Grant 6/21/04

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-22
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	
35 ILL. ADM. CODE 732	)	

IN THE MATTER OF :	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-23
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

To: Dorothy M. Gunn, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph, Suite 11-500
Chicago, Illinois 60601

Ms. Marie E. Tipsord
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph, Suite 11-500
Chicago, IL 60601

MOTION TO FILE INSTANTER

Now comes CLAIRE A. MANNING, on behalf of the Professionals of Illinois for the Protection of the Environment, PIPE, and respectfully requests that the Board, through its Hearing Officer Marie Tipsord, accept the following documents instanter: PRE-FILED TESTIMONY OF BILL FLEISHLI, PRE-FILED TESTIMONY OF JARRETT THOMAS, SUPPLEMENTAL TESTIMONY OF JOSEPH M. KELLY and VARIOUS EXHIBITS to be introduced at hearing. In support of said motion, the undersigned offers that no prejudice will result from the admission, as the matters will be fully explored at public hearing and, in order to be fully responsive to the matters presented by the IEPA at the last hearing, PIPE was unable to coordinate this filing any earlier than this date.

Claire A. Manning

Claire A. Manning, Attorney

CLAIRE A. MANNING
Posegate & Denes, P.C.
111 N. Sixth Street, Suite 200
Springfield, Illinois 62701
(217) 522-6152

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
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PROPOSED AMENDMENTS TO:	)	R04-22
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
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IN THE MATTER OF :	)	
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PROPOSED AMENDMENTS TO:	)	R04-23
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

TESTIMONY OF JARRETT THOMAS ON BEHALF OF THE PROFESSIONALS OF ILLINOIS FOR THE PROTECTION OF THE ENVIRONMENT AND THE ILLINOIS ASSOCIATION OF ENVIRONMENTAL LABORATORIES, INC.

My name is Jarrett R. Thomas. I am Vice President and co-owner of Suburban Laboratories, Inc., an IEPA accredited environmental testing laboratory located in Hillside, Illinois. Suburban Laboratories has been in business since 1936 and has performed analyses in support of LUST remediations since the inception of the LUST program.

In 2001, I was appointed by the Director of IEPA to be a member of the Community Water Supply Testing Council, and the Environmental Laboratory Certification Committee, of which I am the Chairman. I am a current board member of the Professionals of Illinois for the Protection of the Environment (PIPE). PIPE is an organization of various businesses that perform remedial clean-ups of underground storage tank sites as well as businesses that provide services to the remediation process, such as landfills, laboratories, etc.

I am also a current board member, past President and co-founder of the Illinois Association of Environmental Laboratories, Inc. (IAETL). IAETL represents nearly every IEPA accredited soil laboratory located in Illinois and our members perform an estimated 90% of LUST analyses in the State. I am here today to provide testimony on behalf of PIPE and IAETL.

In October, 2002 I became aware of the existence of the Consulting Engineers Council of Illinois' and the Illinois Petroleum Marketers Association's Ad Hoc Work Group on LUST Reimbursement Reform. A member of the Work Group provided me a copy of the IEPA's Analytical Cost Form Draft which proposed reimbursement limits for laboratory analyses (Attachment A).

I forwarded this draft to the IEATL board of directors and on November 8, 2002, on behalf of IAETL, I sent a letter to Mr. Doug Clay objecting to the maximum analytical costs proposed by IEPA. Not only were the fees set much to low, they did not take into account sample matrix, quality control requirements, methods of analysis, turnaround time, deliverables, sampling tools, sample containers, shipping, sample disposal costs, payment terms, costs of accreditation, etc...

I expressed concern that IEPA was commoditizing the analytical requirements of the LUST program and that delays in processing LUST reimbursement payments were hurting environmental labs. The letter concluded with an invitation to meet with IEPA and a plea to be included in future workgroups.

In late November, 2002 several IAETL members, including myself met with Doug Clay, Harry Chappel, Brian Baur, and Doug Oakly of the IEPA to discuss the

laboratory industry's concerns over the LUST reimbursement program and the Agency's draft lab fees.

I was primarily interested to learn how the Agency determined the draft fees. It appeared that IEPA did not perform any formal surveys to obtain industry prices. Mr. Baur indicated that he contacted a lab to obtain some pricing. To assist the Agency in obtaining a more representative sampling of industry rates, I volunteered to collect price lists from member laboratories, compile the data and submit it to the Agency for their consideration.

Mr. Baur provided me the Analytical Cost Form Draft in a spreadsheet format to be used for compiling the rates. Immediately following the meeting, I asked the IEATL membership to forward me price lists for LUST analyses. Five laboratories responded to the request and the results were tabulated (Attachment B). These five labs combined perform an estimated 70% of the state's LUST analyses.

On January 7, 2003 the survey information was provided to Mr. Clay and Mr. Chappel via email along with a recommendation to accept the maximum rate. I made several attempts to ascertain the status of the Agency's proposal over then next twelve months, but was unable to get an answer from Mr. Clay or Mr. Chappel, other than the comments will be taken into consideration.

With the Agency's original filing on January 13, 2004 I learned that that the rates proposed in 732 Appendix D and 734 Appendix D, in nearly every case, were equal to the average rate determined from the IAETL survey.

