

#### PRIVILEGED & CONFIDENTIAL

January 12, 2005

BNSF Railway Co. 920 S.E. Quincy Topeka, KS 66612-1116

RE:

Limited Phase II Assessment Report – Leased Property No.: 40,250,477

John Michael, Cashmere, Chelan County, Washington

EMR Project #6984.001

EMR, Inc. has completed a Limited Phase II Assessment for the above referenced property. This letter is submitted to present our findings and should be viewed as a summary of the Leased Property Checklist, included as an attachment.

#### **Background and Setting**

The subject property is comprised of one parcel containing 30,000 square feet. The property was leased to John Michael doing business as (dba) Michael Irrigation and Excavation in March 1986 for the purpose of storage of irrigation supplies, equipment, and miscellaneous tanks and timbers. Recent excavation of the subject property by the power company to install poles uncovered crude oil at 3 to 6 feet below ground surface (bgs). It is believed that the crude oil was present due to a railroad tanker spill in the 1930s.

#### **Findings**

EMR inspected the site on December 1<sup>st</sup>, 2004. At the time of inspection the property appeared to be undeveloped. The western portion of the parcel used for vehicle parking and material storage. No improvements were noted on site. A dismantled vehicle, an engine block, three drums with unknown contents, and other miscellaneous debris were noted on site. Minor surface staining in the storage and parking areas was also noted. A photographic log is included as an attachment.

Evaluation of shallow subsurface soils was collected using a Geoprobe hydraulic sampler. Eight borings were drilled on the subject parcel. Depth of the soil borings ranged from 5 feet to 12 feet bgs. Soil samples were collected continuously during advancement of the Geoprobe. The subsurface soil samples were collected from depths ranging from 3 feet to 8 feet bgs and submitted to the laboratory for the detection of Total Petroleum Hydrocarbons (TPH) as Gasoline Range Organics (GRO)/Benzene, Toulene, Ethylbenzene, and Xylene (BTEX) and Total Extractable Hydrocarbons (TEH) as Diesel Range Organics (DRO). Boring logs are included as an attachment.

Laboratory results of the TPH as GRO/BTEX analysis of the soil samples indicated elevated levels of GRO in B-2 and B-5 at concentration of 795 µg/kg or parts per billion (ppb) and 38.7 ppb, respectively and Benzene in B-5 at a concentration of 0.0294 ppb.

Laboratory results of the TEH as DRO analysis of the soil samples indicated elevated levels of Diesel in B-1, B-2, B-4, B-5, B-6, and B-8 at concentrations ranging between 35.9 mg/kg or parts per million (ppm) to 3,620 ppm; Kerosene in B-1, B-2, and B-5 at concentrations ranging between 78.3 ppm to 1,130 ppm; and Motor Oil in B-1, B-2, B-4, B-5, B-6, and B-8 at concentrations ranging between 286 ppm to 7,610 ppm.

Three groundwater samples were collected and submitted to the laboratory for the detection of TPH as GRO/BTEX and TEH as DRO.

Laboratory results of the TPH as GRO/BTEX analysis of the groundwater samples indicated elevated levels of Benzene in B-5 at a concentration of 0.0261 ppb and Naphthalene in B-5, B-6, and B-8 at concentrations ranging between 0.00112 ppb to 0.00264 ppb.

Laboratory results of the TEH as DRO analysis of the groundwater samples indicated elevated levels of Diesel in B-5 at a concentration of 0.352 ppm and Motor Oil in B-5 at a concentration of 2.16 ppm.

Analytical data sheets are included as an attachment. Results are summarized in the tables below. appom?

		P	1 1	- Janes					1
			Summar	y of Soil	Analytical Res	sults	06	ON	54
Sample ID	Sample Depth	GRO (ppb)	Benzene (ppb)	Toulene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Diesel (ppm)	565 565	Motor Oil (ppm)
B-1	4	ND	) ND	ND	ND	ND	446	78.3	7610
B-2	8	795	ND	ND	ND	ND	3620	1130	7380
B-3	6	ND	ND	ND	ND	ND	ND	ND	ND
B-4	6	ND	ND	ND	ND	ND	46.5	ND	286
B-5	8	38.7	0.0294	ND	ND	ND	397	85.1	989
B-6	5	ND	ND	ND	ND	ND	35.9	ND	320
B-7	3	ND	ND	ND	ND	ND	ND	ND	ND
B-8	5	ND	ND	ND	ND	ND	433	ND	6320

	Summary of Groundwater Analytical Results													
Sample ID	GRO (ppb)	Benzene (ppb)	Toulene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Naphthalene (ppb)	Diesel (ppm)		Motor Oil (ppm)					
B-5	ND	0.0261	ND	ND	ND	0.00264	1.29	0.352	2.16					
B-6	ND	ND	ND	ND	ND	0.00128	ND	ND	ND					
B-8	ND	ND	ND	ND	ND	0.00112	ND	ND	ND					

John Michael Page No.: 3 EMR Project No.: 6984.001

Lease Property No.: 40,250,477

#### **Site Summary**

At the time of inspection the property appeared to be undeveloped. The western portion of the parcel used for vehicle parking and material storage. No improvements were noted on site. A dismantled vehicle, an engine block, three drums with unknown contents, and other miscellaneous debris were noted on site. Minor surface staining in the storage and parking areas was also noted.

Eight soil samples and three groundwater samples were collected from eight soil borings on-site and submitted to the laboratory for analysis of TPH as GRO/BTEX and TEH as DRO.

Analytical results of the soil samples indicated elevated levels of GRO in B-2 and B-5; Benzene in B-5; Diesel in B-1, B-2, B-4, B-5, B-6, and B-8; Kerosene in B-1, B-2, and B-5; and Motor Oil in B-1, B-2, B-4, B-5, B-6, and B-8.

Analytical results of the groundwater samples indicated elevated levels of Benzene in B-5; Naphthalene in B-5, B-6, and B-8; Diesel in B-5; and Motor Oil in B-5.

#### **Study Limitations**

This assessment was completed following generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. The findings and conclusions stated herein must be considered not as scientific certainties, but as professional opinions concerning the significance of the limited data gathered during the assessment. No other warranty, expressed or implied, is made. EMR does not and cannot represent that the site contains no hazardous waste or material, petroleum products, or other latent condition beyond that noted by EMR during the period of the site assessment.

EMR appreciates the opportunity to assist you in this matter. Should you have any questions, or require further assistance, please contact the EMR office at (785) 842-9013.

Sincerely, EMR, Inc.

Andrea Schiller Staff Geologist

andrea Schiller

Jeremy Raye

Environmental Manager

Attachment

Cc: File 6984.001

#### LEASE PROPERTY CHECKLIST

#### I. BACKGROUND

rspected by:	Randal Dyer, P.G.	Inspection Date:	12/1/2004
Lessee Name:	John Michael - Cashmere, WA	Lease Number:	40,250,477
Site Address:	ContinSunset Highway,		
City/State/Zip:	Cashmere, WA	County: _	
Site Operator:		Phone:	
Site Contact:		Phone:	
BNSF Manager	Environmental Leases: Jack Clay	Phone:	
Staubauch Regio	onal Property Manager:	Phone:	
BNSF Manager	Environmental Remediation:	Phone:	
GPS Location  N Site Dimensions Site Accesses: Present Site Set  1) Present Site	## A7.52315   ## W	NE 1/4 of Section:  -120.48319 °  Undeveloped Other (describe)  for park ing of vehicles and	
Inc	dustrial Residential	Undeveloped Other (describe) ruction supplies - lumber, pi	pe, steel, vehicles and
Former Occu			

