DEQ

Remediation and Redevelopment Division (RRD)

Procedure Number: RRD-2
Date: **November 20 , 2003**

SUBJECT: PROCEDURE FOR USE OF LABORATORY CONTRACTS

ISSUE:

The Remediation and Redevelopment Division (RRD) uses laboratory contracts to provide laboratory services that cannot be provided by the Department of Environmental Quality (DEQ) laboratory. This procedure provides guidance for use by RRD project managers in obtaining these laboratory services. Use of this procedure ensures that laboratory services are obtained consistent with the contracts. These laboratory contracts took effect January 1, 2003.

POLICY:

This procedure applies to all state funded RRD projects where laboratory services are necessary. It is RRD policy to utilize the DEQ Laboratory to the maximum extent practical. Laboratory work must be refused by the DEQ Laboratory before such laboratory work can be sent to a laboratory contractor.

PROCEDURE:

Introduction: The RRD will use laboratory contracts to obtain laboratory services that cannot be provided or completed by the DEQ Laboratory. The following procedure provides guidance to facilitate the use of these contracts. This procedure is applicable to RRD funded projects with authorized funds and budgets for purchase of laboratory services.

This procedure must be used by RRD project managers and project managers employed by state contractors to conduct work for the state. The title "project managers" in this document refers to all project managers, whether employed by the RRD or by firms under contract to the state to provide environmental services. When functions are described that are to be conducted by specific project managers, either "RRD project managers" or "state contract project managers" will be used as appropriate.

The RRD project manager retains sole responsibility for approving the use of a laboratory contract, authorizing the expenditure of funds, and approving invoices for payments.

Summary: The procedure includes the following steps:

Step 1: Establish the analytical scope of work required for the project.
Step 2: Determine the work to be contracted.
Step 3: Select laboratories.
Step 4: Make arrangements for sampling supplies and schedule analyses.
Step 5: Review deliverables.

STEP 1 – ESTABLISH THE ANALYTICAL SCOPE OF WORK

The analytical scope of work is a document that provides details of the project relevant to the provision of services by a laboratory. This includes project specific information and invoice information.

Project Specific Information: Project managers must establish project-specific requirements that ensure the services are obtained in accordance with RRD guidelines and meet project objectives. The RRD project manager has the sole authority to approve the scope of work and authorize expenditure of funds. The scope of work requesting services from a laboratory contractor must be treated as a formal agreement between the laboratory contractor and the state. Information that must be included is listed below.

a) Firms and contact information of persons responsible for sampling.
b) Estimated project cost. It is recommended that the estimated project cost be increased by about twenty percent to cover additional services that may be needed, such as sample cleanup procedures.
c) Sampling event schedules that tabulate:

- sample collection dates,
- bottle and preservative delivery instructions,
- sample delivery dates, and
- sample pick-up and transport instructions.

d) For each sampling event, a sample table that tabulates:

- number of samples,
- matrices,
- sample bottle types and numbers required, and
- analyses expected to be performed.

e) For each sampling event, a parameter table that tabulates:

- parameters,
- reporting limits,
- detection limits required, and
- appropriate reporting of results.

f) Safety information, such as whether the samples are expected to contain high levels of contaminants, and what specific contaminants are expected.
g) A summarized history of findings. If a history is not applicable, a narrative indicating what types of contaminants are expected must be provided.
h) Turnaround time specifications. The following factors must be considered.

- The normal turnaround time required under the laboratory contract is 14 calendar days.
- Longer turnaround times should be specified when holidays occur within the expected turnaround time of 14 calendar days.
- Longer times should be specified when possible to take advantage of discount prices.
- When shorter times are necessary, premium costs may apply.
- It is important to identify specific dates that reports are due rather than specify a turnaround period, such as within three days.
- If longer turnaround times can be tolerated, this should be considered.
- Specify the method by which reporting or results can be accepted as they apply to turnaround times, for example verbally by phone or email.

Invoice Information: Project managers must provide to the contract laboratories the following information required for invoicing:

a) The RRD site or incident number, whichever applies.
b) The site name or incident description.
c) The RRD district.
d) The RRD project manager responsible for overseeing the project.
e) The fiscal year appropriation code.
f) The index number.
g) The project cost authorization number.
h) The project/phase number.
i) Email addresses of those that need electronic invoice backup data.
j) The RRD project manager providing approval to conduct the work and authorization to expend funds for analyses.

STEP 2 – DETERMINE WHAT SERVICES ARE TO BE CONTRACTED

Project managers must:

a) Identify those services that the DEQ Laboratory has the capability to perform. The DEQ Laboratory's Analysis Request Sheets can be used to identify these services.
b) Contact the DEQ Laboratory to schedule the analytical services for services identified in a) above.
c) Identify those services that can be scheduled by the DEQ Laboratory. Services that can be scheduled by the DEQ Laboratory must be sent to the DEQ Laboratory.
d) Services that cannot be scheduled by the DEQ Laboratory must be obtained through one of the contract laboratories.

STEP 3 – SELECT PRIMARY AND ALTERNATE CONTRACT LABORATORIES

Two contract laboratories must be selected to ensure availability. One laboratory is selected as the primary laboratory to which samples will be sent and another laboratory is designated as an alternate to be used if the work cannot be completed by the primary laboratory.

Project managers must:

a) Provide the analytical scope of work established in step 1 for the work to be performed by the lab contractor to the candidate contract laboratory. Omit analyses to be performed by the DEQ Lab.
b) Secure commitment to perform the requested services.
c) Designate an alternate laboratory (contract laboratory).
d) If arrangements are made by a contractor assigned by RRD, the contractor must obtain approval from the appropriate RRD project manager or utilize the selected laboratories.

It may be necessary to repeat the first two steps above until a commitment has been made. Contract laboratories cannot refuse work they are contracted to perform unless hardship prevents such work to be conducted.

The identification of the alternate laboratory to the primary laboratory represents the approval by the RRD project managers for the primary laboratory to send the samples to the alternate laboratory in the event analyses cannot be completed.

STEP 4 – MAKE ARRANGEMENTS WITH PRIMARY LABORATORY

The scope of work established in step 1 above will have most of the information required by the laboratory. Project managers must make arrangements with the primary laboratory for:

a) Delivery of sample bottles/containers and preservatives.
b) Sample pick-up and transport.

Arrangements must be made directly with the primary laboratory using the contacts provided in Appendix 1 of this document.

STEP 5 – REVIEW DELIVERABLES

Services and Results: Project managers directly responsible for the projects should review deliverables to determine if services and results were provided as stated in the scope of work. Important considerations are:

a) If required analyses were completed as required.
b) If all parameters were reported.
c) If turnaround times were met. The turnaround time is from the date of sample receipt to the date the results were reported.
d) If reporting limits were met.
e) If any results are unusable due solely to actions of the laboratory contractor.

   The state is not obligated to compensate a laboratory contractor for results rendered useless solely by actions of the laboratory contractor. If upon review some results are determined to be unusable, solely as a result of actions of the laboratory contractor, the project managers must:

   - Identify and tabulate the results and affected samples.
   - Provide reasons the results are unusable for the purposes intended.
   - Provide narratives, describing the actions of the laboratory contractor that rendered the results unusable.

Invoices: Contract laboratories will send a hard copy invoice requesting payment to the RRD Administration Section. Backup documentation supporting the invoice payment is provided electronically via email to the project managers and the contract administrator.

Project managers must:

a) Review the electronic backup data for accuracy.
b) State contractor's project managers must recommend rejections and approvals of invoices to the appropriate RRD project managers.
c) If an invoice cannot be recommended for approval, the laboratory contractor must first be contacted and attempts made to resolve issues.
d) RRD project managers must review invoices using appropriate RRD guidelines. Questions and concerns related to RRD guidance for the processing of invoices must be directed to Kathy Crawley, Telephone: 517-373-0385, crawleyk@michigan.gov.

Invoices may be rejected because of work performance deficiencies as well as inaccuracies in the invoicing information. Hence work performance reviews should be completed prior to approving an invoice. An invoice is either acceptable or unacceptable in its entirety. The RRD project manager may optionally agree to approve payment for part of the work that is acceptable; however the laboratory contractor must provide new invoices covering the acceptable portion of the work.

During the process of reviewing deliverables, it may be necessary to contact the laboratory for interpretation of results, clarifications, and to resolve issues. It is very important to use the primary contact of the laboratory contractor for these contacts. If necessary, this contact can refer questions to the appropriate laboratory personnel. Resolution of issues must first be attempted between the project manager and the laboratory contractor's primary contact. Unresolved issues should be brought to the attention of the contract administrator.

Attempts should first be made to resolve issues related to work performance and/or invoices directly with the laboratory contractor. If necessary, contact the contract administrator for clarification about contract requirements relating to rejection of invoices. If attempts to resolve issues with the laboratory contractor fail, notify the primary contact for the laboratory contractor that the invoice is being rejected for payment, detailing the reasons for rejection, and that matters will be handled by the contract administrator. A copy of that notification, and other information as appropriate, must be sent to the contract administrator.

DEQ Laboratory Invoices: In the past, RRD was not charged for laboratory services from the DEQ Laboratory. Beginning in FY 2004, the DEQ Laboratory general fund appropriation was reduced. To make up for the reduction, it has been decided that the laboratory will be reimbursed for sample analysis at sites having cleanup authorizations. Project managers will need to pay these invoices from their project budgets. Consequently, RRD project managers will need to budget for sample analysis costs from the DEQ Laboratory as a part of their FY04 budget, and include the AY, Index, PCA, Project Number and Phase to charge when sending in a sample for analysis. Additionally, for sample analysis at sites which do not have authorizations, upon submittal for analysis the words **"NO SITE FUNDING"** should be written in the area reserved for accounting information. A project number and phase should be included if one has been established. Once the DEQ Laboratory reaches the budgeted amount for reimbursement at some point during FY04, the DEQ Laboratory will no longer invoice. The RRD Laboratory contract administrator will notify RRD staff when this happens, so site budgets can be adjusted accordingly.

Out of Scope Services: In those cases where analytical services are needed that cannot be performed by the DEQ Laboratory and the contract laboratories, referred to as out-of-scope services, the laboratory contract contains a specific provision for obtaining such out-of-scope services. In order for DEQ to obtain the needed out-of-scope analytical services, the contract labs may be tasked with the responsibility of making all necessary arrangements for analysis at another commercial laboratory which possesses the needed capability. Invoices and payments pass through the contract laboratory. DEQ pays the contract lab and then the contract lab pays the lab which provided the out-of-scope service. The laboratory contract MUST BE UTILIZED to invoice these services. The project managers must select the contract laboratory and make arrangements for both sampling supplies and shipment of samples. The laboratory contractor will make arrangements with the selected laboratory for out of scope services to ensure results are provided as required, process the invoice, and store data. Personnel charges from the contract laboratory to arrange for these services will be applied to the invoice along with the charges from the out-of-scope laboratory.

Laboratory contractors may provide other services that are not included in the laboratory contract and not provided by the DEQ Laboratory. When considering laboratory contractors for out-of-scope services, the capabilities of the laboratory should first be considered.

Communications with Laboratory Contractors: Laboratory contractors have assigned one person to be the primary point of contact and one person to act as a backup. These contacts are familiar with the contract and the cost for them to act in this capacity have been included into the sample analyses cost. It is important that only they are used as a contact to arrange projects and direct questions to appropriate persons in the laboratory contractor's organization.

Contract Administrator: Questions and concerns regarding the laboratory contractors and their services should be directed to the laboratory contract administrator or backup.

Contract Administrator, Arvine Ralph Curtis
curtisar@michigan.gov
Tel: 517-373-8389
Fax: 517-373-9657

Backup, George Jackson
jacksong@michigan.gov
Tel: 517-335-0223
Fax: 517-373-9657

Michigan Department of Environmental Quality
Remediation and Redevelopment Division
Constitution Hall
525 West Allegan
P.O. Box 30426 (zip code 48909)
Lansing, MI 48913

Appendix 1 Laboratory Contacts
Appendix 2 TriMatrix Laboratories, Inc.
Appendix 3 Trace Analytical Laboratories, Inc.
Appendix 4 Clayton Group Services
Appendix 5 CT&E Environmental Services, Inc.
Appendix 6 Merit Laboratories, Inc.
Appendix 7 BIO-CHEM Environmental Analytical Laboratories, Inc.
Appendix 8 Severn Trent Services
Appendix 9 AAC Trinity, Inc.
Appendix 10 Cost Table Abbreviations and Notes

Periodic review and necessary revisions of this procedure is the responsibility of Arvine Ralph Curtis, Laboratory Specialist, Funding and Support Unit, Program Support Section: 517-373-8389, Fax: 517-373-9657, curtisar@michigan.gov

Approved:		
Name: ANDREW W. HOGARTH	Title: RRD Chief	Date: 11/20/03

Distribution

RRD Supervisors and Secretaries
Division Chief Secretary, RRD

APPENDIX – LABORATORY CONTACTS AND COSTS

CONTACTS		
Trimatrix Laboratory, Inc.		**Trace Analytical Laboratories, Inc.**
Primary		Primary
Lisa M. Harvey, Project Chemist		Mr. Ray Buhl, Client Services
TriMatrix Laboratory, Inc.		Trace Analytical Laboratories, Inc.
5560 Corporate Exchange Court, SE		2241 Black Creek Road
Grand Rapids, MI 49512		Muskegon, MI 49444
Tel: 616-975-4500 Ext 4544		Tel: 800-733-5998 (224)
Fax: 616-942-7463		Fax: 231-773-6537
harveylm@trimatrixlabs.com		buhlr@trace-labs.com
Web: www.trimatrixlabs.com		
Alternate		Alternate
Douglas E. Kriscunas, President		Gina Roe
kriscunasd@trimatrixlabs.com		groe@trace-labs.com
Clayton Group Services		**Merit Laboratories, Inc.**
Primary		Primary
Karen Coonan		Maya Murshak, QA Director
Clayton Group Services		Merit Laboratories, Inc.
22345 Roethel Drive		2680 East Lansing Drive
Novi Mi 48375		East Lansing MI 48823
Tel: 248-344-2671		Tel: 517-332-0167 Ext 14
Fax: 248-344-2655		Fax:517-332-6333
kcoonan@claytongrp.com		mayamurshak@meritlabs.com
		Cell: 517-202-1340
Alternate		Alternate
Scott Caillouette		Michael Goergen
Tel: 248-344-2650		Tel: 517-332-0167 Ext 15
scaillouette@claytongrp.com		Mikegoergen@meritlabs.com
		Cell: 517-202-1339

APPENDIX – LABORATORY CONTACTS AND COSTS

CONTACTS		
BIO-CHEM Env. Analytical Lab, Inc.		**RTI Laboratories, Inc.**
Primary		Primary
Cindy Euwema		Jim Shannon
Bio_Chem Env. Analytical Lab, Inc.		RTI Laboratories, Inc.
1049 28th Street, SE		31628 Glendale Street
Grand Rapids MI 49508		Livonia MI 48331-3428
Tel: 616-248-4900 Ext 18		Tel: 734-422-8000
Fax:616-248-4904		Fax: 734-422-5342
cebchem@iserv.net		Cell: 810-444-9179
		Email: jshannon@rtilab.com
Alternate		Alternate
None		Pat Jennings
		Cell: 734-834-3324
		pjennings@rtilab.com
STL		**MDEQ Laboratory**
Primary		Primary for Sample Scheduling
Gail Carr, Customer Service		Donald Record
Severn Trent Services		DEQ Environmental Lab
6095 Jackson Road		3350 N. MLK Jr. Blvd.
Ann Arbor MI 48106		Building 44, 3rd Floor
Tel: 734-205-2532		Lansing, MI 48906-2933
Fax: 734-205-2533		Tel: 517-335-9800
Cell: 734-276-7655		Fax: 517-335-9600
gcarr@stl-inc.com		dulibanr@michigan.gov
Alternate		Alternate
Frank Calovini, Project Manager		Carol Smith
4101 Shuffel Drive NW		
North Canton OH 44720		Information Regarding Scheduling
Tel: 330-966-9294		DEQ-ENV-LABSCHEDULE@MICHIGAN.GOV
Fax: 330-497-9396		
fcalovini@stl-inc.com		

APPENDIX – LABORATORY CONTACTS AND COSTS

CONTACTS Mobile Laboratories		
New Age/Landmark		**STL**
Contact		Contact
Scott Wall, President		Gail Carr
New Age/Landmark		STL Michigan
667 Wesit Main Street		6095 Jackson Road
Benton Harbor, MI 49022		Ann Arbor, MI 48103
Tel: 888-685-1628		Tel: 734-205-2532
Fax: 269-927-3411		Fax: 734-205-2533
Email: mobilelabs@newagelandmark.com		Cell: 734-276-7655
Web: newagelandmark.com		Email: gcarr@stl-inc.com
MDEQ Mobile Laboratory		
Contact		
Fernando Calera		
Tel: 517-930-7040		

The following MDEQ laboratory contacts may be used to answer questions regarding services provided by the MDEQ lab.

CONTACTS MDEQ Laboratory		
MDEQ Laboratory		MDEQ Laboratory
Organic Unit Supervisor		Inorganic Unit Supervisor
Carol Smith		Sandra Gregg
Tel: 517-335-9550		Tel: 517-335-9888
smithc@michigan.gov		greggs@michigan.gov
MDEQ Laboratory		MDEQ Laboratory
Laboratory Director		Mobile Laboratory
Bob Avery		Fernando Calera
Tel: 517-335-9876		Tel: 517-930-7040
averyb@michigan.gov		

APPENDIX – LABORATORY CONTACTS AND COSTS

TRIMATRIX CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Sample Cleanup Costs		
1	Alumina, Method 3610	SW3610	30.00
2	Alumina, Method 3611B	SW3611B	30.00
3	Florisil	SW3620	30.00
4	Silica Gel	SW3630	30.00
5	Gel Permeation	SW3640	60.00
6	Sulfur, Cleanup	SW3660	30.00
7	Sulfuric Acid/Perm	SW3665	40.00
8	Lead Fractions Preparation	MDEQ SOP #213	64.00
	Leachate Extractions		
24	SPLP Bottle Shake	SW1312	50.00
25	SPLP ZHE	SW1312	60.00
26	Neutral ASTM Leach	ASTM D 3987-85	30.00
27	Single ASTM Batch	ASTM D 5233-92	50.00
28	TCLP Bottle Shake	SW1311	50.00
29	TCLP ZHE	SW1311	60.00
	Metal Parameters		
104	Metals, ICP/ES	SW6010B, E200.7	9.00
106	Metals, ICP/MS	SW6020, E200.8	12.00
110	Chromium, Hex, Color	SW7196A	55.00
112	Mercury, Total	SW7470A/7471A	23.00
113	Mercury, Low Level	E1631	75.00
	Organic Parameters		
200	Pesticides, Chlorinated	SW8081A	250.00
201	PCBs, Arochlors	SW8082	70.00
202	VOCs, w/TICs	SW8260B	150.00
203	VOCs, wo/TICs	SW8260B	125.00
204	VOCs, 1-5 Compounds, wo/TICs	SW8260B	80.00
205	BTEX, MTBE, & TMBs	SW8260B	85.00
206	SVOCs, w/TICs	SW8270C	215.00
207	SVOCs, wo/TICs	SW8270C	190.00
208	SVOCs, 1-5 Compounds, wo/TICs	SW8270C	125.00
209	Gasoline Range Organics, Wis	Wis Modified	66.00
211	Diesel Range Organics, Wis	Wis Modified	88.00
213	Herbicides	SW8151A	165.00
214	N-Methylcarbamates	SW8318	260.00
215	OP Compounds	SW8141A	210.00
216	PCB Congeners	SW8082	380.00
217	Library Search	See Program Statement	75.00
218	PNAs	SW8270C	95.00
219	Phenols	SW8270C	125.00
220	Ethylene Dibromide and 1,2-Dibromo-3-chloropropane (low level)	SW8260B/SW8011	80.00
221	Hexachlorobenzene & Hexachlorobutadiene	SW8121/8270C	135.00
233	Nutrients (Inland Lakes Monitoring)	Various	96.25

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TRIMATRIX CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Conventional Parameters		
300	Alkalinity	E310.0	16.50
301	Ammonia	E350.1	33.00
302	Biochemical Oxygen Demand (BOD)	E405.2	33.00
303	Chemical Oxygen Demand (COD)	E410	33.00
304	Chloride	E325	25.00
305	Conductivity	SM 2510B	16.50
306	Cyanide, Total	9012A 9014 335.2 335.4	35.00
307	Cyanide, Total/Amenable	E335.1 9014 9012A	50.00
308	Filtration, Dissolved Metals	SM 3030B	10.00
309	Hardness, Ca-Mg Calculated	SW6010	16.50
	Conventional Parameters (cont.)		
310	pH	SW9040B/SW9010B	11.00
311	Nitrogen, Kjeldahl	E351.2	33.00
312	Nitrogen, Nitrate-Nitrite	E353.2	25.00
313	Total Organic Carbon (TOC)	E415.1	33.00
314	Oxygen, Dissolved	E360.1/.2	16.50
315	Phenol	E420.2 SW9066	38.00
316	Phosphorus, Total	E365.4	33.00
317	Solids, Total Dissolved	E160.1	16.50
318	Solids, Total Suspended	E160.2	16.50
319	Silica, Dissolved	E370.2	33.00
320	Sulfate, Colorimetric	E375.1	25.00
321	Sulfide, Total & Dissolved	E376.1/.2	33.00
322	Total Solids	CLP SOW ILMO5.1	11.00
323	Turbidity	E180.1	16.50
324	TPH, Aqueous	EAD 1644	55.00
325	TPH, Solids	SW9071A	65.00
326	Fraction Organic Carbon (FOC)	Walkley-Black	75.00
327	Cyanide, Available, Waters	OIA 1677	45.00
328	Cyanide, Available, Soils	9013/OIA 1677	75.00
329	Asbestos, PLM bulk	NIOSH 9002	25.00
330	Fluoride	E340	16.50
331	Sulfide, Extractable	SW9031	50.00
332	Perchlorate	E314.0	156.00
	Waste Characterizations		
400	Cyanide Reactivity	SWSection 7.3	40.00
401	Sulfide Reactivity	SWSection 7.3	40.00
402	Ignitability, Pensky-Martens	SW1010	27.50
403	Ignitability, Setaflash	SW1020A	27.50
404	Corrosivity, Ph	SW9040B	11.00
405	Corrosivity, Towards Steel	SW1110	120.00
406	VOCs, RCRA	SW8260B	165.00
407	SVOCs, RCRA	SW8270C	247.50
408	Pesticides, RCRA	SW8270C	137.50
409	PCBs, RCRA	SW8081A	70.00
410	Herbicides, RCRA	SW8270C	165.00

APPENDIX – LABORATORY CONTACTS AND COSTS

TRIMATRIX CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
411	Metals, RCRA	SW Methods	137.50
412	Paint Filter Liquids Test	SW9095	16.50
	Premiums and Discounts		
500	Premium, 24 hours	NA	100 %
501	Premium, 2-3 days	NA	75 %
502	Premium, 4-7 days	NA	50 %
503	Premium, 8-13 days	NA	25 %
504	TAT Discount, 15-20 days	NA	0 %
505	TAT Discount, 21-30 days	NA	0 %
506	TAT Discount, >30 days	NA	0 %
600	Sample Discount	NA	0 %
	Personnel Costs (consulting)		
700	Laboratory Director	NA	132.30
701	Project Manager	NA	93.75
702	Analyst	NA	93.75
703	Technician	NA	68.50
704	Quality Control Officer	NA	109.10
	Other Costs		
800	Out of Scope Services	NA	NA
900	Miscellaneous	NA	NA

