



LMH Environmental, Inc.

RECEIVED

MAR 27 2017

Dept of Ecology
Central Regional Office

December 1, 2016

MS. Jackie Cameron
Washington State Ecology Department
1250 West Alder Street
Union Gap, Washington

Re: C B Transport Saddle Tank Diesel Fuel Spill I-90 Mile Post 83

Dear Ms. Cameron:

Great West Casualty Company, the insurer for C B Transport, Authorized LMH Environmental, Inc., to perform the cleanup following the spill of diesel fuel following an accident involving a truck owned by C B Transport. The enclosed report presents details relevant to that cleanup.

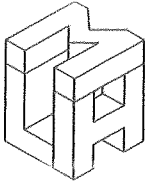
Please call me at (916) 847-1763 if you have any questions.

Sincerely,

Edward Leitch
LMH Environmental, Inc.

Ed Leitch
Principal Operations Manager

cc: Mr. Scott Anfinson
Washington Department of Transportation
Mr. Ben Winegar
Great West Casualty Company



LMH Environmental, Inc.

September 23, 2016

LMH Environmental, Inc.
P.O. Box 1164
Orangevale, CA 95662

Re: Cle Elum Remediation, MP 83

I am pleased to submit this report on the remediation of contaminated soils on Interstate 90 adjacent to Mile Post 83

Background

On May 19, 2016 there was an accident involving a truck from CB Transport on I-90 at mile post 83. As a result of that crash, an unknown amount of diesel spilled and percolated into the ground. The spill is located in the center median between the west bound and east bound lanes. Figure 1 shows the approximate spill location. The approximate extent of the spill is shown in Figure 2.

Site Remediation

On September 12, 2016, the contaminated soils were excavated and removed to the Cemex Landfill in Everett, Washington. The north end of the excavation was dug down to a total depth of 12 feet below grade, but the contamination was thinner on the south end and it was only found down to approximately 9 feet. A total of 113.62 tons of soil was taken to the landfill. The excavation and transport to the landfill was performed by NRC Corporation. Excavation oversight was performed by Tim O'Gara, Mr. O'Gara is a Licensed Geologist and Certified Hydrogeologist in Washington State. Landfill tickets are found in Attachment A

Washington cleanup regulations are found in the Model Toxic Cleanup Act (MTCA). According to the Washington State Department of Ecology publication 91-30 "*Guidance for Remediation of Petroleum Contaminated Soils*", Diesel spills need to be cleaned up to below 2000 mg/kg to meet Method A standards for unrestricted land use.

In order to confirm that all the contamination was removed series of 9 soil samples were collected from the excavation bottom and walls. Figure 3 shows the sample locations. These samples were analyzed according to the NWTPH-Dx method for diesel range hydrocarbons as required under

MTCA. The analysis was completed by Specialty Analytical in Clackamas, Oregon. Table 1 shows the analytical results. The lab report is included as Attachment B.

Table 1
Results in mg/kg

Location	Diesel Range Hydrocarbons	Lube oil Range Hydrocarbons
North wall @ 7 ft.	ND	ND
North bottom @ 12 ft.	ND	ND
Mid-bottom @ 12 ft.	ND	ND
South bottom @ 9 ft.	ND	ND
Northwest wall @ 10 ft.	ND	ND
Northeast wall @ 10 ft.	ND	ND
Southwest wall @ 9 ft.	ND	ND
South wall @ 9 ft	101	ND
Southeast wall @ 9 ft.	ND	ND

Note: ND means nothing detected at the Method Reporting Level

After the soils had been excavated, the pit was backfilled using clean imported fill. The fill was compacted according to specifications that were given to NRC by Washington State Department of Transportation personnel that were on site during the work.

Discussion

This small spill was remediated according to applicable rules as set out in the MTCA rules. MTCA Method A allows unregulated use of a site with up to 2000 mg/kg of diesel range hydrocarbons to remain in the soil. The highest Dx level in the soil was in the south wall and it was just 101 mg/kg. The south wall of the excavation could not be dug any farther south or it would impact the east bound section of the interstate. Photos of the excavation are found in Attachment C.