3)	Potentially Significant Land Usage Adjacent to the Site:
	North: BNSF Right-of-Way
	East: Vacant
	South: Sunset Highway
	West: Retail auto tire store (John Michael property owner)
	Comments:
II.	SITE AND SURROUNDING AREA PHYSICAL DESCRIPTION
1)	Regional Topography:
2)	Site Topography: X Flat Moderate Slope Bowl-shaped
	Gentle Slope Steep Slope
	Slope Direction: N NE E SE S SW NW
3)	Land Use Percentages:
	Percent
	Buildings 0% Describe location:
	Concrete/asphalt 0% Describe location:  Bare ground 100% Describe location:
	Other Describe location:  Describe location:
4)	Utilities (Show location of all utilities on site map)
.,	Electrical Yes X No overhead power lines run east-west across center of site
	Natural gas Yes x No
	Potable water: Municipal Supply Rural Supply Site Well(s) x None
	Sewer System: Municipal Supply On-site septic system x None
	If septic system, describe and locate on site map:
5)	Transformers
	Are electrical transformers present on the leased parcel?
	If yes, where are they located? Pole mounted Pad mounted
	Evidence of environmental impacts around transformers?
	Are the transformers labeled as "Non PCB containing"?
6)	Fill Materials (LPA only)
	Туре:
	Amount:
	Source:

7)	) Waste/Spill Evidence				
	Stressed vegetation	Yes	XNo	Descr.	
	Soil/surface staining	X Yes	No	Descr.	Minor surface staining
	Odors	Yes	X No	Descr.	
	Leachate seeps	Yes	X No	Descr.	
	Construction/demolition debris	X Yes	No	Descr.	Minor debris piles
	Surface water discoloration, sheens or odors	Yes	X No	Descr.	
	Disposal areas (mounds/depressions)	Yes	<b>X</b> No	Descr.	
	If yes, describe: Minor soil staining noted in the sto	rage and	park ing po	ortion of the	e property. Minor debris
	was noted throughout.				
8)	External Housekeeping				
	ExcellentGo	ood	X Fair	Po	oor
	Comments: Observed uncovered engine blocks a	and two ur	nmarked dr	ums with u	unknown contents stored
	on pallets.				
III.	I. SURFACE WATER/GROUNDWATER CHARACT	ERISTICS	6		
1)	Nearest Surface Water Bodies				
	Lake X River Stream		Wetlands		Saltwater Bay
	Distance from parcel (feet): Wenatchee River ~	100 feet n	orth of pard	cel.	
2)	) Effluent Discharges:				
1.50	Does the site accumulate surface water (ponding)	Г	Yes	X No	
	Runoff Direction? N NE E	SI	E XS		w 🔲w 🔲nw
	If water is ponded on site, does it display any unus	ual odors	or sheen?		Yes No
	If yes, describe:				
	Does the parcel contain any of the following:				
	Stormwater Retention System?	Yes	XN	ь Г	Unknown
	Lagoons, impoundment's?	Yes	XN	, <u> </u>	Unknown
	Oil/Water Separator?	Yes	XNo	>	Unknown
	Sumps?	Yes	XNo	o [	Unknown
	Dry wells?	Yes	XN	o [	Unknown
	Catch basins?	Yes	XN	o [	Unknown
	Roof drains?	Yes	XNo		Unknown
	Floor drains?	Yes	XN	o [	Unknown
	Compressor blowdown areas?	Yes	XN	o [	Unknown
	If Yes, describe:				

	Any other eviden	ice of discharg	ges on the site wh	nich could be o	of environment	tal concern?					
	XYe	s No	If yes, exp	olain: Lesse	e (J. Michael)	stated that a train deraile	ed on the site				
	in 1930s spilling	one or more to	ankers of petroleu	um product.							
3)	Groundw ater										
	Water Wells on	site?	Yes X No	Un	known If y	es, explain:					
	If yes, what type		onitoring	Domestic Other	Indust	rial Municipal					
	If other, explain:										
IV.	STORAGE TAN	IKS (Show	all areas and fea	tures on site r	nap)						
1)	) Underground Storage Tanks (USTs) Yes X No Unknown										
	If unknown, are there any pipe stubs, fill ports, flush metal covers, monuments, vaults or other indications of possible USTs?										
	Yes No										
_	Inventory any on-site USTs:										
	Tank I.D.	Туре	Capacity	Contents	Date/Age	Spill Prevention (describe)	Registered? Y/N				
L											
_											
_											
_	<i>j</i> .)*										
_	,****										
_											
	Are there any as	-built drawings	s?	Yes	No						
	Have the tanks e	ever been inte	grity tested?	Yes	No						
	If yes, When?										
	If yes, what were										
	Is there any evid	ence of overflo	ow/spillage?	Yes	No						
	If yes, describe:										

-	bove ground sto	orage tanks on th	he parcel?	Ye						
Tank I.D.	Type	Capacity	Contents	Date/Age	Spill Prevention (describe)	Registered? Y/N				
	1				(dooding)	177.5				
2.0	-									
	-				-	-				
- B	+		-		<del> </del>	+				
	1									
Evidence of spil  If yes, describe:  Piping/Dispens Describe:  Secondary Co Does the secon	: There are	: Yes	X No	XNo	at the AST were installed	d or active.				
Describe the co	ntainment area	construction (ear	rthen berm, co	oncrete contai	inment w all, etc.):					
/. BUILDINGS										
) Buildings/Stru	ictures:	Yes X	No If y	yes, how many	y?					
Describe Buildings/										
Construction T		Approximate imensions/Square		Age	Usage					
2										

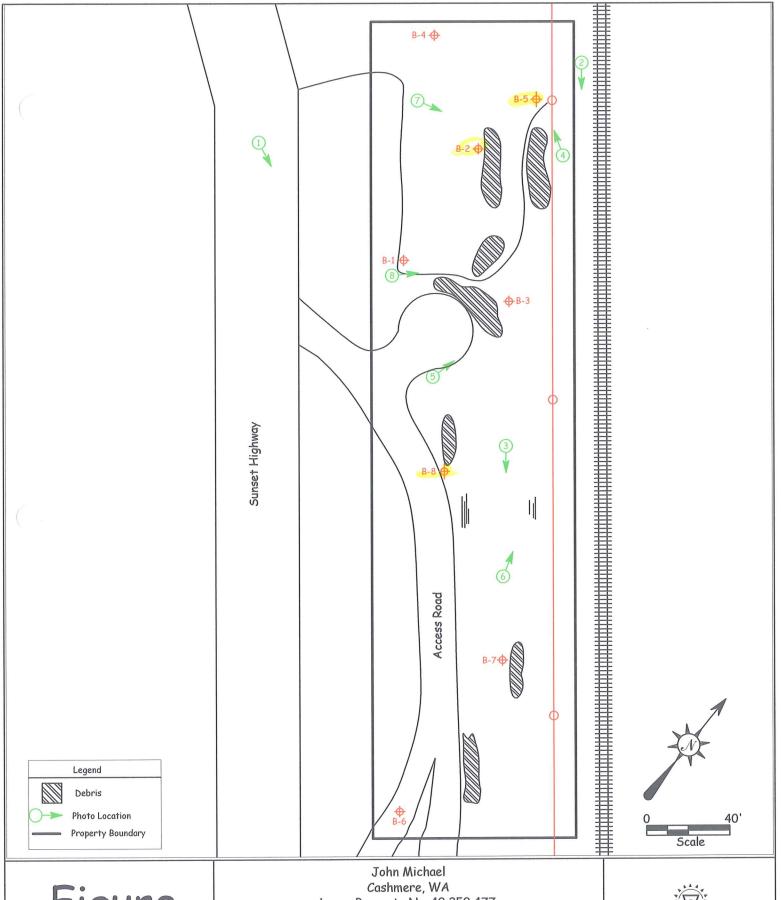
#### VIII. PRODUCTS/WASTE STORAGE AND HANDLING

Volume Product Container (gallons) Product Co Solvents Gasoline Degreasers Glues Grant/Motor Oil Paints/Thinners Grant/Motor Oil Hydraulic Fluid Grant/Motor Grant	Container	Volume (gallons
Product Container (gallons) Product Composition Composition Composition Composition Composition Container (gallons) Product Composition Container Composition Container Composition Container Composition Container Cont	Container	
Solvents  Degreasers  Acids/Bases  Paints/Thinners  Adhesives/Glues  Hydraulic Fluid  Pesticides  Herbicides  Rodenticides  Gasoline  Fuel Oil/Diesel  Lubricant/Motor Oil  Organic Chemicals  Inorganic Chemical  Perfumes  Plastics  Wood Preservatives  PCBs		
Degreasers		
Acids/Bases		
Paints/Thinners       Organic Chemicals         Adhesives/Glues       Inorganic Chemical         Hydraulic Fluid       Perfumes         Pesticides       Plastics         Herbicides       Wood Preservatives         Rodenticides       PCBs		
Hydraulic Fluid Perfumes  Pesticides Plastics  Herbicides Wood Preservatives  Rodenticides PCBs		
Hydraulic Fluid Perfumes  Pesticides Plastics  Herbicides Wood Preservatives  Rodenticides PCBs		
Herbicides Wood Preservatives  Rodenticides PCBs		
Rodenticides PCBs		
Fertilizers		
Other		
ADDITIONAL OBSERVATIONS/COMMENTS REGARDING INSPECTION:		

#### **DRAW A SITE MAP**

Include the parcel boundaries, remaining improvements, areas of concern, and sampling locations along with dimensions and distances. Mark each photo location and indicate direction of view. Don't forget the ilway and a north arrow.

