not identified at concentrations exceeding laboratory MRLs.

In addition the soil sample collected at a depth of two feet from the environmental soil borings (B-1) was analyzed for RCRA-8 TCLP Metals by EPA Method 1311/200.8/1631E. Results are summarized in Table 3 below.

Sample	Sample	Analyte (mg/kg)							
Number	Depth (ft)	Chromium	Arsenic	Selenium	Silver	Cadmium	Barium	Lead	Mercury
811170 58-DP- 01	2	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<0.1)
TCLP M Concer	us Waste aximum ntration vel	5.0	5.0	1.0	5.0	1.0	100.0	5.0	0.2

 Table 3. Summarized Soil Metals Analytical Results

mg/L: milligrams per Liter (parts-per-million); ND: Not detected above indicated laboratory minimum reporting limit. Bold values exceed MTCA Method A cleanup levels. Please refer to Appendix C for the complete set of analytes and analytical results.

Based on our site observations and soil analytical results, a release of diesel- and heavier than diesel-range TPH was identified at concentrations exceeding the Model Toxics Control Act (MTCA) Method A cleanup level for diesel- and heavier than diesel-range TPH in soils established under Chapter 173-340 WAC. As a result, Terracon recommended excavation of the petroleum impacted sediment from the swale area followed by collection of post excavation confirmation soil samples to determine if all of the petroleum impacted sediment was removed from the swale.

2.4 Quality Assurance/Quality Control Results

The analytical results for the current investigation were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering hold times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate (MS/MSD) recovery, and detection limits. QA/QC review was completed using guidance described in *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (Draft Final, USEPA, 2005). Our evaluation assumes that the QA/QC is correct as reported by the laboratory, and merely provides an interpretation of the QA/QC results.

Hold Times. All analyses were completed within specified hold times.



<u>Surrogate Recoveries</u>. All surrogate recoveries were within laboratory limits with the exception of two volatile compounds by EPA Method 8260C. The two compounds (Bromomethane and Trichlorofluoromethane) were detected at levels far below their respective MTCA cleanup levels.

Method Blanks. Analytes were not detected in any of the laboratory method blanks.

<u>MS/MSD Results</u>. MS and MSD recoveries were all within laboratory limits, and Relative Percent Differences (RPDs) between MS and MSD recoveries were all within laboratory limits.

Laboratory Reporting Limits. Reporting limits were below relevant MTCA cleanup levels.

Based upon our interpretation of quality control information provided by the laboratories, it is our opinion that the overall dataset is useable as qualified for the purposes of this Waste Characterization and Soil Excavation Report.

3.0 SOIL EXCAVATION

3.1 Remedial Excavation

On August 22, 2011, Terracon, Jon Morrow (City of Ellensburg) and Leingang, under subcontract to Terracon, mobilized to the site to conduct excavation of petroleum impacted sediment from the swale, soil sampling, off-site disposition of PCS, and backfill of the swale with quarry spalls. The objective of the excavation was to remove sediment to the extent practical from the swale and place quarry spalls to stabilize the swale for use.

Terracon and Leingang, under the direction of Mr. Morrow, excavated sediment from the swale. The sediment was placed directly into a lined dump truck for off-site disposal at Rabanco Regional Disposal in Roosevelt, Washington. Towards the end of the excavation of sediment groundwater started infiltrating the swale from east wall at a fairly rapid rate. At the direction of Mr. Morrow, Terracon and Leingang terminated excavating sediment and immediately started placing quarry spalls to stabilize the swale prior to discharge due to the rising water levels. Following completion of the placement of quarry spalls the swale had a static water level approximately one foot higher than the original level of sediment prior to excavation. Due to the rising water levels and final static level it was not possible for Terracon to collect post excavation confirmation soil samples following removal of the sediment.

In total, 6.47 tons of sediment was hauled from the site for final off-site disposition at Rabanco Regional Disposal in Roosevelt, Washington. Truck scale tickets and the Certificate of Disposal are included in Appendix B. Following off-site disposal of sediment, the contractor backfilled the remedial excavation with quarry spalls at the direction of Mr. Morrow. The contractor placed an approximate one to two-foot lift of quarry spalls along the bottom and sides of the swale.



4.0 FINDINGS AND DISCUSSION

Terracon completed a Waste Characterization and Soil Excavation Report for the abovereferenced site. The findings of this report are as follows:

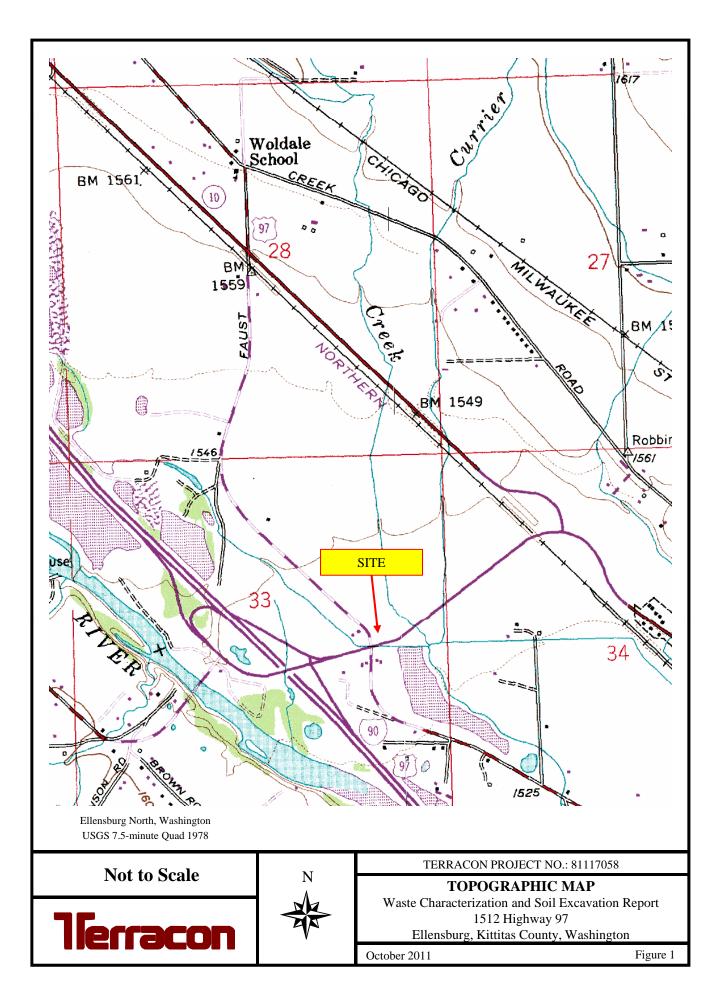
- Diesel-range TPH was identified at 2,800 mg/kg and oil-range TPH was identified at 2,600 mg/kg, above the MTCA Method A cleanup level for diesel- and oil-range TPH in soil in the waste characterization sample collected from the swale sediment.
- Excavation of the sediment from the swale was completed in an effort to rehabilitate the swale for use. Due to the rising water levels and final static level it was not possible for Terracon to collect post excavation confirmation soil samples following removal of the sediment from the swale. The contractor placed an approximate one to two-foot lift of quarry spalls along the bottom and sides of the swale to stabilize the swale following removal of the sediment.
- In total, 6.47 tons of sediment was hauled from the site for final off-site disposition at Rabanco Regional Disposal in Roosevelt, Washington.

5.0 **RECOMMENDATIONS**

Based on the analytical results for the waste characterization soil sample collected during sampling activities conducted on July 21, 2011, and field remedial excavation activities conducted on August 22, 2011, it appears that the sediment impacted with diesel- and oil-range TPH has been removed. Due to the rising water levels and final static level it was not possible for Terracon to collect post excavation confirmation soil samples following removal of sediment from the swale. Therefore, it is not possible for Terracon to determine if any of the remaining soil has been impacted with diesel- and oil-range TPH. Terracon recommends that Love's notify the Washington State Department of Ecology Toxics Cleanup Program of a release at the site and inform them of the current status.

APPENDIX A

Figures





APPENDIX B

Supporting Documentation

Certification No:_	TB-	10662
Billing Acct. No.	60	148
Product Code		

BILL OF LADING CONTAMINATED SOIL

REGIONAL DISPOSAL COMPANY 54 S. Dowson Street Seattle, WA 98134 Telephone: (206) 332-7700 / Fax: (206) 332-7600

This Bill of Lading augments the Master Service Agreement ("Agreement") entered into by Ken <u>Lein Gans</u> <u>EX</u> ("Generator/Agent") and Regional Disposal Company ("RDC") on <u>Slight(</u> (date). The terms herein aro made a part of the Agreement. In the event of conflict between this Bill of Lading and the Agreement, the terms of the Agreement prevail. TB-We6Z

RDC hereby authorizes the Wastes ("Waste") described in Certification No. _____, signed by Generator/Agent on $\frac{8/19/11}{2}$ (date), for disposal at Roosevelt Regional Landfill. Generator/Agent shall present a copy of this Bill of Lading with each shipment delivered.

Vansburg Location of Waste: 151 Method of Shipment;

Additional Fees (e.g., laboratory fees, transportation fees, special handling fees, etc. If none, so state):

illerer

PERFORMANCE DATE

FOR RDC TRANSPORTATION: Generator/Agent shall make the Waste available for shipment no later than _____(date). RDC shall transport the Waste no later than _____(date), unless RDC notifies the Generator/Agent in writing that Waste transport shall be suspended or canceled due to RDC's exercise of its right to inspect or analyze the Waste (as provided in the Agreement).

GENERATOR/AGENT TRANSPORTATION: Generator/Agent shall begin delivery of the Waste at [check one]:

Dure K Roosevelt Regional Landfill.

Seattle Transfer Station located at Third and Lander.

Waste delivery shall begin no later than $\frac{\mathscr{G}\left(\left(\begin{array}{c} 1 \right) \right)}{(\operatorname{date})}$, and shall complete delivery of the Waste no later than (date), unless RDC notifies Generator/Agent in writing to suspend or cancel the waste delivery due to RDC's exercise of its right to inspect or analyze the Waste (As provided in the Agreement).