Respectfully Submitted,



Tim O'Gara, LG, LHg

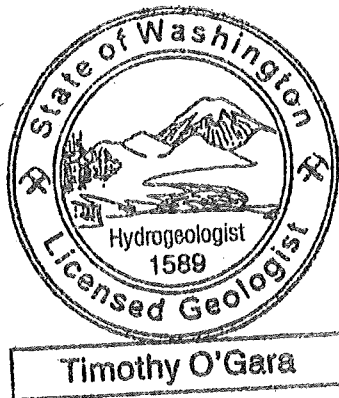
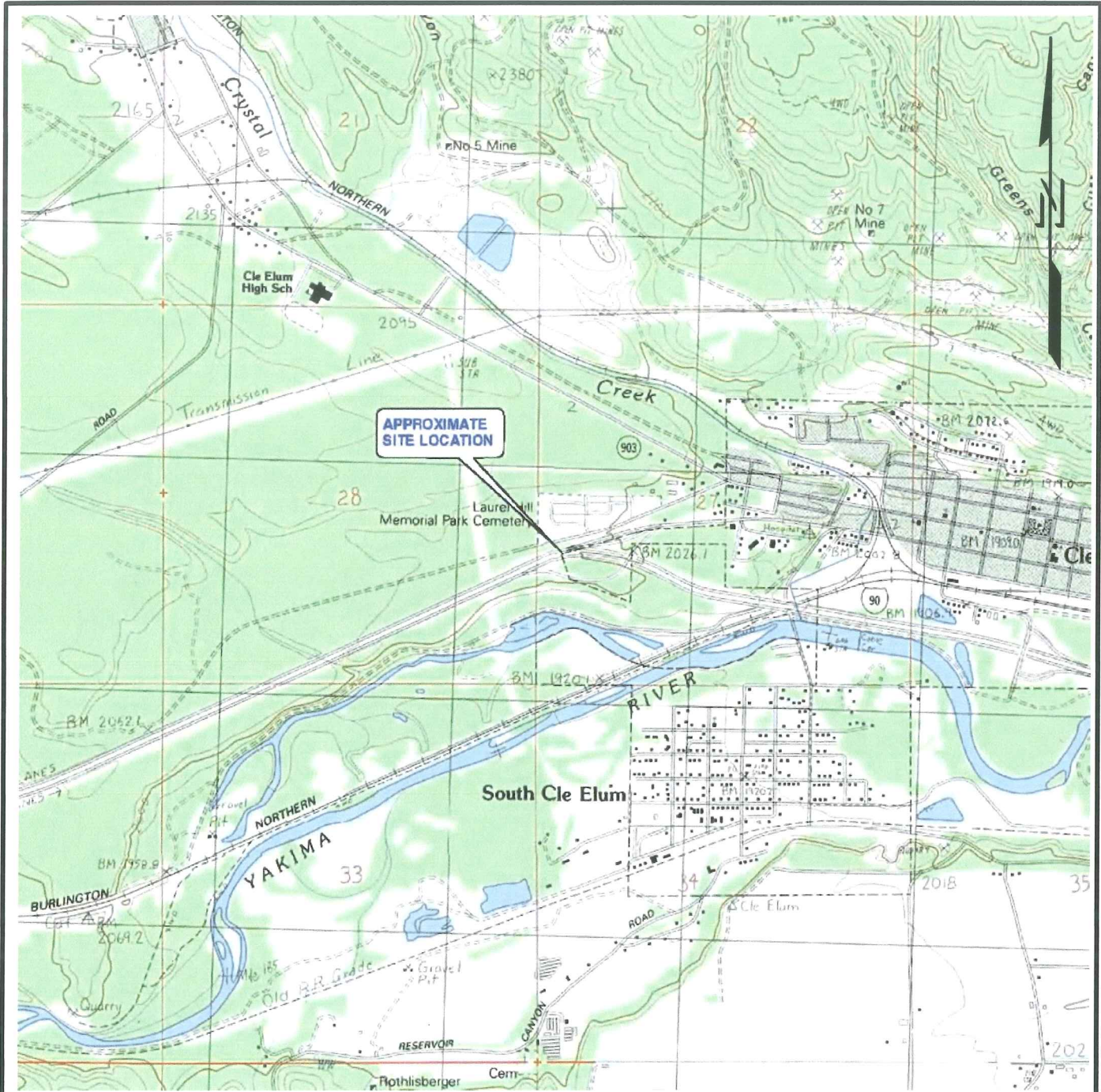


FIGURE 1
SITE LOCATION



0 2,000 4,000



SCALE: 1" = 2,000'



CLE ELUM

SITE LOCATION
WASHINGTON-KITTITAS CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