For site map, see attached figure 1.



Figure

Lease Property No. 40,250,477

#### Site Map

4/5/05 DATE: DRAWN BY: SMC JR REVISION NO. CHECKED BY: 6984.001 Reference: PROJECT NO.





Photo 1: View east through the subject property.



Photo 2: View southeast through the subject property.

Cashmere, WA EMR Project No.: 6984.001

John Michael Lease Property No.: 40,250,477



Photo 3: View southeast through the subject property.

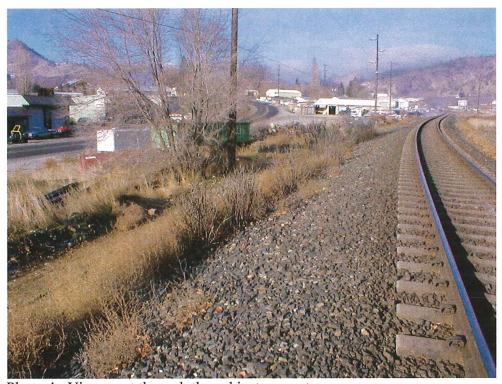


Photo 4: View west through the subject property.

John Michael Cashmere, WA
Lease Property No.: 40,250,477 EMR Project No.: 6984.001

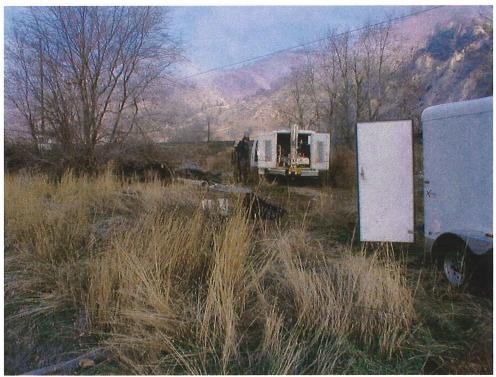


Photo 5: View north through the subject property.

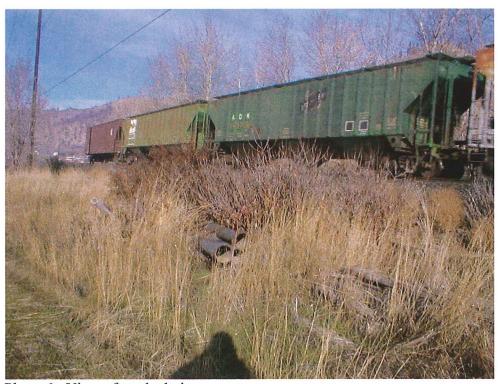


Photo 6: View of stacked pipe.



Photo 7: View east of old engine block, dismantled vehicle, and two unlabeled drums with unknown contents.



Photo 8: View of drum with unknown contents.



BOREHOLE NO.: **B-1** TOTAL DEPTH: **8 feet** 

PROJ	ECT INFO	ORMA	TION	DRILLING INFORMATION					
PROJECT:	John Mi			DRILLIN			EMR, Inc.		
SITE LOCATION				DRILLER			Randy Dyer		
JOB NO.:	6984.001			RIG TYF	PE:	Geoprobe	CH-40		
LOGGED BY:	Randy D	ver		METHOD OF DRILLING: Direct Push					
PROJECT MANA			ave	SAMPLI	NG METH	HODS: 2" macro	core		
DATE DRILLED		•		HAMMER WT./DROP Pneumatic					
NOTES:				✓ ▼	Page 1				
DEDTH   >	Sample OLd	USCS	SOIL DESCRI	PTION	Graphic	WELL COMPLETION	SAMPLE INTERVAL		
5	0.0 opm	SP SP	SAND: Brown, dry, fir grained, with little gra  GRAVEL: Black, ang granular basalt.  SAND: Brown to light little gravel and silt.	vel and silt.	vith Sold of the second of the		Sample Interval		



BOREHOLE NO.: **B-2**TOTAL DEPTH: **12 feet** 

	PR	OJEC	T INF	ORMA	TION	DRILLING INFORMATION							
PROJEC	CT:	Jo	hn M	ichael		DRILLIN	IG C	O.:		EMR, Inc	EMR, Inc.		
SITE LC	CAT	ION: Ca	shme	re, WA		DRILLE	R:			Randy Dyer			
JOB NO	<b>.</b> :	698	84.00	l		RIG TYI	PE:			Geoprobe	e CH-40		
LOGGE	D BY	Ra	ndy D	yer		METHOD OF DRILLING: Direct Push					sh		
PROJEC	CT M	ANAGE	R: Je	remy R	aye	SAMPL	ING I	METH	ODS:	2" macro	core		
DATE D	RILL	ED: 12/	1/04			HAMME	RW	T./DR	OP	Pneumati	c		
NOTES:	Č					✓				Page 1 of 1			
DEPTH	SAMP. #	PID (ppm)	Sample Recovery	USCS	SOIL DESCRI	PTION		Graphic		VELL PLETION	SAMPLE INTERVAL		
	2	0.0 ppm  0.0 ppm  250 ppm  0.0 ppm		SP	GRAVEL AND SAND to coarse, with gravel Broken cobbles  Grades to light brown sand with little silt.  Wood debris at 7.5' - Oil staining, strong or droplets at 7.5' - 9'  SAND: Brown, wet, fi gravel.	i with slightly f	finer		$\searrow$		Sample Interval		



BOREHOLE NO.: **B-3** TOTAL DEPTH: **6 feet** 

	PR	OJEC	T INF	ORMA	TION	DRILLING INFORMATION					
PROJEC	T:	Jo	hn Mi	ichael		DRILLII	NG CO.:	EMR, Inc	EMR, Inc.		
SITE LO	CAT	ION: Ca	shme	re, WA		DRILLE	R:	Randy Dy	Randy Dyer		
JOB NO	.:	698	<b>84.00</b> 1	l		RIG TYPE: Geoprobe CH-40					
LOGGE	) BY	Ra	ndy D	yer		METHOD OF DRILLING: Direct Push					
PROJEC	TM	ANAGE	R: Je	remy R	aye	SAMPLING METHODS: 2" macrocore					
DATE D	RILL	ED: 12/	1/04			HAMME	R WT./DR	OP Pneumati	c		
NOTES:		1				✓	Water level during drilling Page 1 of Water level in completed well				
	#	PID	e S	n				WELL	SAMPLE		
DEPTH	SAMP.#	(ppm)	Sample Recovery	USCS	SOIL DESCRI	PTION	Graphic	COMPLETION	INTERVAL		
	1	0.0 ppm		SP	GRAVEL AND SAND to coarse.  SAND: Light brown, of silt and gravel.		00000000000000000000000000000000000000				
		ppm							Sample Interval		