EMERADOR/AGENT Signature

Printed Name and Title

<u>REGIONAL DISPOSAL COMPANY</u>

Signature

Printed Name and

ALL TRUCKS MUST HAVE A COPY OF THIS BILL OF LADING WHEN DELIVERING WASTE TO THE TRANSFER STATION OR TO THE LANDFILL. Revised 10/15/06

SERVICES. INC.	R			ervices		
S	PECIAL W	ASTE DE	PARTME		N	
	Waste Profile #			ation Date		
	41781113041		7/21/2		·	
I. Decision Request:		Recertif	ication	Change		
Disposal Facility: 4178 - Roosevelt Region Generator Name: Love's Travel Stops & Co						
Generator Site Address: 1512 Hwy 87	unity stores			······		
	County:		State:			Zip:
Name of Waste: Stromwater Pond Sedimen						
Estimated Annual Volume: 5 Cubic Yards						
lanagement Method(s): Toblematic Special Waste according to Re yes, which one?	epublic?	Yes	oremediation	🔲 Transfer Fac	sility	
pproved by Special Waste Review Comm	ittee?	Yes	No	V Not Applicable		
Pr	ecautions, Co	onditions o	r Limitatio	ons on Approva	l .	
ecial Waste Analyst Signature: Second te: 8/19/2011 Facility Decision:	I			Rejected		nted): <u>Leslie Hamilton</u>
Pre	ecautions, Co	nditions o	r Limitatio	ns on Approval		
					0.000	
signing below, the General Manager or Desi Ictal waste file is complete.	ignee agrees that a	a fully execute	d Special Wa	iste Service Agreem	ent is on file for	this profile and that the

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Page 1 of 2

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quested Disposal Facility: 47	178 Roosevelt Regional MSW LF		ste Profile #		
a reaction fills form Restricted printing until al f Generator Informat	tion	Sales Rep #:			
Benerator Name: Love's Tra	avel Stops & Country Stores				
Generator Site Address: 1	512 Highway 97		The 09078		
City: Ellensburg	County: Kittitas	State: Weshington	Zip: 98926		
State ID/Reg No: 11/8	State Approval/Waste Code	n/a (if applicab	le) NAICS#:n/a		
Generator Mailing Address (i	f different): P.O. Box 26210				
City: Oklahoma City	County: Oklahoma	State: Oklahoma	Zip: 73128		
Generator Contact Name: Ki			dy.mills@loves.com		
Phone Number: (405) 667-1		Fax Number: (405) 463	Fax Number: (405) 463-3689		
a. Transporter Informa					
Transporter Name: Ken Lein	eano Excavaling, Inc.	Contact Name: Darren t	eingang		
Transporter Address: 11171	1 27th Avenue				
City: Yakima	County: Yakima	State: Weshington	Zíp: 98902		
Phone: (509) 575-5507			State Transportation Number: 1779826		
	1 4A. (000) 101				
ib. Billing Information		Contact Name: Darren	Leingang		
Bill To: Ken Leingang Excav		Email:	· · · · · · · · · · · · · · · · · · ·		
Billing Address: 1117 N. 27			one: (509) 575-5507		
City: Yakima	State: Washington	Zip: 98902 Pho	Me. 1044/010 4441		

Weste Stream Information

Name of Waste: Stormwate	
Process Generating Waste:	
Stormwater pond sediment r	emoval
Type of Waste:	INDUSTRIAL PROCESS WASTE POLLUTION CONTROL WASTE
Physical State:	SOLID SEMI-SOLID POWDER LIQUID
Method of Shipment:	
Estimated Annual Volume:	5 Cubic Yards
Frequency:	
Disposal Consideration:	

IV. Representative Sample Certification	
Le the convectorities sample collected to prepare this profile and laboratory analysis,	YES or NO
collected in accordance with U.S. EPA 40 CFR 281.20(c) guidelines of equivalent rules?	
Sample Date: 7/21/11 Type of Sample: COMPOSITE SAMPLE GRAB SA	
Sample ID Numbers: 81117058-DP-01	

@ Republic Services, Dec 2009



Page 2 of 2

			-	Wa	ste Pro	file #	
V. Physica	ai Characteristics of	Wacta					
Characteristic			L	by Weight (
1. Soil				9.995	ranye)		-
2. Total Petrole	um Hydrocarbons (Gx & Dx)	-	.005			
3.							
4. 5.							
Color	Odor (describe)	Does Waste Contain Free Liguids?	% Solids	pH:		Flash Po	7-1
Brown/Black	Light oil smell		100	nla		n/a	
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	Re	port (and/or Material Safety Data quired Parameters Provided for t	Sneet) inclu his Profile	laing Chain	of CU	stody and	
Herbicides: Chic	or generating process cont rdane, Endrin, Heptachlor (as defined in 40 CFR 261.3	ain regulated concentrations of the follo and it epoxides), Lindane, Methoxychio 3?	wing Pesticide r, Toxaphene,	es and/or 2,4-D, or	DY	es or 🔽N	0
Does this waste ppm)[reference	contain reactive sulfides (g t0 CFR 261.23(a)(5)]?	reater than 500 ppm) or reactive cyanid	e (greater than	250	Yes or VINo		
Does this waste Part 761?	contain regulated concentra	ations of Polychlorinated Biphenyls (PC	Bs) as defined	in 40 CFR		es or 🕅 N	o
Does this waste including RCRA	contain concentrations of lis F-Listed Solvents?	ated hazardous wastes defined in 40 Ci	FR 261.31, 261	1.32, 261.33,		es or 🔽N	0
Does this waste	exhibit a Hazardous Chara	cteristic as defined by Federal and/or St	ate regulation	\$ 7			0
Does this waste other dioxin as d	contain regulated concentra efined in 40 CFR 261.31?	ntions of 2,3,7,8-Tetrachlorodibenzodio	dn (2,3,7,8-TC	CD), or any	□Y•	es or 🗾 N	0
is this a regulate	d Radioactive Waste as del	ined by Federal and/or State regulation	s?			es or VN	ò.
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?						es or 🔽 No	D
Is this waste a reactive or heat generating waste?						es or 📝 No	D D
Does the waste contain sulfur or sulfur by-products?					1 Ye	es or 🔽 N	0
Is this waste generated at a Federal Suparfund Clean Up Site?						as or 🔽 No	6
Is this waste from a TSD facility, TSD like facility or consolidator?					∐Ye	ea or 🔽 No	p

VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste.

I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition partaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services Inc.

Kimberley Mills Shris	Welden Love's Travel Stops & Country Stores
Authorized Representative Name And Title (Type or Print)	Company Name
Chiow Idon	
Authorized Representative Signature	Date

Sepublic Services, Dec 2009

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RABANCO REGIONAL DISPOSAL		тіскет 5301,5353	GRID	
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Ken Leingang Excavating, Inc.	35			
Contract: TB-10662	REFERE			
		Elle	rrsbarg	
1 Gross Weight 39,100.00 LB Tare Weight 26,160.00 LB Net Weight 12,940.00 LB 6.47 TN Description		SATE EXTENSION		
		SATE	TAX	TOTAL
6.47 TN 66 CASI Cont Soil				
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APPENDIX C

Laboratory Data Sheets

ENVIRONMENTAL CHEMISTS

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July 29, 2011

Chad Kean Terracon Pacific Cascade Building 21905 64th Ave. W., Suite 100 Mountlake Terrace, WA 98043

Dear Mr. Kean:

Included are the results from the testing of material submitted on July 21, 2011 from the Love's 81117058, F&BI 107293 project. There are 18 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

ale

Michael Erdahl Project Manager

Enclosures TRC0729R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 21, 2011 by Friedman & Bruya, Inc. from the Terracon Love's 81117058, F&BI 107293 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Terracon
107293-01	81117058-DP-01

The 8260C calibration standard failed the acceptance criteria for several analytes. The data were flagged accordingly.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293 Date Extracted: 07/22/11 Date Analyzed: 07/22/11

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery</u>) (Limit 50-150)
81117058-DP-01 107293-01	9.4	105
Method Blank 01-1313 MB	<2	102

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293 Date Extracted: 07/22/11 Date Analyzed: 07/22/11

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	Motor Oil Range (C25-C36)	Surrogate <u>(% Recovery)</u> (Limit 50-150)
81117058-DP-01 107293-01	2,800	2,600	116
Method Blank 01-1310 MB	<50	<250	111

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	81117058-DJ 07/21/11 07/26/11 07/26/11 Soil mg/L (ppm)		Client: Project: Lab ID: Data File: Instrument: Operator:	Terracon Love's 81117058, F&BI 107293 107293-01 107293-01.010 ICPMS1 AP
			Lower	Upper
Internal Standard:		% Recovery:	Limit:	Limit:
Germanium		100	60	125
Indium		100	60	125
Holmium		98	60	125
		Concentration		
Analyte:		mg/L (ppm)	TCLP Lin	nit
Chromium		<1	5.0	
Arsenic		<1	5.0	
Selenium		<1	1.0	
Silver		<1	5.0	
Cadmium		<1	1.0	
Barium		<1	100	
Lead		<1	5.0	

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Blar NA 07/26/11 07/26/11 Soil mg/L (ppm)	ık	Client: Project: Lab ID: Data File: Instrument: Operator:	Terracon Love's 81117058, F&BI 107293 I1-516 mb I1-516 mb.008 ICPMS1 AP
			Lower	Upper
Internal Standard:		% Recovery:	Limit:	Limit:
Germanium		98	60	125
Indium		98	60	125
Holmium		96	60	125
		Concentration		
Analyte:		mg/L (ppm)	TCLP Lin	nit
Chromium		<1	5.0	
Arsenic		<1	5.0	
Selenium		<1	1.0	
Silver		<1	5.0	
Cadmium		<1	1.0	
Barium		<1	100	
Lead		<1	5.0	

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293 Date Extracted: 07/26/11 Date Analyzed: 07/27/11

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TCLP MERCURY IN ACCORDANCE WITH EPA METHOD 1631E AND 40 CFR PART 261

Results Reported as mg/L (ppm)

<u>Sample ID</u> Laboratory ID	TCLP Mercury
81117058-DP-01 107293-01	<0.1
Method Blank	<0.1
TCLP Limit	0.2