FIGURE 1
APPROXIMATE SITE LOCATION
CB TRANSPORT DIESEL SPILL
I-90 NEAR CLE ELUM
KITTITAS COUNTY, WASHINGTON


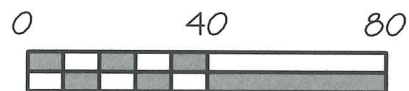
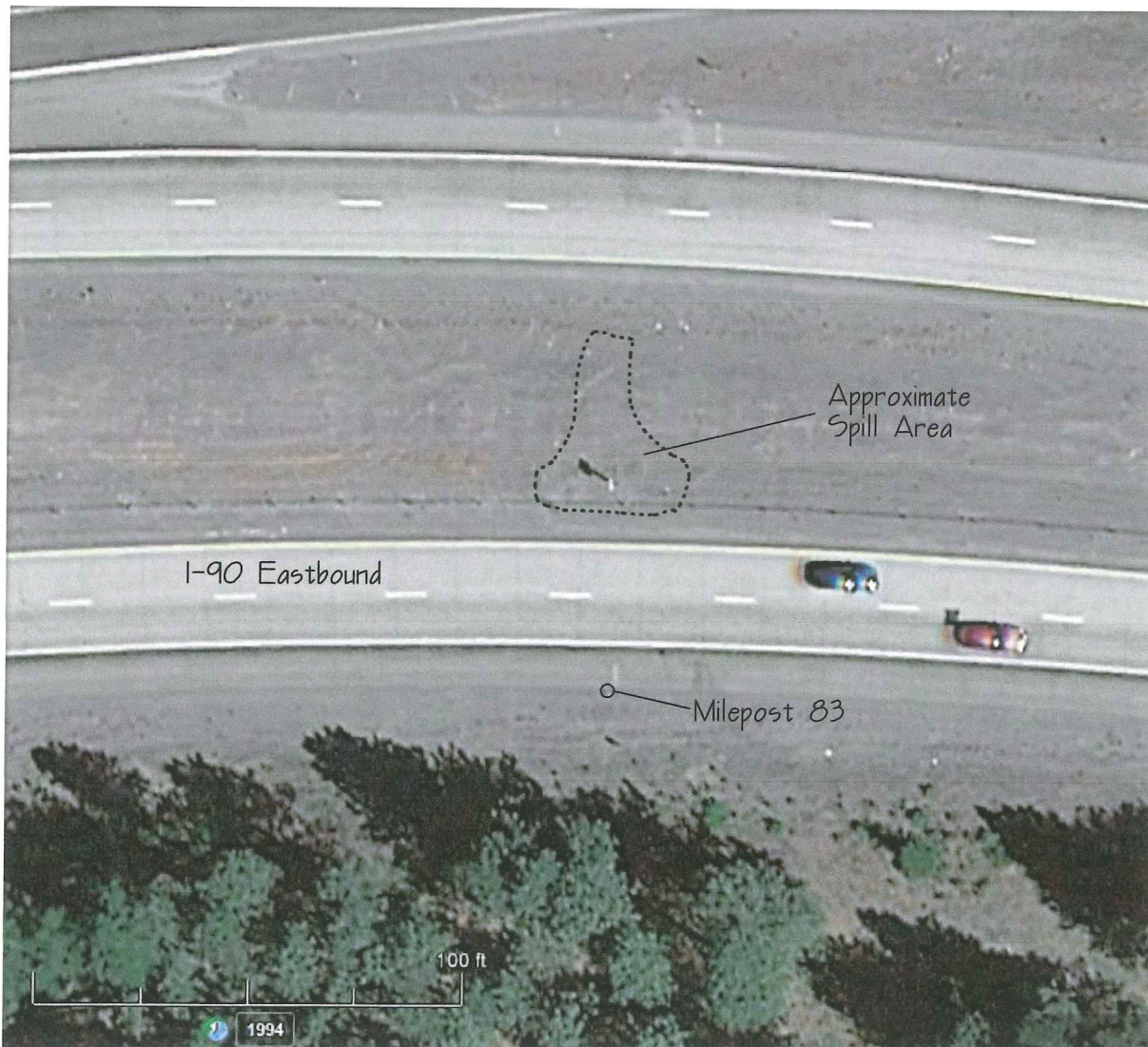
PROJECT NUMBER WA-16-02	PREPARED BY RLH		LMH ENVIRONMENTAL, INC.
REV. DATE 08/12/2016	REVIEWED BY EL		