BOREHOLE NO.: **B-4**TOTAL DEPTH: **12 feet** 

F	PROJEC	TINF	ORMA	TION	DRILLING INFORMATION					
PROJECT:	Jo	hn M	ichael		DRILLIN	IG CO.:		EMR, Inc.		
SITE LOCA	ATION: C	ashme	ere, WA		DRILLER:			Randy Dyer		
JOB NO.:	69	<b>84.00</b> 1	1		RIG TYPE: Geoprobe CH-40			e CH-40		
LOGGED E	BY: Ra	ndy D	)yer		METHOD OF DRILLING: Direct Push					
PROJECT	MANAGE	R: Je	remy R	aye	SAMPLI	SAMPLING METHODS: 2" macrocore				
DATE DRI	LLED: 12/	1/04			HAMMER WT./DROP Pneumatic					
NOTES:				<ul> <li>✓ Water level during drilling</li> <li>✓ Water level in completed well</li> </ul>			Page 1 of 1			
DEPTH #-	PID (ppm)	Sample Recovery	USCS	SOIL DESCRI	PTION	Graphic		VELL PLETION	SAMPLE INTERVAL	
	0.0 ppm  250 ppm  0.0 ppm		SP	SAND: Brown, fine to some gravel.  Crushed rock layer at Petroleum staining at odor.  Wood debris  GRAVEL: Brown, mos and and cobbles.	t 4' - 4.5' t 5' - 5.5' 6' - 8.5', stron	g 0500000000000000000000000000000000000	$\searrow$		Sample Interval	



BOREHOLE NO.: **B-5**TOTAL DEPTH: **12 feet** 

( ,		IN	COF	4 P O F	RATED					
	PR	OJEC	ΓINF	ORMA <sup>-</sup>	TION	DRILLING INFORMATION				
PROJEC <sup>-</sup>	T:	Jo	hn Mi	ichael		DRILLI	NG CO.:		EMR, Inc	•
SITE LOC	CATI	ION: Ca	shme	re, WA		DRILLE	R:		Randy Dy	ver
JOB NO.:		698	84.001	l		RIG TY	PE:		Geoprobe	CH-40
LOGGED	BY:	Ra	ndy D	yer		METHO	DD OF DRIL	LING:	Direct Pu	sh
PROJEC <sup>-</sup>	T MA	ANAGE	R: Jei	remy R	aye	SAMPL	ING METH	ODS:	2" macro	core
DATE DR	RILLI	ED: 12/	1/04			HAMME	ER WT./DR	OP	Pneumati	c
NOTES:						<b>∑</b>	Water level Water level			Page 1 of 1
DEPTH	SAMP. #	PID (ppm)	Sample Recovery	USCS	SOIL DESCRI	PTION	Graphic		VELL PLETION	SAMPLE INTERVAL
5	2	0.0 ppm  0.0 ppm		SP	SAND: Light brown, of with gravel.  GRAVEL: Brown, with sand.			$\searrow$		Sample Interval



BOREHOLE NO.: **B-6**TOTAL DEPTH: 12 feet

PF	ROJEC	TINFO	ORMA'	TION		DRILL	ING INFORMA	TION
PROJECT:	Jo	hn Mi	chael		DRILLIN	IG CO.:	EMR, In	с.
SITE LOCAT	ION: Ca	shme	re, WA		DRILLE	R:	Randy D	yer
JOB NO.:	698	84.001			RIG TY	PE:	Geoprob	e CH-40
LOGGED BY	': Ra	ndy D	yer		METHO	D OF DRIL	LING: Direct Pu	ısh
PROJECT M	IANAGE	R: Jer	emy R	aye	SAMPLI	ING METH	ODS: 2" macro	core
DATE DRILL	ED: 12/	1/04			HAMME	R WT./DR	OP Pneumat	ic
NOTES:			,,,		▽		during drilling in completed well	Page 1 of 1
DEPTH W W W W W W W W W W W W W W W W W W W	PID (ppm)	Sample Recovery	USCS	SOIL DESCRI	PTION	Graphic	WELL COMPLETION	SAMPLE INTERVAL
	0.0 ppm		SP-SM	SAND: Light brown, of gravel.  SAND AND SILT: Date organics/roots, wood  SAND: Dry, some gravel.	rk brown, debris.			Sample Interval



BOREHOLE NO.: **B-7**TOTAL DEPTH: **5 feet** 

PROJECT INFORMATION **DRILLING INFORMATION** DRILLING CO.: PROJECT: John Michael EMR, Inc. SITE LOCATION: Cashmere, WA DRILLER: **Randy Dyer** 6984.001 JOB NO .: **RIG TYPE: Geoprobe CH-40** LOGGED BY: **Randy Dyer** METHOD OF DRILLING: Direct Push PROJECT MANAGER: Jeremy Raye SAMPLING METHODS: 2" macrocore DATE DRILLED: 12/1/04 HAMMER WT./DROP Pneumatic Water level during drilling NOTES: Page 1 of 1 Water level in completed well Sample (mdd) Graphic Log SAMPLE WELL SOIL DESCRIPTION **USCS** DEPTH COMPLETION **INTERVAL** 

			SP-SM	SAND AND SILT: Brown, dry, organics		
	1	0.0 ppm	SP	SAND: Light brown to brown, dry, with little gravel and silt.		
-			GP	GRAVEL: Brown, with sand.		
			SP	SAND: Brown, with gravel.		Sample Interval
J-5	2	0.0 ppm	GP	GRAVEL: Brown, with sand.		



BOREHOLE NO.: **B-8** TOTAL DEPTH: **8 feet** 

PF	ROJEC	ΓINF	ORMA	TION		DRIL	LING INF	ORMA	ΓΙΟΝ
PROJECT:	Jo	hn Mi	ichael		DRILLIN	NG CO.:	E	MR, Inc	
SITE LOCAT	ION: Ca	shme	re, WA		DRILLE	R:	R	andy Dy	er
JOB NO.:	698	<b>34.00</b> 1	l		RIG TYI	PE:	G	Seoprobe	CH-40
LOGGED BY	': Ra	ndy D	yer		METHO	D OF DR	ILLING: D	irect Pus	sh
PROJECT M	ANAGE	R: Je	remy R	aye	SAMPL	ING METI	HODS: 2	" macro	core
DATE DRILL	.ED: 12/	1/04			HAMME	R WT./DI	ROP P	neumati	c
NOTES:	,				✓		el during dril		Page 1 of 1
DEPTH # dwww.	PID (ppm)	Sample Recovery	USCS	SOIL DESCRI	PTION	Graphic	WE COMPL		SAMPLE INTERVAL
1 1	0.0 ppm		SP-SM	SAND: Brown, dry, fin some silt and gravel.  Crushed brick  Minor wood debris an organics.	d brick with				Sample Interval



STL Seattle 5755 8<sup>th</sup> Street East Tacoma, WA 98424

Tel: 253 922 2310 Fax: 253 922 5047 www.stl-inc.com

#### TRANSMITTAL MEMORANDUM

DATE: December 28, 2004

TO: Jeremy Raye EMR, Inc 1310 Wakrusa Drive, Suite A Lawrence, KS 66049

PROJECT: John Michael - Cashmere, WA

REPORT NUMBER: 125189

TOTAL NUMBER OF PAGES: 59

Enclosed are the test results for eleven samples received at STL Seattle on December 3, 2004.

**Analytical Narrative NWTPH-Dx:** The BSD percent recovery for motor oil failed high. The BS percent recovery for motor oil was acceptable. All other quality control parameters were within acceptance range.

**Analytical Narrative Volatiles:** The BS/BSD percent recovery for Toluene, Ethylbenzene and Xylenes failed slightly high. All samples were ND for these parameters. Ethylbenzene recovery failed high in the MS. The pentafluorobenzene surrogate in the method blank analysis failed slightly high.