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	81117058-D) 07/21/11 07/25/11 07/25/11 Soil mg/kg (ppm		Client: Project: Lab ID: Data File: Instrument: Operator:	Terracon Love's 81117058, F&E 107293-01 072523.D GCMS5 VM	BI 107293
			Lower	Upper	
Surrogates:		% Recovery:	Limit:	Limit:	
1,2-Dichloroethane-	d4	98	42	158	
Toluene-d8		101	42	159	
4-Bromofluorobenze	ene	102	36	160	
		Concentration			Concentration
Compounds:		mg/kg (ppm)	Compour	nds:	mg/kg (ppm)
Dichlorodifluoromet	thane	< 0.5	1,3-Dich	loropropane	< 0.05
Chloromethane		< 0.5	Tetrachl	oroethene	< 0.025
Vinyl chloride		< 0.05	Dibromo	chloromethane	< 0.05
Bromomethane		<0.5 ca	1,2-Dibro	omoethane (EDB)	< 0.05
Chloroethane		< 0.5	Chlorobe	enzene	< 0.05
Trichlorofluoromethane		<0.5 ca	Ethylbenzene		0.079
Acetone		< 0.5	1,1,1,2-Tetrachloroethane		< 0.05
1,1-Dichloroethene		< 0.05	m,p-Xylene		0.66
Methylene chloride		<0.5	o-Xylene		0.48
Methyl t-butyl ether (MTBE)		< 0.05	Styrene		< 0.05
trans-1,2-Dichloroethene		< 0.05	Isopropy		< 0.05
1,1-Dichloroethane		< 0.05	Bromoform		< 0.05
2,2-Dichloropropane		< 0.05	n-Propylbenzene		0.057
cis-1,2-Dichloroethe	ene	< 0.05	Bromobenzene		< 0.05
Chloroform		< 0.05		methylbenzene	0.33
2-Butanone (MEK)		< 0.5		etrachloroethane	< 0.05
1,2-Dichloroethane		< 0.05		chloropropane	< 0.05
1,1,1-Trichloroetha		< 0.05	2-Chloro		< 0.05
1,1-Dichloropropene		< 0.05	4-Chloro		< 0.05
Carbon tetrachlorid	e	< 0.05		ylbenzene	< 0.05
Benzene		< 0.03		methylbenzene	0.72
Trichloroethene		< 0.03		lbenzene	0.050
1,2-Dichloropropane		< 0.05		pyltoluene	0.055
Bromodichlorometh	ane	< 0.05		lorobenzene	< 0.05
Dibromomethane		< 0.05		lorobenzene	< 0.05
4-Methyl-2-pentano		< 0.5		lorobenzene	< 0.05
cis-1,3-Dichloroprop	ene	< 0.05		omo-3-chloropropane	< 0.5
Toluene		< 0.05		chlorobenzene	< 0.25
trans-1,3-Dichlorop		< 0.05		orobutadiene	< 0.25
1,1,2-Trichloroetha	ne	< 0.05	Naphtha		0.33
2-Hexanone		<0.5	1,2,3-1ri	chlorobenzene	<0.25

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Date Received:NADate Extracted:07/25Date Analyzed:07/25Matrix:Soil		Client: Project: Lab ID: Data File: Instrument: Operator:	Terracon Love's 81117058, F&E 01-1260 mb 072508.D GCMS5 VM	SI 107293
Surrogates: 1,2-Dichloroethane-d4 Toluene-d8 4-Bromofluorobenzene	% Recovery: 101 101 103	Lower Limit: 42 42 36	Upper Limit: 158 159 160	
Compounds:	Concentration mg/kg (ppm)	Compour	nds:	Concentration mg/kg (ppm)
Compounds: Dichlorodifluoromethane Chloromethane Vinyl chloride Bromomethane Chloroethane Trichlorofluoromethane Acetone 1,1-Dichloroethene Methylene chloride Methyl t-butyl ether (MTE trans-1,2-Dichloroethene 1,1-Dichloroethane 2,2-Dichloropropane cis-1,2-Dichloroethene Chloroform 2-Butanone (MEK) 1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane 1,1-Dichloropropene Carbon tetrachloride Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane 4-Methyl-2-pentanone cis-1,3-Dichloropropene	$ \begin{array}{c} < 0.5 \\ < 0.5 \\ < 0.05 \\ < 0.5 ca \\ < 0.5 ca \\ < 0.5 ca \\ < 0.5 \\ < 0.5 \\ < 0.5 \\ < 0.05 \\ < 0.5 \\ < 0.5 \\ \end{array} $	1,3-Dichl Tetrachl Dibromo 1,2-Dibro Chlorobe Ethylber 1,1,1,2-T m,p-Xyle o-Xylene Styrene Isopropy Bromofo n-Propyl Bromobe 1,3,5-Tri 1,1,2,2-T 1,2,3-Tri 2-Chloro 4-Chloro tert-Buty 1,2,4-Tri sec-Buty p-Isoprop 1,3-Dichl 1,4-Dichl 1,2-Dichl	loropropane oroethene chloromethane pmoethane (EDB) enzene izene 'etrachloroethane ene lbenzene enzene methylbenzene 'etrachloroethane chloropropane toluene toluene ylbenzene methylbenzene	mg/kg (ppm) < 0.05 < 0.025 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 <
Toluene trans-1,3-Dichloropropene 1,1,2-Trichloroethane 2-Hexanone	<0.05 <0.05 <0.05 <0.5	1,2,4-Tri Hexachle Naphtha	chlorobenzene probutadiene	<0.25 <0.25 <0.05 <0.25