FIGURE 2
APPROXIMATE EXTENT OF SPILL



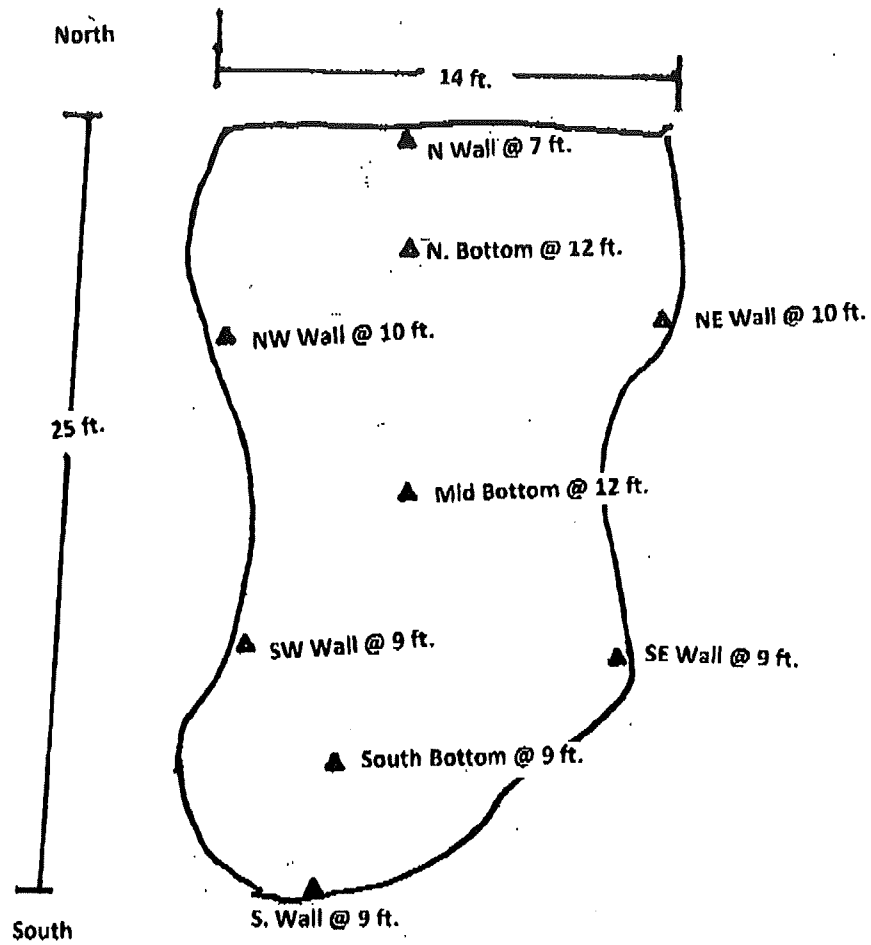
SCALE: 1" = 40'

NOTE: The aerial photo above was downloaded from Google Earth. The locations of objects depicted on this photo have not been verified in the field by survey.

FIGURE 2
 APPROXIMATE EXTENT OF SPILL
 CB TRANSPORT DIESEL SPILL
 I-90 NEAR CLE ELUM
 KITTITAS COUNTY, WASHINGTON

PROJECT NUMBER WA-16-02	PREPARED BY RLH		LMH ENVIRONMENTAL, INC.
REV. DATE 08/12/2016	REVIEWED BY EL		

FIGURE 3
SAMPLE LOCATION MAP



I-90 eastbound lanes

Figure 3
Sampling Diagram

ATTACHMENT A
LANDFILL TICKETS



CEMEX
PO Box 2037
Everett, WA 98213-2037

CEMEX Construcion Materials Pacific, LLC

INV2 ▲ 000257
NRC ENVIROMENTAL SERVICES INC
3500 SUNRISE HWY STE 200 BLDG 200
GREAT RIVER NY 11739-1001

IN'



40105445

Date: 09/12/2016
Invoice No: 9434068061
Terms: Net 60 Days
Payment Due On: 11/11/2016
Job No: 14322950
Legal Address: MM 80 CLE ELUM - BULLFROG EXIT
Customer Job No: 106713
Account No: 3031585
Account Name: NRC ENVIROMENTAL SERVICES INC

For All Inquiries Call:
800-355-2772

Remit To:
CEMEX | PO Box 73261 | Chicago, IL 60673-3261

DETAILED INFORMATION BY PO

PO Number: LANCE 106713			DELIVERY ADDRESS: MM 80 CLE ELUM - BULLFROG EXIT-FOB, EVERETT, WA, 98203							
Ship Date	Delivery	Ref #	Product Code / Description	Qty	UOM	Net Price By UOM	Units	Amount	Freight	Tx
09/12/2016	8072389482	1881041816	1183930 GRAVEL BORROW	13.690	TON	\$11.50	1 TON	13.690	\$157.44	\$0.00
09/12/2016	8072389482	1881041816	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	13.690	TON	\$0.15	1 TON	13.690	\$2.05	\$0.00
09/12/2016	8072389622	1876088636	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	14.670	TON	\$0.00			\$0.00	\$0.00
09/12/2016	8072389622	1876088636	1192508 CLASS 3 SOIL DUMPED BY TON	14.670	TON	\$42.95	1 TON	14.670	\$630.08	\$0.00
PO Subtotal		0.00 Yards	28.36 Tons	\$789.57 Material	\$0.00 Freight	\$22.68 Other	\$0.00 Tax	\$812.25 Total		