I understand the IEPA's need to control costs under the LUST reimbursement program and the need to establish a cap on the lab rates, however, using the average rate

is not prudent. Assuming a normal distribution, using the average will result in 50% of the rates falling above the reimbursement limit.

I recommend the original survey data compiled by IAETL be used to determine a reimbursement cap for analytical laboratory testing. However, instead of using the average rate, I recommend using the average plus one standard deviation or the maximum rate, whichever is lower. The survey data and subsequent statistics are provided as Attachment C.

I also recommend the following revisions to 732 Appendix D and 734 Appendix D, most of which are included in Attachment D:

1. Unit costs should be updated to reflect PIPE/IAETL recommendation;
2. Metals group costs should be clarified to reflect target analytes specified in Appendix B of the applicable part;
3. Metals preparation costs should be clarified to reflect potential need to analyze metals by more than one method;
4. Dry Weight Determination should be added to reflect IEPA reporting requirements of soil samples;
5. Delete reference to sampling devices and shipping costs. These costs are not specific to analyses and should be moved to another location in the Part.
6. IEPA should address how to handle potential tests requested by the Agency and that are not listed in Appendix D.
7. IEPA should address costs for approved methods that are not specified in Appendix D, For example BETX by method 8021 or PNAs by method

8310. Or the IEPA should remove all method references from Appendix D when more than one method is approved.

I also recommend that Eligible Corrective Action Costs Section 732.625(4) and 734.625(4) be revised as follows:

Laboratory services necessary to determine site investigation and whether the established remediation objectives have been met, including but not limited to analyses, sample containers and collection devices such as En Core ® samplers, purge-and-trap samplers or equivalent sampling devices and shipping of sample;

Finally, as costs of supplies and labor continue to escalate along with method and certification requirements, I recommend that the costs be reviewed on a biannual basis and adjusted if necessary. PIPE and/or IAETL would be honored to assist the agency in this endeavor.

Thank you.

ATTACHMENT A

ANALYTICAL COST FORM DRAFT

Laboratory Analysis – The laboratory analysis charge includes all costs associated with the transportation and/or delivery, and analysis of each applicable sample. The charge includes but is not limited to costs associated with laboratory personnel, sample handling, transportation and/or delivery of samples to the laboratory, sampling equipment, sampling containers, gloves, and all aspects of the applicable laboratory analysis.

Laboratory Analysis					
	Number of		Cost per		Total
Chemical	Samples		analysis		per analysis
Arsenic TCLP Soil		x	$10.00	=	$
Arsenic Total Soil		x	$20.00	=	$
Arsenic Water		x	$10.00	=	$
Barium TCLP Soil		x	$10.00	=	$
Barium Total Soil		x	$20.00	=	$
Barium Water		x	$10.00	=	$
BETX Soil with MTBE (EPA 8260)		x	$60.00	=	$
BETX - Water with MTBE (EPA 8260)		x	$60.00	=	$
BOD (Biological Oxygen Demand)		x	$18.00	=	$
Cadmium TCLP Soil		x	$10.00	=	$
Cadmium Total Soil		x	$20.00	=	$
Cadmium Water		x	$10.00	=	$
Chromium TCLP Soil		x	$10.00	=	$
Chromium Total Soil		x	$30.00	=	$
Chromium Water		x	$30.00	=	$
Corrosivity		x	$25.00	=	$
Cyanide TCLP Soil		x	$28.00	=	$
Cyanide Total Soil		x	$35.00	=	$
Cyanide Water		x	$35.00	=	$
Flash Point or Ignitability Analysis EPA 1010		x	$25.00	=	$
FOC (Fraction Organic Carbon)		x	$50.00	=	$
Fat, Oil, & Grease (FOG)		x	$30.00	=	$
Iron TCLP Soil		x	$10.00	=	$
Iron Water		x	$10.00	=	$
Lead TCLP Soil		x	$65.00	=	$
Lead Total Soil		x	$20.00	=	$
Lead Water		x	$10.00	=	$
LUST (Priority) Pollutants Soil		x	$550.00	=	$
Mercury TCLP Soil		x	$25.00	=	$
Mercury Total Soil		x	$25.00	=	$
Mercury Water		x	$25.00	=	$
Metals TCLP Soil (a combination of all metals) RCRA		x	$150.00	=	$
Metals Total Soil (a combination of all metals) RCRA		x	$190.00	=	$
Metals Water (a combination of all metals) RCRA		x	$100.00	=	$
Organic Carbon (ASTM-D 2974-87)		x	$30.00	=	$
Oxygen (Dissolved)		x	$20.00	=	$
Paint Filter (Free Liquids)		x	$13.00	=	$
PCB / Pesticides (combination)		x	$150.00	=	$
PCBs		x	$75.00	=	$
Pesticides		x	$125.00	=	$
pH		x	$10.00	=	$
phenol		x	$30.00	=	$
Poly Nuclear Aromatics PNA, or PAH SOIL EPA 8270		x	$130.00	=	$
Poly Nuclear Aromatics PNA, or PAH WATER EPA 8270		x	$130.00	=	$

ANALYTICAL COST FORM DRAFT

Reactivity		x	$25.00	=	$
Selenium TCLP Soil		x	$10.00	=	$
Selenium Total Soil		x	$20.00	=	$
Selenium Water		x	$10.00	=	$
Silver TCLP Soil		x	$10.00	=	$
Silver Total Soil		x	$20.00	=	$
Silver Water		x	$10.00	=	$
SVOC - Soil (Semi Volatile Organic Compounds)		x	$225.00	=	$
SVOC - Water (Semi Volatile Organic Compounds)		x	$225.00	=	$
TKN (Total Kjeldahl) "nitrogen"		x	$35.00	=	$
TOC (Total Organic Carbon) EPA 9060A		x	$33.00	=	$
TPH (Total Petroleum Hydrocarbons)		x	$75.00	=	$
VOC (Volatile Organic Compound) - Soil (Non-Aqueous)		x	$110.00	=	$
VOC (Volatile Organic Compound) - Water		x	$150.00	=	$
Waste Characterization (Landfill Analysis)		x	$250.00	=	$
Geo-Technical					
Bulk Density ASTM D4292 / D2937		x	$45.00	=	$
Ex-Situ Hydraulic Conductivity / Permeability		x	$255.00	=	$
Moisture Content ASTM D2216-90 / D4643-87		x	$9.00	=	$
Porosity		x	$30.00	=	$
Rock Hydraulic Conductivity Ex-situ		x	$350.00	=	$
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		x	$116.00	=	$
Soil Classification ASTM D2488-90 / D2487-90		x	$70.00	=	$

TOTAL SAMPLING ACTIVITIES: $ _____

Laboratory Analysis

Chemical	Note	LAB 1	LAB 2	LAB 3	LAB 4	LAB 5	Average	Propsed Rate
Arsenic TCLP Soil	1	$ 112.00	$ 70.00	$ 85.75	$ 115.75	$ 85.00	$ 93.70	**$ 115.75**
Arsenic Total Soil	2	$ 24.00	$ 25.00	$ 23.25	$ 43.50	$ 40.00	$ 31.15	**$ 43.50**
Arsenic Water	3	$ 24.00	$ 25.00	$ 23.25	$ 33.50	$ 34.00	$ 27.95	**$ 34.00**
Barium TCLP Soil	1	$ 112.00	$ 70.00	$ 78.00	$ 107.75	$ 72.00	$ 87.95	**$ 112.00**
Barium Total Soil	2	$ 24.00	$ 25.00	$ 15.50	$ 35.50	$ 27.00	$ 25.40	**$ 35.50**
Barium Water	3	$ 24.00	$ 25.00	$ 15.50	$ 25.50	$ 22.00	$ 22.40	**$ 25.50**
BETX Soil with MTBE (EPA 8260)	4	$ 90.00	$ 82.00	$ 91.25	$ 87.00	$ 70.00	$ 84.05	**$ 91.25**
BETX - Water with MTBE (EPA 8260)	4	$ 90.00	$ 70.00	$ 85.00	$ 87.00	$ 70.00	$ 80.40	**$ 90.00**
BOD (Biological Oxygen Demand)		$ 24.00	$ 18.00	$ 42.00	$ 36.00	$ 28.00	$ 29.60	**$ 42.00**
Cadmium TCLP Soil	1	$ 112.00	$ 70.00	$ 85.75	$ 115.75	$ 85.00	$ 93.70	**$ 115.75**
Cadmium Total Soil	2	$ 24.00	$ 25.00	$ 23.25	$ 43.50	$ 40.00	$ 31.15	**$ 43.50**
Cadmium Water	3	$ 24.00	$ 25.00	$ 23.25	$ 33.50	$ 34.00	$ 27.95	**$ 34.00**
Chromium TCLP Soil	1	$ 112.00	$ 70.00	$ 78.00	$ 107.75	$ 72.00	$ 87.95	**$ 112.00**
Chromium Total Soil	2	$ 24.00	$ 25.00	$ 15.50	$ 35.50	$ 27.00	$ 25.40	**$ 35.50**
Chromium Water	3	$ 24.00	$ 25.00	$ 15.50	$ 25.50	$ 22.00	$ 22.40	**$ 25.50**
Corrosivity		$ 12.00	$ 10.00	$ 13.00	$ 15.50	$ 20.00	$ 14.10	**$ 20.00**
Cyanide TCLP Soil	1	$ 130.00	$ 80.00	$ 101.00	$ 123.00	$ 95.00	$ 105.80	**$ 130.00**
Cyanide Total Soil		$ 30.00	$ 35.00	$ 38.50	$ 30.75	$ 35.00	$ 33.85	**$ 38.50**
Cyanide Water		$ 30.00	$ 35.00	$ 38.50	$ 30.75	$ 35.00	$ 33.85	**$ 38.50**
Flash Point or Ignitability Analysis EPA 1010		$ 30.00	$ 25.00	$ 31.75	$ 46.00	$ 30.00	$ 32.55	**$ 46.00**
FOC (Fraction Organic Carbon)		$ 24.00	-	$ 24.25	$ 51.25	$ 50.00	$ 37.38	**$ 51.25**
Fat, Oil, & Grease (FOG)		$ 36.00	$ 50.00	$ 100.00	$ 61.50	$ 50.00	$ 59.50	**$ 100.00**
Iron TCLP Soil	1	$ 112.00	$ 70.00	$ 78.00	$ 107.75	$ 72.00	$ 87.95	**$ 112.00**
Iron Water	3	$ 24.00	$ 25.00	$ 15.50	$ 25.50	$ 22.00	$ 22.40	**$ 25.50**
Lead TCLP Soil	1	$ 112.00	$ 70.00	$ 86.00	$ 115.75	$ 85.00	$ 93.75	**$ 115.75**
Lead Total Soil	2	$ 24.00	$ 25.00	$ 23.50	$ 43.50	$ 40.00	$ 31.20	**$ 43.50**
Lead Water	3	$ 24.00	$ 25.00	$ 23.50	$ 33.50	$ 35.00	$ 28.20	**$ 35.00**
LUST (Priority) Pollutants Soil	5	$ 660.00	$ 710.00	$ 656.25	$ 711.75	$ 725.00	$ 692.60	**$ 725.00**
Mercury TCLP Soil	1	$ 130.00	$ 70.00	$ 86.00	$ 115.75	$ 85.00	$ 97.35	**$ 130.00**
Mercury Total Soil		$ 30.00	$ 25.00	$ 23.50	$ 23.50	$ 25.00	$ 25.40	**$ 30.00**
Mercury Water		$ 30.00	$ 25.00	$ 23.50	$ 23.50	$ 25.00	$ 25.40	**$ 30.00**
Metals TCLP Soil (a combination of all metals) RCRA	6	$ 226.00	$ 175.00	$ 178.50	$ 240.75	$ 217.00	$ 207.45	**$ 240.75**
Metals Total Soil (a combination of all metals) RCRA	6	$ 126.00	$ 130.00	$ 116.00	$ 148.50	$ 172.00	$ 138.50	**$ 172.00**
Metals Water (a combination of all metals) RCRA	6	$ 126.00	$ 130.00	$ 116.00	$ 148.50	$ 167.00	$ 137.50	**$ 167.00**

ATTACHMENT B

Laboratory Analysis

Chemical	Note	LAB 1	LAB 2	LAB 3	LAB 4	LAB 5	Average	Propsed Rate
Organic Carbon (ASTM-D 2974-87)		$ 24.00	-	$ 24.25		$ 50.00	$ 32.75	**$ 50.00**
Oxygen (Dissolved)		$ 24.00	-	$ 13.00	$ 36.00	$ 20.00	$ 23.25	**$ 36.00**
Paint Filter (Free Liquids)		$ 12.00	$ 10.00	$ 13.00	$ 15.50	$ 15.00	$ 13.10	**$ 15.50**
PCB / Pesticides (combination)		$ 180.00	$ 240.00	$ 212.75	$ 225.00	$ 250.00	$ 221.55	**$ 250.00**
PCBs		$ 120.00	$ 100.00	$ 90.25	$ 92.25	$ 150.00	$ 110.50	**$ 150.00**
Pesticides		$ 120.00	$ 140.00	$ 122.50	$ 138.25	$ 175.00	$ 139.15	**$ 175.00**
pH		$ 12.00	$ 10.00	$ 13.00	$ 15.50	$ 15.00	$ 13.10	**$ 15.50**
phenol		$ 30.00	$ 25.00	$ 39.75	$ 36.00	$ 35.00	$ 33.15	**$ 39.75**
Poly Nuclear Aromatics PNA, or PAH SOIL EPA 8270	7	$ 150.00	$ 210.00	$ 126.00	$ 138.25	$ 135.00	$ 151.85	**$ 210.00**
Poly Nuclear Aromatics PNA, or PAH WATER EPA 8270	7	$ 150.00	$ 210.00	$ 126.00	$ 138.25	$ 135.00	$ 151.85	**$ 210.00**
Reactivity		$ 60.00	$ 65.00	$ 78.00	$ 66.75	$ 70.00	$ 67.95	**$ 78.00**
Selenium TCLP Soil	1	$ 112.00	$ 70.00	$ 86.00	$ 115.75	$ 85.00	$ 93.75	**$ 115.75**
Selenium Total Soil	2	$ 24.00	$ 25.00	$ 23.50	$ 43.50	$ 40.00	$ 31.20	**$ 43.50**
Selenium Water	3	$ 24.00	$ 25.00	$ 15.50	$ 25.50	$ 35.00	$ 25.00	**$ 35.00**
Silver TCLP Soil	1	$ 112.00	$ 70.00	$ 78.00	$ 107.75	$ 72.00	$ 87.95	**$ 112.00**
Silver Total Soil	2	$ 24.00	$ 25.00	$ 15.50	$ 35.50	$ 27.00	$ 25.40	**$ 35.50**
Silver Water	3	$ 24.00	$ 25.00	$ 15.50	$ 25.50	$ 22.00	$ 22.40	**$ 25.50**
SVOC - Soil (Semi Volatile Organic Compounds)		$ 300.00	$ 350.00	$ 281.25	$ 307.50	$ 325.00	$ 312.75	**$ 350.00**
SVOC - Water (Semi Volatile Organic Compounds)		$ 300.00	$ 350.00	$ 281.25	$ 307.50	$ 325.00	$ 312.75	**$ 350.00**
TKN (Total Kjeldahl) "nitrogen"		$ 48.00	$ 35.00	$ 38.50	$ 56.00	$ 40.00	$ 43.50	**$ 56.00**
TOC (Total Organic Carbon) EPA 9060A		$ 30.00	$ 25.00	$ 33.00	$ 36.00	$ 30.00	$ 30.80	**$ 36.00**
TPH (Total Petroleum Hydrocarbons)	8	$ 100.00	$ 160.00	$ 87.50	$ 102.50	$ 160.00	$ 122.00	**$ 160.00**
VOC (Volatile Organic Compound) - Soil (Non-Aqueous)		$ 180.00	$ 192.00	$ 170.00	$ 179.50	$ 150.00	$ 174.30	**$ 192.00**
VOC (Volatile Organic Compound) - Water		$ 180.00	$ 180.00	$ 154.50	$ 179.25	$ 150.00	$ 168.75	**$ 180.00**
Waste Characterization (Landfill Analysis)	9							
Geo-Technical								
Bulk Density ASTM D4292 / D2937		$ 12.00	-	$ 18.25		$ 35.00	$ 21.75	**$ 35.00**
Ex-Situ Hydraulic Conductivity / Permeability		$	-	$ 255.00			$ 255.00	**$ 255.00**
Moisture Content ASTM D2216-90 / D4643-87		$ 12.00	-	$ 12.50		$ 10.00	$ 11.50	**$ 12.50**
Porosity		$	-	$ 105.00			$ 105.00	**$ 105.00**
Rock Hydraulic Conductivity Ex-situ		$	-	$ 350.00			$ 350.00	**$ 350.00**
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		$	-	$ 140.00		$ 150.00	$ 145.00	**$ 150.00**
Soil Classification ASTM D2488-90 / D2487-90								

Laboratory Analysis

Chemical	Note	LAB 1	LAB 2	LAB 3	LAB 4	LAB 5	Average	**Propsed Rate**
Dry Weight Reporting (per sample)	10		$ 10.00	$ 12.50	$ 8.00	$ 10.00	$ 10.13	**$ 12.50**
Turnaround Surcharge	11							
4 Day			50%	25%	25%	25%	31%	**50%**
3 Day		50%	100%	50%	50%	50%	60%	**100%**
2 Day		100%	100%	100%	75%	100%	95%	**100%**
1 Day		100%	100%	125%	100%	200%	125%	**200%**
Note 1: Price incudes preparation at the rate of:		$ 100.00		$ 62.50	$ 92.25	$ 60.00	$ 78.69	**$ 100.00**
Note 2: Price incudes preparation at the rate of:		$ 12.00			$ 20.00	$ 15.00	$ 15.67	**$ 20.00**
Note 3: Price incudes preparation at the rate of:		$ 12.00			$ 10.00	$ 10.00	$ 10.67	**$ 12.00**

Note 4: BTEX by method 8021 approved but not listed
Note 5: Volatiles, semivolitiles, pesticides and PCBs
Note 6: Seven LUST Metals including all Preps
Note 7: PNAs by 8310 approved by not listed
Note 8: TPH includes GRO and DRO
Note 9: Specific analyses not defined
Note 10: Only applys to soil samples
Note 11: Normal TAT is 5-7 work days

Laboratory Analysis

Chemical	Note	Average	SD	Min	Max	Average + 1 SD	Proposed Rate
Arsenic TCLP Soil	1	$ 93.70	19.50	$ 70.00	$ 115.75	$ 113.20	**$ 114.00**
Arsenic Total Soil	2	$ 31.15	9.77	$ 23.25	$ 43.50	$ 40.92	**$ 41.00**
Arsenic Water	3	$ 27.95	5.33	$ 23.25	$ 34.00	$ 33.28	**$ 34.00**
Barium TCLP Soil	1	$ 87.95	20.29	$ 70.00	$ 112.00	$ 108.24	**$ 109.00**
Barium Total Soil	2	$ 25.40	7.15	$ 15.50	$ 35.50	$ 32.55	**$ 33.00**
Barium Water	3	$ 22.40	4.08	$ 15.50	$ 25.50	$ 26.48	**$ 26.00**
BETX Soil with MTBE (EPA 8260)	4	$ 84.05	8.62	$ 70.00	$ 91.25	$ 92.67	**$ 92.00**
BETX - Water with MTBE (EPA 8260)	4	$ 80.40	9.66	$ 70.00	$ 90.00	$ 90.06	**$ 90.00**
BOD (Biological Oxygen Demand)		$ 29.60	9.53	$ 18.00	$ 42.00	$ 39.13	**$ 40.00**
Cadmium TCLP Soil	1	$ 93.70	19.50	$ 70.00	$ 115.75	$ 113.20	**$ 114.00**
Cadmium Total Soil	2	$ 31.15	9.77	$ 23.25	$ 43.50	$ 40.92	**$ 41.00**
Cadmium Water	3	$ 27.95	5.33	$ 23.25	$ 34.00	$ 33.28	**$ 34.00**
Chromium TCLP Soil	1	$ 87.95	20.29	$ 70.00	$ 112.00	$ 108.24	**$ 109.00**
Chromium Total Soil	2	$ 25.40	7.15	$ 15.50	$ 35.50	$ 32.55	**$ 33.00**
Chromium Water	3	$ 22.40	4.08	$ 15.50	$ 25.50	$ 26.48	**$ 26.00**
Corrosivity		$ 14.10	3.85	$ 10.00	$ 20.00	$ 17.95	**$ 18.00**
Cyanide TCLP Soil	1	$ 105.80	20.54	$ 80.00	$ 130.00	$ 126.34	**$ 127.00**
Cyanide Total Soil		$ 33.85	3.49	$ 30.00	$ 38.50	$ 37.34	**$ 38.00**
Cyanide Water		$ 33.85	3.49	$ 30.00	$ 38.50	$ 37.34	**$ 38.00**
Flash Point or Ignitability Analysis EPA 1010		$ 32.55	7.93	$ 25.00	$ 46.00	$ 40.48	**$ 41.00**
FOC (Fraction Organic Carbon)		$ 37.38	15.31	$ 24.00	$ 51.25	$ 52.68	**$ 52.00**
Fat, Oil, & Grease (FOG)		$ 59.50	24.38	$ 36.00	$ 100.00	$ 83.88	**$ 84.00**
Iron TCLP Soil	1	$ 87.95	20.29	$ 70.00	$ 112.00	$ 108.24	**$ 109.00**
Iron Water	3	$ 22.40	4.08	$ 15.50	$ 25.50	$ 26.48	**$ 26.00**
Lead TCLP Soil	1	$ 93.75	19.48	$ 70.00	$ 115.75	$ 113.23	**$ 114.00**
Lead Total Soil	2	$ 31.20	9.72	$ 23.50	$ 43.50	$ 40.92	**$ 41.00**
Lead Water	3	$ 28.20	5.57	$ 23.50	$ 35.00	$ 33.77	**$ 34.00**
LUST (Priority) Pollutants Soil	5	$ 692.60	32.03	$ 656.25	$ 725.00	$ 724.63	**$ 725.00**
Mercury TCLP Soil	1	$ 97.35	24.67	$ 70.00	$ 130.00	$ 122.02	**$ 123.00**
Mercury Total Soil		$ 25.40	2.68	$ 23.50	$ 30.00	$ 28.08	**$ 29.00**
Mercury Water		$ 25.40	2.68	$ 23.50	$ 30.00	$ 28.08	**$ 29.00**
Metals TCLP Soil (a combination of all metals) RCRA	6	$ 207.45	29.31	$ 175.00	$ 240.75	$ 236.76	**$ 237.00**
Metals Total Soil (a combination of all metals) RCRA	6	$ 138.50	22.12	$ 116.00	$ 172.00	$ 160.62	**$ 161.00**

ATTACHMENT C

Laboratory Analysis

Chemical	Note	Average	SD	Min	Max	Average + 1 SD	Proposed Rate
Metals Water (a combination of all metals) RCRA	6	$ 137.50	20.26	$ 116.00	$ 167.00	$ 157.76	**$ 158.00**
Organic Carbon (ASTM-D 2974-87)		$ 32.75	14.94	$ 24.00	$ 50.00	$ 47.69	**$ 48.00**
Oxygen (Dissolved)		$ 23.25	9.64	$ 13.00	$ 36.00	$ 32.89	**$ 33.00**
Paint Filter (Free Liquids)		$ 13.10	2.25	$ 10.00	$ 15.50	$ 15.35	**$ 16.00**
PCB / Pesticides (combination)		$ 221.55	27.23	$ 180.00	$ 250.00	$ 248.78	**$ 249.00**
PCBs		$ 110.50	25.02	$ 90.25	$ 150.00	$ 135.52	**$ 136.00**
Pesticides		$ 139.15	21.97	$ 120.00	$ 175.00	$ 161.12	**$ 162.00**
pH		$ 13.10	2.25	$ 10.00	$ 15.50	$ 15.35	**$ 16.00**
phenol		$ 33.15	5.73	$ 25.00	$ 39.75	$ 38.88	**$ 39.00**
Poly Nuclear Aromatics PNA, or PAH SOIL EPA 8270	7	$ 151.85	33.62	$ 126.00	$ 210.00	$ 185.47	**$ 186.00**
Poly Nuclear Aromatics PNA, or PAH WATER EPA 8270	7	$ 151.85	33.62	$ 126.00	$ 210.00	$ 185.47	**$ 186.00**
Reactivity		$ 67.95	6.68	$ 60.00	$ 78.00	$ 74.63	**$ 75.00**
Selenium TCLP Soil	1	$ 93.75	19.48	$ 70.00	$ 115.75	$ 113.23	**$ 114.00**
Selenium Total Soil	2	$ 31.20	9.72	$ 23.50	$ 43.50	$ 40.92	**$ 41.00**
Selenium Water	3	$ 25.00	6.92	$ 15.50	$ 35.00	$ 31.92	**$ 32.00**
Silver TCLP Soil	1	$ 87.95	20.29	$ 70.00	$ 112.00	$ 108.24	**$ 109.00**
Silver Total Soil	2	$ 25.40	7.15	$ 15.50	$ 35.50	$ 32.55	**$ 33.00**
Silver Water	3	$ 22.40	4.08	$ 15.50	$ 25.50	$ 26.48	**$ 26.00**
SVOC - Soil (Semi Volatile Organic Compounds)		$ 312.75	26.08	$ 281.25	$ 350.00	$ 338.83	**$ 339.00**
SVOC - Water (Semi Volatile Organic Compounds)		$ 312.75	26.08	$ 281.25	$ 350.00	$ 338.83	**$ 339.00**
TKN (Total Kjeldahl) "nitrogen"		$ 43.50	8.46	$ 35.00	$ 56.00	$ 51.96	**$ 52.00**
TOC (Total Organic Carbon) EPA 9060A		$ 30.80	4.09	$ 25.00	$ 36.00	$ 34.89	**$ 35.00**
TPH (Total Petroleum Hydrocarbons)	8	$ 122.00	35.15	$ 87.50	$ 160.00	$ 157.15	**$ 158.00**
VOC (Volatile Organic Compound) - Soil (Non-Aqueous)		$ 174.30	15.67	$ 150.00	$ 192.00	$ 189.97	**$ 190.00**
VOC (Volatile Organic Compound) - Water		$ 168.75	15.15	$ 150.00	$ 180.00	$ 183.90	**$ 180.00**
Waste Characterization (Landfill Analysis)	9						
Geo-Technical							
Bulk Density ASTM D4292 / D2937		$ 21.75	11.89	$ 12.00	$ 35.00	$ 33.64	**$ 34.00**
Ex-Situ Hydraulic Conductivity / Permeability		$ 255.00		$ 255.00	$ 255.00	$ 255.00	**$ 255.00**
Moisture Content ASTM D2216-90 / D4643-87		$ 11.50	1.32	$ 10.00	$ 12.50	$ 12.82	**$ 13.00**
Porosity		$ 105.00		$ 105.00	$ 105.00	$ 105.00	**$ 105.00**
Rock Hydraulic Conductivity Ex-situ		$ 350.00		$ 350.00	$ 350.00	$ 350.00	**$ 350.00**

Laboratory Analysis

Chemical	Note	Average	SD	Min	Max	Average + 1 SD	Proposed Rate
Metals Water (a combination of all metals) RCRA	6	$ 137.50	20.26	$ 116.00	$ 167.00	$ 157.76	**$ 158.00**
Organic Carbon (ASTM-D 2974-87)		$ 32.75	14.94	$ 24.00	$ 50.00	$ 47.69	**$ 48.00**
Oxygen (Dissolved)		$ 23.25	9.64	$ 13.00	$ 36.00	$ 32.89	**$ 33.00**
Paint Filter (Free Liquids)		$ 13.10	2.25	$ 10.00	$ 15.50	$ 15.35	**$ 16.00**
PCB / Pesticides (combination)		$ 221.55	27.23	$ 180.00	$ 250.00	$ 248.78	**$ 249.00**
PCBs		$ 110.50	25.02	$ 90.25	$ 150.00	$ 135.52	**$ 136.00**
Pesticides		$ 139.15	21.97	$ 120.00	$ 175.00	$ 161.12	**$ 162.00**
pH		$ 13.10	2.25	$ 10.00	$ 15.50	$ 15.35	**$ 16.00**
phenol		$ 33.15	5.73	$ 25.00	$ 39.75	$ 38.88	**$ 39.00**
Poly Nuclear Aromatics PNA, or PAH SOIL EPA 8270	7	$ 151.85	33.62	$ 126.00	$ 210.00	$ 185.47	**$ 186.00**
Poly Nuclear Aromatics PNA, or PAH WATER EPA 8270	7	$ 151.85	33.62	$ 126.00	$ 210.00	$ 185.47	**$ 186.00**
Reactivity		$ 67.95	6.68	$ 60.00	$ 78.00	$ 74.63	**$ 75.00**
Selenium TCLP Soil	1	$ 93.75	19.48	$ 70.00	$ 115.75	$ 113.23	**$ 114.00**
Selenium Total Soil	2	$ 31.20	9.72	$ 23.50	$ 43.50	$ 40.92	**$ 41.00**
Selenium Water	3	$ 25.00	6.92	$ 15.50	$ 35.00	$ 31.92	**$ 32.00**
Silver TCLP Soil	1	$ 87.95	20.29	$ 70.00	$ 112.00	$ 108.24	**$ 109.00**
Silver Total Soil	2	$ 25.40	7.15	$ 15.50	$ 35.50	$ 32.55	**$ 33.00**
Silver Water	3	$ 22.40	4.08	$ 15.50	$ 25.50	$ 26.48	**$ 26.00**
SVOC - Soil (Semi Volatile Organic Compounds)		$ 312.75	26.08	$ 281.25	$ 350.00	$ 338.83	**$ 339.00**
SVOC - Water (Semi Volatile Organic Compounds)		$ 312.75	26.08	$ 281.25	$ 350.00	$ 338.83	**$ 339.00**
TKN (Total Kjeldahl) "nitrogen"		$ 43.50	8.46	$ 35.00	$ 56.00	$ 51.96	**$ 52.00**
TOC (Total Organic Carbon) EPA 9060A		$ 30.80	4.09	$ 25.00	$ 36.00	$ 34.89	**$ 35.00**
TPH (Total Petroleum Hydrocarbons)	8	$ 122.00	35.15	$ 87.50	$ 160.00	$ 157.15	**$ 158.00**
VOC (Volatile Organic Compound) - Soil (Non-Aqueous)		$ 174.30	15.67	$ 150.00	$ 192.00	$ 189.97	**$ 190.00**
VOC (Volatile Organic Compound) - Water		$ 168.75	15.15	$ 150.00	$ 180.00	$ 183.90	**$ 180.00**
Waste Characterization (Landfill Analysis)	9						
Geo-Technical							
Bulk Density ASTM D4292 / D2937		$ 21.75	11.89	$ 12.00	$ 35.00	$ 33.64	**$ 34.00**
Ex-Situ Hydraulic Conductivity / Permeability		$ 255.00		$ 255.00	$ 255.00	$ 255.00	**$ 255.00**
Moisture Content ASTM D2216-90 / D4643-87		$ 11.50	1.32	$ 10.00	$ 12.50	$ 12.82	**$ 13.00**
Porosity		$ 105.00		$ 105.00	$ 105.00	$ 105.00	**$ 105.00**
Rock Hydraulic Conductivity Ex-situ		$ 350.00		$ 350.00	$ 350.00	$ 350.00	**$ 350.00**

Laboratory Analysis

Chemical	Note	Average	SD	Min	Max	Average + 1 SD	Proposed Rate
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		$ 145.00	7.07	$ 140.00	$ 150.00	$ 152.07	**$ 150.00**
Soil Classification ASTM D2488-90 / D2487-90							
Dry Weight Reporting (per sample)	10	$ 10.13			$ 12.50	$ 10.13	**$ 11.00**
Turnaround Surcharge	11						
4 Day		31%			50%		
3 Day		60%			100%		
2 Day		95%			100%		
1 Day		125%			200%		
Note 1: Price incudes preparation at the rate of:		$ 78.69			$ 100.00	$ 78.69	**$ 79.00**
Note 2: Price incudes preparation at the rate of:		$ 15.67			$ 20.00	$ 15.67	**$ 16.00**
Note 3: Price incudes preparation at the rate of:		$ 10.67			$ 12.00	$ 10.67	**$ 11.00**
Note 4: BTEX by method 8021 approved but not listed							
Note 5: Volatiles, semivolitiles, pesticides and PCBs							
Note 6: Seven LUST Metals including all Preps							
Note 7: PNAs by 8310 approved by not listed							
Note 8: TPH includes GRO and DRO							
Note 9: Specific analyses not defined							
Note 10: Only applys to soil samples							
Note 11: Normal TAT is 5-7 work days							

Section 732/734. APPENDIX D Sample Analysis

Unit of Production Description	Unit of Measure	Unit Cost
Barium TCLP Soil	EACH	$30.00
Barium Total Soil	EACH	$17.00
Barium Water	EACH	$15.00
Cadmium TCLP Soil	EACH	$35.00
Cadmium Total Soil	EACH	$25.00
Cadmium Water	EACH	$23.00
Chromium TCLP Soil	EACH	$30.00
Chromium Total Soil	EACH	$17.00
Chromium Water	EACH	$15.00
Cyanide TCLP Soil	EACH	$48.00
Cyanide Total Soil	EACH	$38.00
Cyanide Water	EACH	$38.00
Iron TCLP Soil	EACH	$30.00
Iron Total Soil	EACH	$17.00
Iron Water	EACH	$15.00
Lead TCLP Soil	EACH	$35.00
Lead Total Soil	EACH	$25.00
Lead Water	EACH	$23.00
Mercury TCLP Soil	EACH	$44.00
Mercury Total Soil	EACH	$29.00
Mercury Water	EACH	$29.00
Selenium TCLP Soil	EACH	$35.00
Selenium Total Soil	EACH	$25.00
Selenium Water	EACH	$21.00
Silver TCLP Soil	EACH	$30.00
Silver Total Soil	EACH	$17.00
Silver Water	EACH	$15.00
Metals TCLP Soil (a combination of metals listed in Appendix B of this Part)	EACH	$158.00
Metals Total Soil (a combination of metals listed in Appendix B of this Part)	EACH	$145.00
Metals Water (a combination of metals listed in Appendix B of this Part)	EACH	$147.00
Soil prep. for Metals TCLP Soil (one fee per sample/per method)	EACH	$79.00
Soil prep. for Metals Total Soil (one fee per sample/per method)	EACH	$16.00
Water prep. for Metals Water (one fee per sample/per method)	EACH	$11.00
Soil Dry Weight Determination (one fee per soil sample)	EACH	$11.00