Samples for the volatile organics analysis were received in 44ml VOA pre-tared vials that had contained methanol. The contents were removed and placed into pre-cleaned 4 oz. jars for sample homogenization and preparation. Dry weights were performed using the samples submitted for the semivolatiles analysis. All other quality control parameters were within acceptance range.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Katie Downie Project Manager

#### Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
125189-1	B-1-4	12-01-04 16:00	solid
125189-2	B-2-8	12-01-04 15:30	solid
125189-3	B-3-6	12-01-04 10:00	solid
125189-4	B-4-6	12-01-04 13:00	solid
125189-5	B-5-8	12-01-04 12:30	solid
125189-6	B-6-5	12-01-04 11:00	solid
125189-7	B-7-3	12-01-04 10:30	solid
125189-8	B-8-5	12-01-04 09:00	solid
125189-9	B-5	12-01-04 14:00	liquid
125189-10	B-6	12-01-04 15:00	liquid
125189-11	B-8	12-01-04 09:00	liquid

Client Name:				EMR, Inc
Client ID:		*		B-1-4
Lab ID:				125189-01
Date Received:				12/3/04
Date Prepared: `				12/8/04
Date Analyzed:				12/8/04
% Solids				96.61
Dilution Factor				1

### Gasoline Range Organics by Method NWTPH-Gx

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	95.2		50	150
1-Chloro-3-fluorobenzene	109		50	150
Bromofluorobenzene	109		50	150
Pentafluorobenzene	84.9		50	150

•	Result	<u> </u>	
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	ND .	4.13	

Client Name:	EMR, Inc
Client ID:	B-1-4
Lab ID:	125189-01
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	96.61
Dilution Factor	1

### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	128		47	158
1-Chloro-3-fluorobenzene	132		76	137
Bromofluorobenzene	133	X9	79	132
Pentafluorobenzene	154	X9	76	142

*	Result		
Analyte	(mg/kg)	RL F	lags
Benzene	ND	0.0206	
Toluene	ND	0.0413	
Ethylbenzene	ND	0.0413	
m&p-Xylene	ND	0.0825	
o-Xylene	ND	0.0413	

Client Name: Client ID:		EMR, Inc B-1-4 - dup
Lab ID:		125189R01
Date Received:	×	-
Date Prepared:		12/8/04
Date Analyzed:		12/8/04
% Solids		96.61
Dilution Factor	*	1 .

### Gasoline Range Organics by Method NWTPH-Gx

		Recove	ery Limits
% Recovery	Flags	Low	High
97.1		50	150
110		50	150
109		50	150
84.9		50	150
	97.1 110 109	97.1 110 109	% Recovery     Flags     Low       97.1     50       110     50       109     50

15	Result		
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	ND	4.12	

	EMR, Inc
	B-2-8
	125189-02
*	12/3/04
8.	12/8/04
·.	12/8/04
	93.71
	(100)

### Gasoline Range Organics by Method NWTPH-Gx

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	=	X8	50	150
1-Chloro-3-fluorobenzene	112	•	50	150
Bromofluorobenzene	111		50	150
Pentafluorobenzene	85.8		50	150

	Result		
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	795	421	

Client Name:	EMR, Inc
Client ID:	B-2-8
Lab ID:	125189-02
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	93.71
Dilution Factor	100

### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	•	X8	47	158
1-Chloro-3-fluorobenzene	139	X9	76	137
Bromofluorobenzene	138	X9	79	132
Pentafluorobenzene	154	X9	<b>7</b> 6	142

	Result		
Analyte	(mg/kg)	RL	Flags
Benzene	ND	2.11	
Toluene	ND	4.21	
Ethylbenzene	ND	4.21	
m&p-Xylene	ND	8.42	
o-Xylene	ND	4.21	

Client Name:	EMR, Inc
Client ID:	·B-3-6
Lab ID:	125189-03
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	93.63
Dilution Factor	1

### Gasoline Range Organics by Method NWTPH-Gx

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	94		50	150
1-Chloro-3-fluorobenzene	109		50	150
Bromofluorobenzene	108		50	150
Pentafluorobenzene	84.5		50	150

	Result	+	
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	ND	4.26	

Client Name:	EMR, Inc
Client ID:	B-3-6
Lab ID:	125189-03
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	93.63
Dilution Factor	1

### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			<b>Recovery Limits</b>	
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	127		47	158
1-Chloro-3-fluorobenzene	133		76	137
Bromofluorobenzene	136	X9	79	132
Pentafluorobenzene	150	X9	76	142

Result				
Analyte	(mg/kg)	RL	Flags	
Benzene	ND	0.0213		
Toluene	ND	0.0426		
Ethylbenzene	ND	0.0426		
m&p-Xylene	· ND	0.0853		
o-Xylene	ND	0.0426		

Client Name:		EMR, Inc
Client ID:		B-4-6
Lab ID:		125189-04
Date Received:		12/3/04
Date Prepared:		12/8/04
Date Analyzed:		12/8/04
% Solids		80.41
Dilution Factor		1

### Gasoline Range Organics by Method NWTPH-Gx

3			Recovery Limits	
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	92.3		50	150
1-Chloro-3-fluorobenzene	110		50	150
Bromofluorobenzene	110		50	150
Pentafluorobenzene	85		50	150

	Result		•
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	ND	4.75	

Client Name:	EMR, Inc
Client ID:	B-4-6
Lab ID:	125189-04
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	80.41
Dilution Factor	1

### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	123		47	158
1-Chloro-3-fluorobenzene	134		76	137
Bromofluorobenzene	136	X9	79	132
Pentafluorobenzene	153	X9	76	142

	Result		
Analyte	(mg/kg)	RL	Flags
Benzene	ND	0.0237	
Toluene	ND	0.0475	
Ethylbenzene	ND	0.0475	
m&p-Xylene	ND	0.0949	
o-Xylene	ND	0.0475	

Client Name:	EMR, Inc
Client ID:	B-5-8
Lab ID:	125189-05
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	89.97
Dilution Factor	· 1

#### Gasoline Range Organics by Method NWTPH-Gx

			Recov	Recovery Limits	
Surrogate	% Recovery	Flags	Low	High	
Trifluorotoluene	93.3		50	150	
1-Chloro-3-fluorobenzene	109		50	150	
Bromofluorobenzene	. 107		50	150	
Pentafluorobenzene	84.7		50	150	

Sample results are on a dry weight basis.

Analyte (mg/kg) RL Flags
Gasoline by NWTPH-G 38.7 4.21

EMR, Inc
B-5-8
125189-05
12/3/04
12/8/04
12/8/04
89.97
1

#### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	125		47	158
1-Chloro-3-fluorobenzene	132		76	137
Bromofluorobenzene	136	( X9	79	132
Pentafluorobenzene	148	X9	76	142
		matrix		
		INT		

	Result		
Analyte	(mg/kg)	RL	Flags
Benzene	0.0294	0.021	
Toluene	ND	0.0421	
Ethylbenzene	ND	0.0421	
m&p-Xylene	ND	0.0841	
o-Xylene	ND	0.0421	

Client Name:	EMR, Inc
Client ID:	B-6-5
Lab ID:	125189-06
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	79.06
Dilution Factor	. 1

## Gasoline Range Organics by Method NWTPH-Gx

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	84.8		50	150
1-Chloro-3-fluorobenzene	111		50	150
Bromoffuorobenzene	110		50	150
Pentafluorobenzene	85.5		50	150

	Result		
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	· ND	4.85	_

Client Name:	EMR, Inc
Client ID:	B-6-5
Lab ID:	125189-06
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	79.06
Dilution Factor	1

#### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

	÷		Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	111		47	158
1-Chloro-3-fluorobenzene	135		76	137
Bromofluorobenzene	140	X9	79	132
Pentafluorobenzene	154	X9	76	142

	Result	•	
Analyte	(mg/kg)	RL	Flags
Benzene	ND	0.0243	
Toluene	ND	0.0485	
Ethylbenzene	ND	0.0485	
m&p-Xylene	ND	0.097	
o-Xylene	ND	0.0485	

Client Name:	EMR, Inc
Client ID:	B-7-3
Lab ID:	125189-07
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	92.95
Dilution Factor	1

## Gasoline Range Organics by Method NWTPH-Gx

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	95.2		- 50	150
1-Chioro-3-fluorobenzene	111		50	150
Bromofluorobenzene	110		50	150
Pentafluorobenzene	85.4		50	150

	Result		
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	ND	4.24	

Client Name:	EMR, Inc
Client ID:	B-7-3
Lab ID:	125189-07
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	92.95
Dilution Factor	1

#### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	129		47	158
1-Chloro-3-fluorobenzene	136		76	137
Bromofluorobenzene	139	/ X9	79	132
Pentafluorobenzene	152	X9 /	76	142

	Result		
Analyte	(mg/kg)	RL	Flags
Benzene	ND	0.0212	
Toluene	ND	0.0424	
Ethylbenzene	ND	0.0424	
m&p-Xylene	ND	0.0848	
o-Xylene	ND	0.0424	

Client Name:	-	EMR, Inc
Client ID:		B-8-5
Lab ID:		125189-08
Date Received:		12/3/04
Date Prepared:		12/8/04
Date Analyzed:		12/8/04
% Solids	,	89.85
Dilution Factor		1

#### Gasoline Range Organics by Method NWTPH-Gx

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	95		50	150
1-Chloro-3-fluorobenzene	110		50	150
Bromofluorobenzene	110		50	150
Pentafluorobenzene	84.8	*	50	150

	Result	7	
Analyte	(mg/kg)	RL	Flags
Gasoline by NWTPH-G	ND	4.42	

	EMR, Inc
	B-8-5
	125189-08
	12/3/04
i.e.	12/8/04
	12/8/04
	89.85
	1

## Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	129		47	158
1-Chloro-3-fluorobenzene	139	X9	76	137
Bromofluorobenzene	140	X9	79	132
Pentafluorobenzene	152	Х9	76	142

	Result		
Analyte	(mg/kg)	. RL	Flags
Benzene	ND	0.0221	
Toluene	ND	0.0442	
Ethylbenzene	ND	0.0442	
m&p-Xylene	ND	0.0883	
o-Xylene	ND	0.0442	

Client Name:		EMR, Inc
Client ID:		B-8-5 - ms
Lab ID:		125189S08
Date Received:		12/3/04
Date Prepared:	¥ .	12/8/04
Date Analyzed:		12/8/04
% Solids		89.85
Dilution Factor		1

#### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

	*		Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	123		47	158
1-Chloro-3-fluorobenzene	136		76	137
Bromofluorobenzene	136	X9	79	132
Pentafluorobenzene	140		76	142

	Result		
Analyte	(mg/kg)	RL	Flags
Benzene	0.643	0.0221	
Toluene	4.6	0.0443	
Ethylbenzene	1.04	0.0443	
m&p-Xylene	3.4	0.0886	
o-Xylene	1.34	0.0443	

Client Name:	EMR, Inc
Client ID:	B-5
Lab ID:	125189-09
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	-
Dilution Factor	1

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	91.9		50	150
1-Chloro-3-fluorobenzene	96.1		50	150
Bromofluorobenzene	94.9		50	150
Pentafluorobenzene	78.6		50	150

	Result		
Analyte	(mg/L)	RL	Flags
Gasoline by NWTPH-G	ND	0.1	

Client Name:	EMR, Inc
Client ID:	B-5
Lab ID:	125189-09
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	-
Dilution Factor	1

#### Volatile Aromatic Hydrocarbons by EPA Method 5030/8021B

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	116		84	122
1-Chloro-3-fluorobenzene	110		80	120
Bromofluorobenzene	105		80	120
Pentafluorobenzene	114		81	126

	R	esult		•
Analyte	1)	ng/L)	RL	Flags
Benzene		0.0261	0.0005	
Toluene	ND		0.001	
Ethylbenzene	ND		0.001	
m&p-Xylene	ND		0.002	
o-Xylene	ND		0.001	
Naphthalene		0.00264	0.001	B1

Client Name:	EMR, Inc
Client ID:	B-6
Lab ID:	125189-10
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	-
Dilution Factor	1

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	92.2		50	150
1-Chloro-3-fluorobenzene	95		50	150
Bromofluorobenzene	93.5		50	150
Pentafluorobenzene	79.7		50	150

	Result		
Analyte	(mg/L)	RL	Flags
Gasoline by NWTPH-G	ND	0.1	

 Client Name:
 EMR, Inc

 Client ID:
 B-6

 Lab ID:
 125189-10

 Date Received:
 12/3/04

 Date Prepared:
 12/8/04

 Date Analyzed:
 12/8/04

 % Solids

 Dilution Factor
 1

## Volatile Aromatic Hydrocarbons by EPA Method 5030/8021B

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	118		84	122
1-Chloro-3-fluorobenzene	110		80	120
Bromofluorobenzene	105		80	120
Pentafluorobenzene	115		81	126

	Result		
Analyte	(mg/L)	RL	Flags
Benzene	ND	0.0005	
Toluene	ND	0.001	
Ethylbenzene	ND	0.001	
m&p-Xylene	ND	0.002	
o-Xylene	ND	0.001	
Naphthalene	0.00128	0.001	B1

Client Name:	EMR, Inc
Client ID:	B-8
Lab ID:	125189-11
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	•
Dilution Factor	1

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	72.6		50	150
1-Chloro-3-fluorobenzene	75.5		50	150
Bromofluorobenzene	74.6		50	150
Pentafluorobenzene	69.7		50	150

	Result		
Analyte	(mg/L)	RL	Flags
Gasoline by NWTPH-G	ND	. 0.1	

Client Name:	EMR, Inc
Client ID:	B-8
Lab ID:	125189-11
Date Received:	12/3/04
Date Prepared:	12/8/04
Date Analyzed:	12/8/04
% Solids	*
Dilution Factor	1

#### Volatile Aromatic Hydrocarbons by EPA Method 5030/8021B

			Recovery Limits	
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	91.7		84	122
1-Chloro-3-fluorobenzene	86.3		80	120
Bromofluorobenzene	82.5		80	120
Pentafluorobenzene	88.1		81	126

	Result		
Analyte	(mg/L)	RL	Flags
Benzene	ND	0.0005	
Toluene	ND	0.001	
Ethylbenzene	ND	0.001	
m&p-Xylene	ND	0.002	
o-Xylene	ND	0.001	
Naphthalene	0.00112	0.001	B1

Client Name: EMR, Inc B-1-4 Client ID: 125189-01 Lab ID: Date Received: 12/3/2004 Date Prepared: 12/7/2004 Date Analyzed: 12/9/2004 % Solids 96.61 Dilution Factor 1

#### Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
o-terphenyl	88.6		50	150

Analyte	Result (mg/kg)	RL	Flags
#2 Diesel	446	24	/ X1
Motor Oil	7610	479	D10
Kerosene	78.3	24	X1 /

Client Name:

EMR, Inc B-1-4 - dup

Client ID: Lab ID:

125189R01

Date Received:

Date Prepared:

12/7/2004

Date Analyzed: % Solids

12/9/2004 96.61

Dilution Factor

1

## Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recov	ery Limits
Surrogate o-terphenyl	% Recovery 97.9	Flags	<b>Low</b> 50	High 150

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	491	24.6	X1
Motor Oil	8640	491	D10
Kerosene	83.8	24.6	X1

EMR, Inc Client Name: Client ID: B-2-8 Lab ID: 125189-02 12/3/2004 Date Received: Date Prepared: 12/7/2004 12/9/2004 Date Analyzed: 93.71 % Solids 1 Dilution Factor

#### Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recove	ery Limits
Surrogate	% Recovery	Flags	<b>Low</b>	<b>High</b>
o-terphenyl	61.5		50	150

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	3620	24.6	X1
Motor Oil	7380	492	X1 D10
Kerosene	1130	24.6	X1

EMR, Inc Client Name: B-3-6 Client ID: 125189-03 Lab ID: 12/3/2004 Date Received: 12/7/2004 Date Prepared: 12/9/2004 Date Analyzed: 93.63 % Solids 1 Dilution Factor

## Diesel and Motor Oil by NWTPH-Dx Modified

			Recov	ery Limits
Surrogate o-terphenyl	% Recovery 92.8	Flags	<b>Low</b> 50	<b>High</b> 150

Analyte	Result (mg/kg)	RL	Flags
#2 Diesel	ND	24.8	
Motor Oil	ND	49.5	
	ND	24.8	
Kerosene	110		

EMR, Inc Client Name: B-4-6 Client ID: 125189-04 Lab ID: 12/3/2004 Date Received: 12/7/2004 Date Prepared: 12/9/2004 Date Analyzed: 80.41 % Solids 1 Dilution Factor

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recove	ery Limits
Surrogate o-terphenyl	% Recovery 71.7	Flags	<b>Low</b> 50	<b>High</b> 150

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	46.5	28.4	X1
Motor Oil	286	56.9	
Kerosene	ND	28.4	

EMR, Inc Client Name: B-5-8 Client ID: 125189-05 Lab ID: 12/3/2004 Date Received: 12/7/2004 Date Prepared: 12/9/2004 Date Analyzed: 89.97 % Solids 1 . **Dilution Factor** 

#### Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recove	ery Limits
Surrogate o-terphenyl	% Recovery 71.7	Flags	<b>Low</b> 50	<b>High</b> 150

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	397	25.8	X1
Motor Oil	989	51.6	X1
Kerosene	85.1	25.8	X1

EMR, Inc Client Name: B-6-5 Client ID: 125189-06 Lab ID: 12/3/2004 Date Received: 12/7/2004 Date Prepared: 12/9/2004 Date Analyzed: 79.06 % Solids 1 **Dilution Factor** 

## Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acld Cleanup

			Recov	ery Limits
Surrogate o-terphenyl	<b>% Recovery</b> 66.7	Flags	<b>Low</b> 50	<b>High</b> 150

Analyte	Result (mg/kg)	RL	Flags
#2 Diesel	35.9	31	X1
Motor Oil	320	62	
Kerosene	ND	31	

Client Name:	EMR, Inc
Client ID:	B-7-3
Lab ID:	125189-07
Date Received:	12/3/2004
Date Prepared:	12/7/2004
Date Analyzed:	12/9/2004
% Solids	92.95
Dilution Factor	1

#### Diesel and Motor Oil by NWTPH-Dx Modified

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
o-terphenyl	82.9		50	150

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	ND	24.5	
Motor Oil	ND	48.9	
Kerosene	ND	24.5	

EMR, Inc Client Name: B-8-5 Client ID: 125189-08 Lab ID: 12/3/2004 Date Received: 12/7/2004 Date Prepared: 12/9/2004 Date Analyzed: 89.85 % Solids 1 **Dilution Factor** 

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

			Recov	ery Limits
Surrogate	% Recovery	Flags	<b>Low</b>	<b>High</b>
o-terphenyl	91.8		50	150

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	433	25.5	X1
Motor Oil	6320	511	<b>D1</b> 0
Kerosene	ND	25.5	

 Client Name:
 EMR, Inc

 Client ID:
 B-5

 Lab ID:
 125189-09

 Date Received:
 12/3/2004

 Date Prepared:
 12/8/2004

 Date Analyzed:
 12/13/2004

 % Solids

 Dilution Factor
 1

			Recov	ery Limits
Surrogate o-terphenyl	% Recovery 122	Flags	<b>Low</b> 50	High 150

	Result		
Analyte	(mg/L)	RL	Flags
#2 Diesel	1.29	0.252	X1
Motor Oil	2.16	0.503	X1
Kerosene	0.352	0.252	X1

 Client Name:
 EMR, Inc

 Client ID:
 B-6

 Lab ID:
 125189-10

 Date Received:
 12/3/2004

 Date Prepared:
 12/8/2004

 Date Analyzed:
 12/13/2004

 % Solids

 Dilution Factor
 1

			Recov	ery Limits
Surrogate o-terphenyl	% Recovery 85.7	Flags	<b>Low</b> 50	<b>High</b> 150

	Result		
Analyte	(mg/L)	RL	Flags
#2 Diesel	ND	0.254	
Motor Oil	ND	0.507	
Kerosene	ND	0.254	

 Client Name:
 EMR, Inc

 Client ID:
 B-8

 Lab ID:
 125189-11

 Date Received:
 12/3/2004

 Date Prepared:
 12/8/2004

 Date Analyzed:
 12/13/2004

 % Solids

 Dilution Factor
 1

			Recove	ery Limits
Surrogate o-terphenyl	<b>% Recovery</b> 93.2	Flags	<b>Low</b> 50	<b>High</b> 150

	Result		
Analyte	(mg/L)	RL	Flags
#2 Diesel	ND	0.252	
Motor Oil	ND	0.505	
Kerosene	ND	0.252	

Lab ID:

Method Blank - GB4032

Date Received:

Date Prepared:
Date Analyzed:

12/8/04 12/8/04

% Solids
Dilution Factor

#### Gasoline Range Organics by Method NWTPH-Gx

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
Trifluorotoluene	105		50	150
1-Chloro-3-fluorobenzene	110		50	150
Bromofluorobenzene	108		50	150
Pentafluorobenzene	85.3	*	50	150

Sample results are on an as received basis.

Result (mg/kg) RL Flags
Gasoline by NWTPH-G ND 4

Lab ID:

Method Blank - GB4032

Date Received:

Date Prepared:

12/8/04

Date Analyzed: % Solids

12/8/04

% Solids
Dilution Factor

1

#### Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	149		47	158
1-Chloro-3-fluorobenzene	130		76	137
Bromofluorobenzene	130		79	132
Pentafluorobenzene	151	N	76	142

Sample results are on an as received basis.

	Result		
Analyte	(mg/kg)	RL	Flags
Benzene	ND	0.02	_
Toluene	ND	0.04	
Ethylbenzene	ND	0.04	
m&p-Xylene	ND	0.08	
o-Xylene	ND	0.04	

Lab ID:

Method Blank - GB4034

Date Received: Date Prepared:

12/8/04

Date Analyzed:

12/8/04

% Solids
Dilution Factor

1

## Gasoline Range Organics by Method NWTPH-Gx

			Recove	ery Limits
Surrogate Trifluorotoluene 1-Chloro-3-fluorobenzene Bromofluorobenzene	% Recovery 88.1 93.5 93.4	Flags	<b>Low</b> 50 50 50	<b>High</b> 150 150 150
Pentafluorobenzene	77.7		50	150

Analyte Result (mg/L)

RL

Flags

Gasoline by NWTPH-G

ND

0.1

Lab ID:

Method Blank - GB4034

Date Received: Date Prepared:

12/8/04

Date Analyzed: % Solids 12/8/04

Dilution Factor

1

## Volatile Aromatic Hydrocarbons by EPA Method 5030/8021B

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
a,a,a-Trifluorotoluene	110		84	122
1-Chloro-3-fluorobenzene	107		80	120
Bromofluorobenzene	104		80	120
Pentafluorobenzene	107		81	126

	Result		
Analyte	(mg/L)	RL	Flags
Benzene	ND	0.0005	
Toluene	ND	0.001	
Ethylbenzene	ND	0.001	
m&p-Xylene	ND	0.002	
o-Xylene	ND	0.001	
Naphthalene	0.00343	0.001	

#### Blank Spike/Blank Spike Duplicate Report

Lab ID:

Date Prepared: Date Analyzed:

QC Batch ID:

GB4032

12/8/04

12/8/04

GB4032

Gasoline Range Organics by Method NWTPH-Gx

50.6

Compound Name Gasoline by NWTPH-G Blank Spike BS
Result Amount Result
(mg/kg) (mg/kg) (mg/kg)

50

0

BSD BS Result % Rec. (mg/kg) 101 53.1

**BSD % Rec.** 106

RPD 4.8

#### Blank Spike/Blank Spike Duplicate Report

Lab ID: Date Prepared: Date Analyzed: QC Batch ID: GB4032 12/8/04 12/8/04 GB4032

Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

Compound Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	BSD Result (mg/kg)	BSD % Rec.	RPD	Flag
Benzene	0	0.736	0.663	90	0.718	97.6	8.1	
Toluene	0	3.54	4.89	138	5.17	146	5.6	N
Ethylbenzene	0 .	0.791	0.986	125	1.01	128	2.4	N
m&p-Xylene	0	2.92	3.54	121	3.87	133	9.4	N
o-Xylene	0	1.15	1.4	123	1.48	129	4.8	N

#### Blank Spike/Blank Spike Duplicate Report

Lab ID:

Date Prepared: Date Analyzed: QC Batch ID:

GB4034

12/8/04

12/8/04

GB4034

	Blank Result	Spike Amount	BS Result	BS	BSD Result	BSD		
Compound Name Gasoline by NWTPH-G	(mg/L) 0	(mg/L) 1.25	(mg/L) 1.18	<b>% Rec.</b> 94.1	(mg/L) 1.2	<b>% Rec.</b> 96	RPD 2	Flag

#### Blank Spike/Blank Spike Duplicate Report

Lab ID:

Date Prepared:

Date Analyzed: QC Batch ID: GB4034

12/8/04

12/8/04

GB4034

	Blank	Spike	BS		BSD			
	Result	Amount	Result	BS	Result	BSD		
Compound Name	(mg/L)	(mg/L)	(mg/L)	% Rec.	(mg/L)	% Rec.	RPD	Flag
Gasoline by NWTPH-G	0	1.25	1.18	94.1	1.2	96	2	

#### **Duplicate Report**

 Client Sample ID:
 B-1-4

 Lab ID:
 125189-01

 Date Prepared:
 12/8/04

 Date Analyzed:
 12/8/04

 QC Batch ID:
 GB4032

v	Sample	Duplicate		
e e	Result	Result	RPD	
Parameter Name	(mg/kg)	(mg/kg)	%	Flag
Gasoline by NWTPH-G	0	0	NC	

#### Matrix Spike Report

Client Sample ID: Lab ID: Date Prepared: Date Analyzed: QC Batch ID: B-8-5 125189-08 12/8/04 12/8/04 GB4032

## Volatile Aromatic Hydrocarbons by EPA Method 5035/8260B

Compound Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Benzene	0	0.815	0.643	78.8	
Toluene	0	3.91	4.6	118	
Ethylbenzene	. 0	0.875	1.04	119	. N
m&p-Xylene	Ó	3.23	3.4	105	
o-Xylene	0	1.27	1.34	106	

Lab ID:

Method Blank - DS1356

Date Received:

-

Date Prepared: Date Analyzed: 12/7/2004

% Solids

12/9/2004

Dilution Factor

1

#### Diesel and Motor Oil by NWTPH-Dx Modified

			Recov	ery Limits
Surrogate o-terphenyl	<b>% Recovery</b> 86.5	Flags	<b>Low</b> 50	High 150

Sample results are on an as received basis.

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	ND	25	
Motor Oil	ND	50	
Kerosene	ND	25	

Lab ID:

Method Blank - DS1356

Date Received:

-

Date Prepared:

12/7/2004

Date Analyzed:

12/9/2004

% Solids Dilution Factor

1

#### Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acld Cleanup

			Recov	ery Limits
Surrogate	% Recovery	Flags	Low	High
o-terphenyl	87.6		50	150

Sample results are on an as received basis.

	Result		
Analyte	(mg/kg)	RL	Flags
#2 Diesel	ND	25	
Motor Oil	ND	50	
Kerosene	ND	25	

Lab ID:

Method Blank - DW0707

Date Received:

-

Date Prepared:

12/8/2004

Date Analyzed: % Solids

12/13/2004

Dilution Factor

1

			Recov	ery Limits
Surrogate o-terphenyl	% Recovery 119	Flags	<b>Low</b> 50	<b>High</b> 150

	Result		
Analyte	(mg/L)	RL	Flags
#2 Diesel	ND	0.25	
Motor Oil	ND	0.5	
Kerosene	ND	0.25	

#### Blank Spike/Blank Spike Duplicate Report

Lab ID:

DS1356

Date Prepared:

12/7/2004

Date Analyzed:

12/9/2004

QC Batch ID:

DS1356

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

	Blank Result	Spike Amount	BS Result	BS	BSD Result	BSD		
Compound Name	(mg/kg)	(mg/kg)	(mg/kg)	% Rec.	(mg/kg)	% Rec.	RPD	Flag
#2 Diesel	11	500	474	92.5	507	99.3	7.1	
Motor Oil	0	500	547	109	588	118	7.9	N

#### Blank Spike/Blank Spike Duplicate Report

Lab ID: Date Prepared: Date Analyzed: QC Batch ID: DS1356 12/7/2004 12/9/2004 DS1356

Diesel and Motor Oil by NWTPH-Dx Modified

	Blank Result	Spike Amount	BS Result	BS	BSD Result	BSD		F1
Compound Name	(mg/kg)	(mg/kg)	(mg/kg)	% Rec.	(mg/kg)	% Rec.	RPD	Flag
#2 Diesel	0	500	515	103	563	112	8.4	
Motor Oil	0	500	521	104	588	118	13	

#### Blank Spike/Blank Spike Duplicate Report

Lab ID:

Date Prepared: Date Analyzed: QC Batch ID:

DW0707 12/8/2004 12/13/2004 DW0707

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel Cleanup

	Blank Result	Spike Amount	BS Result	BS	BSD Result	BSD		
Compound Name	(mg/L)	(mg/L)	(mg/L)	% Rec.	(mg/L)	% Rec.	RPD	Flag
#2 Diesel	0.083	5	6.08	120	5.8	114	-5.1	
Motor Oil	0.0078	5	5.91	118	5.24	105	-12	

#### **Duplicate Report**

Client Sample ID:

#1 UST PIT BOTTOM - 5.4BGS

Lab ID:

125196-01

Date Prepared:

12/7/2004

Date Analyzed:

12/9/2004

QC Batch ID:

DS1356

Diesel and Motor Oil by NWTPH-Dx Modified

	Sample Result	Duplicate Result	RPD	
Parameter Name	(mg/kg)	(mg/kg)	%	Flag
#2 Diesel	453	618	-31.0	
Motor Oil	90.9	86	5.5	

#### Duplicate Report

 Client Sample ID:
 B-1-4

 Lab ID:
 125189-01

 Date Prepared:
 12/7/2004

 Date Analyzed:
 12/9/2004

 QC Batch ID:
 DS1356

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel and Sulfuric Acid Cleanup

	Sample	Duplicate		
	Result	Result	RPD	9-000
Parameter Name	(mg/kg)	(mg/kg)	%	Flag
#2 Diesel	446	491	-9.6	
Motor Oil	7610	8640	-13.0	
Kerosene	78.3	83.8	-6.8	



STL Seattle 5755 8<sup>th</sup> Street East Tacoma, WA 98424

Tel: 253 922 2310 Fax: 253 922 5047 www.stl-inc.com

#### DATA QUALIFIERS AND ABBREVIATIONS

- B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).
- B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).
- C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.
- C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.
- C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be  $\leq$  30%.
- C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The original analysis was reported unless anomalies were noted.
- M: GC/MS confirmation was performed. The result derived from the original analysis was reported.
- D: The reported result for this analyte was calculated based on a secondary dilution factor.
- E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.
- The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.
- MCL: Maximum Contaminant Level
- MDL: Method Detection Limit
- RL: Reporting Limit
- N: See analytical narrative
- ND: Not Detected
- X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be
- X2: Contaminant does not appear to be "typical" product.
- X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.
- X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.
- X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.
- X5: Matrix spike recovery was not determined due to the required dilution.
- X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.
- X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.
- X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.
  - 3: Surrogate recovery was not determined due to the required dilution.
- Surrogate recovery outside advisory QC limits due to matrix interference.

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# OHANE TENED TOROGE TORING TORON

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2		40mi - Methanol / 40z jar - Unp.	0831 40-1-21	1	Soil 3	×	X		and the same of th
	- 5 - V	40mi - Methanol / 45z jar - Unp.	112-1-04 100	2	Soil	×	X		
4	7-1-	46mi - Methanol / 4oz jar - Unp.	1 4.0		Soil	×	X /40 Squar 6 12	メベスのアン ひ ベスノー	
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9		40mi - Methanol / 4oz jar - Unp.		- A	Soil 3	×	X		B-1-3240
	7 - 7	40ml - Methanol / 40z jar - Unp.	112-1-04 1030		Soil	×			
8	S are former	40ml - Methanol / 46z jar - Unp.	060 40-1-21	75	Soil	×	X		and the
0		11. Amber - HCL / 40ml - HC.	13-1-31		Water		×		
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