Billing Tax: "Other" amount includes \$ 22.68 of Refuse Tax

0.00 Yards	28.36 Tons	\$0.00 Freight	\$22.68 Other	\$0.00 Tax	\$812.25 Invoice Total
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This invoice incorporates herein by reference Buyer's previously executed Credit Application, if any, Seller's Standard Terms and Conditions, Seller's Quotation and Seller's Order Confirmation (including amendments or variations) as fully set forth on the Invoice ("Agreement"). Buyer agrees that, unless otherwise noted herein, all quantities and items were delivered as indicated and Buyer expressly agrees to pay in accordance with the Agreement. Interest shall accrue on late payments.



CEMEX
PO Box 2037
Everett, WA 98213-2037

CEMEX Construction Materials Pacific, LLC

IN



40105444

Date: 09/12/2016
 Invoice No: 9434068060
 Terms: Net 60 Days
 Payment Due On: 11/11/2016
 Job No: 14322950
 Legal Address: MM 80 CLE ELUM - BULLFROG EXIT
 Customer Job No: 106713
 Account No: 3031585
 Account Name: NRC ENVIROMENTAL SERVICES INC

INV2 ▲ 000257
 NRC ENVIRONMENTAL SERVICES INC
 3500 SUNRISE HWY STE 200 BLDG 200
 GREAT RIVER NY 11739-1001

For All Inquiries Call:
 800-355-2772

Remit To:
 CEMEX | PO Box 73261 | Chicago, IL 60673-3261

DETAILED INFORMATION BY PO

PO Number: LANCE 106713

DELIVERY ADDRESS: MM 80 CLE ELUM - BULLFROG EXIT, CLE ELUM, WA, 98922

Shlp Date	Delivery	Ref #	Product Code / Description	Qty	UOM	Net Price By UOM	Units	Amount	Freight	Tx	
09/12/2016	8072389313	1876088632	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	27.070	TON	\$0.00		\$0.00	\$0.00		
09/12/2016	8072389313	1876088632	1192508 CLASS 3 SOIL DUMPED BY TON	27.070	TON	\$42.95 1	TON	27.070	\$1,162.66	\$0.00	
09/12/2016	8072389467	1881041811	1183930 GRAVEL BORROW	33.500	TON	\$11.50 1	TON	33.500	\$385.25	\$0.00	
09/12/2016	8072389467	1881041811	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	33.500	TON	\$0.15 1	TON	33.500	\$5.03	\$0.00	
09/12/2016	8072389470	1881041812	1183930 GRAVEL BORROW	32.950	TON	\$11.50 1	TON	32.950	\$378.93	\$0.00	
09/12/2016	8072389470	1881041812	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	32.950	TON	\$0.15 1	TON	32.950	\$4.94	\$0.00	
09/12/2016	8072389473	1881041813	1183930 GRAVEL BORROW	30.250	TON	\$11.50 1	TON	30.250	\$347.88	\$0.00	
09/12/2016	8072389473	1881041813	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	30.250	TON	\$0.15 1	TON	30.250	\$4.54	\$0.00	
09/12/2016	8072389476	1881041814	1183930 GRAVEL BORROW	33.100	TON	\$11.50 1	TON	33.100	\$380.65	\$0.00	
09/12/2016	8072389476	1881041814	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	33.100	TON	\$0.15 1	TON	33.100	\$4.97	\$0.00	
09/12/2016	8072389626	1876088638	1187394 SERV,ENVIRONMENTAL COMPLIANCE FEE	32.650	TON	\$0.00			\$0.00	\$0.00	
09/12/2016	8072389626	1876088638	1192508 CLASS 3 SOIL DUMPED BY TON	32.650	TON	\$42.95 1	TON	32.650	\$1,402.32	\$0.00	
PO Subtotal	0.00 Yards		189.52 Tons			\$4,077.17 Material		\$4.00 Freight	\$92.34 Other	\$0.00 Tax	\$4,169.51 Total

Billing Text: "Other" amount includes \$ 92.34 of Refuse Tax

0.00 Yards	189.52 Tons	\$0.00 Freight	\$92.34 Other	\$0.00 Tax	\$4,169.51 Invoice Total
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The Invoice incorporates herein by reference Buyer's previously executed Credit Application, if any, Seller's Standard Terms and Conditions, Seller's Quotation and Seller's Order Confirmation (including limitations of warranties) as fully set forth on the Invoice ("Agreement"). Buyer agrees that, unless otherwise noted herein, all quantities and items were delivered as indicated and further expressly agrees to pay in accordance with this Agreement. Interest shall accrue on late payments.