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	81117058-DI 07/21/11 07/26/11 07/27/11 Soil mg/kg (ppm)		Client: Project: Lab ID: Data File: Instrument: Operator:	Terracon Love's 81117058, F&BI 107293 107293-01 1/50 072615.D GCMS6 YA
Surrogates: Anthracene-d10 Benzo(a)anthracene	-d12	% Recovery: 50 199 ds	Lower Limit: 50 35	Upper Limit: 150 159
Compounds:		Concentration mg/kg (ppm)		
Naphthalene		0.59		
Acenaphthylene		< 0.1		
Acenaphthene		0.12		
Fluorene		0.76		
Phenanthrene		1.2		
Anthracene		< 0.1		
Fluoranthene		0.20		
Pyrene		0.68		
Benz(a)anthracene		< 0.1		
Chrysene		0.18		
Benzo(a)pyrene		<0.1		
Benzo(b)fluoranther	ne	<0.1		
Benzo(k)fluoranther	ne	<0.1		
Indeno(1,2,3-cd)pyre	ene	< 0.1		
Dibenz(a,h)anthrace	ene	< 0.1		
Benzo(g,h,i)perylene	<u>è</u>	<0.1		

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Blar NA 07/26/11 07/26/11 Soil mg/kg (ppm)		Client: Project: Lab ID: Data File: Instrument: Operator:	Terracon Love's 81117058, F&BI 107293 01-1330 mb 1/5 072611.D GCMS6 YA
Surrogates: Anthracene-d10 Benzo(a)anthracene	-d12	% Recovery: 102 115	Lower Limit: 50 35	Upper Limit: 150 159
Compounds:		Concentration mg/kg (ppm)		
Naphthalene		< 0.01		
Acenaphthylene		< 0.01		
Acenaphthene		< 0.01		
Fluorene		< 0.01		
Phenanthrene		< 0.01		
Anthracene		< 0.01		
Fluoranthene		< 0.01		
Pyrene		< 0.01		
Benz(a)anthracene		< 0.01		
Chrysene		< 0.01		
Benzo(a)pyrene		< 0.01		
Benzo(b)fluoranther	e	< 0.01		
Benzo(k)fluoranther	ne	< 0.01		
Indeno(1,2,3-cd)pyre	ene	< 0.01		
Dibenz(a,h)anthrace	ene	< 0.01		
Benzo(g,h,i)perylene)	< 0.01		

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code:	107260-06 (Duplicate	e)			
		(Wet V	Vt) (W	Vet Wt)	Relative Percent
		Samp	le Dı	ıplicate	Difference
Analyte	Reporting Units	Resu	lt F	Result	(Limit 20)
Gasoline	mg/kg (ppm)	<2		<2	nm
Laboratory Code:	Laboratory Control S	Sample			
			Percent		
		Spike	Recovery	Acceptanc	e
Analyte	Reporting Units	Level	LCS	Criteria	
Gasoline	mg/kg (ppm)	20	105	71-131	

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 107276-09 (Matrix Spike)

			(Wet wt)	Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery MSD	Acceptance	RPD
Analyte	Units	Level	Result	MS	-	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	92	92	63-146	0
Laboratory Code: La	aboratory Control	l Sample	Percent				
	Reporting	Spike	Recovery	Accepta	ance		
Analyte	Units	Level	LCS	Criter			
Diesel Extended	mg/kg (ppm)	5,000	92	79-14	14		

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TCLP METALS USING EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 107293-01 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Chromium	mg/L (ppm)	2.0	<1	94	96	50-150	2
Arsenic	mg/L (ppm)	1.0	<1	99	100	50-150	1
Selenium	mg/L (ppm)	0.5	<1	99	96	50-150	3
Silver	mg/L (ppm)	0.5	<1	97	96	50-150	1
Cadmium	mg/L (ppm)	0.5	<1	99	100	50-150	1
Barium	mg/L (ppm)	5.0	<1	102	103	50-150	1
Lead	mg/L (ppm)	1.0	<1	96	97	50-150	1

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Chromium	mg/L (ppm)	2.0	96	70-130
Arsenic	mg/L (ppm)	1.0	97	70-130
Selenium	mg/L (ppm)	0.5	99	70-130
Silver	mg/L (ppm)	0.5	95	70-130
Cadmium	mg/L (ppm)	0.5	98	70-130
Barium	mg/L (ppm)	5.0	99	70-130
Lead	mg/L (ppm)	1.0	95	70-130

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TCLP MERCURY IN ACCORDANCE WITH EPA METHOD 1631E AND 40 CFR PART 261

Laboratory Code: 107293-01 (Matrix Spike) Percent Percent Percent Reporting Spike Sample Recovery Recovery Control RPD Analyte Units Level Result MS MSD Limits (Limit 20) Management mg/L (npm) 0.005 c0.1 102 106 48.160 2								
-		-		Percent	Percent			
	Reporting	Spike	Sample	Recovery	Recovery	Control	RPD	
Analyte	Units	Level	Result	MS	MSD	Limits	(Limit 20)	
Mercury	mg/L (ppm)	0.005	<0.1	103	106	48-160	3	

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Mercury	mg/L (ppm)	0.005	100	79-126

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

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Laboratory Code: 107294-01 (Matrix Spike)

-				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Acceptance		
Analyte	Units	Level	Result	MS	Criteria		
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	12	10-171		
Chloromethane	mg/kg (ppm)	2.5	<0.5	35	10-162		
Vinyl chloride	mg/kg (ppm)	2.5	< 0.05	35	10-166		
Bromomethane	mg/kg (ppm)	2.5	< 0.5	47	10-165		
Chloroethane	mg/kg (ppm)	2.5	<0.5	55	10-161		
Trichlorofluoromethane	mg/kg (ppm)	2.5 12.5	<0.5	40	10-168		
Acetone 1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.5 <0.05	63 50	20-155 10-168		
Methylene chloride	mg/kg (ppm)	2.5	<0.05	60	21-149		
Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05	64	39-139		
trans-1.2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	56	20-150		
1.1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	60	30-114		
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	61	17-150		
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	64	36-111		
Chloroform	mg/kg (ppm)	2.5	< 0.05	64	39-114		
2-Butanone (MEK)	mg/kg (ppm)	12.5	< 0.5	68	24-153		
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	67	38-116		
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	64	27-119		
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	62	26-118		
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05	64	22-123		
Benzene	mg/kg (ppm)	2.5	< 0.03	63	33-113		
Trichloroethene	mg/kg (ppm)	2.5	< 0.03	68	36-113		
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	66	40-113		
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	69	43-118		
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	69	43-113		
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	70	34-154		
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	70	43-117		
Toluene	mg/kg (ppm)	2.5	< 0.05	64 72	38-139		
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	72 68	44-140		
2-Hexanone	mg/kg (ppm)	2.5 12.5	<0.05 <0.5	68 70	38-146 37-150		
1,3-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05	67	47-133		
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	64	29-117		
Dibromochloromethane	mg/kg (ppm)	2.5	<0.025	70	46-116		
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	69	44-139		
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	66	41-114		
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	66	38-120		
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	72	43-120		
m,p-Xylene	mg/kg (ppm)	5	< 0.1	67	37-122		
o-Xylene	mg/kg (ppm)	2.5	< 0.05	67	39-121		
Styrene	mg/kg (ppm)	2.5	< 0.05	69	43-121		
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	67	38-126		
Bromoform	mg/kg (ppm)	2.5	< 0.05	72	44-120		
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	67	34-127		
Bromobenzene	mg/kg (ppm)	2.5	< 0.05	68	42-115		
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	67	34-126		
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	69	41-113		
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	69	45-134		
2-Chlorotoluene 4-Chlorotoluene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	68 69	40-120 41-119		
4-Chlorotoluene tert-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05 <0.05	67	37-125		
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	68	34-129		
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	67	35-127		
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	66	35-128		
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	67	39-115		
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	67	39-113		
1.2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	67	43-115		
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	73	30-147		
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	68	37-121		
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	64	29-121		
Naphthalene	mg/kg (ppm)	2.5	< 0.05	69	12-168		
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	67	11-172		
	0 0 41 /						

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

	Reporting	Spike	Percent Recovery	Percent Recovery	Acceptance	RPD
nalyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
ichlorodifluoromethane	mg/kg (ppm)	2.5	38	38	10-142	0
hloromethane	mg/kg (ppm)	2.5	57	56	25-121	2
inyl chloride	mg/kg (ppm)	2.5	61	59	29-135	3
romomethane	mg/kg (ppm)	2.5	63	60	33-123	5
hloroethane	mg/kg (ppm)	2.5	66	63	10-281	5
richlorofluoromethane	mg/kg (ppm)	2.5	65	56	13-151	15
cetone	mg/kg (ppm)	12.5	74	72	10-151	3
1-Dichloroethene	mg/kg (ppm)	2.5	68	66	22-151	3
lethylene chloride	mg/kg (ppm)	2.5	68	71	42-144	4
fethyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	85	80	62-124	6
rans-1,2-Dichloroethene	mg/kg (ppm)	2.5	77	75	60-125	3
1-Dichloroethane	mg/kg (ppm)	2.5	86	82	66-123	5
2-Dichloropropane	mg/kg (ppm)	2.5	96	90	53-134	6
is-1,2-Dichloroethene	mg/kg (ppm)	2.5	88	83	72-118	6
hloroform	mg/kg (ppm)	2.5	90	85	71-123	6
-Butanone (MEK)	mg/kg (ppm)	12.5	91	87	10-150	4
2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	88	82	60-124	7
1,1-Trichloroethane	mg/kg (ppm)	2.5	94	88	68-128	7
1-Dichloropropene	mg/kg (ppm)	2.5	90	84	71-123	7
arbon tetrachloride	mg/kg (ppm)	2.5	96	93	64-136	3
enzene	mg/kg (ppm)	2.5	88	83	69-122	6
richloroethene	mg/kg (ppm)	2.5	96	83 91	71-122	5
2-Dichloropropane		2.5	91	86	71-122	6
	mg/kg (ppm)			94		
romodichloromethane	mg/kg (ppm)	2.5	101		68-140	7 7
ibromomethane	mg/kg (ppm)	2.5	94	88	72-121	
Methyl-2-pentanone	mg/kg (ppm)	12.5	93	89	10-150	4
s-1,3-Dichloropropene	mg/kg (ppm)	2.5	101	96	74-126	5
oluene	mg/kg (ppm)	2.5	86	84	72-122	2
ans-1,3-Dichloropropene	mg/kg (ppm)	2.5	101	98	70-131	3
1,2-Trichloroethane	mg/kg (ppm)	2.5	88	86	70-122	2
Hexanone	mg/kg (ppm)	12.5	89	84	10-152	6
3-Dichloropropane	mg/kg (ppm)	2.5	88	85	72-121	3
etrachloroethene	mg/kg (ppm)	2.5	88	86	69-125	2
bibromochloromethane	mg/kg (ppm)	2.5	98	94	68-130	4
2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	91	88	72-121	3
hlorobenzene	mg/kg (ppm)	2.5	85	83	69-125	2
thylbenzene	mg/kg (ppm)	2.5	88	85	72-130	3
1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	97	94	69-133	3
,p-Xylene	mg/kg (ppm)	5	89	86	72-131	3
Xylene	mg/kg (ppm)	2.5	90	85	71-129	6
tyrene	mg/kg (ppm)	2.5	91	89	73-132	2
sopropylbenzene	mg/kg (ppm)	2.5	89	86	73-132	3
romoform	mg/kg (ppm)	2.5	104	98	68-129	6
-Propylbenzene	mg/kg (ppm)	2.5	89	86	72-136	3
romobenzene	mg/kg (ppm)	2.5	89 91	88	73-125	3
3.5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	91 90	85	73-125 72-132	6
1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	92	88	67-116	4
2,3-Trichloropropane	mg/kg (ppm)	2.5	90	85	67-123	6
Chlorotoluene	mg/kg (ppm)	2.5	91	87	72-130	4
Chlorotoluene	mg/kg (ppm)	2.5	90	87	73-129	3
rt-Butylbenzene	mg/kg (ppm)	2.5	89	86	71-130	3
2,4-Trimethylbenzene	mg/kg (ppm)	2.5	89	87	70-132	2
c-Butylbenzene	mg/kg (ppm)	2.5	89	87	71-134	2
Isopropyltoluene	mg/kg (ppm)	2.5	90	87	71-135	3
3-Dichlorobenzene	mg/kg (ppm)	2.5	89	85	70-124	5
4-Dichlorobenzene	mg/kg (ppm)	2.5	88	85	68-126	3
2-Dichlorobenzene	mg/kg (ppm)	2.5	89	86	71-125	3
2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	99	95	63-122	4
2,4-Trichlorobenzene	mg/kg (ppm)	2.5	90	89	69-132	1
exachlorobutadiene	mg/kg (ppm)	2.5	87	88	68-121	1
			07	00	00-161	
aphthalene	mg/kg (ppm)	2.5	91	90	60-125	1

ENVIRONMENTAL CHEMISTS

Date of Report: 07/29/11 Date Received: 07/21/11 Project: Love's 81117058, F&BI 107293

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Laboratory Couc. Laborati	ing control Sump		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	mg/kg (ppm)	0.17	89	89	61-115	0
Acenaphthylene	mg/kg (ppm)	0.17	86	86	63-110	0
Acenaphthene	mg/kg (ppm)	0.17	89	89	60-115	0
Fluorene	mg/kg (ppm)	0.17	95	95	59-116	0
Phenanthrene	mg/kg (ppm)	0.17	88	89	60-113	1
Anthracene	mg/kg (ppm)	0.17	83	83	56-103	0
Fluoranthene	mg/kg (ppm)	0.17	90	91	60-116	1
Pyrene	mg/kg (ppm)	0.17	83	83	60-116	0
Benz(a)anthracene	mg/kg (ppm)	0.17	85	85	53-109	0
Chrysene	mg/kg (ppm)	0.17	90	91	61-116	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	96	98	57-118	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	89	90	61-118	1
Benzo(a)pyrene	mg/kg (ppm)	0.17	88	89	53-108	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	97	98	46-127	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	99	99	55-121	0
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	96	97	56-118	1

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

 ${\bf b}$ - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

 \mbox{ca} - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

 ${\rm J}$ - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

 $\ensuremath{\text{pr}}$ – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Forms/coc/coc.boc	Ph. (206) 285-8282	Seattle, WA 98119-2029	Friedman & Bruya, Inc. 3012 16th Avenue West				811708-DP-2	Sample ID		City, State, ZIP M Phone # $\frac{125-77l-12}{2}$	Address 21905 (ort To	10+295
Kecelved by:	Relinquished by	Received by:	SIGNATURE Relinquished by:	, İ) A.F. 7/21/11 8:50	Lab Date Time ID Sampled Sampled		City, State, ZIP Mountaly Tenere LAT 9604 REMARKS Phone # 425-771-3204 Fax # 425-771-3549	Address 21905 64th Ave. W St. 100	Chad Kean	
	Jon Shimina	UVV VV	PRINT NAME				5-:1 6 11 1	Sample Type Containers TPH-Diesel TPH-Gasoline BTEX by 8021B VOCs by8260		1504 REMARKS	85021112/ 5, anor	SAMPLERS (signature)	
•	1.01	TP+	COMPANY	ived				SVOCs by 8270 HFS РАН'з -827 RCRA-8 TCL	ANALYSECREQUESTED	metels	8/117058 Rush cha	Po# Po# Po	
	-	\sim	DATE TIME	at 6 °C				Notes		SAMPLE DISPOSAL SAMPLE DISPOSAL Beturn samples Will call with instructions	Rush charges authorized by	Page # of	