APPENDIX – LABORATORY CONTACTS AND COSTS

TRACE CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Sample Cleanup Costs		
1	Alumina, Method 3610	SW3610	15.00
2	Alumina, Method 3611B	SW3611B	15.00
3	Florisil	SW3620	15.00
4	Silica Gel	SW3630	15.00
5	Gel Permeation	SW3640	50.00
6	Sulfur, Cleanup	SW3660	15.00
7	Sulfuric Acid/Perm	SW3665	15.00
8	Lead Fractions Preparation	MDEQ SOP #213	18.00
	Leachate Extractions		
24	SPLP Bottle Shake	SW1312	25.00
25	SPLP ZHE	SW1312	35.00
26	Neutral ASTM Leach	ASTM D 3987-85	25.00
27	Single ASTM Batch	ASTM D 5233-92	25.00
28	TCLP Bottle Shake	SW1311	25.00
29	TCLP ZHE	SW1311	35.00
	Metal Parameters		
104	Metals, ICP/ES	SW6010B, E200.7	8.00
106	Metals, ICP/MS	SW6020, E200.8	8.00
107	Metals, ICP/MS	EAD 200.8	8.00
109	Metal, Furnace AA	SW7000 Series	12.00
110	Chromium, Hex, Color	SW7196A	15.00
111	Chromium, Hex, Chelation-AA	SW7197	70.00
112	Mercury, Total	SW7470A or 7471A	16.00
113	Mercury, Low Level	E1631	65.00
	Organic Parameters		
200	Pesticides, Chlorinated	SW8081A	100.00
201	PCBs, Aroclors	SW8082	55.00
202	VOCs, w/TICs	SW8260B	94.00
203	VOCs, wo/TICs	SW8260B	74.00
204	VOCs, 1-5 Compounds, wo/TICs	SW8260B	40.00
205	BTEX, MTBE, & TMBs	SW8260B	45.00
206	SVOCs, w/TICs	SW8270C	180.00
207	SVOCs, wo/TICs	SW8270C	160.00
208	SVOCs, 1-5 Compounds, wo/TICs	SW8270C	60.00
209	Gasoline Range Organics, Wis	Wis Modified	30.00
211	Diesel Range Organics, Wis	Wis Modified	60.00
213	Herbicides	SW8151A	110.00
214	N-Methylcarbamates	SW8318	220.00
215	OP Compounds	SW8141A	220.00
216	PCB Congeners (WHO List)	SW8082	680.00

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TRACE CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
217	Library Search	See Program Statement	45.00
218	PNAs, MDEQ Lab TCL	SW8270C	80.00
219	Phenols, MDEQ Lab TCL	SW8270C	80.00
220	Ethylene Dibromide and 1,2-Dibromo-3-chloropropane (low level)	SW8011 waters SW8260 soils	70.00
221	Hexachlorobenzene & Hexachlorobutadiene	SW8121	100.00
	Conventional Parameters		
300	Alkalinity	E310.0	10.00
301	Ammonia	E350.1	20.00
302	Biochemical Oxygen Demand (BOD)	E405.2	20.00
303	Chemical Oxygen Demand (COD)	E410	20.00
304	Chloride	E300.0	8.00
305	Conductivity	SM 2510B	8.00
306	Cyanide, Total	CLP SOW ILMO5.1	22.00
307	Cyanide, Total/Amenable	E335.1/SW9010B	38.00
308	Filtration, Dissolved Metals	SM 3030B	5.00
309	Hardness, Ca-Mg Calculated	SW6010	16.00
310	pH	SW9040B/SW9010B	3.00
311	Nitrogen, Kjeldahl	E351.2	25.00
312	Nitrogen, Nitrate-Nitrite	E300.0	16.00
313	Total Organic Carbon (TOC)	E415.1	20.00
314	Oxygen, Dissolved	E360.1/.2	8.00
315	Phenol	E420.2 SW9066	25.00
316	Phosphorus, Total	E365.2	15.00
317	Solids, Total Dissolved	E160.1	8.00
318	Solids, Total Suspended	E160.2	8.00
319	Silica, Dissolved	EAD 200.7/SW6010B	8.00
320	Sulfate, Colorimetric	E300.0	8.00
321	Sulfide, Total & Dissolved	E376.1/.2	13.00
322	Total Solids	ASTM D 2974	8.00
323	Turbidity	E180.1	5.00
324	TPH, Aqueous	EAD 1644	55.00
325	TPH, Solids	SW9071A	55.00
326	Fraction Organic Carbon (FOC)	Walkley-Black	30.00
327	Cyanide, Available, Waters	OIA 1677	75.00
328	Cyanide, Available, Soils	9013/OIA 1677	75.00
329	Asbestos, PLM bulk	NIOSH 9002	12.00
330	Fluoride	E340	8.00
331	Sulfide, Extractable	SW9031	25.00
332	Perchlorate	E314.0	50.00
	Waste Characterizations		

APPENDIX – LABORATORY CONTACTS AND COSTS

TRACE CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
400	Cyanide Reactivity	SWSection 7.3	22.00
401	Sulfide Reactivity	SWSection 7.3	13.00
402	Ignitability, Pensky-Martens	SW1010	20.00
403	Ignitability, Setaflash	SW1020A	30.00
404	Corrosivity, pH	SW9040B	3.00
405	Corrosivity, Towards Steel	SW1110	50.00
406	VOCs, RCRA	SW8260B	90.00
407	SVOCs, RCRA	SW8270C	125.00
408	Pesticides, RCRA	SW8081A	115.00
409	PCBs, RCRA	SW8082	55.00
410	Herbicides, RCRA	SW8151A	115.00
411	Metals, RCRA	SW Methods	74.00
412	Paint Filter Liquids Test	SW9095	10.00
	Premiums and Discounts		
500	Premium, 24 hours	NA	100 %
501	Premium, 2-3 days	NA	70 %
502	Premium, 4-7 days	NA	40 %
503	Premium, 8-13 days	NA	10 %
504	TAT Discount, 15-20 days	NA	3 %
505	TAT Discount, 21-30 days	NA	7 %
506	TAT Discount, >30 days	NA	10 %
600	Sample Discount - 100	NA	2 %
	Sample Discount - 200	NA	3 %
	Sample Discount - 300	NA	4 %
	Sample Discount - 400	NA	5 %
	Personnel Costs (consulting)		
700	Laboratory Director	NA	66.30
701	Project Manager	NA	66.30
702	Analyst	NA	44.88
703	Technician	NA	23.46
704	Quality Control Officer	NA	45.90
	Other Costs		
800	Out of Scope Services	NA	NA
900	Miscellaneous	NA	NA
	Yearly billing rate increase – 700 Task IDS	3% over 3 year period	

APPENDIX – LABORATORY CONTACTS AND COSTS

CLAYTON CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Sample Cleanup Costs		
1	Alumina, Method 3610	SW3610	25.00
2	Alumina, Method 3611B	SW3611B	25.00
3	Florisil	SW3620	0.00
4	Silica Gel	SW3630	0.00
5	Gel Permeation	SW3640	38.25
6	Sulfur, Cleanup	SW3660	0.00
7	Sulfuric Acid/Perm	SW3665	0.00
8	Lead Fractions Preparation	MDEQ SOP #213	24.00
	Leachate Extractions		
24	SPLP Bottle Shake	SW1312	60.00
25	SPLP ZHE	SW1312	72.00
26	Neutral ASTM Leach	ASTM D 3987-85	72.00
27	Single ASTM Batch	ASTM D 5233-92	72.00
28	TCLP Bottle Shake	SW1311	60.00
29	TCLP ZHE	SW1311	72.00
	Metal Parameters		
104	Metals, ICP/ES,	SW6010B, E200.7	7.70
106	Metals, ICP/MS,	SW6020, E200.8	7.70
110	Chromium, Hex, Color	SW7196A	63.75
112	Mercury, Total	SW7470A or 7471A	30.00
113	Mercury, Low Level	E1631	105.00
114	Chromium, Hex	SW7199	63.75
	Organic Parameters		
200	Pesticides, Chlorinated	SW8081A	99.00
201	PCBs, Arochlors	SW8082	72.00
202	VOCs, w/TICs	SW8260B	140.50
203	VOCs, wo/TICs	SW8260B	110.50
204	VOCs, 1-5 Compounds, wo/TICs	SW8260B	82.35
205	BTEX, MTBE, & TMBs	SW8260B	62.80
206	SVOCs, w/TICs	SW8270C	256.00
207	SVOCs, wo/TICs	SW8270C	216.00
208	SVOCs, 1-5 Compounds, wo/TICs	SW8270C	123.25
209	Gasoline Range Organics, Wis	Wis Modified	61.20
211	Diesel Range Organics, Wis	Wis Modified	70.00
213	Herbicides	SW8151A	210.00
214	N-Methylcarbamates	SW8318	300.00
215	OP Compounds	SW8141A	180.00
216	PCB Congeners	SW8082	275.00
217	Library Search	See Program Statement	45.00
218	PNAs, MDEQ Lab TCL	SW8270C	76.00
219	Phenols, MDEQ Lab TCL	SW8270C	108.00
220	Ethylene Dibromide and 1,2-Dibromo-3-chloropropane (low level)	SW8011/SW8260	59.50
221	Hexachlorobenzene,	SW8121 Modified	72.25

APPENDIX – LABORATORY CONTACTS AND COSTS

CLAYTON CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Hexachlorobutadiene, Pentachlorophenol (low levels)		
	Conventional Parameters		
300	Alkalinity	SM 2340	20.80
301	Ammonia	E350.3	25.50
303	Chemical Oxygen Demand (COD)	SM 5220D	25.50
304	Chloride	E300.0	18.75
305	Conductivity	E120.1	9.00
306	Cyanide, Total	CLP SOW ILMO5.1	42.00
307	Cyanide, Total/Amenable	335.2/9014	75.00
308	Filtration, Dissolved Metals	SM 3030B	0.00
309	Hardness	SM 2340	26.25
310	pH	SW9040B/SW9010B	9.00
312	Nitrogen, Nitrate-Nitrite	E300.0	37.50
315	Phenol	E420.1	38.40
316	Phosphorus, Total	E365.4	26.25
317	Solids, Total Dissolved	E160.1	17.60
318	Solids, Total Suspended	E160.2	17.60
320	Sulfate, Colorimetric	E300.0	18.75
321	Sulfide, Total & Dissolved	E376.1/.2	37.00
322	Total Solids	CLP SOW ILMO5.1	0.00
323	Turbidity	E180.1	21.60
324	TPH, Aqueous	EAD 1644	63.75
326	Fraction Organic Carbon (FOC)	Walkley-Black	55.00
329	Asbestos, PLM bulk	EPA 600/R-93/116	12.00
330	Fluoride	E340	18.75
331	Sulfide, Extractable	SW9031	120.00
332	Perchlorate	E314.0	67.50
	Waste Characterizations		
400	Cyanide Reactivity	SWSection 7.3	38.40
401	Sulfide Reactivity	SWSection 7.3	38.40
402	Ignitability, Pensky-Martens	SW1010	24.00
404	Corrosivity, pH	SW9040B	9.00
406	VOCs, RCRA	SW8260B	120.00
407	SVOCs, RCRA	SW8270C	216.00
408	Pesticides, RCRA	SW8081A/SW8270C	111.00
409	PCBs, RCRA	SW8082/SW8270C	72.00
411	Metals, RCRA	SW Methods	112.50
412	Paint Filter Liquids Test	SW9095	15.00
	Premiums and Discounts		
500	Premium, 24 hours	NA	100 %
501	Premium, 2-3 days	NA	75 %
502	Premium, 4-7 days	NA	40 %
503	Premium, 8-13 days	NA	20 %
504	TAT Discount, 15-20 days	NA	0 %
505	TAT Discount, 21-30 days	NA	0 %
506	TAT Discount, >30 days	NA	0 %

APPENDIX – LABORATORY CONTACTS AND COSTS

CLAYTON CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
600	Sample Discount, 16-30	NA	5 %
	Sample Discount, >30	NA	10 %
	Personnel Costs (consulting)		
700	Laboratory Director	NA	116.70
701	Project Manager	NA	79.57
702	Analyst	NA	82.69
703	Technician	NA	58.35
704	Quality Control Officer	NA	116.70
	Other Costs		
800	Out of Scope Services	NA	NA
900	Miscellaneous.	NA	NA
	Yearly billing rate increase		3%

APPENDIX – LABORATORY CONTACTS AND COSTS

MERIT CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Sample Cleanup Costs		
1	Alumina, Method 3610	SW3610	15.00
2	Alumina, Method 3611B	SW3611B	15.00
3	Florisil	SW3620	15.00
4	Silica Gel	SW3630	15.00
5	Gel Permeation	SW3640	40.00
6	Sulfur, Cleanup	SW3660	10.00
7	Sulfuric Acid/Perm	SW3665	10.00
8	Lead Fractions Preparation	MDEQ SOP #213	
	Leachate Extractions		
24	SPLP Bottle Shake	SW1312	35.00
25	SPLP ZHE	SW1312	38.00
26	Neutral ASTM Leach	ASTM D 3987-85	35.00
27	Single ASTM Batch	ASTM D 5233-92	35.00
28	TCLP Bottle Shake	SW1311	35.00
29	TCLP ZHE	SW1311	38.00
	Metal Parameters		
104	Metals, ICP/ES	SW6010B, E200.7	10.00
106	Metals, ICP/MS	SW6020, E200.8	10.00
110	Chromium, Hex, Color	SW7196A	20.00
111	Chromium, Hex, Chelation-AA	SW7197	20.00
112	Mercury, Total	SW7470A or 7471A	20.00
113	Mercury, Low Level	E1631	120.00
	Organic Parameters		
200	Pesticides, Chlorinated	SW8081A	90.00
201	PCBs, Arochlors	SW8082	60.00
202	VOCs, w/TICs	SW8260B	100.00
203	VOCs, wo/TICs	SW8260B	80.00
204	VOCs, 1-5 Compounds, wo/TICs	SW8260B	50.00
205	BTEX, MTBE, & TMBs	SW8260B	80.00
206	SVOCs, w/TICs	SW8270C	180.00
207	SVOCs, wo/TICs	SW8270C	160.00
208	SVOCs, 1-5 Compounds, wo/TICs	SW8270C	115.00
209	Gasoline Range Organics, Wis	Wis Modified	40.00
210	Gasoline Range Organics, GCMS	GC/MS GRO	40.00
211	Diesel Range Organics, Wis	Wis Modified	60.00
212	Diesel Range Organics, GCMS	GC/MS DRO	60.00
213	Herbicides	SW8151A	200.00
217	Library Search	See Program Statement	30.00
218	PNAs, MDEQ Lab TCL	SW8270C	100.00
219	Phenols, MDEQ Lab TCL	SW8270C	100.00

APPENDIX – LABORATORY CONTACTS AND COSTS

MERIT CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
220	Ethylene Dibromide and 1,2-Dibromo-3-chloropropane (low level)	SW8260B (SIM)	150.00
	Conventional Parameters		
300	Alkalinity	E310.0	10.00
301	Ammonia	E350.3	20.00
302	Biochemical Oxygen Demand (BOD)	E405.2	20.00
303	Chemical Oxygen Demand (COD)	E410	20.00
304	Chloride	E325	10.00
305	Conductivity	SM 2510B	8.00
306	Cyanide, Total	E335.2	25.00
307	Cyanide, Total/Amenable	E335.1/SW9010B	45.00
308	Filtration, Dissolved Metals	SM 3030B	5.00
309	Hardness	E130.2	10.00
310	pH	SW9040B/SW9010B	5.00
311	Nitrogen, Kjeldahl	E351.2	25.00
312	Nitrogen, Nitrate-Nitrite	E300.0	10.00
313	Total Organic Carbon (TOC)	E415.1	20.00
314	Oxygen, Dissolved	E360.1/.2	10.00
315	Phenol	E420.2 SW9066	25.00
316	Phosphorus, Total	E365.4	15.00
317	Solids, Total Dissolved	E160.1	10.00
318	Solids, Total Suspended	E160.2	10.00
319	Silica, Dissolved	E370.2	10.00
320	Sulfate	E300.0	15.00
321	Sulfide, Total & Dissolved	E376.1/.2	15.00
322	Total Solids	CLP SOW ILMO5.1	10.00
323	Turbidity	E180.1	10.00
324	TPH, Aqueous	EAD 1644	30.00
325	TPH, Solids	SW9071A	30.00
326	Fraction Organic Carbon (FOC)	Walkley-Black	50.00
330	Fluoride	E340	20.00
	Waste Characterizations		
400	Cyanide Reactivity	SWSection 7.3	25.00
401	Sulfide Reactivity	SWSection 7.3	25.00
402	Ignitability, Pensky-Martens	SW1010	20.00
404	Corrosivity, pH	SW9040B	10.00
406	VOCs, RCRA	SW8260B	60.00
407	SVOCs, RCRA	SW8270C	120.00
408	Pesticides, RCRA	SW8081A/SW8270C	60.00
409	PCBs, RCRA	SW8082/SW8270C	60.00
410	Herbicides, RCRA	SW8151A/SW8270C	120.00
411	Metals, RCRA	SW Methods	70.00

APPENDIX – LABORATORY CONTACTS AND COSTS

MERIT CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
412	Paint Filter Liquids Test	SW9095	10.00
	Premiums and Discounts		
500	Premium, 24 hours	NA	100 %
501	Premium, 2-3 days	NA	75 %
502	Premium, 4-7 days	NA	25 %
503	Premium, 8-13 days	NA	0 %
504	TAT Discount, 15-20 days	NA	2 %
505	TAT Discount, 21-30 days	NA	4 %
506	TAT Discount, >30 days	NA	6 %
600	Sample Discount 51-98	NA	5 %
	Sample Discount 101-198	NA	10 %
	Sample Discount 201-298	NA	12 %
	Sample Discount > 300	NA	15 %
	Personnel Costs (consulting)		
700	Laboratory Director	NA	100.00
701	Project Manager	NA	100.00
702	Analyst	NA	80.00
703	Technician	NA	50.00
704	Quality Control Officer	NA	100.00
	Other Costs		
800	Out of Scope Services	NA	NA
900	Miscellaneous.	NA	NA
	Yearly billing rate increase		5%

APPENDIX – LABORATORY CONTACTS AND COSTS

BIO-CHEM CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Sample Cleanup Costs		
1	Alumina, Method 3610	SW3610	10.00
2	Alumina, Method 3611B	SW3611B	10.00
3	Florisil	SW3620	10.00
4	Silica Gel	SW3630	10.00
5	Gel Permeation	SW3640	40.00
6	Sulfur, Cleanup	SW3660	10.00
7	Sulfuric Acid/Perm	SW3665	10.00
8	Lead Fractions Preparation	MDEQ SOP #213	40.00
	Leachate Extractions		
24	SPLP Bottle Shake	SW1312	25.00
25	SPLP ZHE	SW1312	35.00
26	Neutral ASTM Leach	ASTM D 3987-85	25.00
27	Single ASTM Batch	ASTM D 5233-92	25.00
28	TCLP Bottle Shake	SW1311	25.00
29	TCLP ZHE	SW1311	35.00
	Metal Parameters		
104	Metals, ICP/ES	SW6010B, E200.7	7.00
109	Metal, Furnace AA	SW7000 Series	10.00
110	Chromium, Hex, Color	SW7196A	50.00
111	Chromium, Hex, Chelation-AA	SW7197	50.00
112	Mercury, Total	SW7470A or 7471A	15.00
113	Mercury, Low Level	E1631	135.00
	Organic Parameters		
200	Pesticides, Chlorinated	SW8081A	80.00
201	PCBs, Arochlors	SW8082	40.00
202	VOCs, w/TICs	SW8260B	110.00
203	VOCs, wo/TICs	SW8260B	85.00
204	VOCs, 1-5 Compounds, wo/TICs	SW8260B	85.00
205	BTEX, MTBE, & TMBs	SW8260B	55.00
206	SVOCs, w/TICs	SW8270C	175.00
207	SVOCs, wo/TICs	SW8270C	150.00
208	SVOCs, 1-5 Compounds, wo/TICs	SW8270C	75.00
209	Gasoline Range Organics, Wis	Wis Modified	50.00
210	Gasoline Range Organics, GCMS	GC/MS GRO	50.00
211	Diesel Range Organics, Wis	Wis Modified	50.00
213	Herbicides	SW8151A	150.00
214	N-Methylcarbamates	SW8318	225.00
215	OP Compounds	SW8141A	165.00
216	PCB Congeners	SW8082	450.00
217	Library Search	See Program	50.00

APPENDIX – LABORATORY CONTACTS AND COSTS

BIO-CHEM CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
		Statement	
218	PNAs	SW8270C	85.00
219	Phenols	SW8270C	125.00
220	Ethylene Dibromide and 1,2-Dibromo-3-chloropropane	SW8260B	55.00
221	Hexachlorbenzene & Hexachlorobutadiene	SW8270C (SIMS)	80.00
	Conventional Parameters		
300	Alkalinity	E310.0	10.00
301	Ammonia	E350.1	40.00
302	Biochemical Oxygen Demand (BOD)	E405.2	30.00
303	Chemical Oxygen Demand (COD)	E410	30.00
304	Chloride	E325	15.00
305	Conductivity	SM 2510B	10.00
306	Cyanide, Total	CLP SOW ILMO5.1	25.00
307	Cyanide, Total/Amenable	E335.1/SW9010B	50.00
308	Filtration, Dissolved Metals	SM 3030B	10.00
309	Hardness	E130.2	10.00
310	pH	SW9040B/SW9010B	10.00
311	Nitrogen, Kjeldahl	E351.2	30.00
312	Nitrogen, Nitrate-Nitrite	E353.2	15.00
313	Total Organic Carbon (TOC)	E415.1	30.00
314	Oxygen, Dissolved	E360.1/.2	15.00
315	Phenol	E420.2 SW9066	40.00
316	Phosphorus, Total	E365.4	20.00
317	Solids, Total Dissolved	E160.1	10.00
318	Solids, Total Suspended	E160.2	10.00
319	Silica, Dissolved	E370.2	25.00
320	Sulfate, Colorimetric	E375.1	15.00
321	Sulfide, Total & Dissolved	E376.1/.2	50.00
322	Total Solids	CLP SOW ILMO5.1	15.00
323	Turbidity	E180.1	15.00
324	TPH, Aqueous	EAD 1644	60.00
325	TPH, Solids	SW9071A	60.00
326	Fraction Organic Carbon (FOC)	Walkley-Black	50.00
327	Cyanide, Available, Waters	OIA 1677	100.00
328	Cyanide, Available, Soils	9013/OIA 1677	100.00
329	Asbestos, PLM bulk	NIOSH 9002	40.00
330	Fluoride	E340	15.00
331	Sulfide, Extractable	SW9031	75.00
332	Perchlorate	E314.0	75.00
	Waste Characterizations		
400	Cyanide Reactivity	SWSection 7.3	25.00

APPENDIX – LABORATORY CONTACTS AND COSTS

BIO-CHEM CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
401	Sulfide Reactivity	SWSection 7.3	25.00
402	Ignitability, Pensky-Martens	SW1010	25.00
403	Ignitability, Setaflash	SW1020A	35.00
404	Corrosivity, pH	SW9040B	10.00
405	Corrosivity, Towards Steel	SW1110	60.00
406	VOCs, RCRA	SW8260B	100.00
407	SVOCs, RCRA	SW8270C	150.00
408	Pesticides, RCRA	SW8081A/SW8270C	105.00
409	PCBs, RCRA	SW8082/SW8270C	65.00
410	Herbicides, RCRA	SW8151A/SW8270C	150.00
411	Metals, RCRA	SW Methods	79.00
412	Paint Filter Liquids Test	SW9095	15.00
	Premiums and Discounts		
500	Premium, 24 hours	NA	100 %
501	Premium, 2-3 days	NA	75 %
502	Premium, 4-7 days	NA	50 %
503	Premium, 8-13 days	NA	25 %
504	TAT Discount, 15-20 days	NA	2 %
505	TAT Discount, 21-30 days	NA	5 %
506	TAT Discount, >30 days	NA	10 %
600	Sample Discount	NA	0 %
	Personnel Costs (consulting)		
700	Laboratory Director	NA	65.00
701	Project Manager	NA	65.00
702	Analyst	NA	50.00
703	Technician	NA	37.50
704	Quality Control Officer	NA	65.00
	Other Costs		
800	Out of Scope Services	NA	NA
900	Miscellaneous.	NA	NA
	Yearly billing rate increase		5%

APPENDIX – LABORATORY CONTACTS AND COSTS

STL CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
	Sample Cleanup Costs		
1	Alumina, Method 3610	SW3610	24.00
2	Alumina, Method 3611B	SW3611B	24.00
3	Florisil	SW3620	24.00
4	Silica Gel	SW3630	24.00
5	Gel Permeation	SW3640	24.00
6	Sulfur, Cleanup	SW3660	24.00
7	Sulfuric Acid/Perm	SW3665	24.00
8	Lead Fractions Preparation	MDEQ SOP #213	35.00
	Leachate Extractions		
24	SPLP Bottle Shake	SW1312	24.00
25	SPLP ZHE	SW1312	24.00
26	Neutral ASTM Leach	ASTM D 3987-85	24.00
27	Single ASTM Batch	ASTM D 5233-92	24.00
28	TCLP Bottle Shake	SW1311	24.00
29	TCLP ZHE	SW1311	24.00
	Metal Parameters		
104	Metals, ICP/ES	SW6010B, E200.7	109.00
106	Metals, ICP/MS	SW6020, E200.8	198.00
110	Chromium, Hex, Color	SW7196A	64.00
112	Mercury, Total	SW7470A or 7471A	22.00
113	Mercury, Low Level	E1631	90.00
	Organic Parameters		
200	Pesticides, Chlorinated	SW8081A	89.00
201	PCBs, Arochlors	SW8082	47.00
202	VOCs, w/TICs	SW8260B	94.00
203	VOCs, wo/TICs	SW8260B	84.00
204	VOCs, 1-5 Compounds, wo/TICs	SW8260B	74.00
205	BTEX, MTBE, & TMBs	SW8260B	74.00
206	SVOCs, w/TICs	SW8270C	199.00
207	SVOCs, wo/TICs	SW8270C	179.00
208	SVOCs, 1-5 Compounds, wo/TICs	SW8270C	179.00
209	Gasoline Range Organics, Wis	Wis Modified	55.00
211	Diesel Range Organics, Wis	Wis Modified	85.00
213	Herbicides	SW8151A	125.00
214	N-Methylcarbamates	SW8318	200.00
215	OP Compounds	SW8141A	155.00
216	PCB Congeners	SW8082	225.00
217	Library Search	See Program Statement	20.00
218	PNAs	SW8270C	199.00
219	Phenols	SW8270C	305.00

APPENDIX – LABORATORY CONTACTS AND COSTS

STL CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
220	Ethylene Dibromide and 1,2-Dibromo-3-chloropropane		110.00
222	Pentachlorophenol (low level)	SW8270 SIM	
	Conventional Parameters		
300	Alkalinity	E310.0	11.00
301	Ammonia	E350.1	14.00
302	Biochemical Oxygen Demand (BOD)	E405.2	17.00
303	Chemical Oxygen Demand (COD)	E410	17.00
304	Chloride	E325	9.00
305	Conductivity	SM 2510B	9.00
306	Cyanide, Total	335.3	19.00
307	Cyanide, Total/Amenable	E335.1/SW9010B	19.00
308	Filtration, Dissolved Metals	SM 3030B	9.00
309	Hardness	E130.2	11.00
310	pH	SW9040B/SW9010B	4.00
311	Nitrogen, Kjeldahl	E351.2	24.00
312	Nitrogen, Nitrate-Nitrite	E353.2	14.00
313	Total Organic Carbon (TOC)	E415.1	28.00
314	Oxygen, Dissolved	E360.1/.2	19.00
315	Phenol	E420.2 SW9066	19.00
316	Phosphorus, Total	E365.4	18.00
317	Solids, Total Dissolved	E160.1	9.00
318	Solids, Total Suspended	E160.2	9.00
319	Silica, Dissolved	E370.2	30.00
320	Sulfate, Colorimetric	E375.1	17.00
321	Sulfide, Total & Dissolved	E376.1/.2	14.00
322	Total Solids	CLP SOW ILMO5.1	14.00
323	Turbidity	E180.1	9.00
324	TPH, Aqueous	EAD 1644	34.00
325	TPH, Solids	SW9071A	49.00
326	Fraction Organic Carbon (FOC)	Walkley-Black	30.00
327	Cyanide, Available, Waters	OIA 1677	65.00
328	Cyanide, Available, Soils	9013/OIA 1677	105.00
329	Asbestos, PLM bulk	NIOSH 9002	25.00
330	Fluoride	E340	15.00
331	Sulfide, Extractable	SW9031	20.00
332	Perchlorate	E314.0	100.00
	Waste Characterizations		
400	Cyanide Reactivity	SWSection 7.3	19.00
401	Sulfide Reactivity	SWSection 7.3	19.00
402	Ignitability, Pensky-Martens	SW1010	19.00
403	Ignitability, Setaflash	SW1020A	28.00

APPENDIX – LABORATORY CONTACTS AND COSTS

STL CAPABILITIES AND COSTS			
ID	**Task**	**Method**	**Cost**
404	Corrosivity, pH	SW9040B	9.00
405	Corrosivity, Towards Steel	SW1110	80.00
406	VOCs, RCRA	SW8260B	108.00
407	SVOCs, RCRA	SW8270C	204.00
408	Pesticides, RCRA	SW8081A/SW8270C	89.00
409	PCBs, RCRA	SW8082/SW8270C	47.00
410	Herbicides, RCRA	SW8151A/SW8270C	125.00
411	Metals, RCRA	SW Methods	74.00
412	Paint Filter Liquids Test	SW9095	12.00
	Premiums and Discounts		
500	Premium, 24 hours	NA	100 %
501	Premium, 2-3 days	NA	87.5 %
502	Premium, 4-7 days	NA	75 %
503	Premium, 8-13 days	NA	62.5 %
504	TAT Discount, 15-20 days	NA	0 %
505	TAT Discount, 21-30 days	NA	0 %
506	TAT Discount, >30 days	NA	0 %
600	Sample Discount	NA	0 %
	Personnel Costs (consulting only)		
700	Laboratory Director	NA	
701	Project Manager	NA	
702	Analyst	NA	
703	Technician	NA	
704	Quality Control Officer	NA	
	Other Costs		
800	Out of Scope Services	NA	NA
900	Miscellaneous.	NA	NA
	NOTES		
A	Per fraction		
B			
C	Includes field preserv kit.		

APPENDIX – LABORATORY CONTACTS AND COSTS

RTI LABORATORIES, INC.			
ID	**Task**	**Method**	**Costs**
	Sample Cleanup Costs		
1	Alumina, Method 3610	SW3610	$10.40
2	Alumina, Method 3611B	SW3611B	$10.40
3	Florisil	SW3620	$15.60
4	Silica Gel	SW3630	$15.60
5	Gel Permeation	SW3640	$20.80
6	Sulfur, Cleanup	SW3660	$10.40
7	Sulfuric Acid/Perm	SW3665	$10.40
8	Lead Fractions Preparation	MDEQ SOP #213	$43.68
	Leachate Extractions		
24	SPLP Bottle Shake	SW1312	$37.44
25	SPLP ZHE	SW1312	$37.44
26	Neutral ASTM Leach	ASTM D 3987-85	$37.44
27	Single ASTM Batch	ASTM D 5233-92	$37.44
28	TCLP Bottle Shake	SW1311	$37.44
29	TCLP ZHE	SW1311	$37.44
	Metal Parameters		
104	Metals, ICP/ES	SW6010B, E200.7	$9.36
106	Metals, ICP/MS	SW6020, E200.8	$9.36
108	Metals, Flame AA, (1-5 Metals)	SW7000 Series	$9.36
109	Metal, Furnace AA	SW7000 Series	$12.48
110	Chromium, Hex, Color	SW7196A	$56.16
111	Chromium, Hex, IC	SW7197	NA
112	Mercury, Total	SW7470A or 7471A	$21.84
113	Mercury, Low Level	E1631	$74.88
114	Chromium, Hex	SW7199	NA
	Organic Parameters		
200	Pesticides, Chlorinated	SW8081A	$93.60
201	PCBs, Arochlors	SW8082	$49.92
202	VOCs, w/TICs	SW8260B	$124.80
203	VOCs, wo/TICs	SW8260B	$78.00
204	VOCs, 1-5 Compounds, wo/TICs	SW8260B	$41.60
205	BTEX, MTBE, & TMBs	SW8260B	$56.16
206	SVOCs, w/TICs	SW8270C	$187.20
207	SVOCs, wo/TICs	SW8270C	$156.00
208	SVOCs, 1-5 Compounds, wo/TICs	SW8270C	$78.00
209	Gasoline Range Organics, Wis	Wis Modified	$49.92
210	Gasoline Range Organics, GCMS	GC/MS GRO	NA
211	Diesel Range Organics, Wis	Wis Modified	$49.92
212	Diesel Range Organics, GCMS	GC/MS DRO	NA
213	Herbicides	SW8151A	$124.80
214	N-Methylcarbamates	SW8318	$218.40
215	OP Compounds	SW8141A	$93.60
216	PCB Congeners	SW8082	NA
217	Library Search	See Program	$31.20

APPENDIX – LABORATORY CONTACTS AND COSTS

RTI LABORATORIES, INC.			
ID	**Task**	**Method**	**Costs**
218	PNAs, MDEQ Lab TCL	8270C / 8310	$74.88
219	Phenols, MDEQ Lab TCL	8270C	$124.80
220	EDB, DCBCP (low level)	See OM2, Attachment	$78.00
221	Hexachlorobenzene and	SW8270 SIM	$133.12
	Conventional Parameters		
300	Alkalinity	E310.0	$10.40
301	Ammonia	E350.1	$15.60
302	Biochemical Oxygen Demand (BOD)	E405.2	$20.80
303	Chemical Oxygen Demand (COD)	E410	$18.72
304	Chloride	E325	$21.84
305	Conductivity	SM 2510B	$9.36
306	Cyanide, Total	CLP SOW ILMO5.1	$31.20
307	Cyanide, Total/Amenable	E335.1/SW9010B	$62.40
308	Filtration, Dissolved Metals	SM 3030B	$9.36
309	Hardness	E130.2	$10.40
310	pH	SW9040B/SW9010B	$12.48
311	Nitrogen, Kjeldahl	E351.2	$31.20
312	Nitrogen, Nitrate-Nitrite	E353.2	$15.60
313	Total Organic Carbon (TOC)	E415.1	$31.20
314	Oxygen, Dissolved	E360.1/.2	$12.48
315	Phenol	E420.2 SW9066	$21.84
316	Phosphorus, Total	E365.4	$15.60
317	Solids, Total Dissolved	E160.1	$9.36
318	Solids, Total Suspended	E160.2	$9.36
319	Silica, Dissolved	E370.2	$24.96
320	Sulfate, Colorimetric	E375.1	$15.60
321	Sulfide, Total & Dissolved	E376.1/.2	$15.60
322	Total Solids	CLP SOW ILMO5.1	$9.36
323	Turbidity	E180.1	$10.40
324	TPH, Aqueous	EAD 1644	$31.20
325	TPH, Solids	SW9071A	$156.00
326	Fraction Organic Carbon (FOC)	Walkley-Black	$37.44
327	Cyanide, Available, Waters	OIA 1677	$118.56
328	Cyanide, Available, Soils	9013/OIA 1677	$118.56
329	Asbestos, PLM bulk	NIOSH 9002	$12.48
330	Fluoride	E340	$21.84
331	Sulfide, Extractable	SW9031	$49.92
332	Perchlorate	E314.0	$56.16
333	TOC, by ignition (soils)	OM2, Attach. 1, Note	NA
	Waste Characterizations		
400	Cyanide Reactivity	SWSection 7.3	$20.80
401	Sulfide Reactivity	SWSection 7.3	$15.60
402	Ignitability, Pensky-Martens	SW1010	$20.80
403	Ignitability, Setaflash	SW1020A	$26.00
404	Corrosivity, pH	SW9040B	$12.48
405	Corrosivity, Towards Steel	SW1110	$62.40

APPENDIX – LABORATORY CONTACTS AND COSTS

RTI LABORATORIES, INC.			
ID	**Task**	**Method**	**Costs**
406	VOCs, RCRA	SW8260B	$78.00
407	SVOCs, RCRA	SW8270C	$156.00
408	Pesticides, RCRA	SW8081A/SW8270C	$93.60
409	PCBs, RCRA	SW8082/SW8270C	$49.92
410	Herbicides, RCRA	SW8151A/SW8270C	$124.80
411	Metals, RCRA	SW Methods	$87.36
412	Paint Filter Liquids Test	SW9095	$12.48
	Premiums and Discounts		
500	Premium, 24 hours	NA	100%
501	Premium, 2-3 days	NA	75%
502	Premium, 4-7 days	NA	25%
503	Premium, 8-13 days	NA	0%
504	TAT Discount, 15-20 days	NA	5%
505	TAT Discount, 21-30 days	NA	10%
506	TAT Discount, >30 days	NA	12%
600	Sample Discount - 25-49	NA	2%
	Sample Discount - 50-99		4%
	Sample Discount - 100-199		6%
	Sample Discount - >= 200		10%
	Personnel Costs (consulting)		
700	Laboratory Director	NA	$140.40
701	Project Manager	NA	$140.40
702	Analyst	NA	$98.80
703	Technician	NA	$72.80
704	Quality Control Officer	NA	$140.40
	Other Costs		
800	Out of Scope Services	NA	
900	Miscellaneous.	NA	
	Yearly billing rate increase		4%

APPENDIX – LABORATORY CONTACTS AND COSTS

NEW/ AGE LANDMARK CAPABILITIES AND COSTS FOR MOBILE LABORATORY SERVICES							
Requested Analyses	**Method**	**Mobile Lab ID**	**Daily Rate (10 hour day)**	**Per Diem**	**Standby Day (1)**	**Labor Rate (2)**	**Power Requirements**
VOCs	SW8260/E624	1, 2, 3, 4	$1,300.00	$105.00	$650.00	$75.00	60 amps/120 volts
SVOCs	SW8270/E625	5	$2,100.00	$145.00	$1,050.00	$130.00	50 amps/240 volts
PNAs	SW8270/E625	5	$2,100.00	$145.00	$1,050.00	$130.00	50 amps/240 volts
Metals, ICP	SW6020	6	$1,850.00	$145.00	$925.00	$130.00	50 amps/240 volts
Mercury	SW7473	6	included above	included above	included above	included above	included above
Pesticides	SW8270	7	$2,100.00	$145.00	$1,050.00	$130.00	60 amps/120 volts
PCBs	SW8082	5,7	$2,100.00	$145.00	$1,050.00	$130.00	60 amps/120 volts
Immunoassay	4000 series	8	(3) $1,300.00	$105.00	$650.00	$75.00	40 amps/120 volts
Additional Analyses Available							
Waste Characterization	Various	7	$2,100.00	$145.00	$1,050.00	$130.00	60 amps/120 volts
GRO/DRO	SW8260 SW8270	VAR.	(4)	na	na	na	60 amps/120 volts
Explosives	SW8095	7	$2,100.00	$145.00	$1,050.00	$130.00	60 amps/120 volts
Metals, XRF	SW6200	8	$1,300.00	$105.00	$650.00	$75.00	60 amps/120 volts

1. Standby rates apply for sites where 24-hour notice can be given to on-site lab staff that no samples will be collected on the following day.
2. Labor rates apply when mobile lab staff conduct analyses beyond the 10 hour day.
3. Daily rate does not include the cost of the Immunoassay kit but does include all supporting equipment.
4. These results are provided as requested from the VOC 8260 or SVOC 8270 analyses at no additional charge.

Sample Containers	Cost	Immunoassay Kits	Actual Cost
4 oz Jar	$2.25	Sample Preservation	No Charge
40 ml VOA vial	$1.25	Electrical Connection from	
1000 ml Ambers	$2.50	Circuit Breaker Panel	No Charge
250 ml Plastics	$2.25	Generators	$250.00/ day

APPENDIX – LABORATORY CONTACTS AND COSTS

SEVERN TRENT CAPABILITIES AND COSTS FOR MOBILE LABORATORY SERVICES							
Analysis	**Method**	**Daily Rate**	**Standby Daily Rate**	**Labor Rate**	**Container Preservatives**	**Mobil Demobile**	**Power (Daily)**
			(1)	(2)	(3)		(4)
Volatiles, GC/MS	SW8260	$1,600	$800	$150	$1.00	$2,000	$125
Semivolatiles, GC/MS	SW8270	$1,600	$800	$150	$1.00	$2,000	$125
PCBs	SW8082	$1,600	$800	$150	$1.00	$2,000	$125
Mercury	Various	$1,600	$800	$150	$1.00	$5,000	$150
Metals	ICPES (5)	$1,600	$800	$150	$1.00	$15,000	$200

1. Standby rates apply for sites where 24-hour notice can be given to on-site lab staff that no samples will be collected on the following day.
2. These labor rates apply only when mobile lab staff conduct analyses beyond the 10-hour day.
3. Container prices are per container.
4. Power costs are daily costs.
5. ICPES – Inductively coupled plasma emission spectroscopy (Method SW6010).

APPENDIX – LABORATORY CONTACTS AND COSTS

CONTRACT LABORATORY COST TABLE ABBREVIATIONS

TABLE ACRONYMNS

SW	Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, SW846.
SM	Standard Methods, for the Examination of Water and Wastes, 19''' Edition, 1995.
E	U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, Engineering and Analysis Division (4303), 401 M Street SW846 , Washington, D.C. 20460 EMMC. Environmental Monitoring Systems Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio, 45268.
ASTM	American Society for Testing and Materials
OIA	OI Corporation. Method OIA 1677, Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry
CLP	U.S. EPA Contract Laboratory Program, Statement of Work
w/ - w/o	With - Without
TICS	Tentatively Identified Compounds
BTEX	Benzene, toluene, ethylbenzene and xylenes
MTBE	Methyltertiarybutylether
TMBs	Trimethylbenzenes
SIM	Selected ion monitoring

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