CEMEX
PO Box 2037
Everett, WA 98213-2037

CEMEX Construction Materials Pacific, LLC

IN



40105500

Date: 09/13/2016
Invoice No: 9434077309
Terms: Net 60 Days
Payment Due On: 11/12/2016
Job No: 14322950
Legal Address: MM 80 CLE ELUM - BULLFROG EXIT
Customer Job No: 106713
Account No: 3031585
Account Name: NRC ENVIROMENTAL SERVICES INC

INV2 ▲ 000202
NRC ENVIROMENTAL SERVICES INC
3500 SUNRISE HWY STE 200 BLDG 200
GREAT RIVER NY 11739-1001

For All Inquiries Call:
800-355-2772

Remit To:
CEMEX | PO Box 73261 | Chicago, IL 60673-3261

DETAILED INFORMATION BY PO

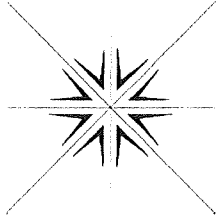
PO Number: LANCE 106713			DELIVERY ADDRESS: MM 80 CLE ELUM - BULLFROG EXIT, CLE ELUM, WA, 98922							
Ship Date	Delivery	Ref #	Product Code / Description	Qty	UOM	Net Price By UOM	Units	Amount	Freight	Tx
09/13/2016	8072405431	1876088650	1187394 SERV ENVIRONMENTAL COMPLIANCE FEE	15.440	TON	\$0.00		\$0.00	\$0.00	
09/13/2016	8072405431	1876088650	1192508 CLASS 3 SOIL DUMPED BY TON	15.440	TON	\$42.95	1 TON	\$663.15	\$0.00	
09/13/2016	8072405434	1876088651	1183951 TRUCK RENTAL WITH TRAILER	16.000	H	\$130.00	1 H	\$2,080.00	\$0.00	
09/13/2016	8072405463	1876088668	1183951 TRUCK RENTAL WITH TRAILER	7.000	H	\$130.00	1 H	\$910.00	\$0.00	
09/13/2016	8072405465	1876088667	1187394 SERV ENVIRONMENTAL COMPLIANCE FEE	23.790	TON	\$0.00		\$0.00	\$0.00	
09/13/2016	8072405465	1876088667	1192508 CLASS 3 SOIL DUMPED BY TON	23.790	TON	\$42.95	1 TON	\$1,021.78	\$0.00	
09/13/2016	8072405467	1876088668	1183951 TRUCK RENTAL WITH TRAILER	10.000	H	\$130.00	1 H	\$1,300.00	\$0.00	
PO Subtotal		0.00 Yards	39.23 Tons	\$5,974.93 Material	\$0.00 Freight	\$60.65 Other	\$0.00 Tax	\$6,035.58 Total		

Billing Text: "Other" amount includes \$ 60.65 of Refuse Tax

0.00 Yards	39.23 Tons	\$0.00 Freight	\$60.65 Other	\$0.00 Tax	\$6,035.58 Invoice Total
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The invoice incorporates herein by reference Buyer's previously executed Credit Application, if any, Seller's Standard Terms and Conditions, Seller's Quotation and Seller's Order Confirmation (including attachments of waterfalls) as fully set forth on this Invoice ("Agreement"). Buyer agrees that, unless otherwise noted herein, all quantities and items were delivered as indicated and further expressly agree to pay in accordance with the Agreement. Interest shall accrue on late payments.

ATTACHMENT B
LABORATORY RESULTS



Specialty Analytical

11711 SE Capps Road, Ste B
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

September 19, 2016

Tim O'Gara
Tim O'Gara R.G.
650 Charman Street
Oregon City, OR 97045
TEL: (503) 908-8977
FAX: (503) 266-5974
RE: Mile Post 83

Dear Tim O'Gara:

Order No.: 1609084

Specialty Analytical received 9 sample(s) on 9/13/2016 for the analyses presented in the following report.

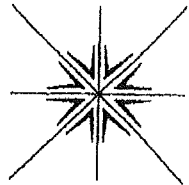
REVISED REPORT: Please see case narrative for information on revision.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director



Specialty Analytical
 11711 SE Capps Road
 Clackamas, OR 97015
 Phone: 503-607-1331
 Fax: 503-607-1336

CHAIN OF CUSTODY RECORD

Collected By: Tim O'Kara

Signature: [Signature]

Printed: TIM O'KARA

Signature: _____
 Printed: _____

Turn Around Time
 Normal: 5-7 Business Days
 Rush _____
 Specify _____

Rush Analyses Must Be Scheduled With The Lab In Advance

Contact Person/Project Manager: TIM O'KARA
 Company: _____
 Address: _____

Project No.: _____ Project Name: MUB Post 83
 Project Site Location OR WA X Other _____
 Invoice To: TIM O'KARA P.O. No.: _____

Date	Time	Sample ID	Matrix	No. of Containers		Analyses		Comments	Lab ID
				1	2	1	2		
9/12	9:40	V. WALL @ 7'	S	1	1				
	10:00	N BOTTOM @ 12'		1	1				
	10:10	MID BOTTOM @ 12'		1	1				
	10:40	S. BOTTOM @ 9'		1	1				
	11:00	N.W. WALL @ 10' approx		1	1				
	11:05	N.E. WALL @ 10'		1	1				
	11:27	S.W. WALL @ 9'		1	1				
	11:30	S. WALL @ 9'		1	1				
	11:35	S.E. WALL @ 9'		1	1				

Relinquished By: [Signature]
 Company: _____
 Date: 9/15 Time: 7:30

Received By: _____
 Company: _____

Relinquished By: _____
 Company: _____

Received For Lab By: [Signature]
 Date: 9/16/10 Time: 0930

For Laboratory Use
 Lab Job No.: 1000084
 Shipped Via: CLIENT
 Air Bill No.: _____
 Temperature On Receipt: 4 °C
 Specialty Analytical Containers? Y/N
 Specialty Analytical Trip Blanks? Y/N

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
 Samples held beyond 60 days subject to storage fees!

Specialty Analytical

Date Reported: 19-Sep-16

CLIENT: Tim O'Gara R.G.
Project: Mile Post 83

Lab Order: 1609084

Lab ID: 1609084-001 **Collection Date:** 9/12/2016 9:10:00 AM
Client Sample ID: N. Wall @ 7' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	ND	16.2		mg/Kg-dry	1	9/17/2016 12:33:00 PM
Lube Oil	ND	54.1		mg/Kg-dry	1	9/17/2016 12:33:00 PM
Surr: o-Terphenyl	70.5	50-150		%REC	1	9/17/2016 12:33:00 PM

Lab ID: 1609084-002 **Collection Date:** 9/12/2016 10:00:00 AM
Client Sample ID: N. Bottom @ 12' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	ND	16.4		mg/Kg-dry	1	9/17/2016 12:55:00 PM
Lube Oil	ND	54.8		mg/Kg-dry	1	9/17/2016 12:55:00 PM
Surr: o-Terphenyl	72.3	50-150		%REC	1	9/17/2016 12:55:00 PM

Lab ID: 1609084-003 **Collection Date:** 9/12/2016 10:10:00 AM
Client Sample ID: Mid Bottom @ 12' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	ND	16.4		mg/Kg-dry	1	9/17/2016 1:17:00 PM
Lube Oil	ND	54.7		mg/Kg-dry	1	9/17/2016 1:17:00 PM
Surr: o-Terphenyl	69.8	50-150		%REC	1	9/17/2016 1:17:00 PM

Lab ID: 1609084-004 **Collection Date:** 9/12/2016 10:46:00 AM
Client Sample ID: S. Bottom @ 9' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	ND	16.0		mg/Kg-dry	1	9/17/2016 1:39:00 PM
Lube Oil	ND	53.3		mg/Kg-dry	1	9/17/2016 1:39:00 PM
Surr: o-Terphenyl	69.0	50-150		%REC	1	9/17/2016 1:39:00 PM

Specialty Analytical

Date Reported: 19-Sep-16

CLIENT: Tim O'Gara R.G.
Project: Mile Post 83

Lab Order: 1609084

Lab ID: 1609084-005 Collection Date: 9/12/2016 11:00:00 AM

Client Sample ID: NW Wall @ 10' Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	ND	16.3		mg/Kg-dry	1	9/17/2016 11:48:00 AM
Lube Oil	ND	54.4		mg/Kg-dry	1	9/17/2016 11:48:00 AM
Surr: o-Terphenyl	71.7	50-150		%REC	1	9/17/2016 11:48:00 AM

Lab ID: 1609084-006 Collection Date: 9/12/2016 11:04:00 AM

Client Sample ID: N.E. Wall @ 10' Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	ND	16.3		mg/Kg-dry	1	9/17/2016 2:01:00 PM
Lube Oil	ND	54.2		mg/Kg-dry	1	9/17/2016 2:01:00 PM
Surr: o-Terphenyl	70.8	50-150		%REC	1	9/17/2016 2:01:00 PM

Lab ID: 1609084-007 Collection Date: 9/12/2016 11:27:00 AM

Client Sample ID: S.W. Wall @ 9' Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	101	16.5		mg/Kg-dry	1	9/17/2016 2:23:00 PM
Lube Oil	ND	55.2		mg/Kg-dry	1	9/17/2016 2:23:00 PM
Surr: o-Terphenyl	78.9	50-150		%REC	1	9/17/2016 2:23:00 PM

Lab ID: 1609084-008 Collection Date: 9/12/2016 11:30:00 AM

Client Sample ID: S. Wall @ 9' Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX		NWTPH-DX				Analyst: jw
Diesel	ND	16.5		mg/Kg-dry	1	9/17/2016 2:45:00 PM
Lube Oil	ND	55.1		mg/Kg-dry	1	9/17/2016 2:45:00 PM
Surr: o-Terphenyl	73.4	50-150		%REC	1	9/17/2016 2:45:00 PM

Specialty Analytical

Date Reported: 19-Sep-16

CLIENT: Tim O'Gara R.G.
Project: Mile Post 83

Lab Order: 1609084

Lab ID: 1609084-009
Client Sample ID: S.E. Wall @ 9'

Collection Date: 9/12/2016 11:35:00 AM
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX						Analyst: jw
Diesel	ND	16.4		mg/Kg-dry	1	9/17/2016 3:07:00 PM
Lube Oil	ND	54.6		mg/Kg-dry	1	9/17/2016 3:07:00 PM
Surr: o-Terphenyl	71.2	50-150		%REC	1	9/17/2016 3:07:00 PM

QC SUMMARY REPORT

WO#: 1609084
23-Sep-16

Specialty Analytical

Client: Tim O'Gara R.G.
Project: Mile Post 83

TestCode: NWTPHDX_S

Sample ID: CCB	SampType: CCB	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date:	RunNo: 26663						
Client ID: CCB	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/16/2016	SeqNo: 359075						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	24.5		33.30	73.7	50	150					

Sample ID: 1609098-004ADUP	SampType: DUP	TestCode: NWTPHDX_S	Units: mg/Kg-dry	Prep Date: 9/15/2016	RunNo: 26663						
Client ID: ZZZZZZ	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/17/2016	SeqNo: 359080						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	26.0						0	0	20	
Lube Oil	ND	86.6						0	0	20	

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date:	RunNo: 26663						
Client ID: CCV	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/17/2016	SeqNo: 359088						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	931	15.0	999.0	0	93.2	85	115				
Lube Oil	484	50.0	499.5	0	96.9	85	115				

Sample ID: MB-11951	SampType: MBLK	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date: 9/14/2016	RunNo: 26663						
Client ID: PBS	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/17/2016	SeqNo: 359089						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	931	15.0	999.0	0	93.2	85	115				
Lube Oil	484	50.0	499.5	0	96.9	85	115				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1609084
23-Sep-16

Specialty Analytical

Client: Tim O'Gara R.G.
Project: Mile Post 83

TestCode: NWTPHDX_S

Sample ID: MB-11951	SampType: MBLK	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date: 9/14/2016	RunNo: 26663						
Client ID: PBS	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/17/2016	SeqNo: 359089						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	22.6		33.30		67.8	50	150				

Sample ID: LCS-11951	SampType: LCS	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date: 9/14/2016	RunNo: 26663						
Client ID: LCSS	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/17/2016	SeqNo: 359090						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	147	15.0	166.5	0	88.5	76.3	125				
Lube Oil	125	50.0	166.5	0	75.1	69.9	127				

Sample ID: 1609084-005ADUP	SampType: DUP	TestCode: NWTPHDX_S	Units: mg/Kg-dry	Prep Date: 9/14/2016	RunNo: 26663						
Client ID: NW Wall @ 10'	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/17/2016	SeqNo: 359092						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	16.3						0	0	20	
Lube Oil	ND	54.4						0	0	20	

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date:	RunNo: 26663						
Client ID: CCV	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/16/2016	SeqNo: 359101						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	16.3						0	0	20	
Lube Oil	ND	54.4						0	0	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1609084
23-Sep-16

Specialty Analytical

Client: Tim O'Gara R.G.
Project: Mile Post 83

TestCode: NWTPHDX_S

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date:	RunNo: 26663						
Client ID: CCV	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/16/2016	SeqNo: 359101						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1270	15.0	1332	0	95.2	85	115				
Lube Oil	663	50.0	666.0	0	99.6	85	115				

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDX_S	Units: mg/Kg	Prep Date:	RunNo: 26663						
Client ID: CCV	Batch ID: 11951	TestNo: NWTPH-Dx	SW3550C	Analysis Date: 9/17/2016	SeqNo: 359139						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1320	15.0	1332	0	98.9	85	115				
Lube Oil	708	50.0	666.0	0	106	85	115				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- * The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit.