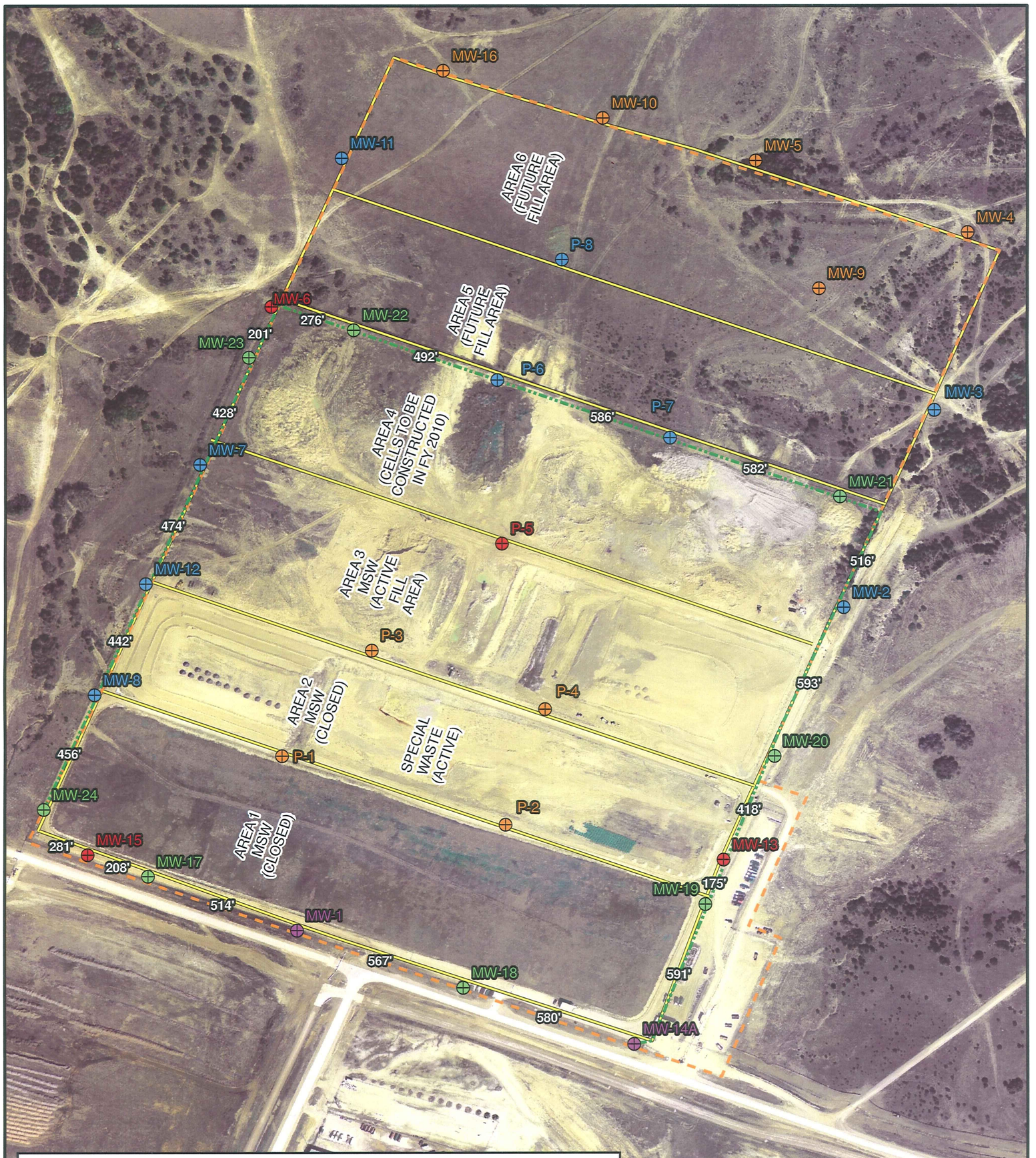
APPENDIX 1

FIGURES AND TABLES



Freese and Nichols
4055 International Plaza Suite 200
Fort Worth, Texas 76109-4895
817-735-7300

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Fort Hood Landfill
Groundwater Monitoring System

FN JOB NO	ISC05344
FILE	H:/MW-distances.mxd
DATE	August 28, 2008
SCALE	1:4,800
DESIGNED	KMB
DRAFTED	KFG

1
Figure

TABLE 1
DETECTION MONITORING
CONSTITUENT LIST

PARAMETER	METHOD
Heavy Metals (Total Concentrations)	**EPA 6020**
Antimony	6020
Arsenic	6020
Barium	6020
Beryllium	6020
Cadmium	6020
Chromium	6020
Cobalt	6020
Copper	6020
Lead	6020
Nickel	6020
Selenium	6020
Silver	6020
Thallium	6020
Vanadium	6020
Zinc	6020
Volatile Organic Compounds	**EPA 8260B**
Acetone	8260B
Acrylonitrile	8260B
Benzene	8260B
Bromochloromethane	8260B
Bromodichloromethane	8260B
Bromoform (tribromomethane)	8260B
Carbon disulfide	8260B
Carbon tetrachloride	8260B
Chlorobenzene	8260B
Chloroethane (ethyl chloride)	8260B
Chloroform (trichloromethane)	8260B
Dibromochloromethane	8260B
1,2-dibromo-3-chloropropane (DBCP)	8260B
1,2-dibromoethane (ethylene dibromide)	8260B
o-dichlorobenzene (1,2-dichlorobenzene)	8260B
p-dichlorobenzene (1,4-dichlorobenzene)	8260B
trans-1,4-dichloro-2-butene	8260B
1,1-dichloroethane (ethylidene chloride)	8260B
1,2-dichloroethane (ethylene dichloride)	8260B
1,1-dichloroethylene (1,1-dichloroethene)	8260B
cis-1,2-dichloroethylene	8260B
trans-1,2-dichloroethylene	8260B
1,2-dichloropropane (propylene dichloride)	8260B
cis-1,3-dichloropropene	8260B
trans-1,3-dichloropropene	8260B
Ethylbenzene	8260B
2-hexanone (methyl butyl ketone)	8260B
Methyl bromide (bromomethane)	8260B
Methyl chloride (chloromethane)	8260B
Methylene bromide (dibromomethane)	8260B
Methylene chloride (dichloromethane)	8260B

PARAMETER	METHOD
Methyl ethyl ketone (MEK, 2-butanone)	8260B
Methyl iodide (iodomethane)	8260B
Methyl isobutyl ketone	8260B
Styrene	8260B
1,1,1,2-tetrachloroethane	8260B
1,1,2,2-tetrachloroethane	8260B
Tetrachloroethylene (tetrachloroethene)	8260B
Toluene	8260B
1,1,1-trichloroethane (methylchloroform)	8260B
1,1,2-trichloroethane	8260B
Trichloroethylene (trichloroethene)	8260B
Trichlorofluromethane (CFC-11)	8260B
1,2,3-trichloropropane	8260B
Vinyl acetate	8260B
Vinyl chloride	8260B
Xylenes (total)	8260B

APPENDIX 2

GROUNDWATER MONITORING WELL SAMPLING FORM

GROUND WATER MONITORING WELL SAMPLING FORM

FORT HOOD MSWLF PERMIT NO. 1866	SAMPLERS : _____ *(Print)* _____	FORT HOOD, CORYELL COUNTY, TEXAS

SITE CONDITIONS/COMMENTS ON SAMPLING/WEATHER CONDITIONS:

WELL	DIAM. IN.	DATE	TIME	TOTAL DEPTH	WATER IN WELL		EVAC. (3) METHOD	GALLONS REMOVED	EQUIP. CLEAN (4) YES/NO	TEMP. (Deg. C)	pH (1-14)	SPEC. COND. (umhos/cm)	TURBIDITY (NTUs)	COMMENTS
					FEET (1)	GALLONS (2)								

1: TD-WL = FEET OF WATER IN WELL

Notes: TD = Total Depth
WL = Water Level -- (Obtained from Electronic Water Level Instrument at Top of PVC Pipe)

2: GALLONS OF WATER IN WELL

For 2" Well - Multiply by 0.2 Gallons/Foot
For 4" Well - Multiply by 0.7 Gallons/Foot

Note: To Convert to Gallons: Multiply Feet of Water (Obtained in 1) by Gallons/Foot

3: WELL PURGING & SAMPLING METHOD

TB: Teflon Bailer
SB: Stainless Bailer
PB: Polyethylene Bailer
O : Other

SAMPLERS' SIGNATURE

_____
_____
_____

DATE

4: DECONTAMINATION : All equipment (i.e., well measuring device, bailer, field instruments, etc.) which will come into contact with other wells must be cleaned between uses. The approved cleaning method includes a thorough washing with water, a wash and scrubbing with laboratory grade detergent, followed by two to three rinses of distilled or deionized water.

APPENDIX 3

RECOMMENDED SAMPLING, PRESERVATION, AND STORAGE PROCEDURES FOR GROUNDWATER MONITORING

RECOMMENDED SAMPLING, PRESERVATION, AND STORAGE PROCEDURES

Parameter	Recommended Containers	Preservation	Maximum Holding Time	Minimum Volume
Heavy Metals (includes iron and manganese)	P,G	Acidify w/HNO_3 to pH<2, 4°C	6 months; except 28 days for Hg	1 L
VOCs	G (T-lined septa)	Acidify w/HCl to pH<2, 4°C	14 days	2 x 40 mL
P = Polyethylene, G = Glass, T = Teflon				

APPENDIX 4

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Fort Hood MSWLF Permit No. 1866	Groundwater Monitoring Well No. _____	Fort Hood, Coryell County, Texas

Field Sample No./ Identification	Date and Time	Filtered Yes	Filtered No	Sample Container (SIZE/MATL)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS

Samplers: (Signature)	Relinquished by: *(Signature)*	Date: Time:	Received by: *(Signature)*	Date: Time:	Intact
	Relinquished by: *(Signature)*	Date: Time:	Received by: *(Signature)*	Date: Time:	Intact
Affiliation	Relinquished by: *(Signature)*	Date: Time:	Received by: *(Signature)*	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory: *(SIGNATURE)*	Date: Time:	Laboratory No.
Seal #			Data Results to:		

APPENDIX 5

PROCEDURES FOR SELECTING STATISTICAL METHODS

PROCEDURES FOR SELECTING STATISTICAL METHODS

1. EVALUATION OF THE BACKGROUND DATA SET

During the two-year, eight-event background monitoring program for this facility, data from each sampling event will be validated and compiled into an electronic database. This database will be selected with the objective of being able to perform all the statistical functions necessary to evaluate the background data set and analyze the detection monitoring data. Ideally, this same database package will be capable of presenting data in graphic format. If not, then a graphics software package will also be employed to present the data. The analytical results will be organized on a constituent-by-constituent, well-by-well basis.

The first step in evaluating the background data set will be to evaluate the analytical results for VOCs (Table 1 in Appendix 1) by comparing results to the reporting limits established for Fort Hood. The evaluation of background data for metals is somewhat more complex since these substances may occur naturally in groundwater. The sampling results for metals may be compared with established reporting limits to evaluate for any exceedances. Even though spatial variation in the chemical characteristics of the groundwater at Fort Hood may be assumed, inter-well comparisons of mean metals concentrations may be useful in determining if contamination exists. As an additional measure, the analytical results of leachate analyses will be obtained and compared with the background monitoring results in order to determine if there is a basis for connecting possible contaminants detected in the groundwater with source material in the waste deposits.

The second step of background data evaluation involves determining the proportion of non-detected sampling results to the total number of results on an analyte-by-analyte basis. The proportion of non-detects will determine whether adjustments are required to provide substitute values for the non-detects or whether a particular statistical method will be required to analyze this particular data set during detection monitoring. Generally, if 50% or more of the results are reported as non-detects, then a Test of Proportions is recommended for the data. If less than 50% of the results are non-detected, then the non-detects may require adjustment depending on the statistical method to be used in detection monitoring.

Since a number of statistical methods assume that the data set is distributed normally, the background data set will be evaluated to determine normality. A number of methods are available to assess the normality of data including Probability Plots, the Coefficient of Skewness, the Shapiro-Wilk test, the Shapiro-Francia test, and the Probability Plot Correlation Coefficient.

Anomalous analytical results, referred to as “outliers”, will be identified and investigated. Outliers are values that appear to be extreme when compared to the other values in the data set. Identification may be accomplished by an informal means such as by examining the graphs of time series data plots or by formal statistical means (e.g., Rosner’s Test, Skewness Test, Kurtosis Test, Shapiro-Wilk Test, Dixon’s Test). Once identified, outliers will be examined to determine if the extreme value is a true reflection of the concentration of the analyte in the sampled groundwater, or if the extreme value is related to some other factor such as a data entry error or an error in sampling procedure or laboratory methodology. Outliers resulting from errors or other factors should be

excluded from the data set, while those that truly represent the condition of the groundwater should be included for subsequent analysis.

Each data set should also be evaluated to determine the presence of trends, their significance and magnitude. Linear regression is strongly biased by outliers and is not recommended. The Mann-Kendall test is non-parametric and uses the ranks of the data rather than their actual values. It can tolerate missing values and non-detects. Sen's Slope Estimator is a non-parametric method for estimating the slope of the trend line, again based on data rank rather than actual values. It also tolerates missing data. Where possible, seasonality should be corrected prior to running trend tests.

Seasonality can be tested with the seasonal Kendall test which offers the advantage of not requiring that the data set be normally distributed. If seasonality is determined to be present, the seasonality effect should be removed.

Following the evaluation of background data, Fort Hood will prepare a report of the findings along with all supporting documentation (graphs, tables, etc.) and a recommendation to the TCEQ for the statistical methods to be employed during detection monitoring. The recommendation will specify the method to be used for each constituent in Table 1. The following subsections discuss potential statistical methods to be used during detection monitoring. This discussion is brief, generic, and should not be assumed to be exhaustive of all possible statistical treatments that may be proposed for detection monitoring.

2. INTER-WELL VERSUS INTRA-WELL METHODS

The first important decision to make when selecting a statistical method that will serve as a tool in determining whether contamination may be present in the groundwater involves choosing between intra-well and inter-well comparisons. Inter-well statistical methods such as the analysis of variance method (ANOVA) have the advantage of being able to utilize a limited data set. Conversely, this methodology suffers when spatial variability is an issue. The groundwater chemistry in upgradient and downgradient wells is never clearly the same, as it is affected by heterogeneity of the aquifer and local variations in recharge, flow velocity, and other uncontrollable factors. The variability in these chemical characteristics is likely to increase with the distance between wells. Inter-well comparisons assume a single ground water geochemistry including both upgradient and downgradient waters. This is essentially never correct. The principal use of inter-well comparisons, such as in ANOVA, apply when statistical methods are required for a small number of sampling events, or when intra-well methods are not otherwise suitable. Therefore, unless otherwise indicated, intra-well statistical methods will be employed when analyzing sampling data.

3. INTRA-WELL METHODS

The selection criteria applicable to individual intra-well statistical methods are briefly discussed in the following subsections.

3.1 Shewhart-CUSUM Control Charts

The Shewhart-CUSUM Control Chart is a useful procedure that has the advantage of presenting data in a graphical format. This procedure is used when the well under consideration was initially uncontaminated prior to testing, or in situations where the detected contamination is at an acceptable level to the TCEQ, and the principal interest

is in determining if additional contamination has occurred. If systematic temporal variability (such as seasonality) is known to exist in the groundwater chemistry, then the data should be adjusted to remove seasonal effects prior to preparing the chart. For non-normal data or transformed data, the Mann-Whitney Rank Sum (intra-well rank sum) test can be used. This procedure would not be suitable if the groundwater is known to be contaminated, or if the data indicate an increasing trend.

3.2 Tolerance Limits

Both parametric and non-parametric Tolerance Limits can be used for intra-well comparisons of data. This method may be used to compare data from an individual well with regulatory compliance limits (e.g., MCLs).

3.3 Prediction Intervals

A Predication Interval may be constructed to compare current data with past data. As with Tolerance Limits, Predication Intervals may be parametric or non-parametric depending on the proportion of non-detects to total samples. This method presumes that only one source of variation is present – the contaminants added by the landfill. If spatial, temporal, seasonal, or other sources of variation are present, prediction intervals are not appropriate.

Predication Intervals may also be appropriate for inter-well comparisons when the natural spatial variation between upgradient and downgradient wells is not large. At least two upgradient wells should be used for such comparisons.

APPENDIX 6

TCEQ 0312 GROUNDWATER SAMPLING REPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Waste Permits Division, Municipal Solid Waste Permits Section

Groundwater Sampling Report

Facility name_____

Permittee_____

County_____

1. MSW permit no. _____
(Essential Field)

2. Monitor well no. _____
(Essential Field)

3. Date of sampling _____
(Essential Field)

Name of sampler_____

Affiliation of sampler_____

If split-sampled, with whom?_____

Integrity of well_____

Installation date_____

Most recent previous sampling_____

Date of water level measurements_____

Datum reference point_____

Datum elevation*_____

Depth to water (below datum)*_____

4. Water level elevation*_____

5. Purging/Sampling method_____ (enter Bailer or Pump)
Were low-flow methods used? [ ] yes [ ] no (check one)
If yes, what volume was purged?_____

6. Well volumes purged_____ (enter 1, 2, 2.5, 3, etc)

7. Was the well dry before purging? [ ] yes [ ] no (check one)

8. Was the well dry after purging? [ ] yes [ ] no (check one)

9. How long before sampling?_____
(enter time)

10. Unit of measure?_____
(days, hours, or mins)

11. Sample Event_____
(enter one of the selections below)
- Background
- Corrective Action
- Detection Monitoring
- Other
- Assessment

12. Sample Schedule_____
(enter one of the selections below)
- Quarterly
- Fourth Year
- Semi-Annual
- Other
- Annual

13. Sample Type_____
(enter one of the selections below)
- Regular
- Split
- Duplicate
- Other
- Resample

Field Measurements:

14. pH _____

15. Spec. cond. _____ 16. [ ] umho/cm or [ ] mmho/cm (check one)

17. Temp. _____ 18. [ ] °F or [ ] °C (check one)

Laboratory:

19. Name _____ Phone _____

Address _____

Representative _____
(name) (signature) (date)

Site operator or representative: _____
(name) (signature) (date)

***Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (MSL).**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Waste Permits Division, Municipal Solid Waste Permits Section
Groundwater Sampling Report

HEAVY METALS

CONSTITUENT			CONCENTRATION	REPORTING LIMITS [3]	METHOD
Antimony	T [1]	D [2]	_____ µg/l	_____ µg/l	_____
Arsenic	T	D	_____ µg/l	_____ µg/l	_____
Barium	T	D	_____ µg/l	_____ µg/l	_____
Beryllium	T	D	_____ µg/l	_____ µg/l	_____
Cadmium	T	D	_____ µg/l	_____ µg/l	_____
Chromium	T	D	_____ µg/l	_____ µg/l	_____
Cobalt	T	D	_____ µg/l	_____ µg/l	_____
Copper	T	D	_____ µg/l	_____ µg/l	_____
Lead	T	D	_____ µg/l	_____ µg/l	_____
Mercury	T	D	_____ µg/l	_____ µg/l	_____
Nickel	T	D	_____ µg/l	_____ µg/l	_____
Selenium	T	D	_____ µg/l	_____ µg/l	_____
Silver	T	D	_____ µg/l	_____ µg/l	_____
Thallium	T	D	_____ µg/l	_____ µg/l	_____
Vanadium	T	D	_____ µg/l	_____ µg/l	_____
Zinc	T	D	_____ µg/l	_____ µg/l	_____
Iron	T	D	_____ mg/l	_____ mg/l	_____
Manganese	T	D	_____ mg/l	_____ mg/l	_____

[1, 2] Indicate whether analyses for Total (T) or Dissolved (D); use two pages if both are run. If analyses for dissolved concentrations, indicate filter pore size [ ] 0.45, [ ] 1, [ ] 10, [ ] ___ micron, and whether filtered [ ] in field or [ ] in laboratory.

[3] Indicate if reporting limits are _____ PQLs or _____ MDLs.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Waste Permits Division, Municipal Solid Waste Permits Section
Groundwater Sampling Report

VOLATILE ORGANIC COMPOUNDS (VOCs) [1]

CONSTITUENT	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L) [2]	METHOD	CAS NO.
Acetone				67-64-1
Acrylonitrile				107-13-1
Benzene				71-43-2
Bromochloromethane				74-97-5
Bromodichloromethane				75-27-4
Bromoform				75-25-2
Carbon disulfide				75-15-0
Carbon tetrachloride				56-23-5
Chlorobenzene				108-90-7
Chloroethane				75-00-3
Chloroform				67-66-3
Dibromochloromethane				124-48-1
1,2-Dibromo-3-chloropropane				96-12-8
1,2-Dibromoethane				106-93-4
o-Dichlorobenzene (1,2)				95-50-1
p-Dichlorobenzene (1,4)				106-46-7
trans-1,4-Dichloro-2-butene				110-57-6
1,1-Dichloroethane				75-34-3
1,2-Dichloroethane				107-06-2
1,1-Dichloroethylene				75-35-4
cis-1,2-Dichloroethylene				156-59-2
trans-1,2-Dichloroethylene				156-60-5
1,2-Dichloropropane				78-87-5
cis-1,3-Dichloropropene				10061-01-5
trans-1,3-Dichloropropene				10061-02-6
Ethylbenzene				100-41-4
2-Hexanone				591-78-6
Methyl bromide				74-83-9
Methyl chloride				74-87-3
Methylene bromide				74-95-3
Methylene chloride				75-09-2
Methyl ethyl ketone				78-93-3
Methyl iodide				74-88-4
4-Methyl-2-pentanone				108-10-1
Styrene				100-42-5
1,1,1,2-Tetrachloroethane				630-20-6
1,1,2,2-Tetrachloroethane				79-34-5
Tetrachloroethylene				127-18-4
Toluene				108-88-3
1,1,1-Trichloroethane				71-55-6
1,1,2-Trichloroethane				79-00-5
Trichloroethylene				79-01-6
Trichlorofluoromethane				75-69-4
1,2,3-trichloropropane				96-18-4
Vinyl acetate				108-05-4
Vinyl chloride				75-01-4
Xylenes (total)				1330-20-7

[1] **Samples for VOCs must not be filtered.**
[2] **Indicate if reporting limits are _____ PQLs or _____ MDLs.**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Waste Permits Division, Municipal Solid Waste Permits Section
Groundwater Sampling Report

OTHER CONSTITUENTS

CONSTITUENT [1]	CONCENTRATION [2]	REPORTING LIMIT [2, 3]	METHOD

[1] **Indicate whether analyses for Total (T) or Dissolved (D) concentrations. If analyses for dissolved concentrations, indicate filter pore size [ ] 0.45, [ ] 1, [ ] 10, [ ] __ micron, and whether filtered [ ] in field or [ ] in laboratory.**

[2] **Indicate if reporting limits are _____ PQLs or _____ MDLs.**

[3] **Show units of concentration and reporting limit.**

APPENDIX 7

LABORATORY STANDARD OPERATING PROCEDURE (LSOP)

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

ERMI ENVIRONMENTAL LABORATORIES
400 W. BETHANY SUITE 190
ALLEN, TX 75013

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Certificate Number: T104704232-08C-TX
Effective Date: 7/2/2008
Expiration Date: 6/30/2009

Executive Director
Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

ERMI Environmental Laboratories
400 W. Bethany Suite 190
Allen, TX 75013

Certificate T104704232-08C-TX
Issue Date: 7/2/2008
Expiration Date: 6/30/2009

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: Solid and Chemical Materials

Category / Method: EPA 1010

Analytes:	Code	AA	Analytes:	Code	AA
Ignitability	1780	TX			

Category / Method: EPA 1030

Analytes:	Code	AA	Analytes:	Code	AA
Ignitability	1780	TX			

Category / Method: EPA 1311

Analytes:	Code	AA	Analytes:	Code	AA
TCLP	849	TX			

Category / Method: EPA 1312

Analytes:	Code	AA	Analytes:	Code	AA
SPLP	850	TX			

Category / Method: EPA 300.0

Analytes:	Code	AA	Analytes:	Code	AA
Bromide	1540	TX	Chloride	1575	TX
Fluoride	1730	TX	Nitrate as N	1810	TX
Nitrate-nitrite	1820	TX	Nitrite as N	1840	TX
Orthophosphate as P	1870	TX	Sulfate	2000	TX

Category / Method: EPA 6010B

Analytes:	Code	AA	Analytes:	Code	AA
Antimony	1005	TX	Arsenic	1010	TX
Barium	1015	TX	Beryllium	1020	TX
Boron	1025	TX	Cadmium	1030	TX
Calcium	1035	TX	Chromium	1040	TX
Cobalt	1050	TX	Copper	1055	TX
Iron	1070	TX	Lead	1075	TX
Magnesium	1085	TX	Manganese	1090	TX
Molybdenum	1100	TX	Nickel	1105	TX
Selenium	1140	TX	Silver	1150	TX
Strontium	1160	TX	Thallium	1165	TX
Tin	1175	TX	Titanium	1180	TX
Vanadium	1185	TX	Zinc	1190	TX

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

ERMI Environmental Laboratories
400 W. Bethany Suite 190
Allen, TX 75013

Certificate T104704232-08C-TX
Issue Date: 7/2/2008
Expiration Date: 6/30/2009

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: Solid and Chemical Materials

Category / Method: EPA 6020A

Analytes:	Code	AA	Analytes:	Code	AA
Aluminum	1000	TX	Antimony	1005	TX
Arsenic	1010	TX	Barium	1015	TX
Beryllium	1020	TX	Cadmium	1030	TX
Calcium	1035	TX	Chromium	1040	TX
Cobalt	1050	TX	Copper	1055	TX
Iron	1070	TX	Lead	1075	TX
Magnesium	1085	TX	Manganese	1090	TX
Molybdenum	1100	TX	Nickel	1105	TX
Potassium	1125	TX	Selenium	1140	TX
Silver	1150	TX	Sodium	1155	TX
Thallium	1165	TX	Vanadium	1185	TX
Zinc	1190	TX			

Category / Method: EPA 7196A

Analytes:	Code	AA	Analytes:	Code	AA
Chromium VI	1045	TX			

Category / Method: EPA 7470A

Analytes:	Code	AA	Analytes:	Code	AA
Mercury	1095	TX			

Category / Method: EPA 7471A

Analytes:	Code	AA	Analytes:	Code	AA
Mercury	1095	TX			

Category / Method: EPA 8015B

Analytes:	Code	AA	Analytes:	Code	AA
Diesel range organics (DRO)	9369	TX	Ethylene glycol	4785	TX
Gasoline range organics (GRO)	9408	TX	Methanol	4930	TX
propylene glycol	10156	TX			

Category / Method: EPA 8021B

Analytes:	Code	AA	Analytes:	Code	AA
Benzene	4375	TX	Ethylbenzene	4765	TX
m+p-xylene	5240	TX	Methyl tert-butyl ether (MTBE)	5000	TX
Naphthalene	5005	TX	o-Xylene	5250	TX
Toluene	5140	TX	Xylene (total)	5260	TX

Texas Commission on Environmental Quality

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Allen, TX 75013

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Issue Date: 7/2/2008
Expiration Date: 6/30/2009

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Matrix: Solid and Chemical Materials

Category / Method: EPA 8081A

Analytes:	Code	AA	Analytes:	Code	AA
4 4`-DDD	7355	TX	4 4`-DDE	7360	TX
4 4`-DDT	7365	TX	Aldrin	7025	TX
alpha-BHC (alpha-Hexachlorocyclohexane)	7110	TX	alpha-Chlordane	7240	TX
beta-BHC (beta-Hexachlorocyclohexane)	7115	TX	Chlordane, Technical	7250	TX
delta-BHC	7105	TX	Dieldrin	7470	TX
Endosulfan I	7510	TX	Endosulfan II	7515	TX
Endosulfan sulfate	7520	TX	Endrin	7540	TX
Endrin aldehyde	7530	TX	Endrin ketone	7535	TX
gamma-BHC (Lindane gamma-Hexachlorocyclohexane)	7120	TX	gamma-Chlordane	7245	TX
Heptachlor	7685	TX	Heptachlor epoxide	7690	TX
Methoxychlor	7810	TX	Mirex	7870	TX
Toxaphene (Chlorinated camphene)	8250	TX			

Category / Method: EPA 8082

Analytes:	Code	AA	Analytes:	Code	AA
Aroclor-1016 (PCB-1016)	8880	TX	Aroclor-1221 (PCB-1221)	8885	TX
Aroclor-1232 (PCB-1232)	8890	TX	Aroclor-1242 (PCB-1242)	8895	TX
Aroclor-1248 (PCB-1248)	8900	TX	Aroclor-1254 (PCB-1254)	8905	TX
Aroclor-1260 (PCB-1260)	8910	TX	PCBs, Total	8870	TX

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Expiration Date: 6/30/2009

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Matrix: Solid and Chemical Materials

Category / Method: EPA 8141A

Analytes:	Code	AA	Analytes:	Code	AA
Atrazine	7065	TX	Azinphos-methyl (Guthion)	7075	TX
Bolstar (Sulprofos)	7125	TX	Chlorpyrifos	7300	TX
Coumaphos	7315	TX	Demeton	7390	TX
Demeton-o	7395	TX	Demeton-s	7385	TX
Diazinon	7410	TX	Dichlorovos (DDVP Dichlorvos)	8610	TX
Dimethoate	7475	TX	Disulfoton	8625	TX
EPN	7550	TX	Ethoprop	7570	TX
Fensulfothion	7600	TX	Fenthion	7605	TX
Malathion	7770	TX	Merphos	7785	TX
Mevinphos	7850	TX	Monocrotophos	7880	TX
Naled	7905	TX	Parathion	7950	TX
Parathion ethyl	7955	TX	Phorate	7985	TX
Ronnel	8110	TX	Sulfotepp	8155	TX
Tetrachlorvinphos (Stirophos Gardona)	8200	TX	Tokuthion (Prothiophos)	8245	TX
Trichloronate	8275	TX			

Category / Method: EPA 8151A

Analytes:	Code	AA	Analytes:	Code	AA
2 4 5-T	8655	TX	2 4-D	8545	TX
2 4-DB	8560	TX	Dalapon	8555	TX
Dicamba	8595	TX	Dichloroprop (Dichlorprop)	8605	TX
Dinoseb (2-sec-butyl-4 6-dinitrophenol DNBP)	8620	TX	MCPA	7775	TX
MCPP	7780	TX	Silvex (2 4 5-TP)	8650	TX

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Matrix: Solid and Chemical Materials

Category / Method: EPA 8260B

Analytes:	Code	AA	Analytes:	Code	AA
1 1 1 2-Tetrachloroethane	5105	TX	1 1 1-Trichloroethane	5160	TX
1 1 2 2-Tetrachloroethane	5110	TX	1 1 2-Trichloroethane	5165	TX
1 1-Dichloroethane	4630	TX	1 1-Dichloroethylene	4640	TX
1 1-Dichloropropene	4670	TX	1 2 3-Trichlorobenzene	5150	TX
1 2 3-Trichloropropane	5180	TX	1 2 4-Trichlorobenzene	5155	TX
1 2 4-Trimethylbenzene	5210	TX	1 2-Dibromo-3-chloropropane (DBCP)	4570	TX
1 2-Dibromoethane (EDB Ethylene dibromide)	4585	TX	1 2-Dichlorobenzene	4610	TX
1 2-Dichloroethane	4635	TX	1 2-Dichloropropane	4655	TX
1 3 5-Trimethylbenzene	5215	TX	1 3-Dichlorobenzene	4615	TX
1 3-Dichloropropane	4660	TX	1 4-Dichlorobenzene	4620	TX
1 4-Dioxane (1 4- Diethyleneoxide)	4735	TX	2 2-Dichloropropane	4665	TX
2-Butanone (Methyl ethyl ketone MEK)	4410	TX	2-Chloroethyl vinyl ether	4500	TX
2-Chlorotoluene	4535	TX	2-Hexanone	4860	TX
2-Propanol	5065	TX	4-Chlorotoluene	4540	TX
4-Isopropyltoluene	4915	TX	4-Methyl-2-pentanone (MIBK)	4995	TX
Acetone	4315	TX	Acetonitrile	4320	TX
Acrolein (Propenal)	4325	TX	Acrylonitrile	4340	TX
Allyl chloride (3-Chloropropene)	4355	TX	Benzene	4375	TX
Benzyl chloride	5635	TX	Bromobenzene	4385	TX
Bromochloromethane	4390	TX	Bromodichloromethane	4395	TX
Bromoform	4400	TX	Bromomethane	4950	TX
Carbon disulfide	4450	TX	Carbon tetrachloride	4455	TX
Chlorobenzene	4475	TX	Chloroethane	4485	TX
Chloroform	4505	TX	Chloromethane	4960	TX
Chloroprene	4525	TX	cis-1 2-Dichloroethylene	4645	TX
cis-1 3-Dichloropropene	4680	TX	Dibromochloromethane	4575	TX
Dibromomethane	4595	TX	Dichlorodifluoromethane	4625	TX
Epichlorohydrin (1-Chloro-2 3-epoxypropane)	4745	TX	Ethyl acetate	4755	TX
Ethyl methacrylate	4810	TX	Ethylbenzene	4765	TX
Hexachlorobutadiene	4835	TX	Hexachloroethane	4840	TX
Iodomethane (Methyl iodide)	4870	TX	Isobutyl alcohol (2-Methyl-1-propanol)	4875	TX
Isopropylbenzene (cumene)	4900	TX	m+p-xylene	5240	TX
Methacrylonitrile	4925	TX	Methyl acetate	4940	TX
Methyl methacrylate	4990	TX	Methyl tert-butyl ether (MTBE)	5000	TX
Methylene chloride	4975	TX	Naphthalene	5005	TX

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Matrix: Solid and Chemical Materials

Category / Method: EPA 8260B

n-Butylbenzene	4435	TX	n-Propylbenzene	5090	TX
o-Xylene	5250	TX	Pentachloroethane	5035	TX
Propionitrile (Ethyl cyanide)	5080	TX	sec-Butylbenzene	4440	TX
Styrene	5100	TX	tert-Butylbenzene	4445	TX
Tetrachloroethylene (Perchloroethylene)	5115	TX	Toluene	5140	TX
trans-1 2-Dichloroethylene	4700	TX	trans-1 3-Dichloropropylene	4685	TX
trans-1 4-Dichloro-2-butene	4605	TX	Trichloroethene (Trichloroethylene)	5170	TX
Trichlorofluoromethane	5175	TX	Vinyl acetate	5225	TX
Vinyl chloride	5235	TX	Xylene (total)	5260	TX

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Matrix: Solid and Chemical Materials

Category / Method: EPA 8270C

Analytes:	Code	AA	Analytes:	Code	AA
1 2 4 5-Tetrachlorobenzene	6715	TX	1 2 4-Trichlorobenzene	5155	TX
1 2-Dichlorobenzene	4610	TX	1 2-Dinitrobenzene	6155	TX
1 3-Dichlorobenzene	4615	TX	1 3-Dinitrobenzene (1 3-DNB)	6160	TX
1 4-Dichlorobenzene	4620	TX	1 4-Dinitrobenzene	6165	TX
1 4-Naphthoquinone	6420	TX	1-Chloronaphthalene	5790	TX
1-Naphthylamine	6425	TX	2 3 4 6-Tetrachlorophenol	6735	TX
2 4 5-Trichlorophenol	6835	TX	2 4 6-Trichlorophenol	6840	TX
2 4-Dichlorophenol	6000	TX	2 4-Dimethylphenol	6130	TX
2 4-Dinitrophenol	6175	TX	2 4-Dinitrotoluene (2 4-DNT)	6185	TX
2 6-Dichlorophenol	6005	TX	2 6-Dinitrotoluene (2 6-DNT)	6190	TX
2-Acetylaminofluorene	5515	TX	2-Chloronaphthalene	5795	TX
2-Chlorophenol	5800	TX	2-Methyl-4 6-dinitrophenol	6360	TX
2-Methylnaphthalene	6385	TX	2-Methylphenol (o-Cresol)	6400	TX
2-Naphthylamine	6430	TX	2-Nitroaniline	6460	TX
2-Nitrophenol	6490	TX	2-Picoline (2-Methylpyridine)	5050	TX
3 3`-Dichlorobenzidine	5945	TX	3 3`-Dimethylbenzidine	6120	TX
3-Methylcholanthrene	6355	TX	3-Nitroaniline	6465	TX
4 4`-Oxydianiline	6585	TX	4-Aminobiphenyl	5540	TX
4-Bromophenyl phenyl ether	5660	TX	4-Chloro-3-methylphenol	5700	TX
4-Chloroaniline	5745	TX	4-Chlorophenyl phenyl ether	5825	TX
4-Methylphenol (p-Cresol)	6410	TX	4-Nitroaniline	6470	TX
4-Nitrobiphenyl	6480	TX	4-Nitrophenol	6500	TX
5 5-Diphenylhydantoin	6215	TX	5-Chloro-2-methylaniline	5695	TX
5-Nitroacenaphthene	6455	TX	5-Nitro-o-toluidine	6570	TX
7 12-Dimethylbenz(a) anthracene	6115	TX	Acenaphthene	5500	TX
Acenaphthylene	5505	TX	Acetophenone	5510	TX
Aminoazobenzene	5535	TX	Aniline	5545	TX
Anthracene	5555	TX	Azobenzene	10280	TX
Benzidine	5595	TX	Benzo(a)anthracene	5575	TX
Benzo(a)pyrene	5580	TX	Benzo(b)fluoranthene	5585	TX
Benzo(g h i)perylene	5590	TX	Benzo(k)fluoranthene	5600	TX
Benzoic acid	5610	TX	Benzyl alcohol	5630	TX
bis(2-Chloroethoxy)methane	5760	TX	bis(2-Chloroethyl) ether	5765	TX
bis(2-Chloroisopropyl) ether	5780	TX	bis(2-Ethylhexyl) phthalate (DEHP)	6255	TX
Butyl benzyl phthalate	5670	TX	Carbazole	5680	TX

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Matrix: Solid and Chemical Materials

Category / Method: EPA 8270C

Chrysene	5855	TX	Dibenz(a h) anthracene	5895	TX
Dibenzofuran	5905	TX	Diethyl phthalate	6070	TX
Diethyl sulfate	6080	TX	Diethylstilbestrol	6075	TX
Dimethyl phthalate	6135	TX	Di-n-butyl phthalate	5925	TX
Di-n-octyl phthalate	6200	TX	Diphenylamine	6205	TX
Ethyl methanesulfonate	6260	TX	Fluoranthene	6265	TX
Fluorene	6270	TX	Hexachlorobenzene	6275	TX
Hexachlorobutadiene	4835	TX	Hexachlorocyclopentadiene	6285	TX
Hexachloroethane	4840	TX	Hexachloropropene	6295	TX
Indeno(1,2,3-c,d)pyrene	6315	TX	Isodrin	7725	TX
Isophorone	6320	TX	Isosafrole	6325	TX
Mestranol	6340	TX	Methyl methanesulfonate	6375	TX
Methylphenols, total	10313	TX	Naphthalene	5005	TX
Nitrobenzene	5015	TX	n-Nitrosodiethylamine	6525	TX
n-Nitrosodimethylamine	6530	TX	n-Nitroso-di-n-butylamine	5025	TX
n-Nitrosodi-n-propylamine	6545	TX	n-Nitrosodiphenylamine	6535	TX
n-Nitrosomethylethalamine	6550	TX	n-Nitrosomorpholine	6555	TX
n-Nitrosopiperidine	6560	TX	n-Nitrosopyrrolidine	6565	TX
o-Anisidine	5550	TX	o-Toluidine	5145	TX
p-Cresidine	5860	TX	Pentachlorobenzene	6590	TX
Pentachloronitrobenzene	6600	TX	Pentachlorophenol	6605	TX
Phenacetin	6610	TX	Phenanthrene	6615	TX
Phenol	6625	TX	Pronamide (Kerb)	6650	TX
Pyrene	6665	TX	Pyridine	5095	TX
Safrole	6685	TX			

Category / Method: EPA 8310

Analytes:	Code	AA	Analytes:	Code	AA
Acenaphthene	5500	TX	Acenaphthylene	5505	TX
Anthracene	5555	TX	Benzo(a)anthracene	5575	TX
Benzo(a)pyrene	5580	TX	Benzo(b)fluoranthene	5585	TX
Benzo(g h i)perylene	5590	TX	Benzo(k)fluoranthene	5600	TX
Chrysene	5855	TX	Dibenz(a h) anthracene	5895	TX
Fluoranthene	6265	TX	Fluorene	6270	TX
Indeno(1,2,3-c,d)pyrene	6315	TX	Naphthalene	5005	TX
Phenanthrene	6615	TX	Pyrene	6665	TX

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Matrix: Solid and Chemical Materials

Category / Method: EPA 8318

Analytes:	Code	AA	Analytes:	Code	AA
3-Hydroxycarbofuran	7710	TX	Aldicarb (Temik)	7010	TX
Aldicarb sulfone	7015	TX	Carbaryl (Sevin)	7195	TX
Carbofuran (Furaden)	7205	TX	Dioxacarb	9384	TX
Methiocarb (Mesurol)	7800	TX	Methomyl (Lannate)	7805	TX
Promecarb	8025	TX	Propoxur (Baygon)	8080	TX

Category / Method: EPA 9014

Analytes:	Code	AA	Analytes:	Code	AA
Amenable cyanide	1510	TX	Cyanide, Total	1635	TX

Category / Method: EPA 9040C

Analytes:	Code	AA	Analytes:	Code	AA
Corrosivity	1615	TX	pH	1900	TX

Category / Method: EPA 9041

Analytes:	Code	AA	Analytes:	Code	AA
pH	1900	TX			

Category / Method: EPA 9045D

Analytes:	Code	AA	Analytes:	Code	AA
Corrosivity	1615	TX	pH	1900	TX

Category / Method: EPA 9050A

Analytes:	Code	AA	Analytes:	Code	AA
Conductivity	1610	TX			

Category / Method: EPA 9056

Analytes:	Code	AA	Analytes:	Code	AA
Bromide	1540	TX	Chloride	1575	TX
Fluoride	1730	TX	Nitrate as N	1810	TX
Nitrate-nitrite	1820	TX	Nitrite as N	1840	TX
Orthophosphate as P	1870	TX	Sulfate	2000	TX

Category / Method: EPA 9060

Analytes:	Code	AA	Analytes:	Code	AA
Total organic carbon	2040	TX			

Category / Method: EPA 9065

Analytes:	Code	AA	Analytes:	Code	AA
Total phenolics	1905	TX			

Category / Method: EPA 9071

Analytes:	Code	AA	Analytes:	Code	AA
n-Hexane Extractable Material	10219	TX	Silica Gel Treated n-Hexane Extractable Material	10220	TX

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Matrix: Solid and Chemical Materials

Category / Method: EPA 9081

Analytes:	Code	AA	Analytes:	Code	AA
Cation exchange capacity	1560	TX			

Category / Method: EPA 9095

Analytes:	Code	AA	Analytes:	Code	AA
Paint Filter Test	10312	TX			

Category / Method: Iowa OA-1

Analytes:	Code	AA	Analytes:	Code	AA
Volatile Petroleum Hydrocarbons	10330	TX			

Category / Method: Iowa OA-2

Analytes:	Code	AA	Analytes:	Code	AA
Extractable Petroleum Hydrocarbons	10331	TX			

Category / Method: SM 2540 G

Analytes:	Code	AA	Analytes:	Code	AA
Residue-total	1950	TX			

Category / Method: SM 9221C/E

Analytes:	Code	AA	Analytes:	Code	AA
Fecal coliforms	2530	TX			

Category / Method: SM 9222 B

Analytes:	Code	AA	Analytes:	Code	AA
Total coliforms	2500	TX			

Category / Method: SM 9222 D

Analytes:	Code	AA	Analytes:	Code	AA
Fecal coliforms	2530	TX			

Category / Method: TCEQ 1005

Analytes:	Code	AA	Analytes:	Code	AA
Total Petroleum Hydrocarbons (TPH)	2050	TX			

Matrix: Non-Potable Water

Category / Method: Colilert®

Analytes:	Code	AA	Analytes:	Code	AA
Escherichia coli (enumeration)	2525	TX			

Category / Method: Enterolert

Analytes:	Code	AA	Analytes:	Code	AA
Enterococci	2520	TX			

Category / Method: EPA 1010

Analytes:	Code	AA	Analytes:	Code	AA
Ignitability	1780	TX			

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Matrix: Non-Potable Water

Category / Method: EPA 120.1

Analytes:	Code	AA	Analytes:	Code	AA
Conductivity	1610	TX			

Category / Method: EPA 1311

Analytes:	Code	AA	Analytes:	Code	AA
TCLP	849	TX			

Category / Method: EPA 1312

Analytes:	Code	AA	Analytes:	Code	AA
SPLP	850	TX			

Category / Method: EPA 160.4

Analytes:	Code	AA	Analytes:	Code	AA
Residue-volatile	1970	TX			

Category / Method: EPA 1664

Analytes:	Code	AA	Analytes:	Code	AA
n-Hexane Extractable Material	10219	TX	Silica Gel Treated n-Hexane Extractable Material	10220	TX

Category / Method: EPA 180.1

Analytes:	Code	AA	Analytes:	Code	AA
Turbidity	2055	TX			

Category / Method: EPA 200.7

Analytes:	Code	AA	Analytes:	Code	AA
Antimony	1005	TX	Arsenic	1010	TX
Barium	1015	TX	Beryllium	1020	TX
Boron	1025	TX	Cadmium	1030	TX
Calcium	1035	TX	Chromium	1040	TX
Cobalt	1050	TX	Copper	1055	TX
Iron	1070	TX	Lead	1075	TX
Magnesium	1085	TX	Manganese	1090	TX
Molybdenum	1100	TX	Nickel	1105	TX
Selenium	1140	TX	Silver	1150	TX
Strontium	1160	TX	Thallium	1165	TX
Tin	1175	TX	Titanium	1180	TX
Vanadium	1185	TX	Zinc	1190	TX

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Matrix: Non-Potable Water

Category / Method: EPA 200.8

Analytes:	Code	AA	Analytes:	Code	AA
Aluminum	1000	TX	Antimony	1005	TX
Arsenic	1010	TX	Barium	1015	TX
Beryllium	1020	TX	Cadmium	1030	TX
Calcium	1035	TX	Chromium	1040	TX
Cobalt	1050	TX	Copper	1055	TX
Iron	1070	TX	Lead	1075	TX
Magnesium	1085	TX	Manganese	1090	TX
Molybdenum	1100	TX	Nickel	1105	TX
Potassium	1125	TX	Selenium	1140	TX
Silver	1150	TX	Sodium	1155	TX
Thallium	1165	TX	Vanadium	1185	TX
Zinc	1190	TX			

Category / Method: EPA 245.1

Analytes:	Code	AA	Analytes:	Code	AA
Mercury	1095	TX			

Category / Method: EPA 300.0

Analytes:	Code	AA	Analytes:	Code	AA
Bromide	1540	TX	Chloride	1575	TX
Fluoride	1730	TX	Nitrate as N	1810	TX
Nitrate-nitrite	1820	TX	Nitrite as N	1840	TX
Orthophosphate as P	1870	TX	Sulfate	2000	TX

Category / Method: EPA 420.1

Analytes:	Code	AA	Analytes:	Code	AA
Total phenolics	1905	TX			

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Matrix: Non-Potable Water

Category / Method: EPA 6010B

Analytes:	Code	AA	Analytes:	Code	AA
Antimony	1005	TX	Arsenic	1010	TX
Barium	1015	TX	Beryllium	1020	TX
Boron	1025	TX	Cadmium	1030	TX
Calcium	1035	TX	Chromium	1040	TX
Cobalt	1050	TX	Copper	1055	TX
Iron	1070	TX	Lead	1075	TX
Magnesium	1085	TX	Manganese	1090	TX
Molybdenum	1100	TX	Nickel	1105	TX
Selenium	1140	TX	Silver	1150	TX
Strontium	1160	TX	Thallium	1165	TX
Tin	1175	TX	Titanium	1180	TX
Vanadium	1185	TX	Zinc	1190	TX

Category / Method: EPA 602

Analytes:	Code	AA	Analytes:	Code	AA
Benzene	4375	TX	Ethylbenzene	4765	TX
m+p-xylene	5240	TX	Methyl tert-butyl ether (MTBE)	5000	TX
o-Xylene	5250	TX	Toluene	5140	TX
Xylene (total)	5260	TX			

Category / Method: EPA 6020A

Analytes:	Code	AA	Analytes:	Code	AA
Aluminum	1000	TX	Antimony	1005	TX
Arsenic	1010	TX	Barium	1015	TX
Beryllium	1020	TX	Cadmium	1030	TX
Calcium	1035	TX	Chromium	1040	TX
Cobalt	1050	TX	Copper	1055	TX
Iron	1070	TX	Lead	1075	TX
Magnesium	1085	TX	Manganese	1090	TX
Molybdenum	1100	TX	Nickel	1105	TX
Potassium	1125	TX	Selenium	1140	TX
Silver	1150	TX	Sodium	1155	TX
Thallium	1165	TX	Vanadium	1185	TX
Zinc	1190	TX			

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Matrix: Non-Potable Water

Category / Method: EPA 608

Analytes:	Code	AA	Analytes:	Code	AA
4 4`-DDD	7355	TX	4 4`-DDE	7360	TX
4 4`-DDT	7365	TX	Aldrin	7025	TX
alpha-BHC (alpha-Hexachlorocyclohexane)	7110	TX	Aroclor-1016 (PCB-1016)	8880	TX
Aroclor-1221 (PCB-1221)	8885	TX	Aroclor-1232 (PCB-1232)	8890	TX
Aroclor-1242 (PCB-1242)	8895	TX	Aroclor-1248 (PCB-1248)	8900	TX
Aroclor-1254 (PCB-1254)	8905	TX	Aroclor-1260 (PCB-1260)	8910	TX
beta-BHC (beta-Hexachlorocyclohexane)	7115	TX	Chlordane, Technical	7250	TX
delta-BHC	7105	TX	Dieldrin	7470	TX
Endosulfan I	7510	TX	Endosulfan II	7515	TX
Endosulfan sulfate	7520	TX	Endrin	7540	TX
Endrin aldehyde	7530	TX	gamma-BHC (Lindane gamma-Hexachlorocyclohexane)	7120	TX
Heptachlor	7685	TX	Heptachlor epoxide	7690	TX
Methoxychlor	7810	TX	Toxaphene (Chlorinated camphene)	8250	TX

Category / Method: EPA 610

Analytes:	Code	AA	Analytes:	Code	AA
Acenaphthene	5500	TX	Acenaphthylene	5505	TX
Anthracene	5555	TX	Benzo(a)anthracene	5575	TX
Benzo(a)pyrene	5580	TX	Benzo(b)fluoranthene	5585	TX
Benzo(g h i)perylene	5590	TX	Benzo(k)fluoranthene	5600	TX
Chrysene	5855	TX	Dibenz(a h) anthracene	5895	TX
Fluoranthene	6265	TX	Fluorene	6270	TX
Indeno(1,2,3-c,d)pyrene	6315	TX	Naphthalene	5005	TX
Phenanthrene	6615	TX	Pyrene	6665	TX

Category / Method: EPA 615

Analytes:	Code	AA	Analytes:	Code	AA
2 4 5-T	8655	TX	2 4-D	8545	TX
2 4-DB	8560	TX	Dalapon	8555	TX
Dicamba	8595	TX	Dichloroprop (Dichlorprop)	8605	TX
Dinoseb (2-sec-butyl-4 6-dinitrophenol DNBP)	8620	TX	MCPA	7775	TX
MCPP	7780	TX	Silvex (2 4 5-TP)	8650	TX

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ERMI Environmental Laboratories
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Matrix: Non-Potable Water

Category / Method: EPA 624

Analytes:	Code	AA	Analytes:	Code	AA
1 1 1-Trichloroethane	5160	TX	1 1 2 2-Tetrachloroethane	5110	TX
1 1 2-Trichloroethane	5165	TX	1 1-Dichloroethane	4630	TX
1 1-Dichloroethylene	4640	TX	1 2-Dibromoethane (EDB Ethylene dibromide)	4585	TX
1 2-Dichlorobenzene	4610	TX	1 2-Dichloroethane	4635	TX
1 2-Dichloropropane	4655	TX	1 3-Dichlorobenzene	4615	TX
1 4-Dichlorobenzene	4620	TX	2-Butanone (Methyl ethyl ketone MEK)	4410	TX
2-Chloroethyl vinyl ether	4500	TX	Acetone	4315	TX
Acrolein (Propenal)	4325	TX	Acrylonitrile	4340	TX
Benzene	4375	TX	Bromodichloromethane	4395	TX
Bromoform	4400	TX	Bromomethane	4950	TX
Carbon tetrachloride	4455	TX	Chlorobenzene	4475	TX
Chloroethane	4485	TX	Chloroform	4505	TX
Chloromethane	4960	TX	cis-1 2-Dichloroethylene	4645	TX
cis-1 3-Dichloropropene	4680	TX	Dibromochloromethane	4575	TX
Ethylbenzene	4765	TX	m+p-xylene	5240	TX
Methyl tert-butyl ether (MTBE)	5000	TX	Methylene chloride	4975	TX
Naphthalene	5005	TX	o-Xylene	5250	TX
Tetrachloroethylene (Perchloroethylene)	5115	TX	Toluene	5140	TX
Total trihalomethanes	5205	TX	trans-1 2-Dichloroethylene	4700	TX
trans-1 3-Dichloropropylene	4685	TX	Trichloroethene (Trichloroethylene)	5170	TX
Trichlorofluoromethane	5175	TX	Vinyl chloride	5235	TX
Xylene (total)	5260	TX			

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Matrix: Non-Potable Water

Category / Method: EPA 625

Analytes:	Code	AA	Analytes:	Code	AA
1 2 4 5-Tetrachlorobenzene	6715	TX	1 2 4-Trichlorobenzene	5155	TX
1 2-Diphenylhydrazine	6220	TX	2 3 4 6-Tetrachlorophenol	6735	TX
2 4 5-Trichlorophenol	6835	TX	2 4 6-Trichlorophenol	6840	TX
2 4-Dichlorophenol	6000	TX	2 4-Dimethylphenol	6130	TX
2 4-Dinitrophenol	6175	TX	2 4-Dinitrotoluene (2 4-DNT)	6185	TX
2 6-Dinitrotoluene (2 6-DNT)	6190	TX	2-Chloronaphthalene	5795	TX
2-Chlorophenol	5800	TX	2-Methyl-4 6-dinitrophenol	6360	TX
2-Methylphenol (o-Cresol)	6400	TX	2-Nitrophenol	6490	TX
3 3`-Dichlorobenzidine	5945	TX	4-Bromophenyl phenyl ether	5660	TX
4-Chloro-3-methylphenol	5700	TX	4-Chlorophenyl phenyl ether	5825	TX
4-Methylphenol (p-Cresol)	6410	TX	4-Nitrophenol	6500	TX
Acenaphthene	5500	TX	Acenaphthylene	5505	TX
Anthracene	5555	TX	Benzidine	5595	TX
Benzo(a)anthracene	5575	TX	Benzo(a)pyrene	5580	TX
Benzo(b)fluoranthene	5585	TX	Benzo(g h i)perylene	5590	TX
Benzo(k)fluoranthene	5600	TX	bis(2-Chloroethoxy)methane	5760	TX
bis(2-Chloroethyl) ether	5765	TX	bis(2-Chloroisopropyl) ether	5780	TX
bis(2-Ethylhexyl) phthalate (DEHP)	6255	TX	Butyl benzyl phthalate	5670	TX
Chrysene	5855	TX	Dibenz(a h) anthracene	5895	TX
Diethyl phthalate	6070	TX	Dimethyl phthalate	6135	TX
Di-n-butyl phthalate	5925	TX	Di-n-octyl phthalate	6200	TX
Fluoranthene	6265	TX	Fluorene	6270	TX
Hexachlorobenzene	6275	TX	Hexachlorobutadiene	4835	TX
Hexachlorocyclopentadiene	6285	TX	Hexachloroethane	4840	TX
Indeno(1,2,3-c,d)pyrene	6315	TX	Isophorone	6320	TX
Naphthalene	5005	TX	Nitrobenzene	5015	TX
n-Nitrosodiethylamine	6525	TX	n-Nitrosodimethylamine	6530	TX
n-Nitroso-di-n-butylamine	5025	TX	n-Nitrosodi-n-propylamine	6545	TX
n-Nitrosodiphenylamine	6535	TX	Pentachlorobenzene	6590	TX
Pentachlorophenol	6605	TX	Phenanthrene	6615	TX
Phenol	6625	TX	Pyrene	6665	TX
Pyridine	5095	TX			

Category / Method: EPA 632

Analytes:	Code	AA	Analytes:	Code	AA
Carbaryl (Sevin)	7195	TX			

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Matrix: Non-Potable Water

Category / Method: EPA 7196

Analytes:	Code	AA	Analytes:	Code	AA
Chromium VI	1045	TX			

Category / Method: EPA 7470A

Analytes:	Code	AA	Analytes:	Code	AA
Mercury	1095	TX			

Category / Method: EPA 7471A

Analytes:	Code	AA	Analytes:	Code	AA
Mercury	1095	TX			

Category / Method: EPA 8015B

Analytes:	Code	AA	Analytes:	Code	AA
Diesel range organics (DRO)	9369	TX	Ethylene glycol	4785	TX
Gasoline range organics (GRO)	9408	TX	Methanol	4930	TX
propylene glycol	10156	TX			

Category / Method: EPA 8021B

Analytes:	Code	AA	Analytes:	Code	AA
Benzene	4375	TX	Ethylbenzene	4765	TX
m+p-xylene	5240	TX	Methyl tert-butyl ether (MTBE)	5000	TX
Naphthalene	5005	TX	o-Xylene	5250	TX
Toluene	5140	TX	Xylene (total)	5260	TX

Category / Method: EPA 8081A

Analytes:	Code	AA	Analytes:	Code	AA
4 4`-DDD	7355	TX	4 4`-DDE	7360	TX
4 4`-DDT	7365	TX	Aldrin	7025	TX
alpha-BHC (alpha-Hexachlorocyclohexane)	7110	TX	alpha-Chlordane	7240	TX
beta-BHC (beta-Hexachlorocyclohexane)	7115	TX	Chlordane, Technical	7250	TX
delta-BHC	7105	TX	Dieldrin	7470	TX
Endosulfan I	7510	TX	Endosulfan II	7515	TX
Endosulfan sulfate	7520	TX	Endrin	7540	TX
Endrin aldehyde	7530	TX	Endrin ketone	7535	TX
gamma-BHC (Lindane gamma-Hexachlorocyclohexane)	7120	TX	gamma-Chlordane	7245	TX
Heptachlor	7685	TX	Heptachlor epoxide	7690	TX
Methoxychlor	7810	TX	Mirex	7870	TX
Toxaphene (Chlorinated camphene)	8250	TX			

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Matrix: Non-Potable Water

Category / Method: EPA 8082

Analytes:	Code	AA	Analytes:	Code	AA
Aroclor-1016 (PCB-1016)	8880	TX	Aroclor-1221 (PCB-1221)	8885	TX
Aroclor-1232 (PCB-1232)	8890	TX	Aroclor-1242 (PCB-1242)	8895	TX
Aroclor-1248 (PCB-1248)	8900	TX	Aroclor-1254 (PCB-1254)	8905	TX
Aroclor-1260 (PCB-1260)	8910	TX	PCBs, Total	8870	TX

Category / Method: EPA 8141A

Analytes:	Code	AA	Analytes:	Code	AA
Atrazine	7065	TX	Azinphos-methyl (Guthion)	7075	TX
Bolstar (Sulprofos)	7125	TX	Chlorpyrifos	7300	TX
Coumaphos	7315	TX	Demeton	7390	TX
Demeton-o	7395	TX	Demeton-s	7385	TX
Diazinon	7410	TX	Dichlorovos (DDVP Dichlorvos)	8610	TX
Dimethoate	7475	TX	Disulfoton	8625	TX
EPN	7550	TX	Ethoprop	7570	TX
Fensulfothion	7600	TX	Fenthion	7605	TX
Malathion	7770	TX	Merphos	7785	TX
Mevinphos	7850	TX	Monocrotophos	7880	TX
Naled	7905	TX	Parathion	7950	TX
Parathion ethyl	7955	TX	Phorate	7985	TX
Ronnel	8110	TX	Sulfotepp	8155	TX
Tetrachlorvinphos (Stirophos Gardona)	8200	TX	Tokuthion (Prothiophos)	8245	TX
Trichloronate	8275	TX			

Category / Method: EPA 8151A

Analytes:	Code	AA	Analytes:	Code	AA
2 4 5-T	8655	TX	2 4-D	8545	TX
2 4-DB	8560	TX	Dalapon	8555	TX
Dicamba	8595	TX	Dichloroprop (Dichlorprop)	8605	TX
Dinoseb (2-sec-butyl-4 6-dinitrophenol DNBP)	8620	TX	MCPA	7775	TX
MCPP	7780	TX	Silvex (2 4 5-TP)	8650	TX

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Matrix: Non-Potable Water

Category / Method: EPA 8260B

Analytes:	Code	AA	Analytes:	Code	AA
1 1 1 2-Tetrachloroethane	5105	TX	1 1 1-Trichloroethane	5160	TX
1 1 2 2-Tetrachloroethane	5110	TX	1 1 2-Trichloroethane	5165	TX
1 1-Dichloroethane	4630	TX	1 1-Dichloroethylene	4640	TX
1 1-Dichloropropene	4670	TX	1 2 3-Trichlorobenzene	5150	TX
1 2 3-Trichloropropane	5180	TX	1 2 4-Trichlorobenzene	5155	TX
1 2 4-Trimethylbenzene	5210	TX	1 2-Dibromo-3-chloropropane (DBCP)	4570	TX
1 2-Dibromoethane (EDB Ethylene dibromide)	4585	TX	1 2-Dichlorobenzene	4610	TX
1 2-Dichloroethane	4635	TX	1 2-Dichloropropane	4655	TX
1 3 5-Trimethylbenzene	5215	TX	1 3-Dichlorobenzene	4615	TX
1 3-Dichloropropane	4660	TX	1 4-Dichlorobenzene	4620	TX
1 4-Dioxane (1 4- Diethyleneoxide)	4735	TX	2 2-Dichloropropane	4665	TX
2-Butanone (Methyl ethyl ketone MEK)	4410	TX	2-Chloroethyl vinyl ether	4500	TX
2-Chlorotoluene	4535	TX	2-Hexanone	4860	TX
2-Propanol	5065	TX	4-Chlorotoluene	4540	TX
4-Isopropyltoluene	4915	TX	4-Methyl-2-pentanone (MIBK)	4995	TX
Acetone	4315	TX	Acetonitrile	4320	TX
Acrolein (Propenal)	4325	TX	Acrylonitrile	4340	TX
Allyl chloride (3-Chloropropene)	4355	TX	Benzene	4375	TX
Benzyl chloride	5635	TX	Bromobenzene	4385	TX
Bromochloromethane	4390	TX	Bromodichloromethane	4395	TX
Bromoform	4400	TX	Bromomethane	4950	TX
Carbon disulfide	4450	TX	Carbon tetrachloride	4455	TX
Chlorobenzene	4475	TX	Chloroethane	4485	TX
Chloroform	4505	TX	Chloromethane	4960	TX
Chloroprene	4525	TX	cis-1 2-Dichloroethylene	4645	TX
cis-1 3-Dichloropropene	4680	TX	Dibromochloromethane	4575	TX
Dibromomethane	4595	TX	Dichlorodifluoromethane	4625	TX
Ethyl acetate	4755	TX	Ethyl methacrylate	4810	TX
Ethylbenzene	4765	TX	Hexachlorobutadiene	4835	TX
Hexachloroethane	4840	TX	Iodomethane (Methyl iodide)	4870	TX
Isobutyl alcohol (2-Methyl-1-propanol)	4875	TX	Isopropylbenzene (cumene)	4900	TX
m+p-xylene	5240	TX	Methacrylonitrile	4925	TX
Methyl acetate	4940	TX	Methyl methacrylate	4990	TX
Methyl tert-butyl ether (MTBE)	5000	TX	Methylene chloride	4975	TX
Naphthalene	5005	TX	n-Butylbenzene	4435	TX

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Matrix: Non-Potable Water

Category / Method: EPA 8260B

n-Propylbenzene	5090	TX	o-Xylene	5250	TX
Pentachloroethane	5035	TX	Propionitrile (Ethyl cyanide)	5080	TX
sec-Butylbenzene	4440	TX	Styrene	5100	TX
tert-Butylbenzene	4445	TX	Tetrachloroethylene (Perchloroethylene)	5115	TX
Toluene	5140	TX	trans-1 2-Dichloroethylene	4700	TX
trans-1 3-Dichloropropylene	4685	TX	trans-1 4-Dichloro-2-butene	4605	TX
Trichloroethene (Trichloroethylene)	5170	TX	Trichlorofluoromethane	5175	TX
Trichlorotrifluoroethane	5185	TX	Vinyl acetate	5225	TX
Vinyl chloride	5235	TX	Xylene (total)	5260	TX

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Matrix: Non-Potable Water

Category / Method: EPA 8270C

Analytes:	Code	AA	Analytes:	Code	AA
1 2 4 5-Tetrachlorobenzene	6715	TX	1 2 4-Trichlorobenzene	5155	TX
1 2-Dichlorobenzene	4610	TX	1 2-Dinitrobenzene	6155	TX
1 3-Dichlorobenzene	4615	TX	1 3-Dinitrobenzene (1 3-DNB)	6160	TX
1 4-Dichlorobenzene	4620	TX	1 4-Dinitrobenzene	6165	TX
1 4-Naphthoquinone	6420	TX	1-Chloronaphthalene	5790	TX
1-Naphthylamine	6425	TX	2 3 4 6-Tetrachlorophenol	6735	TX
2 4 5-Trichlorophenol	6835	TX	2 4 6-Trichlorophenol	6840	TX
2 4-Dichlorophenol	6000	TX	2 4-Dimethylphenol	6130	TX
2 4-Dinitrophenol	6175	TX	2 4-Dinitrotoluene (2 4-DNT)	6185	TX
2 6-Dichlorophenol	6005	TX	2 6-Dinitrotoluene (2 6-DNT)	6190	TX
2-Acetylaminofluorene	5515	TX	2-Chloronaphthalene	5795	TX
2-Chlorophenol	5800	TX	2-Methyl-4 6-dinitrophenol	6360	TX
2-Methylnaphthalene	6385	TX	2-Methylphenol (o-Cresol)	6400	TX
2-Naphthylamine	6430	TX	2-Nitroaniline	6460	TX
2-Nitrophenol	6490	TX	2-Picoline (2-Methylpyridine)	5050	TX
3 3`-Dichlorobenzidine	5945	TX	3 3`-Dimethylbenzidine	6120	TX
3-Methylcholanthrene	6355	TX	3-Nitroaniline	6465	TX
4 4`-Oxydianiline	6585	TX	4-Aminobiphenyl	5540	TX
4-Bromophenyl phenyl ether	5660	TX	4-Chloro-3-methylphenol	5700	TX
4-Chloroaniline	5745	TX	4-Chlorophenyl phenyl ether	5825	TX
4-Dimethylaminoazobenzene	10068	TX	4-Methylphenol (p-Cresol)	6410	TX
4-Nitroaniline	6470	TX	4-Nitrobiphenyl	6480	TX
4-Nitrophenol	6500	TX	5 5-Diphenylhydantoin	6215	TX
5-Chloro-2-methylaniline	5695	TX	5-Nitroacenaphthene	6455	TX
5-Nitro-o-toluidine	6570	TX	7 12-Dimethylbenz(a) anthracene	6115	TX
Acenaphthene	5500	TX	Acenaphthylene	5505	TX
Acetophenone	5510	TX	Aminoazobenzene	5535	TX
Aniline	5545	TX	Anthracene	5555	TX
Azobenzene	10280	TX	Benzidine	5595	TX
Benzo(a)anthracene	5575	TX	Benzo(a)pyrene	5580	TX
Benzo(b)fluoranthene	5585	TX	Benzo(g h i)perylene	5590	TX
Benzo(k)fluoranthene	5600	TX	Benzoic acid	5610	TX
Benzyl alcohol	5630	TX	bis(2-Chloroethoxy)methane	5760	TX
bis(2-Chloroethyl) ether	5765	TX	bis(2-Chloroisopropyl) ether	5780	TX
bis(2-Ethylhexyl) phthalate (DEHP)	6255	TX	Butyl benzyl phthalate	5670	TX

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Matrix: Non-Potable Water

Category / Method: EPA 8270C

Carbazole	5680	TX	Chrysene	5855	TX
Dibenz(a h) anthracene	5895	TX	Dibenzofuran	5905	TX
Diethyl phthalate	6070	TX	Diethylstilbestrol	6075	TX
Dimethyl phthalate	6135	TX	Di-n-butyl phthalate	5925	TX
Di-n-octyl phthalate	6200	TX	Diphenylamine	6205	TX
Ethyl methanesulfonate	6260	TX	Fluoranthene	6265	TX
Fluorene	6270	TX	Hexachlorobenzene	6275	TX
Hexachlorobutadiene	4835	TX	Hexachlorocyclopentadiene	6285	TX
Hexachloroethane	4840	TX	Hexachloropropene	6295	TX
Indeno(1,2,3-c,d)pyrene	6315	TX	Isodrin	7725	TX
Isophorone	6320	TX	Isosafrole	6325	TX
Mestranol	6340	TX	Methyl methanesulfonate	6375	TX
Naphthalene	5005	TX	Nitrobenzene	5015	TX
n-Nitrosodiethylamine	6525	TX	n-Nitrosodimethylamine	6530	TX
n-Nitroso-di-n-butylamine	5025	TX	n-Nitrosodi-n-propylamine	6545	TX
n-Nitrosodiphenylamine	6535	TX	n-Nitrosomethylethalamine	6550	TX
n-Nitrosomorpholine	6555	TX	n-Nitrosopiperidine	6560	TX
n-Nitrosopyrrolidine	6565	TX	o-Anisidine	5550	TX
o-Toluidine	5145	TX	p-Cresidine	5860	TX
Pentachlorobenzene	6590	TX	Pentachloronitrobenzene	6600	TX
Pentachlorophenol	6605	TX	Phenacetin	6610	TX
Phenanthrene	6615	TX	Phenol	6625	TX
Pronamide (Kerb)	6650	TX	Pyrene	6665	TX
Pyridine	5095	TX	Safrole	6685	TX

Category / Method: EPA 8310

Analytes:	Code	AA	Analytes:	Code	AA
Acenaphthene	5500	TX	Acenaphthylene	5505	TX
Anthracene	5555	TX	Benzo(a)anthracene	5575	TX
Benzo(a)pyrene	5580	TX	Benzo(b)fluoranthene	5585	TX
Benzo(g h i)perylene	5590	TX	Benzo(k)fluoranthene	5600	TX
Chrysene	5855	TX	Dibenz(a h) anthracene	5895	TX
Fluoranthene	6265	TX	Fluorene	6270	TX
Indeno(1,2,3-c,d)pyrene	6315	TX	Naphthalene	5005	TX
Phenanthrene	6615	TX	Pyrene	6665	TX

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Matrix: Non-Potable Water

Category / Method: EPA 8316

Analytes:	Code	AA	Analytes:	Code	AA
Acrylamide	4330	TX			

Category / Method: EPA 8318

Analytes:	Code	AA	Analytes:	Code	AA
3-Hydroxycarbofuran	7710	TX	Aldicarb (Temik)	7010	TX
Aldicarb sulfone	7015	TX	Carbaryl (Sevin)	7195	TX
Carbofuran (Furaden)	7205	TX	Dioxacarb	9384	TX
Methiocarb (Mesurol)	7800	TX	Methomyl (Lannate)	7805	TX
Promecarb	8025	TX	Propoxur (Baygon)	8080	TX

Category / Method: EPA 9014

Analytes:	Code	AA	Analytes:	Code	AA
Amenable cyanide	1510	TX	Cyanide, Total	1635	TX

Category / Method: EPA 9040C

Analytes:	Code	AA	Analytes:	Code	AA
pH	1900	TX			

Category / Method: EPA 9041

Analytes:	Code	AA	Analytes:	Code	AA
pH	1900	TX			

Category / Method: EPA 9050A

Analytes:	Code	AA	Analytes:	Code	AA
Conductivity	1610	TX			

Category / Method: EPA 9056

Analytes:	Code	AA	Analytes:	Code	AA
Bromide	1540	TX	Chloride	1575	TX
Fluoride	1730	TX	Nitrate as N	1810	TX
Nitrate-nitrite	1820	TX	Nitrite as N	1840	TX
Orthophosphate as P	1870	TX	Sulfate	2000	TX

Category / Method: EPA 9060

Analytes:	Code	AA	Analytes:	Code	AA
Total organic carbon	2040	TX			

Category / Method: EPA 9065

Analytes:	Code	AA	Analytes:	Code	AA
Total phenolics	1905	TX			

Category / Method: EPA 9070

Analytes:	Code	AA	Analytes:	Code	AA
n-Hexane Extractable Material	10219	TX	Silica Gel Treated n-Hexane Extractable Material	10220	TX

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Expiration Date: 6/30/2009

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Matrix: Non-Potable Water

Category / Method: HACH 8000

Analytes:	Code	AA	Analytes:	Code	AA
Chemical oxygen demand	1565	TX			

Category / Method: Iowa OA-1

Analytes:	Code	AA	Analytes:	Code	AA
Volatile Petroleum Hydrocarbons	10330	TX			

Category / Method: Iowa OA-2

Analytes:	Code	AA	Analytes:	Code	AA
Extractable Petroleum Hydrocarbons	10331	TX			

Category / Method: SM 2120 B

Analytes:	Code	AA	Analytes:	Code	AA
Color	1605	TX			

Category / Method: SM 2310 B (4A)

Analytes:	Code	AA	Analytes:	Code	AA
Acidity as CaCO3	1500	TX			

Category / Method: SM 2320 B

Analytes:	Code	AA	Analytes:	Code	AA
Alkalinity as CaCO3	1505	TX			

Category / Method: SM 2340 B

Analytes:	Code	AA	Analytes:	Code	AA
Total hardness as CaCO3	1755	TX			

Category / Method: SM 2540 B

Analytes:	Code	AA	Analytes:	Code	AA
Residue-total	1950	TX			

Category / Method: SM 2540 C

Analytes:	Code	AA	Analytes:	Code	AA
Residue-filterable (TDS)	1955	TX			

Category / Method: SM 2540 D

Analytes:	Code	AA	Analytes:	Code	AA
Residue-nonfilterable (TSS)	1960	TX			

Category / Method: SM 2540 F

Analytes:	Code	AA	Analytes:	Code	AA
Residue-settleable	1965	TX			

Category / Method: SM 3500-Cr B

Analytes:	Code	AA	Analytes:	Code	AA
Chromium VI	1045	TX			

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

ERMI Environmental Laboratories
400 W. Bethany Suite 190
Allen, TX 75013

Certificate T104704232-08C-TX
Issue Date: 7/2/2008
Expiration Date: 6/30/2009

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: Non-Potable Water

Category / Method: SM 3500-Fe D

Analytes:	Code	AA	Analytes:	Code	AA
Iron	1070	TX			

Category / Method: SM 4500-Cl E

Analytes:	Code	AA	Analytes:	Code	AA
Total residual chlorine	1940	TX			

Category / Method: SM 4500-Cl D

Analytes:	Code	AA	Analytes:	Code	AA
Total residual chlorine	1940	TX			

Category / Method: SM 4500-CN C

Analytes:	Code	AA	Analytes:	Code	AA
Cyanide, Total	1635	TX			

Category / Method: SM 4500-CN G

Analytes:	Code	AA	Analytes:	Code	AA
Amenable cyanide	1510	TX			

Category / Method: SM 4500-H+ B

Analytes:	Code	AA	Analytes:	Code	AA
pH	1900	TX			

Category / Method: SM 4500-NH3C

Analytes:	Code	AA	Analytes:	Code	AA
Kjeldahl nitrogen - total	1795	TX			

Category / Method: SM 4500NH3-D

Analytes:	Code	AA	Analytes:	Code	AA
Ammonia as N	1515	TX	Kjeldahl nitrogen - total	1795	TX

Category / Method: SM 4500-O C

Analytes:	Code	AA	Analytes:	Code	AA
Oxygen dissolved	1880	TX			

Category / Method: SM 4500-P E

Analytes:	Code	AA	Analytes:	Code	AA
Phosphorus total	1910	TX			

Category / Method: SM 4500-S-2 F

Analytes:	Code	AA	Analytes:	Code	AA
Sulfide	2005	TX			

Category / Method: SM 4500-SO3 B

Analytes:	Code	AA	Analytes:	Code	AA
Sulfite-SO3	2015	TX			

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Expiration Date: 6/30/2009

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: Non-Potable Water

Category / Method: SM 5210 B

Analytes:	Code	AA	Analytes:	Code	AA
Biochemical oxygen demand	1530	TX	Carbonaceous BOD CBOD	1555	TX

Category / Method: SM 5220 D

Analytes:	Code	AA	Analytes:	Code	AA
Chemical oxygen demand	1565	TX			

Category / Method: SM 5310C

Analytes:	Code	AA	Analytes:	Code	AA
Total organic carbon	2040	TX			

Category / Method: SM 5540 C

Analytes:	Code	AA	Analytes:	Code	AA
Surfactants - MBAS	2025	TX			

Category / Method: SM 9215 B

Analytes:	Code	AA	Analytes:	Code	AA
Heterotrophic plate count	2555	TX			

Category / Method: SM 9221C/E

Analytes:	Code	AA	Analytes:	Code	AA
Fecal coliforms	2530	TX			

Category / Method: SM 9222 B

Analytes:	Code	AA	Analytes:	Code	AA
Total coliforms	2500	TX			

Category / Method: SM 9222 D

Analytes:	Code	AA	Analytes:	Code	AA
Fecal coliforms	2530	TX			

Category / Method: TCEQ 1005

Analytes:	Code	AA	Analytes:	Code	AA
Total Petroleum Hydrocarbons (TPH)	2050	TX			

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

(800) 228-ERMI
or
(972) 727-1123

Quality System

Approval Documentation

SOP Number : QAPv6.5

SOP Name : Quality Assurance Plan

Reference Method (s) :

SOP Effective Date : 12/6/07

SOP Revision Date/author : 7/1/05 kdy
3/30/07 kdy
6/4/07 kdy
7/17/07 kdy

Approved by QA Manager: Karen Young Karen Young Signature 12/5/07 Date

Approved by President: Kendall Brown by Kendall Brown Signature 12/5/07 Date

COPY NO._____

This is a Controlled Document. **ERMI** has a document control system in place to ensure (1) all parties holding a controlled copy of this document receive the revisions/addenda and (2) outdated material is removed from circulation.

Copying of controlled documents is strictly prohibited and grounds for termination. If a copy is needed, it must be obtained from the QA Manager. The distribution list, for controlled and uncontrolled copies, is maintained by the QA Manager.

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1.0 GENERAL DISCUSSION

1.1 Purpose

ERMI provides a variety of environmental chemistry services to Customers from a large and broad array of industry and government. To ensure these services meet Customer needs, ERMI has developed and implemented this Quality Assurance Plan (QAP). The QAP provides the assurance that services performed by ERMI are suitable and appropriate for their intended use and they meet Customer specifications in terms of accuracy, precision, completeness and comparability. The QAP was developed to meet or, in many cases, exceed the requirements of the United States Environmental Protection Agency (USEPA), the National Environmental Laboratory Accreditation Conference (NELAC), and state and local regulatory agencies.

1.2 Scope

The QAP is applicable to all environmental chemistry services performed and is designed to encompass all aspects of the laboratory services offered.

A key feature of the QAP is the establishment of a Quality Department directed by a Quality Assurance Manager (QAM). This Department implements the plan and monitors quality, assuring that total quality is achieved and maintained. The QAM reports directly to the Laboratory President (LP) and is, therefore, not influenced by the operational or budgetary constraints of the laboratory. This allows complete freedom to evaluate quality in an unbiased fashion.

Another feature of the Plan is the specified control of all aspects of laboratory operations from sample receipt to report production, to the long-term maintenance of the documentation produced. Virtually all aspects of ERMI's services have been incorporated into the QAP with appropriate checks and balances spelled out to ensure quality services are performed that meet or exceed Customer needs.

2.0 QUALITY POLICY

2.1 Purpose

To set forth ERMI's policy with respect to the quality of services provided to Customers.

2.2 Scope

This policy is incumbent upon all ERMI employees and operations.

2.3 Policy on Quality

ERMI and its management is committed to supplying Customers with quality environmental services and to compliance with the NELAC standards. To achieve total quality, ERMI adheres to regulatory protocols in performing services, selects methods suitable for the services to be performed, provides controls to ensure acceptable quality, ensures credible and defensible information by maintaining appropriate documentation, and fosters employee involvement in the total quality process to "DO IT RIGHT THE FIRST TIME."

3.0 QUALITY GOALS

3.1 Purpose

To define quality goals used to establish the level of quality required by ERMI in every area that affects the quality of its product.

3.2 Scope

The quality goals encompass all operations of ERMI and formulate the basis for the Quality Assurance Plan.

3.3 Quality Objectives

Quality goals or objectives covered by the QAP include the following:

- To establish a Quality Assurance Organization that will develop, implement, monitor and maintain the Quality Assurance program.
- The procurement of appropriate supplies, materials and equipment in a timely fashion.
- The handling and storage of samples according to regulatory protocols.
- The documentation of sample possession and transfer, to show an unbroken trail of evidence of who had custody of a sample, from sample collection to receipt at the laboratory.
- The selection of approved methods or techniques appropriate for the service(s) performed.
- The implementation of controls to maintain quality within acceptable limits in all aspects of ERMI's services.
- The maintenance of records and other documentation to provide credible and defensible data, while maintaining confidentiality.
- Ensuring that equipment is used appropriately within manufacturer's and/or regulatory agency specified bounds.
- The validation of information resulting from all ERMI services to ensure it is correct and suitable for its intended use.
- The implementation of a system to deal with and correct non-conformities and complaints in all aspects of ERMI operations.
- The control of quality at a subcontract laboratory.
- The establishment of a maintenance/reliability system.

- The handling and disposal of laboratory waste in an effective and regulatory compliant manner.

4.0 QUALITY ASSURANCE

4.1 Purpose

To establish a Quality Assurance Department within **ERMI** independent of operational and budgetary constraints.

4.2 Scope

The Quality Assurance Department is established to centralize, develop, implement, maintain, monitor and carry out **ERMI**'s Quality Assurance Plan.

Overall responsibility for the total quality of the services provided Customers by **ERMI** resides with the LP. Functionally, however, much of this responsibility shall be delegated to the QAM and, in turn, to the Laboratory Department Managers. The Laboratory Department Managers, as well as the QAM, report directly to the LP. The QAM is independent of all operational and budgetary concerns associated with the services provided by **ERMI** as reflected in **ERMI**'s organizational structure (Figure 1 in Appendix A, **ERMI** Organizational Structure).

4.3 Responsibilities

4.3.1 Laboratory President

The LP shall be responsible for assuring the total quality of **ERMI** services. This includes responsibility for assuring:

- An adequate Quality Assurance Plan covering all operational aspects of the services provided by **ERMI**.
- Enforcement and maintenance of the Plan.
- Supervision and management of the various facets of the company.
- Appropriate allocation of **ERMI** resources.

4.3.2 Quality Assurance Manager

The QAM shall be responsible for the preparation and implementation of the QAP and for assuring the total quality of **ERMI**'s services by validating the QAP is being carried out. Some of the activities of the QAM required to meet these responsibilities are as follows:

- Recommend the measures necessary to fulfill the total quality objectives of management.
- Prepare and maintain the QAP.
- Disseminate and implement the QAP, its modifications and other quality materials by appropriate means and follow up through an

ongoing series of periodic announced and unannounced audits and inspections to ensure the plan is being carried out.

- Keep management and supervisors abreast of total quality issues, problems and shortcomings as applicable.
- Maintain all company records, logs, standard operating procedures, analytical records and other documentation in a retrievable fashion.
- Seek out and evaluate new ideas and current developments in the area of quality control and make recommendations for their application when advisable.

4.3.3 Laboratory Department Managers

Laboratory Department Managers are responsible for assuring the QAP, as applicable, is being carried out within their respective laboratories and for assuring the Standard Operating Procedures (SOPs) specified by the plan are those procedures utilized. Laboratory Department Managers function in the capacity of Technical Director for their respective areas of responsibilities as defined by NELAP. Specific duties performed by each Manager to meet their responsibilities include:

- Maintain and update Department SOPs as needed.
- Supervise assigned staff to ensure compliance with the QAP and SOPs.
- Review laboratory data produced to ensure it meets quality criteria.
- Make recommendations to the QAM for quality improvements.
- Review all SOPs, or ensure that such a review is done, to be sure they adhere to the appropriate EPA method and correctly describe the analytical procedures being used in the facility. This review must be performed as needed following SOP 0001.0 Reviewing, Updating, and Archiving of SOPs.
- Day-to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results.
- Monitoring standards of performance in quality control and quality assurance.
- Monitoring the validity of the analyses performed and data generated in the laboratory to ensure reliable data.

Absence of a Laboratory Department Manager for more than 65 days shall be reported to the Accrediting Agency.

4.3.4 Deputies

In the event that the QAM shall be absent, another member of the Quality Department shall assume the duties of the QAM until his/her return.

4.3.5 Other Positions

In the event that the Laboratory President is absent, the Department Managers shall assume the duties of the LP. A job description file for all positions is maintained by the Human Resources (HR) Department.

4.4 Communications

Effective communication is necessary to implement and maintain a functioning, efficient Quality Assurance Program. ERMI employs a system of routine communications to ensure the viability of the Quality Assurance Program. This system utilizes daily, weekly, monthly and annual communications as described in the following:

4.4.1 Daily Communications

Environmental samples received at ERMI are evaluated on a daily basis to assess the need for special Quality Assurance (QA) requirements. Environmental samples that are logged into the ElmNT system each day are reviewed by a Customer Service Representative to ensure that the samples were logged in correctly. This ensures the samples are analyzed using the analytical technique appropriate to the sample matrix and regulatory requirement being addressed, and to ensure customers' needs are met.

The QAM meets informally as needed with the LP and Department Managers to discuss quality needs or problems and to evaluate analytical data reports to ensure quality goals are being achieved.

4.4.2 Weekly Communications

Other than informal discussions between the QAM and Department Managers, weekly communications are addressed in the form of written reports from the QAM to each Department Manager and the LP outlining results of each weekly QA audit. Minor QA deficiencies found in an area are reported and brought to the attention of the appropriate manager. Any major deficiency found in the audit shall be immediately and personally brought to the attention of the appropriate manager and the Laboratory President. Each manager will correct deficiencies noted in their department and respond back to the QAM detailing corrective actions taken.

4.4.3 Monthly Communications

Monthly communications are addressed in the form of written reports from the QAM to the LP, minutes of the monthly QA meeting, and reports from management and supervisory personnel on action items and other areas of interest or concern to the laboratory. The Monthly QA report covers the status of each section outlined in the QAP and the results of any QC samples submitted that month. The monthly QA meeting addresses action items, unacceptable QC sample results, PE

results, outcome of recent internal or external audits, summary of non-conformances, and other QA items. The meeting is documented with minutes.

5.0 MANAGEMENT OF THE QUALITY ASSURANCE PLAN

5.1 Purpose

To provide a control mechanism for the distribution and maintenance of the QAP.

5.2 Scope

The management of the QAP deals primarily with the tasks and responsibilities related to the preparation, distribution, review and maintenance of the manual.

5.3 Preparation, Distribution, and Maintenance of the QAP

The QAM bears the primary responsibility for the preparation, distribution, review and maintenance of the written QAP.

5.3.1 Distribution

After preparation, the QAM shall be responsible for the initial distribution of controlled copies of the QAP. Controlled copies are serially numbered and a distribution list shall be kept showing to whom each copy has been issued. The purpose of this control is to make sure that changes are distributed to recipients of the QAP when necessary and that copies are retrieved when personnel changes require that the QAP no longer be in the hands of the affected individual.

5.3.2 Maintenance

The QAM shall perform, at least annually, a review of the content of the QAP to ensure requirements reflect current operating conditions. This may be done following major changes in the NELAP standards and in other regulations affecting the QAP, internal quality system audits, or as a result of audits and assessments following site visits by an outside accrediting agency.

The review of the QAP must be performed on a formal basis at least annually following SOP 0001.0 on Reviewing, Updating, and Archiving Quality Documents.

The QAP is a numbered, controlled document. Any change made to the current QAP warrants the issuing of an updated QAP containing a new sequential revision number. Only the subdirectory revision number shall be changed when minor changes, such as typographical errors, are made to the QAP (e.g. changing from revision 1.1 to

revision 1.2). The major directory revision number must be changed when major changes, additions, or deletions are made to the QAP (e.g. changing revision number 1.0 to revision 2.0). In order to conform to the document numbering system described in SOP 0000.0, the QAP will be QAP.X.Y where X is a major revision and Y is a minor revision.

6.0 QUALITY IN PROCUREMENT

6.1 Purpose

To ensure high quality and appropriate equipment, materials and supplies are purchased by ERMI in a timely and cost responsible manner.

6.2 Scope

The QA Department reviews all purchase requisitions, except for routine office supplies prior to final approval or purchase of the requisitioned items.

6.3 Procurement Quality Specifications

A variety of grades and qualities of reagents, solvents and gases are available commercially. Several of these may be available for use in the laboratory at any one time, as a result of the specific requirements for the various analyses performed. Proper grades and qualities of these items must be used for all analyses. If the SOP does not specify a grade, analytical reagent grade may be used. The QAM shall be responsible for ensuring that the proper quality of items are purchased. This is done by requiring the QAM's signature on all purchase orders.

6.3.1 Reagent Chemicals

Reagent chemicals for each analysis must be of acceptable quality and grade for the procedure. For example, Trace Metals Grade or Instrument Grade acids must be used for metals digestion. Labels are carefully checked before and after purchase to ensure a low level of trace metals or other interfering substances. Procedures are in place to prevent contamination of these chemicals as they are being used. All original containers must have an expiration date.

6.3.2 Solvents

The most common use of organic solvents is in trace organic (pesticide, herbicide, PCB, GC/MS, etc.) analyses. These solvents are most critical in terms of quality since impurities are concentrated in the process of extraction and solvent evaporation. Solvents used for these procedures should, therefore, be of pesticide or higher quality. All original solvent containers must have an expiration date.

6.3.3 Gases

A wide variety of grades of gases are used in the laboratory. Ultra high purity grades are used by the gas chromatographs and GC/MS instruments. Commercial and medical grade gases are used by the ICP spectrophotometers, while commercial grades of gases are used in the Wet Chemistry Laboratory. Under no circumstances should different grades of a particular gas be substituted for use in the sample analysis process without prior approval of the QAM.

An air compressor and ballast tank supply air under pressure to all laboratory areas where required. Air pressure is regulated at each point of need, and all air from the system is dried and filtered appropriately for each application.

6.3.4 Reagent Water

Water used for general laboratory purposes is deionized water that conforms to ASTM Type I specifications. The water is conditioned by two cation-anion exchange cartridges preceded by a 5-micron filter, activated charcoal column, ultraviolet sterilization unit, and reverse osmosis (RO) system. This system provides water of good quality and low conductivity, as is indicated by consistently low analytical blank results and continuous resistance monitoring. Resistivity measurements are recorded each working day. If the resistivity falls below 16 Meg-Ohms maintenance is performed.

6.3.5 Prepared Reagents, Solutions and Standards

All reagents, solutions and standards, whether prepared in the laboratory or purchased, are uniquely labeled to ensure proper storage and to prevent the use of deteriorated or outdated materials or materials of unknown origin. Containers must have a label or indelible marking. The label or marking must contain the following information:

- Unique identification number
- Identification of contents
- Identification of responsible person
- Concentration or percent purity
- Preparation date, date of receipt or date of dilution from concentrate
- Expiration date, if applicable

Standard reference materials (SRMs) are purchased from outside vendors or are prepared in the laboratory from certified materials. SRMs purchased from outside vendors are high purity and traceable to National Institute of Standards and Technology (NIST) materials when possible. Standards from two sources are used in the analytical process to serve as a check and balance one to the other. After the expiration period of an SRM has been exceeded, that standard may

still be used in the laboratory as a qualitative check standard. The standard must not be used to determine the concentration of a parameter but only to qualify the parameter. The expired standards should be placed on a separate shelf or identified in such a way in the laboratory as to not confuse them with the working standards. This must be done by using a colored label to indicate that the standard is EXPIRED.

6.3.6 New Equipment

New equipment must come with suitable guarantees from the manufacturer to ensure long-term reliability. Warranties, maintenance programs, and recommendations from current users should be considered. All new analytical instrumentation (e.g., GC/MS, ICP, etc.) must come with appropriate documentation demonstrating that (a) the instrument is complete as ordered, (b) all "special performance" claims or specifications made by the manufacturer have been met, and (c) any special requirement requested by the appropriate Department Manager or LP has been fulfilled.

A method detection limit study and initial demonstration of performance must also be determined on each new piece of instrumentation before Customer samples can be processed. The initial performance criteria are outlined in each method-specific SOP. All other new equipment must be thoroughly checked before use to ensure it meets specifications prior to general use.

6.4 Procurement Process

The Purchase Order is originated by the requisitioner as a request for supplies, equipment and/or chemicals (an example of a Purchase Requisition Form (QAP.6-3) can be found in Appendix B). In the case of equipment and chemicals, the requisitioned items must be of equal or better quality than the items replaced. They must also meet the requirements set forth by the appropriate regulatory agency for the procedure being used.

All purchase orders are reviewed and approved by the Department Manager, QAM, and LP. Upon these approvals, the Purchasing Officer orders the requisitioned items. The purchase order contains a purchase order number, the vendor's name, item, catalog number, quantity, price and material destination. All purchase orders for reagents, testing and analytical supplies are sent to the QAM where they are reviewed to ensure the latest requirements are correctly specified.

Purchase Orders and receiving documents are used as part of the receiving control procedure and show information necessary to identify the material being received. The Manufacturer's certifications of purity and MSDSs are

filed so they are readily available for both internal QA audits and outside inspections and audits.

6.4.1 Receiving Materials

The Purchasing Officer accepts all incoming supplies, equipment, glassware, reagents and analytical and testing materials. Each item is identified on the packing slip by description, catalog number and quantity. At this time the items are accepted or rejected based on conformity to specification. The Purchasing Officer initials and dates the purchase order and packing slip.

All standards and reagents are initialed and dated upon receipt by the Purchasing Officer. The expiration date is checked. If the standard or reagent does not have an expiration date, the purchasing officer will add it to the container. Reagents and standards are then taken to the appropriate laboratory section where they are stored appropriately.

6.4.2 Discrepancies

If a discrepancy or non-conformance is found that could affect analytical or testing accuracy or precision, the Purchasing Officer and QAM are notified. The vendor is immediately contacted and the material shipped back to the vendor or appropriately disposed of. All discrepancies are noted on the purchase order.

7.0 SAMPLE ACCEPTANCE POLICY AND SAMPLE RECEIPT

7.1 Purpose

To describe the Sample Acceptance Policy and Sample Receipt procedures utilized by ERMI for accepting samples by ERMI for analysis. This section also defines what actions must be taken if there is a deviation from the procedures.

7.2 Scope

ERMI adheres to a written policy on sample acceptance and receipt to ensure that all samples received for regulatory analysis by ERMI are appropriately documented and preserved. If there are any deviations from these policies, they must be documented in the LIMS system and noted in the paperwork associated with the samples. For more information regarding the Sample Acceptance Policy and Sample Receipt, see the ERMI Log-In SOP, 1000.0.

7.3 Sample Acceptance Policy

ERMI Environmental Laboratories has a written Sample Acceptance Policy that clearly outlines the circumstances under which samples shall be accepted or rejected. This was done to maximize the quality of data derived

from samples and to meet National Environmental Laboratory Accreditation Program (NELAP) requirements. Data from samples that do not meet the following criteria shall be flagged in an unambiguous manner clearly defining the nature and substance of the variation.

This Sample Acceptance Policy is readily available to sample collection personnel from the Customer Services Department and ERMI's web site (www.ermilab.com). The Policy includes but is not limited to the following areas of concern:

- Samples must be accompanied by proper, full and complete documentation, which includes sample identification, the location, date and time of collection, collector's name, preservation type, sample type and any special remarks concerning the sample;

- Samples must be properly labeled with unique sample identification written on water resistant labels with indelible ink adhered to each container and cross referenced to the associated chain-of-custody for the submission;

- Samples must be placed in appropriate sample containers and stabilized with chemical preservatives and ice as appropriate for the analysis and method requested as specified in 40 CFR Part 136, SW-846 or the analysis method;

- Samples must be analyzed within regulatory holding times for the method of analysis and regulatory protocols being addressed;

- Adequate sample volume or mass must be available to perform all required analyses; and

- Customers will be contacted when the samples received do not meet the above criteria or show signs of damage, contamination or improper or inadequate preservation to discuss the disposition of the submission.

Please refer to the companion document "ERMI Environmental Laboratories Sample Handling Guide" for proper sample handling protocols for submissions under the Clean Water Act (CWA) and Resource Conservation and Recovery Act (RCRA).

7.3.1 Chain-of-Custody Documentation

The particular Chain-of-Custody form used by ERMI for a sample or group of samples is application and circumstance specific, and is usually dependent upon the means of sample collection. Each Chain-of-Custody form used is designed to document (through sample I.Ds,

signatures, dates and times, etc.) the transfer and possession or custody of a sample. The various types of forms that may be used are:

7.3.1.1 Chain-of-Custody Form

An example of the most commonly used chain of custody form at **ERMI** is found in Appendix B (Form 1000.0-1). This form, or one similar, must be initiated either by the Customer or by the laboratory. Customers may also request that **ERMI** send them copies of blank forms that they may use for samples. When the Customer initiates the form, the Sample Custodian accepts the samples and signs and dates the COC form, thus, transferring the possession of the samples from the Customer to **ERMI**.

In the event that the Customer fails to submit a Chain-of-Custody with the samples, a Customer Service representative must contact the customer and request that they submit the documentation for the sample set. If the information cannot be obtained in a timely manner, the sample shall be subject to rejection. These deviations must be documented in the LIMS and in the Customers project file and may be communicated via internal e-mail.

7.3.1.2 Field Data Form

An example of the Field Data Form used by **ERMI** can be found in Appendix B (Form 2000.0-4). This, or a similar form, shall be used as a Chain-of-Custody in two unique instances. First, it must be used when **ERMI** Field Services performs the actual sample collection. Chain-of-Custody requirements are satisfied when the "set-up by" and "picked up/collected by" fields are properly signed, and the date and time of collection recorded. Second, the form shall be used when **ERMI** staff picks up Customer collected samples at a location unrelated to the samples (bus stop, Federal Express office, etc.) and no other Chain-of-Custody documentation is readily available. In this instance, Chain-of-Custody requirements are satisfied when the "transported by," "received by," "relinquished by," and "received at Laboratory by" fields are all properly signed and dated.

7.4 Sample Receipt Protocols

7.4.1 Upon receipt at the laboratory, the condition of the sample, including any abnormalities or departures from standard conditions as prescribed in the relevant test method, is recorded. All items specified in Section 7.3 Sample Acceptance Policy above are checked.

7.4.1.1 All samples that require thermal preservation are considered acceptable if the arrival temperature is either within 2°C of the required temperature or the method specified range. For samples with a specified temperature of 4°C, samples with a temperature ranging from just above the freezing temperature of water to and including 6°C are acceptable. Samples that are hand delivered to the laboratory immediately after collection may not meet these criteria. In these cases, the samples shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

7.4.1.2 **ERMI** has procedures in place for checking chemical preservation using readily available techniques, such as pH or free chlorine, prior to or during sample preparation or analysis. The preservation of all samples is checked during the sample log-in process unless this process would affect the integrity of the samples (i.e. samples for volatile or Oil and Grease analyses). The analyst records the pH of volatile and Oil and Grease samples at the time of analysis. See SOP 1000.0 for details.

The results of all checks shall be recorded on the Sample Preservation Documentation Form 1000.0-3 (See Appendix B for an example). If a sample is improperly or not preserved, this shall be documented on the Sample Preservation Documentation Form and the customer is notified.

7.4.2 Where there is any doubt as to the item's suitability for testing, where the sample does not conform to the description provided, or where the test required is not fully specified, the laboratory shall attempt to consult the Customer for further instruction before proceeding. The laboratory shall establish whether the sample has received all necessary preparation, or whether the Customer requires preparation to be undertaken or arranged by the laboratory. If the sample does not meet the sample receipt acceptance criteria listed in this standard, **ERMI** shall either:

7.4.2.1 Retain correspondence and/or records of conversations concerning the final disposition of rejected samples; or

7.4.2.2 Fully document any decision to proceed with the analysis of samples not meeting acceptance criteria. The condition of

these samples shall, at a minimum, be noted on the chain of custody or transmittal form and laboratory receipt documents. The analysis data shall be appropriately "qualified" on the final report.

7.4.3 **ERMI** utilizes a permanent chronological record electronic database to document receipt of all sample containers. The LIMS system (ElmNT) tracks the following information but is not limited to:

- Customer/Project Name,
- Date and time of laboratory receipt,
- Unique laboratory ID code (ElmNT ID) and,
- Signature or initials of the person making the entries.

More information regarding the LIMS system can be found in the Log-In SOP, SOP 1000.0.

8.0 SAMPLE HANDLING

8.1 Purpose

To describe the pathway(s) samples undertake prior to, during and following the analysis procedure.

8.2 Scope

Proper handling and storage of all types of samples is imperative to maintain the validity and acceptability of the samples submitted for analysis. This applies to samples collected in the field by **ERMI** field technicians, samples shipped to the laboratory by common carriers, and samples personally delivered to the laboratory by **ERMI** Customers.

8.3 Sample Collection

ERMI utilizes sample collection, handling, holding time, and preservation techniques specified by regulations appropriate to the analysis and sample matrix. For the most part, these regulations are referenced in 40 CFR Part 136 and SW846, but techniques specified by other local, state, or Federal regulating bodies may be utilized as appropriate.

For samples collected by **ERMI** field service technicians, collection, handling and preservation information must be recorded by the field technician on the **ERMI** Field Data Form 2000.0-4 (See Appendix B for an example).

Samples not collected by **ERMI** are inspected upon receipt at the laboratory to determine if proper handling, preservation, and documentation conditions have been met. For each sample, the container size and type, container lid type and material, temperature condition (on or not on ice), and sample pH (if applicable) are documented on a form similar to the ones found in Appendix B. Samples collected for Oil & Grease or in VOA vials are checked by the analyst to ensure they have been properly preserved (if applicable). These

readings are then written on the bench sheet for the batch of samples. If samples are not received in an appropriate condition, the non-conformance shall be documented and the Customer must be notified.

Customer samples are also inspected to ensure that proper test methods have been requested, sufficient sample is available for the tests requested, and that the information documented on the customer's Chain-of-Custody is consistent with sample label information and any previously discussed requests or terms of conditions. If there are inconsistencies with this information, or if there is doubt as to the test or parameters requested, the Customer shall be contacted.

8.4 Sample Identification

Each sample received into the laboratory shall be assigned a unique identification number by the LIMS system (ElmNT). This number appears on the sample bottle and on all appropriate sample documentation. In this way a "blind" sample analysis is performed and the sample can be tracked from the time it is received by **ERMI**, through the laboratory, to the final report production.

8.5 Sample Distribution and Storage

After **ERMI** sample identification numbers have been placed on samples, they are distributed to the appropriate laboratory for analysis. Samples requiring only metals analysis are distributed to the Metals Digestion Laboratory, while all other samples are distributed to continuously temperature monitored sample storage refrigerators in the Wet Chemistry and/or Organics Laboratories, as appropriate.

8.6 Chemical Analysis

All sample analyses shall be completely documented by retaining all associated records. These records shall include, but are not limited to: all sample identification, dates of analyses, instrumentation ID, method number for the analyses performed, all raw and reduced analytical data, all calculations, and the analyst's initials or signature.

During analysis, test-specific information shall be documented to allow for data point validation of all results reported for a sample. This information may be documented in test specific logbooks, reagent preparation logbooks, analytical instrument computer printouts, and chromatograms, depending upon the requested tests.

8.7 Report Production

Once sample analysis is complete, the data is either automatically uploaded into the ElmNT LIMS system or manually entered. The data is reviewed as

described in Section 13 and then released to the Customer Services Group for proofing and reporting. Each report contains the statement "ERMI Environmental Laboratories certifies that all results contained in this report were produced in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) unless otherwise noted." The report shall then be released to the LP, or his designee, for final review and signature. The signed report shall be copied and the original sent to the Customer. The copy of the report, all non-analytical sample documentation (Chain-of-Custody Forms, etc.), and a copy of the quality control information for each parameter analyzed are distributed to the appropriate Customer file for storage.

8.8 Disposal

Analyzed samples are retained in the laboratory for a maximum of 60 days or until their holding times have expired for the parameters of analysis. Samples needing refrigeration must be placed back into the sample refrigerator until disposal. Finished metals samples may be placed in a designated area until disposal. Different arrangements may be made upon Customer request and LP approval.

At the end of the appropriate "laboratory hold time", samples are evaluated as hazardous or non-hazardous. All unused samples and analyzed portions of samples that have been determined, through analysis, to be non-hazardous are disposed of in an appropriate, environmentally sound manner in accordance with ERMI's Waste Management Plan. Those samples that have been determined, through analysis, to be hazardous are returned to the Customer for disposal. If, for some reason, hazardous samples can not be returned to the Customer, they are handled appropriately according to 40 CFR Parts 261 and 262.

9.0 ANALYTICAL PROCEDURES

9.1 Purpose

To describe ERMI's methods and techniques of analysis.

9.2 Scope

All environmental samples accepted by the laboratory are analyzed by EPA or other state or Federal regulatory agency approved methods. These methods of analysis are taken from various regulatory agency and other publications. The most common publications are summarized below. A table of the methods and parameters can be found in Appendix A, Figures and Tables.

9.3 Parameter and Method Determination

The samples analyzed by ERMI come from a wide variety of sources and matrices. In some cases, the Customer defines the parameters, while in other cases the nature of the regulation being addressed and the sample type dictate the analyses needed and the methods used.

9.3.1 Water and Wastewater

Water and wastewater are regulated by the Clean Water Act. The primary regulatory mechanism is through the National Pollutant Discharge Elimination System (NPDES), which controls industrial and public owned treatment works (POTWs) discharges into water bodies. The required methods of analysis for these effluents are outlined in 40 CFR Part 136. These include the following sources:

- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020. EPA-MDQARL, Cincinnati, OH, 1979. Revised 1983.
- Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF.
- Annual Book of ASTM Standards, Volume 11, Water and Environmental Technology. American Society for Testing and Materials.

9.3.2 Solid Waste

Solid Waste is regulated by the Resource Conservation Recovery Act (RCRA). One of the major provisions of RCRA is to protect groundwater from hazardous waste contamination (i.e. the migration of hazardous substances from waste sites into the groundwater). It also provides the framework for determining if a waste is hazardous, how to treat a hazardous waste and the extent to which a particular site may be contaminated. The methods required for RCRA monitoring appear in SW-846. ERMI uses the following sources for analyzing solid wastes:

- "Test Methods for Evaluating Solid Wastes," Physical/Chemical Methods, EPA SW-846.
- 40 CFR Part 261 through 268. EPA Regulations for Identifying Hazardous Waste.

9.3.3 Soils, Sediments and Sludges

Soils, sediments and sludges are analyzed for a variety of purposes. Great care must be taken to ensure the correct regulatory protocols are selected. ERMI uses the following procedures:

- Interim Methods for the sampling and analysis of priority pollutants in sediments and fish tissue. EPA 600/4-81-055.
- "Test Methods for Evaluating Solid Wastes," Physical Chemical Methods, EPA SW846.

- 40 CFR Part 261 through 268. EPA Regulations for Identifying Hazardous Waste.

9.4 Standard Operating Procedures

Parameter-specific standard operating procedures (SOPs) have been developed for use in the laboratory. The SOPs have been written and finalized using regulatory agency approved procedures. These procedures have been thoroughly reviewed and approved for use by the LP and the Quality Assurance Manager. The SOPs are kept in the areas where the procedures are performed (i.e. Metals, Wet, and Organic laboratories). The SOPs give detailed information about performing all aspects of the procedure and they have been tested on a number of certification and performance evaluation studies given by **ERMI** and state and federal regulatory agencies. SOPs are reviewed as needed and may be revised when changes have been made, provided the QAM and LP have approved the changes. The revision process is a formal process in that the changes to the SOP must be typed into the SOP and a new revision number assigned to it. These controlled documents are also issued a new effective date, such that is clear which version of a SOP was in use at any time.

When an SOP covers more than one EPA approved method (e.g. VOA's by EPA 624 and EPA 8260) then the more restrictive or tighter quality requirements are used.

9.5 Instrument Calibration

9.5.1 Initial Instrument Calibration The details of each method-specific initial calibration including calculations, integrations, and acceptance criteria must be included in each method-specific SOP. The lowest calibration standard in the initial calibration must be at or below the reporting limit and must be at or above the method detection limit (MDL). If the initial instrument calibration results are outside established acceptance criteria, then corrective actions must be performed. Raw data records for all acceptable initial instrument calibrations must be retained to permit reconstruction of the initial instrument calibration. These records must include calibration date, test method, instrument, analysis date, each analyte name, concentration and response, and calibration curve or response factor and analyst initials. All initial instrument calibrations must be verified with a second source standard. All sample results must be quantitated from the initial instrument calibration and may not be quantitated from any continuing instrument calibration verifications.

9.5.2 Continuing Instrument Calibration Verification The initial calibration shall be verified by a continuing instrument calibration

verification prior to sample analysis. The details of the continuing instrument calibration requirements, calculations and acceptance criteria must be included in each method-specific SOP. The concentration of the calibration verification will be varied within the calibration range. If the continuing instrument calibration verification fails the acceptance criteria, corrective actions must be performed. If routine corrective action procedures fail to produce an acceptable continuing instrument calibration verification a new initial calibration must be performed. Sufficient raw data records must be maintained to permit reconstruction of the continuing instrument calibration verification. These records must include test method, instrument, analysis date, each analyte name, concentration and response, and calibration curve or response factor. Continuing calibration verification records must connect the continuing verification data to the initial instrument calibration.

9.6 Initial Demonstration of Capability (IDOC) The laboratory must demonstrate initial proficiency for each method by generating data with acceptable accuracy and precision results. The IDOC must be repeated whenever new staff are trained or significant changes in instrumentation are made.

9.6.1 The reference samples are prepared from a spiking solution containing each analyte of interest or a representative subset of analytes. The reference sample may be prepared from pure standard materials or purchased as a certified solution. The solution used must be from a different source than the standards used for calibration.

9.6.2 Analyze at least four replicate aliquots of the reference sample by the same procedures used to analyze actual samples.

9.6.3 Calculate the average recovery ($\overline{X}$) and the standard deviation of the recovery(s), for each analyte of interest using the four results.

9.6.4 Results are submitted to the QA Department for evaluation. The average recovery should be within the QC limits for each analyte.

9.7 Method Detection Limit (MDL) The definition and determination of the MDL can be found in the **ERMI** Definitions SOP, SOP 0003.0. If the laboratory has several instruments used for the same analyses, the MDL must be determined on each instrument. The MDL study must be on file for each instrument for each analyte for each method unless it is a customer-specific compound analyzed only infrequently. In these cases it is permissible that the compound be run on only one instrument and MDLs determined only on that particular instrument. It is acceptable to assign the highest MDL to a group of

instruments measuring an analyte. However, it is not acceptable for the laboratory to perform a MDL study on only one instrument and apply this MDL to all of its instruments.

ERMI has a multi-tier review process for approval of the MDL and it's data. Once an MDL study has been completed, the QAM will generate a Method Detection Limit (MDL) Approval Documentation Form (0013.0-1). A copy of this form can be found in Appendix B. The review process shall be as follows:

9.7.1 Analyst Review and Approval

The analyst who generated the MDL study compiles and reviews the data for correctness and any abnormalities that might have arisen during the study. They also check to verify that the recovery of parameters is within the QC limits. Once all the conditions for approval are met, the analyst will sign and date the Approval Form and attach all the documentation with the form and give it to their Manager.

9.7.2 Manager Review and Approval

The Department Manager reviews the data generated by the analyst for any transcription errors and that the proper equations are being used to generate the data. They will also look for any anomalies in the study and may send the packet back to the analyst for further review or corrections. Once all the conditions for approval are met, the Department Manager will sign and date the Approval Form and forward it to the QAM for final approval.

9.7.3 Final Approval

Final approval of an MDL shall be granted when the QAM and Lab President have both signed off on the approval documentation. Once approval is granted, the values for the MDL will be implemented into the ElmNT system.

MDL study documentation shall be maintained by the QAM.

9.8 Detectability Check Sample

Upon completion of a valid MDL study, a detectabilty check sample (DCS) must be analyzed. A DCS is a reagent matrix spike prepared by the laboratory with all compounds at concentrations within two to three times the calculated MDL for single analyte procedures and one to four times the calculated MDL for multiple-analyte procedures. This sample is carried through any sample preparation procedures prior to analysis. The DCS must be analyzed on a quarterly basis. If any compound is not detected in the DCS, the DCS must be reanalyzed. If the compound is still not detected, analyze the DCS at increasing concentrations until the compound is

detected. The concentration at which the compound is detected must be used in place of the statistical MDL. Once an acceptable DCS is analyzed, a DCS Form, QAP.6-5 (See Appendix B for an example) must be completed and signed as indicated. Additionally, a DCS is analyzed quarterly for each method, for each matrix.

9.9 Atypical Sample Procedures

In some cases, samples are so atypical they require a deviation or modification to an existing procedure, special preparation and/or a procedure not addressed in the regulations or SOPs. All deviations from the established protocol must be documented in a non-conformance report. A copy of the non-conformance report must be kept with the final report in the Customer file.

9.10 New Procedures

Once a procedure has been developed, it is documented as a standard operating procedure and reviewed and approved by the LP and QAM. New procedures and procedural enhancements are an ongoing process. Documentation is generated as the procedure is developed, finalized and approved. This applies to procedures used once or placed into use continuously.

10.0 ANALYTICAL QUALITY CONTROL

10.1 Purpose

Method specified analytical quality control shall be applied to ensure the quality, precision, accuracy, and credibility of the data produced in the laboratory. This section outlines the primary methods ERMI uses to ensure production of acceptable data.

10.2 Scope

This procedure provides an overview of the quality control measures used most frequently at ERMI. Although it is impractical to address all analytical situations in this document, the approach taken here is to define the major requirements necessary for most analyses. The unique and specific control procedures for a particular parameter are incorporated into each parameter specific SOP.

10.3 Quality Control Techniques

ERMI has established various quality control techniques to ensure produced data are valid and correct. In all cases, the techniques utilized meet the criteria established by regulatory agencies and method protocols, and in many instances our techniques are more stringent or exceed those stated. The techniques utilized were gleaned from a number of regulatory agency protocols including those publications listed below:

- USEPA Contract Laboratory Program Statement of Work.
- Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures/Quality Assurance. EPA, Washington, DC.
- "Test Methods for Evaluating Solid Wastes," Physical Chemical Methods, EPA SW-846.
- 40 CFR Part 136. EPA Regulations on Test Procedures for the Analysis of Pollutants.
- Methods for Chemical Analysis of Water and Wastes. EPA- 600/4-79-020, EPA MDQARL, Cincinnati, OH, 1979. Revised 1983.
- Standard Methods for the Examination of Water and Wastewater, APHA-AWWA -WPCF.
- NELAP Criteria.

10.4 Quality Control Samples

Quality control samples are applied to all parameter-specific analyses to ensure the accuracy and precision of the data produced. The basic unit on which the control samples and criteria are applied is a "batch of samples."

Some of the specific quality control tools employed include the analysis of the following types of quality control samples with each batch of samples as applicable. These are considered to be the general requirements; more or less extensive quality control measures may be required by the specific method of analysis.

- Analytical blank
- Laboratory Control Sample (LCS)
- Laboratory Control Sample Duplicate (LCSD)
- Matrix Spike (MS)
- Matrix Spike Duplicate (MSD)
- Surrogate spike (Organic analysis)

The definitions for these can be found in ERMI's Definitions, Statistical Calculations and References SOP, SOP 0003.0.

10.5 Method of Standard Additions

The method of standard additions (MSA) is sometimes used to determine the concentration of a parameter in a sample where sample interference(s) preclude determination by more conventional approaches. The procedure is essentially serial spiking of sample aliquots such that the equivalent of a new standard curve is produced, but with intrinsic sample influences (interferences) operating consistently at each level of analyte concentration. In this way, correction for severe analyte interference is achieved.

MSA is not routinely employed by ERMI when performing the analysis of samples. However when the situation arises that MSA must be used, the procedures used to perform and interpret the results of MSA can be found in the ERMI Definitions SOP.

10.6 Quality Control Criteria

The QC criteria established by ERMI meet or exceed those criteria established by EPA and various state and local regulatory agencies and authorities. The criteria established are specific to the method of analysis performed. Specific quality control criteria for each test are documented in the appropriate SOP.

Spike recovery determinations (i.e. MS, MSD, LCS, LCSD, and Surrogates) must meet accuracy (as % Recovery) and precision (as Relative Percent Difference, RPD) criteria documented in the SOP. These criteria are based upon statistical analysis of historical data or upon EPA documented criteria where statistical iterations are not practical.

Results from spiked analytes are presented in terms of Percent Recovery (%R) and Relative Percent Difference (RPD). Each of these results is evaluated using control charts and/or method specific criteria. Control charts are developed using procedures specified in SOP 7005.0.

All analytes in the control samples must fall within acceptance criteria for an analytical batch to be considered acceptable. If an analyte fails to meet the acceptance criteria a non-conformance completed and the results qualified on the customer report.

10.7 Audits and Performance Evaluations

Audits are performed to establish and promote the credibility of our work to regulatory agencies, Customers and other entities. These evaluations are primarily in four (4) forms although other methods may be used as well. The major techniques used include:

- Internal Performance Evaluation Studies
- External Performance Evaluation Studies
- System Audits
- Internal Quality Control Audits

10.7.1 Internal Performance Evaluation Studies

An internal performance evaluation shall be conducted in the laboratory by submitting quality control samples into the analytical process. These can be in the form of "Blind" QC samples where the analyst knows that the sample is a QC sample, or "Double Blind" samples where the analyst does not know that the sample is a QC sample. Double Blind QC samples may be submitted if there is an

indication that a severe systematic error has been incorporated into an analysis.

10.7.2 External Performance Evaluation Studies

An external performance evaluation involves analyzing blind quality control samples submitted by an outside agency. This type of audit allows the agency and our laboratory to verify accurate results are being produced. Examples of this type of evaluation are the Proficiency Testing samples supplied by NVLAP accredited providers. ERMI shall participate in PT studies at the frequency and for the fields of study required in NELAC 2.4.1 and in the manner described in NELAC 2.5. PT samples are analyzed in the same manner as any other customer sample. The laboratory shall investigate any PT results evaluated as 'Not Acceptable'. The QAM shall prepare a written report on the cause of the failure and the action taken. A copy of this report shall be provided to the primary accrediting authority.

10.7.3 System Audits

A system audit involves an audit of all laboratory procedures. This involves such diverse items as log-in procedures, field procedures, and analytical procedures. The goal of this type of audit is to ensure the laboratory is following practices described in the QAP and these practices are adequate to ensure proper quality assurance. These audits are performed internally by the QAM on an annual basis, and may be performed periodically by external factions such as current and potential Customers, or by state and federal regulating agencies.

10.7.4 Internal Quality Control Audit

This type of an audit is conducted by the QAM to verify quality control procedures are being followed and proper documentation is being maintained. A summary report noting deficiencies found through these audits is distributed to the Department Managers and the LP. The Department Managers must respond to deficiencies in their area of responsibility and report back to the QAM by e-mail outlining corrective action steps taken. The QAM must verify that the problem has been taken care of with a subsequent audit.

11.0 TRAINING AND PROFICIENCY

11.1 Purpose

ERMI personnel are well qualified to perform their assigned responsibilities. This is demonstrated through a combination of educational background, experience, special training and demonstrated skill. This section illustrates the practices and methods used to achieve and document the competency and proficiency of each environmental analyst. This is further documented through the training SOP, #0004.

11.2 Scope

ERMI's training procedures are extensive and thorough. Files are maintained to document the proficiency of the laboratory personnel. Work in the laboratory is divided among the analysts on the basis of parameters. Each analyst is assigned a group of parameters as his/her responsibility, with overall responsibility resting with the Department Managers. Cross training among the analysts is carried out as time permits so that each can assist the other during times of overload or when an analyst is absent.

11.3 Initial Demonstration of Proficiency

A demonstration of capability (DOC) must be made prior to using any test method and any time there is a change in instrument type, personnel, or test method. In test methods where 'work cells' (a well defined group of analysts that together perform the method) are used, the group as a unit must complete the DOC. At least four aliquots of the analyte(s) shall be diluted in a volume of clean matrix and analyzed concurrently or over a period of days. When all parameters meet acceptance criteria, analysis of actual samples may begin.

11.4 Continuing Demonstration of Proficiency

Continuing proficiency must be demonstrated annually by one or more of the following techniques:

- Acceptable analysis of Performance Evaluation samples or a blind sample (single blind to the analyst).
- Performance of the analysis with results consistently falling within acceptable quality control limits. At least four consecutive laboratory control samples with acceptable levels of precision and accuracy.
- Analysis of authentic samples with results statistically indistinguishable from those obtained by an ERMI certified analyst.
- Another demonstration of capability.
- Successful analysis of a blind performance sample on a similar test method using the same technology (e.g., GC/MS volatiles by purge and trap for Methods 524.2, 624 or 5035/8260) would only require documentation for one of the test methods.

The QAM shall be responsible for documenting the continuing proficiency of the analyst.

Once proficiency for a particular parameter has been demonstrated, if an analyst has a high number of re-analyses due to failure of spikes, duplicates or blanks for that parameter, or is unable to analyze performance evaluation samples within acceptable ranges, or is unable to produce results comparable to a co-analysis performed by an **ERMI** certified analyst, the analysis of this parameter by that analyst shall be suspended until the analyst has undergone sufficient additional training to enable him or her to meet acceptance criteria.

11.5 Training

The training of analysts at **ERMI** consists of training on the complete procedure including calculations, clean up, maintenance, waste disposal, safety and hygiene procedures in addition to a complete understanding of the analytical procedure. To ensure thorough training, each analyst goes through the following training agenda:

- Familiarization with general **ERMI** procedures and the facilities.
- Familiarization with **ERMI**'s QAP. This includes a Quality Assurance orientation in **ERMI**'s QA philosophy, documentation, report requirements, chain-of-custody, and the importance of the SOPs. This training shall be documented by the QAM. During the orientation process, **ERMI** enters into a partnership with the analyst to uphold the ethics and integrity of the Company and the data produced.
- Familiarization with the specifics of the job by reviewing SOPs.
- General laboratory safety training and training specific to the proposed assigned parameters.
- Co-work with an experienced analyst in performing the proposed suite of analyses until familiar with the analytical process.

Additional training shall be provided with the opportunity to attend seminars or outside training programs.

At the end of the training period, the analyst is evaluated by parameter. Sufficient training shall be deemed appropriate when one or more of the proficiency criteria is achieved and all training forms (including documentation) have been reviewed and approved by the QAM.

11.6 Data Integrity Procedures

11.6.1 Data integrity training takes place initially when a new employee is hired. They are then required to sign **ERMI's** Ethics Policy Statement, 0004.0-6 (see Appendix). Additional training, by a member of the Quality Assurance Department, is performed annually and is documented by a sign-in sheet. All records of this training are stored in the Quality Assurance Department.

11.6.2 The monitoring of data integrity is done through periodic parameter audits which are documented with audit reports and through the routine review of data. These procedures are updated as needed in the process of QAP and SOP reviews.

12.0 DOCUMENTATION AND RECORD CONTROL

12.1 Purpose

To describe the records management protocols utilized by **ERMI** and the control, storage and security of the technical documentation.

12.2 Scope

Documentation and records control applies to office, laboratory and field records and procedures. Controlling the generation, review, approval, and distribution of controlled documents and any revisions are the responsibility of the QAM.

12.3 Record Storage

Records are retained for a period of 5 to 7 years. After this time period they are reviewed for disposal. Records from data generated on a contract basis are retained per the contract requirements or the records are forwarded to the Customer at the end of the contract period.

In the event that **ERMI** transfers ownership or goes out of business, **ERMI** will either give all records back to all customers or establish a system so that customers can continue to have access to their records until the retention period has expired.

Records are stored at the laboratory facility on a short term basis (twelve to eighteen months). After this period, the files are moved to long term storage for the duration of the retention period. Cardboard storage boxes are used for all documents and records. Each box is labeled as to its contents and dated by calendar year. A Record Storage Form (QAP.6-4) similar to the example form shown in Appendix B, must be used to archive and identify the location of records stored.

12.4 Document Control

Computer files of the Quality Documents are stored on the Company's computerized system network with limited access to these files. Hardcopies of signed official copies are stored in file cabinets in the Quality Assurance Department. The QAM maintains control over the distribution of these documents with the use of a Document Distribution Control Form (QAP.6-7) similar to the one shown in Appendix B. The Document Distribution Control

Sheet is document-specific and shall be updated each time a controlled document is distributed.

The following documents are maintained under this system:

- Standard Operating Procedures
- Data Books and Records
- Standard Preparation Records
- The Quality Assurance Plan
- Maintenance Records

No disclosure of information or drawings contained in the documents listed in this section may be made outside of an established distribution without the prior consent of the LP.

12.5 Electronic Data Storage

All analytical data is stored on a server with the data written redundantly to protect the integrity of the data. All information on **ERMI**'s servers is backed up on a daily basis by the IT department. Full backups are performed on a weekly basis. Monthly archives are relocated to a secure, climate-controlled location off site, for a minimum of five years.

12.6 Integrity of Electronic Data

To maintain the integrity of all electronic records, **ERMI** has several procedures that must be followed. All data either manually entered into the LIMS system or automatically uploaded, must be validated by a secondary review. When methods are set up or changed in analytical software or in the LIMS system, the approval process documented in SOP 0010.0 must be followed. To protect data transmission through **ERMI**'s website, this website is protected by 128-bit encryption. Customers must also have a password that allows them to access only their results. When data is sent to a customer through e-mail, the results are sent in a PDF format that allows the file to be read but not changed. The following statement is also included on all faxed and emailed reports: "This message is for the designated recipient only and may contain privileged, proprietary, or otherwise private information. If you are not the intended recipient, please delete without copying and kindly advise us by e-mail or fax of the mistake in delivery."

12.7 Confidentiality of Data

All data obtained on samples from any customer are strictly confidential. To ensure conformance with this policy, all requests for analytical information are routed through Customer Service. No data are given to anyone except the customer without the customer's written or documented approval.

13.0 DATA VALIDATION

13.1 Purpose

To describe the process by which data is checked and accepted or rejected based on a set of criteria. This section describes the methods of data validation employed by **ERMI**.

13.2 Scope

Data validation is performed at five different levels.

- By the analyst generating and reporting the results.
- By automated checks within the LIMS.
- By an independent data reviewer.
- By the individual generating the final report.
- By the President during final review and sign-off of the report.

13.3 Analyst and Element data validation

The analyst follows all method-specific calibrations and calibration checks. All data is checked to ensure that it is properly integrated, properly identified, and properly quantitated. All run and batch QC is checked to ensure that it meets all method and laboratory specified criteria. Upon completion of a batch of samples, the analyst calculates or determines the sample results and the batch QC results. When the analytical results meet the acceptance criteria, or when it is determined that the data is to be reported with data qualifiers, the analyst records the final sample results into the LIMS system either manually or electronically. Any data flagged by Element is reviewed by the analyst to determine and resolve the problem. A Non-Conformance Report is generated to explain any discrepancies and must be approved using the procedure documented in SOP 0025.0. The analyst must completely fill out an Analytical Checklist to document the review process. An example of this checklist and of the full data review requirements can be found in SOPs 0008 – 0009.

13.4 Secondary Data Review

Secondary review can be performed by a member of the Quality Assurance Department, the Department Manager, or another qualified analyst. The data is reviewed to ensure that the sample has been analyzed by the appropriate test, the proper calibration criteria were met, all appropriate QC samples were analyzed and met method criteria, and any deviations from the method were documented in a non-conformance report. If an atypical result is discovered during the review process, the discrepancy must be resolved before the results are set to reviewed. The Analytical Checklist is completed by the reviewer.

13.5 Report Generation

At the time of report generation, the Customer Service representative checks the data for reasonableness with laws of nature. This includes, but is not limited to, total values greater than or equal to partial values (ie. Total metals ∃ Dissolved or filtered metals, Total Kjeldahl Nitrogen ∃ Ammonia Nitrogen), carbonate equalibrium vs pH, etc. Data is also compared to the Historical database. Often, extensive databases have been established with recurring Customers at specific sampling points. These data may be useful in "flagging" questionable or non-representative data points before such data points are incorporated into the final report. A final check is also made to ensure all necessary qualifiers are reported.

13.6 Final Review and Sign-off

The final step prior to issuing the report is the final review by the LP or his designate. The report is again checked for reasonableness and for any obvious errors.

14.0 NON-CONFORMANCE

14.1 Purpose

The purpose of this section is to explain what actions must be taken when there is a non-conformance in any laboratory procedure and to specify who shall be responsible for taking action.

14.2 Scope

Non-conformances can be discovered through data validation, audits, or Customer complaints. Corrective action is necessary to resolve these non-conformance situations. This section identifies the action to be taken when such a deviation occurs, identifies who should take action to correct the non-conformity, and lists ways to avoid a reoccurrence of this problem. A full description of the Non-conformance/Corrective Action procedures is detailed in SOP 0025.0.

14.3 Non-conformance in Data Validation

Minor "clerical type" errors such as copying, calculation, and typing errors may be discovered during the data validation process. This type of error is corrected by drawing a single line through the incorrect value, entering the correct value and then putting the date and initials beside the correction.

A major non-conformance occurs when an analysis has to be re-run because of apparent QC failure, when a sample cannot be analyzed strictly according to the SOP, or when the qualified data must be reported. When this occurs, a Non-Conformance Report must be initiated using the NC/CPAR program as detailed in SOP 0025.0. The LP or designate must sign this report before affected samples can be reported to the Customer, and it must be placed in the customer's file and with the analytical data. When data is reported with a

non-conformance, it must be flagged with a qualifier. Examples of the Non-Conformance Report (QAP.6-8) and an example of commonly used qualifiers may be found in Appendix B. The NC/CPAR program permits accurate and up to date analysis of all Non-conformances and Corrective Action Reports, their status, and statistical analysis of the types of issues and where they are occurring.

14.4 Non-conformance in Audits

Audits are physical examinations of the laboratory, its records, procedures, equipment, policies, and its quality control program. These can be conducted by a regulatory agency, a Customer or by a self-audit. Problems or shortcomings found during an audit must be addressed promptly by the QAM. After an investigation of the problem, the QAM initiates corrective actions that are designed to correct the problem, and then he/she prepares a written response to the audit that explains the steps taken to correct the problem. A follow-up audit shall be performed to ensure the situation has been rectified.

14.5 Non-conformance in Performance Evaluations

Performance Evaluations can be conducted by the EPA, states conducting certification studies, private industries and our own laboratory. These evaluations are designed to test the laboratory's ability to generate accurate and precise data. Performance Evaluations can be run as known test samples (blind) or as normal incoming samples (double blind). The QAM has the responsibility of reviewing all performance evaluations and responding to all unacceptable results. This shall usually be done in the form of a letter to the agency responsible or to the LP.

14.6 Non-conformance in Customer Complaints

The Customer Service Representative is usually the first person to receive a complaint. Some of these complaints may be simply addressed by answering questions regarding a report. Any problem, which involves a re-analysis or a report being re-issued, must be documented with an e-mail memorandum sent to: all parties involved with the analysis, the customer e-mail file, the LP, and the QAM. The QAM reviews the problem to be sure that sufficient steps have been taken to resolve the problem. It shall be the responsibility of the QAM in association with the Customer Services Manager and LP to decide if a written response to the customer is needed.

15.0 SUBCONTRACTING

15.1 Purpose

This section describes the steps necessary to control the quality of work subcontracted to an outside laboratory that performs an analytical procedure not currently performed by ERMI.

15.2 Scope

This section applies to analyses subcontracted to an entity outside **ERMI**. If **ERMI** has to subcontract out an analysis requiring LELAP/NELAC certification, it must be sent to a properly accredited laboratory.

15.3 Responsibility

The QAM shall be responsible for determining the suitability of a subcontractor for outside analyses. He/she must maintain a file on each contractor that contains documentation of the contractor's abilities, insurance coverage and QA program.

15.4 Pre-Approval by Customer

In the event that an analysis must be subcontracted out, it shall be the responsibility of **ERMI** to contact the Customer in writing (fax, e-mail, or hard-copy) and to attempt to get pre-approval from them. Documentation of Customer notification is kept in the Customer's project files.

15.5 Selection

Before a prospective subcontract laboratory performs analytical work, information regarding the laboratory's ability and suitability to perform the required analyses must be obtained. Some of the items addressed may include, but are not limited to the following:

- Applicable certifications and/or accreditations
- The methods used
- Blind and/or double blind QC sample results
- Certificate of insurance
- The QC performed and reported.

15.6 Chain of Custody

The transfer of custody of a sample from **ERMI** to the subcontract laboratory must be documented through a Chain-of-Custody Form. A copy of this form must be placed in the Customer's project file.

15.7 Audits

A physical audit of the subcontract laboratory may be conducted.

15.8 Reporting of Subcontracted Results

The results of any subcontracted work must be clearly identified in the final report to the Customer that the work was not performed by **ERMI**.

16.0 FACILITIES, EQUIPMENT AND MAINTENANCE

16.1 Purpose

This section generally describes ERMI's facilities and the equipment available to perform environmental chemistry services.

16.2 Scope

Acceptable facilities and equipment are critical to accurate and precise analyses of environmental chemistry samples. ERMI maintains such a facility equipped with suitable and properly maintained equipment.

16.3 Facilities

ERMI's laboratory is subdivided into four separate laboratories to accommodate the special needs of the analyses performed in each area. These are:

- the Metals Sample Preparation, Digestion and Instrument Laboratory, which houses the sample digestion and preparation rooms, ICP and ICP-MS spectrophotometers, and the mercury analysis system;
- the Wet Chemistry Laboratory, which houses the necessary equipment and space for analysis of wet chemistry parameters such as oxygen demands, residues, nutrients, cyanide, phenol, fluoride, etc;
- the Organic Sample Preparation Laboratory which houses the semi-volatile GC/MSs, an HPLC system, infrared spectrophotometer, ion chromatography system, and the necessary equipment and space for extraction and preparation of samples requiring organic analyses;
- and the Organic Instrument Laboratory which houses GC and volatile GC/MS instrumentation.

The complete laboratory has adequate electrical power, lighting, HVAC, ventilation systems, reagent water, and compressed gas services throughout to ensure proper operation of instrumentation and acceptable accuracy and precision of the data produced.

16.3.1 Electrical Power

The laboratory uses a 120 volt system throughout the facility and 240 volt circuits are available in strategic locations where required. There are five independent breaker panels containing 20 and 30 ampere breakers. Computers and other analytical instrumentation are equipped with on-line surge protectors and/or battery backup systems.

16.3.2 Battery Backup Systems

ERMI has a number of battery backup power supplies located throughout the facility to ensure constant and conditioned power to selected instruments and electrical systems.

- An APC Smart UPS 1400 provides a constant source of power to the servers and performs an orderly shut down in the event of a prolonged power outage.
- An Exide Powerware Systems 50 is our 50KVA battery backup system, which services our Organic Instrument Laboratory. Because of the sensitivity of our instrumentation, a very short power fluctuation (spike, sag or outage) could potentially result in severe and costly damage to instrumentation, loss of customer samples, and/or days of lost production.
- Smaller APC battery backup systems support other specific applications throughout the laboratory to ensure constant operation.

16.3.3 Lighting

Lighting is evenly distributed throughout the work area by overhead cool white florescent lights in banks of four 40-watt lights each. Burned out or flickering lights are replaced and the condition of all lighting is checked regularly. Battery operated emergency lighting is available at exit doors and throughout the laboratory during times of power outage.

16.3.4 HVAC

The analysis laboratories are equipped with independent HVAC systems servicing each of five separate laboratory units. These are sufficient to ensure that each of the operations laboratories can maintain static temperatures, adequate conditioned air, and preclude cross contamination between and among the laboratories.

16.3.5 Ventilation

In conjunction with the HVAC system, the laboratory utilizes strategically placed fume hoods to ensure the maintenance of safe working environments. These hoods are placed in areas where there is a high potential of exposure to chemicals or hazardous vapors. Each hood has been installed for a specific application and is designed to offer adequate ventilation for that application. Face velocities of each hood are checked and recorded semi-annually, by a member of the Quality Department, to ensure proper functioning. The hoods presently being used are as follows:

- Metals Preparation and Digestion – two hoods are available. One large adjustable sash tabletop hood for acid digestion of samples for metals analyses and one large fixed sash sink hood for general use (i.e. making solutions).

- Metals Instrumentation – four instrument ventilation systems are available. The TJA ICP and ICPMS are both serviced by separate units.
- Organic Preparation – three hoods are available. One cabinet hood where solvent concentration apparatus are used, and two tabletop hoods for general use.
- Organic Instrumentation – three small canopy hoods and two small tabletop hoods are available for general use (i.e. preparing standards, etc.).
- Wet Chemistry – One large fixed sash tabletop hood is available for general use.

16.4 Equipment

A large array of instruments, meters, compressors, pumps, fume hoods, hotplates, refrigerators, incubators, water baths, balances, dispensers and associated support equipment and systems are maintained in the laboratory. A list of representative instruments and support equipment is included in Appendix C.

16.5 Maintenance

The performance and reliability of the laboratory equipment is essential to the production of quality data. To ensure optimum performance, equipment shall be maintained according to manufacturer's recommendations, and in accord with good laboratory practices. All maintenance shall be documented in item specific Equipment Maintenance Book (QAP.6-18), an example is included in Appendix B. All in house and vendor service reports are entered into these maintenance books.

16.5.1 Equipment Actions and Responsibilities of the Department Managers

Department Managers are responsible for ensuring high equipment reliability. The following specific responsibilities are handled by the Department Managers:

- Verify equipment reliability by the manufacturer before purchase.
- Verify the operating environment, which influences the reliability of measurements, is controlled.
- Verify provisions are made for adequate training of personnel who use the instrument.
- Verify equipment is periodically inspected.
- Verify preventive maintenance is performed to minimize failures.
- Verify proper, quality parts are ordered.
- Verify records of failures are maintained.
- Evaluate maintenance data to provide the basis for the initiation of corrective actions and for predicting reliability and adjusting maintenance frequency.

16.5.2 Equipment Responsibilities of the Analyst

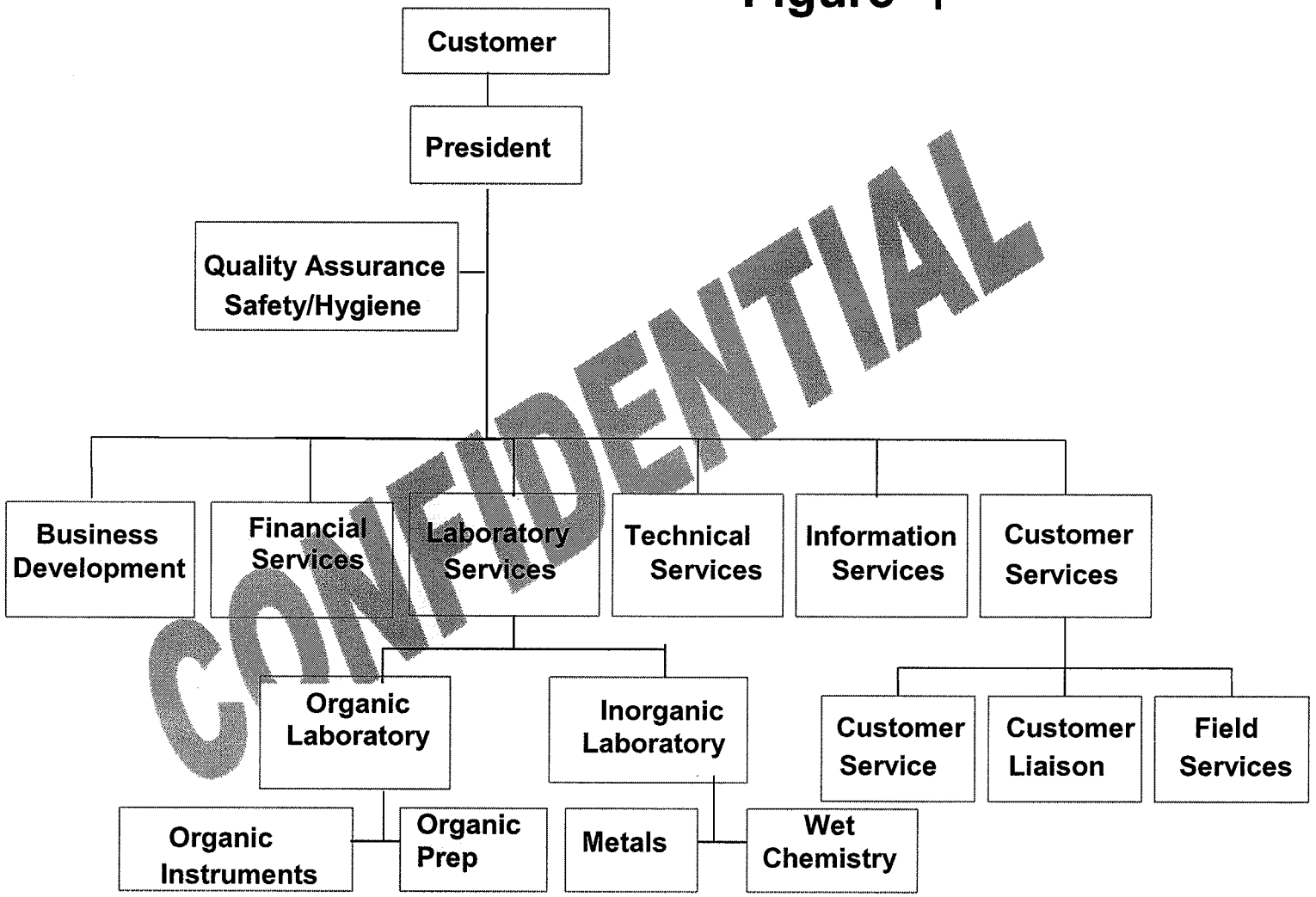
The analyst operating the equipment has the following responsibilities to ensure high reliability:

- Inspect and conduct performance tests on purchased equipment to verify adherence to specifications before use.
- Perform routine preventive maintenance, as appropriate.
- Maintain an adequate supply of spare parts.
- Report malfunctions to the Department Manager.
- Initiate procedures to repair equipment as needed.
- Label equipment not meeting specifications with an Out of Service tag so it will not be used until the non-conforming specifications are brought under control.

Appendix A
Figures and Primary Scope of Accreditation

ERMI Environmental Laboratories
Organizational Structure

Figure 1



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NELAP-Recognized Laboratory Fields of Accreditation

ERMI Environmental Laboratories
400 W. Bethany, Suite 190
Allen, Texas 75013-3714

Certificate Number: TX104704232-07-TX
Issue Date: July 1, 2007
Expiration Date: June 30, 2008

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Fields of Accreditation

Matrix: Solid and Chemical Materials

Category/Method: Microbiology/SM 9221C E 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Coliform, Fecal					

Category/Method: Microbiology/SM 9222B 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Coliform, Total					

Category/Method: Microbiology/SM 9222D 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Coliform, Total					

Category/Method: Metals/EPA 6010B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Antimony			Arsenic		
Barium			Beryllium		
Cadmium			Calcium		
Chromium			Cobalt		
Copper			Iron		
Lead			Magnesium		
Manganese			Molybdenum		
Nickel			Selenium		
Silver			Strontium		
Thallium			Tin		
Titanium			Vanadium		
Zinc					

Category/Method: Metals/EPA 6020A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Aluminum			Antimony		
Arsenic			Barium		
Beryllium			Cadmium		
Calcium			Chromium		
Cobalt			Copper		
Lead			Magnesium		
Manganese			Molybdenum		

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Matrix: Solid and Chemical Materials

Category/Method: Metals/EPA 6020A (cont.)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Nickel			Potassium		
Selenium			Silver		
Sodium			Thallium		
Vanadium			Zinc		

Category/Method: Metals/EPA 7470A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Mercury					

Category/Method: Metals/EPA 7471A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Mercury					

Category/Method: Waste Characteristics/EPA 1010

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Ignitability					

Category/Method: Waste Characteristics/EPA 9040C

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Corrosivity					

Category/Method: General Chemistry/EPA 1664A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
n-Hexane Extractable Material (HEM)			Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)		

Category/Method: General Chemistry/EPA 7196A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Chromium VI					

Category/Method: General Chemistry/EPA 9040C

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
pH					

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Matrix: Solid and Chemical Materials

Category/Method: General Chemistry/EPA 9045D

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
pH					

Category/Method: General Chemistry/EPA 9050A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Specific Conductance (Conductivity)					

Category/Method: General Chemistry/EPA 9056

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Bromide			Chloride		
Fluoride			Nitrate (as N)		
Nitrite (as N)			Nitrate-Nitrite (as N)		
Orthophosphate (as P)			Sulfate		

Category/Method: General Chemistry/EPA 9060A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Organic Carbon, Total (TOC)					

Category/Method: General Chemistry/EPA 9065

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Phenols					

Category/Method: VOCs by GC/MS/EPA 8260B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane		
1,1,2,2-Tetrachloroethane			1,1,2-Trichloroethane		
1,1-Dichloroethane			1,1-Dichloroethene		
1,1-Dichloropropene			1,2,3-Trichlorobenzene		
1,2,3-Trichloropropane			1,2,4-Trichlorobenzene		
1,2,4-Trimethylbenzene			1,2-Dibromo-3-chloropropane (DBCP)		
1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene		
1,2-Dichloroethane			1,2-Dichloropropane		
1,3,5-Trimethylbenzene			1,3-Dichloro-2-propanol		
1,3-Dichlorobenzene			1,3-Dichloropropane		
1,4-Dichlorobenzene			1,4-Dioxane		
2,2-Dichloropropane			2-Butanone (MEK)		
2-Chloroethyl vinyl ether			2-Chlorotoluene		

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Matrix: Solid and Chemical Materials

Category/Method: VOCs by GC/MS/EPA 8260B (cont.)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
2-Hexanone (MBK)			2-Propanol		
4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
Acetone			Acetonitrile		
Acrolein			Acrylonitrile		
Allyl alcohol			Allyl chloride		
Benzene			Benzyl chloride		
Bromobenzene			Bromochloromethane		
Bromodichloromethane			Bromoform		
Bromomethane			Carbon disulfide		
Carbon tetrachloride			Chlorobenzene		
Chloroethane			Chloroform		
Chloromethane			cis-1,2-Dichloroethene		
cis-1,3-Dichloropropene			cis-1,4-Dichloro-2-butene		
Dibromochloromethane			Dibromomethane		
Dichlorodifluoromethane			Ethyl acetate		
Ethyl methacrylate			Ethylbenzene		
Hexachlorobutadiene			Hexachloroethane		
Iodomethane			Isobutyl alcohol		
Isopropylbenzene			Methacrylonitrile		
Methyl methacrylate			Methyl tert-butyl ether (MTBE)		
Methylene chloride			Naphthalene		
n-Butylbenzene			n-Propylbenzene		
Pentachloroethane			Propionitrile		
Pyridine			sec-Butylbenzene		
Styrene			tert-Butylbenzene		
Tetrachloroethene			Toluene		
trans-1,2-Dichloroethene			trans-1,3-Dichloropropene		
trans-1,4-Dichloro-2-butene			Trichloroethene		
Trichlorofluoromethane			Vinyl acetate		
Vinyl chloride			Xylene, ortho		
Xylenes, meta, para					

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Matrix: Solid and Chemical Materials

Category/Method: SVOCs by GC/MS/EPA 8270C

Analytes:	Code:	CAS No.:
1,2,4,5-Tetrachlorobenzene		
1,2-Dichlorobenzene		
1,3-Dichlorobenzene		
1,4-Dichlorobenzene		
1,4-Naphthoquinone		
1-Naphthylamine		
2,4,5-Trichlorophenol		
2,4-Diaminotoluene		
2,4-Dimethylphenol		
2,4-Dinitrotoluene		
2,6-Dinitrotoluene		
2-Chloronaphthalene		
2-Methyl-4,6-dinitrophenol		
2-Methylphenol		
2-Nitroaniline		
2-Picoline		
3,3'-Dimethylbenzidine		
3-Nitroaniline		
4,4'-DDE		
4,4'-Oxydianiline		
4-Bromophenyl phenyl ether		
4-Chloroaniline		
4-Methylphenol		
4-Nitrobiphenyl		
5,5-Diphenylhydantoin		
5-Nitroacenaphthene		
7,12-Dimethylbenz(a) anthracene		
Acenaphthene		
Acetophenone		
Aminoazobenzene		
Anthracene		
Benz(a)anthracene		
Benzo(a)pyrene		
Benzo(g,h,i)perylene		
Benzoic acid		
Benzyl butyl phthalate		
1,2,4-Trichlorobenzene		
1,2-Dinitrobenzene		
1,3-Dinitrobenzene		
1,4-Dinitrobenzene		
1-Chloronaphthalene		
2,3,4,6-Tetrachlorophenol		
2,4,6-Trichlorophenol		
2,4-Dichlorophenol		
2,4-Dinitrophenol		
2,6-Dichlorophenol		
2-Acetylaminofluorene		
2-Chlorophenol		
2-Methylnaphthalene		
2-Naphthylamine		
2-Nitrophenol		
3,3'-Dichlorobenzidine		
3-Methylcholanthrene		
4,4'-DDD		
4,4'-DDT		
4-Aminobiphenyl		
4-Chloro-3-methylphenol		
4-Chlorophenyl phenyl ether		
4-Nitroaniline		
4-Nitrophenol		
5-Chloro-2-methylaniline		
5-Nitro-o-toluidine		
a-BHC		
Acenaphthylene		
Aldrin		
Aniline		
b-BHC		
Benzidine		
Benzo(b)fluoranthene		
Benzo(k)fluoranthene		
Benzyl alcohol		
Bis(2-chlorethoxy)methane		

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Matrix: Solid and Chemical Materials

Category/Method: SVOCs by GC/MS/EPA 8270C (cont.)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Bis (2-chloroethyl)ether			Bis (2-chloroisopropyl)ether		
Bis(2-ethylhexyl)phthalate			Carbazole		
Chlordane, Technical			Chrysene		
d-BHC			Dibenz(a,h)anthracene		
Dibenz(a,j)acridine			Dibenzo(a,e)pyrene		
Dibenzofuran			Dieldrin		
Diethyl phthalate			Dethylstilbestrol		
Dimethyl phthalate			Di-n-butyl phthalate		
Di-n-octyl phthalate			Diphenylaminie		
Endosulfan I			Endosulfan II		
Endosulfan sulfate			Endrin		
Endrin aldehyde			Endrin ketone		
Ethyl methanesulfonate			Fluoranthene		
Fluorene			g-BHC (Lindane)		
Heptachlor			Heptachlor epoxide		
Hexachlorobenzene			Hexachlorobutadiene		
Hexachlorocyclopentadiene			Hexachloroethane		
Hexachloropropene			Indeno(1,2,3-c,d)pyrene		
Isodrin			Isophorone		
Isosafrole			Mestranol		
Methoxychlor			Methyl methanesulfonate		
Naphthalene			Nitrobenzene		
Nitroquinoline-1-oxide			N-Nitrosodiethylamine		
N-Nitrosodimethylamine			N-Nitrosodi-n-butylamine		
N-Nitrosodi-n-propylamine			N-Nitrosodiphenylamine		
N-Nitrosomethylethylaminie			N-Nitrosomorpholine		
N-Nitrosopiperidine			N-Nitrosopyrrolidine		
o-Anisidine			o-Toluidine		
p-Cresidine			Pentachlorobenzene		
Pentachloronitrobenzene			Pentachlorophenol		
Phenacetin			Phenanthrene		
Phenol			Pronamide		
Pyrene			Pyridine		
Safrole					

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Matrix: Solid and Chemical Materials

Category/Method: Organics by GC/TCEQ 1005

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Total Petroleum Hydrocarbons					

Category/Method: Organics by GC/EPA 8015B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Diesel Range Organics (DRO)			Gasoline Range Organics (GRO)		
Ethylene glycol			Methanol		

Category/Method: Organics by GC/EPA 8021B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Benzene			Ethylbenzene		
Methyl tert-butyl ether (MTBE)			Naphthalene		
Toluene			Xylene, ortho		
Xylenes, meta, para					

Category/Method: Organics by GC/EPA 8081A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
4,4'-DDD			4,4'-DDE		
4,4'-DDT			a-BHC		
Aldrin			b-BHC		
Chlordane, alpha			Chlordane, gamma		
Chlordane, technical			d-BHC		
Dieldrin			Endosulfan I		
Endosulfan II			Endosulfan sulfate		
Endrin			Endrin aldehyde		
Endrin ketone			g-BHC (Lindane)		
Heptachlor			Heptachlor epoxide		
Methoxychlor			Mirex		
Toxaphene					

Category/Method: Organics by GC/EPA 8082

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
PCB-1016			PCB-1221		
PCB-1232			PCB-1242		
PCB-1248			PCB-1254		
PCB-1260					

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Matrix: Solid and Chemical Materials

Category/Method: Organics by GC/EPA 8141A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Atrazine			Azinphos methyl (Guthion)		
Bolstar (Sulprofos)			Chlorpyrifos (Dursban)		
Coumaphos			Demeton-O		
Demeton-S			Dichlorvos (DDVP)		
Dimethoate			Disulfoton		
EPN			Ethoprop		
Fensulfothion			Fenthion		
Malathion			Merphos		
Mevinphos			Monocrotophos		
Naled			Parathion ethyl		
Parathion methyl			Phorate		
Ronnel			Sulfotepp		
Tokuthion (Prothiofos)			Trichloronate		

Category/Method: Organics by GC/EPA 8151A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
2,4,5-T			2,4,5-TP (Silvex)		
2,4-D			Dalapon		
Dicamba			Dichloroprop (Weedone)		
Dinoseb			MCPA		
MCPP					

Category/Method: Organics by HPLC/EPA 8310

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Acenaphthene			Acenaphthylene		
Anthracene			Benzo(a)anthracene		
Benzo(a)pyrene			Benzo(b)fluoranthene		
Benzo(g,h,i)perylene			Benzo(k)fluoranthene		
Chrysene			Dibenzo(a,h)anthracene		
Fluoranthene			Fluorene		
Indeno(1,2,3-c,d)pyrene			Napthalene		
Phenanthrene			Pyrene		

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Matrix: Non-Potable Water

Category/Method: Microbiology/SM 9222B 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Coliform, Total					

Category/Method: Microbiology/SM 9222D 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Coliform, Fecal					

Category/Method: Metals/EPA 200.7

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Antimony			Arsenic		
Barium			Beryllium		
Cadmium			Calcium		
Chromium			Cobalt		
Copper			Iron		
Lead			Magnesium		
Manganese			Molybdenum		
Nickel			Selenium		
Silver			Strontium		
Thallium			Tin		
Titanium			Vanadium		
Zinc					

Category/Method: Metals/EPA 200.8

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Aluminum			Antimony		
Arsenic			Barium		
Beryllium			Cadmium		
Calcium			Chromium		
Cobalt			Copper		
Lead			Magnesium		
Manganese			Molybdenum		
Nickel			Potassium		
Selenium			Silver		
Sodium			Thallium		
Vanadium			Zinc		

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NELAP-Recognized Laboratory Fields of Accreditation

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Matrix: Non-Potable Water

Category/Method: Metals/EPA 245.1

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Mercury					

Category/Method: Metals/EPA 6010B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Antimony			Arsenic		
Barium			Beryllium		
Cadmium			Calcium		
Chromium			Cobalt		
Copper			Iron		
Lead			Magnesium		
Manganese			Molybdenum		
Nickel			Selenium		
Silver			Strontium		
Thallium			Tin		
Titanium			Vanadium		
Zinc					

Category/Method: Metals/EPA 6020A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Aluminum			Antimony		
Arsenic			Barium		
Beryllium			Cadmium		
Calcium			Chromium		
Cobalt			Copper		
Lead			Magnesium		
Manganese			Molybdenum		
Nickel			Potassium		
Selenium			Silver		
Sodium			Thallium		
Vanadium			Zinc		

Category/Method: Metals/EPA 7470A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Mercury					

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Matrix: Non-Potable Water

Category/Method: Metals/EPA 7471A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Mercury					

Category/Method: General Chemistry/EPA 120.1

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Specific Conductance					

Category/Method: General Chemistry/EPA 300.0

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Bromide			Chloride		
Fluoride			Nitrate (as N)		
Nitrite (as N)			Orthophosphate (as P)		
Sulfate					

Category/Method: General Chemistry/EPA 310.1

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Alkalinity					

Category/Method: General Chemistry/EPA 410.4

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Chemical Oxygen Demand (COD)					

Category/Method: General Chemistry/EPA 420.1

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Phenols					

Category/Method: General Chemistry/EPA 1664A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
n-Hexane Extractable Material (HEM)			Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)		

Category/Method: General Chemistry/EPA 9014

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Cyanide, Amenable			Cyanide, Total		

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Matrix: Non-Potable Water

Category/Method: General Chemistry/EPA 9040C

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
pH					

Category/Method: General Chemistry/EPA 9050A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Specific Conductance (Conductivity)					

Category/Method: General Chemistry/EPA 9056

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Bromide			Chloride		
Fluoride			Nitrate (as N)		
Nitrite (as N)			Orthophosphate (as P)		
Sulfate					

Category/Method: General Chemistry/EPA 9060A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Organic Carbon, Total (TOC)					

Category/Method: General Chemistry/EPA 9065

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Phenols					

Category/Method: General Chemistry/Hach 8000

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Chemical Oxygen Demand (COD)					

Category/Method: General Chemistry/SM 2320B 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Alkalinity					

Category/Method: General Chemistry/SM 2340B 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Hardness, Total					

Category/Method: General Chemistry/SM 2540B 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Residue, Total					

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Matrix: Non-Potable Water

Category/Method: General Chemistry/SM 2540C

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Residue, Filterable (TDS)					

Category/Method: General Chemistry/SM 2540D

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Residue, Nonfilterable (TSS)					

Category/Method: General Chemistry/SM 3500-CrB (20)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Chromium VI					

Category/Method: General Chemistry/SM 4500-CNC 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Cyanide, Total					

Category/Method: General Chemistry/SM 4500-CNG 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Cyanide, Available					

Category/Method: General Chemistry/SM 4500-H+B 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
pH					

Category/Method: General Chemistry/SM 4500-NH3C 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Nitrogen, Total Kjeldahl (TKN) (as N)					

Category/Method: General Chemistry/SM 4500-NH3D 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Ammonia (as N)			Nitrogen, Total Kjeldahl (TKN) (as N)		

Category/Method: General Chemistry/SM 4500-PE 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Phosphorus, Total					

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Matrix: Non-Potable Water

Category/Method: General Chemistry/SM 5310C 20th Ed.

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Organic Carbon, Total (TOC)					

Category/Method: VOCs by GC/MS/EPA 624

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane		
1,1,2-Trichloroethane			1,1-Dichloroethane		
1,1-Dichloroethene			1,2-Dibromoethane (EDB)		
1,2-Dichlorobenzene			1,2-Dichloroethane		
1,2-Dichloropropane			1,3-Dichlorobenzene		
1,4-Dichlorobenzene			2-Butanone (MEK)		
2-Chloroethyl vinyl ether			Acetone		
Acrolein			Acrylonitrile		
Benzene			Bromodichloromethane		
Bromoform			Bromomethane		
Carbon Tetrachloride			Chlorobenzene		
Chloroethane			Chloroform		
Chloromethane			cis-1,3-Dichloropropene		
Dibromochloromethane			Ethylbenzene		
Methylene chloride			Methyl tert-butyl ether (MTBE)		
Tetrachloroethene			Toluene		
trans-1,2-Dichloroethene			trans-1,3-Dichloropropene		
Trichloroethene			Trichlorofluoromethane		
Vinyl chloride			Xylene, ortho		
Xylenes, meta, para					

Category/Method: VOCs by GC/MS/EPA 8260B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
1,1,1,2-Tetrachlorethane			1,1,1-Trichloroethane		
1,1,2,2-Tetrachlorethane			1,1,2-Trichloroethane		
1,1-Dichloroethane			1,1-Dichloroethene		
1,1-Dichloropropene			1,2,3-Trichlorobenzene		
1,2,3-Trichloropropane			1,2,4-Trichlorobenzene		
1,2,4-Trimethylbenzene			1,2-Dibromoethane (EDB)		
1,2-Dichlorobenzene			1,2-Dichlorethane		
1,2-Dichloropropane			1,3,5-Trimethylbenzene		
1,3-Dichlorobenzene			1,3-Dichloropropane		

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Matrix: Non-Potable Water

Category/Method: VOCs by GC/MS/EPA 8260B (cont.)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
1,4-Dichlorobenzene			1,4-Dioxane		
2,2-Dichloropropane			2-Butanone (MEK)		
2-Chlorethyl vinyl ether			2-Chlorotoluene		
2-Hexanone (MBK)			2-Propanol		
4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
Acetone			Acetonitrile		
Acrolein			Acrylonitrile		
Allyl alcohol			Allyl chloride		
Benzene			Benzyl chloride		
Bromobenzene			Bromochloromethane		
Bromodichloromethane			Bromoform		
Carbon disulfide			Carbon tetrachloride		
Chlorobenzene			Chlorethane		
Chloroform			cis-1,2-Dichlorethene		
cis-1,3-Dichloropropene			Dibromochloromethane		
Dibromochloropropane			Dibromomethane		
Dichlorodifluoromethane			Ethyl acetate		
Ethyl methacrylate			Ethylbenzene		
Hexachlorobutadiene			Hexachloroethane		
Iodomethane			Isobutyl alcohol		
Isopropylbenzene			Methyl methacrylate		
Methyl tert-butyl ether (MTBE)			Methylene chloride		
Naphthalene			n-Butylbenzene		
n-Propylbenzene			Pentachloroethane		
Propionitrile			sec-Butylbenzene		
Styrene			tert-Butylbenzene		
Tetrachloroethene			Toluene		
trans-1,2-Dichlorethene			trans-1,3-Dichloropropene		
trans-1,4-Dichloro-2-butene			Trichloroethene		
Trichlorofluoromethane			Vinyl acetate		
Vinyl chloride			Xylene, ortho		
Xylenes, meta, para					

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Matrix: Non-Potable Water

Category/Method:SVOCs by GC/MS/EPA 625

Analytes:	Code:	CAS No.:
1,2-Dichlorobenzene		
1,2,4,5-Tetrachlorobenzene		
1,4-Dichlorobenzene		
2,4,5-Trichlorophenol		
2,4-Dichlorophenol		
2,4-Dinitrophenol		
2,6-Dinitrotoluene		
2-Chlorophenol		
2-Nitrophenol		
4,4'-DDD		
4,4'-DDT		
4-Chloro-3-methylphenol		
4-Nitrophenol		
Acenaphthene		
Aldrin		
b-BHC		
Benzo(a)anthracene		
Benzo(b)fluoranthene		
Benzo(k)fluoranthene		
Bis(2-chloroethoxy)methane		
Bis(2-chloroisopropyl)ether		
Chrysene		
Dibenzo(a,h)anthracene		
Diethyl phthalate		
Di-n-butyl phthalate		
Endosulfan I		
Endosulfan sulfate		
Endrin aldehyde		
Fluorene		
Heptachlor		
Hexachlorobenzene		
Hexachlorocyclopentadiene		
Ideno(1,2,3-cd)pyrene		
Naphthalene		
N-Nitrosodiethylamine		
N-Nitrosodi-n-butylamine		

Analytes:	Code:	CAS No.:
1,2,4-Trichlorobenzene		
1,3-Dichlorobenzene		
2,3,4,6-Tetrachlorophenol		
2,4,6-Trichlorophenol		
2,4-Dimethylphenol		
2,4-Dinitrotoluene		
2-Chloronaphthalene		
2-Methyl-4,6-dinitrophenol		
3,3'-Dichlorobenzidine		
4,4'-DDE		
4-Bromophenyl phenyl ether		
4-Chlorophenyl phenyl ether		
a-BHC		
Acenaphthylene		
Anthracene		
Benzidine		
Benzo(a)pyrene		
Benzo(g,h,i)perylene		
Benzyl butyl phthalate		
Bis(2-chloroethyl)ether		
Bis(2-ethylhexyl) phthalate		
d-BHC		
Dieldrin		
Dimethyl phthalate		
Di-n-octyl phthalate		
Endosulfan II		
Endrin		
Fluoranthene		
g-BHC (Lindane)		
Heptachlor epoxide		
Hexachlorobutadiene		
Hexachloroethane		
Isophorone		
Nitrobenzene		
N-Nitrosodimethylamine		
N-Nitrosodi-n-propylamine		

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Matrix: Non-Potable Water

Category/Method:SVOCs by GC/MS/EPA 625 (cont.)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
N-Nitrosodiphenylamine			Pentachlorbenzene		
Pentachlorophenol			Phenanthrene		
Phenol			Pyridine		

Category/Method: SVOCs by GC/MS/EPA 8270C

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
1,2,4,5-Tetrachlorobenzene			1,2,4-Trichlorobenzene		
1,2-Dichlorobenzene			1,2-Dinitrobenzene		
1,3-Dichlorobenzene			1,3-Dinitrobenzene		
1,4-Dichlorobenzene			1,4-Dinitrobenzene		
1,4-Naphthoquinone			1-Chloronaphthalene		
1-Naphthylamine			2,3,4,6-Tetrachlorophenol		
2,4,5-Trichlorophenol			2,4,6-Trichlorophenol		
2,4-Diaminotoluene			2,4-Dichlorophenol		
2,4-Dimethylphenol			2,4-Dinitrophenol		
2,4-Dinitrotoluene			2,6-Dichlorophenol		
2,6-Dinitrotoluene			2-Acetylaminofluorene		
2-Chloronaphthalene			2-Chlorophenol		
2-Methyl-4,6-dinitrophenol			2-Methylnaphthalene		
2-Methylphenol			2-Naphthylamine		
2-Nitroaniline			2-Nitrophenol		
2-Picoline			3,3'-Dichlorobenzidine		
3,3'-Dimethylbenzidine			3-Methylcholanthrene		
3-Nitroaniline			4,4'-Oxydianiline		
4-Aminobiphenyl			4-Bromophenyl phenyl ether		
4-Chloro-3-methylphenol			4-Chloroaniline		
4-Chlorophenyl phenyl ether			4-Methylphenol		
4-Nitroaniline			4-Nitrobiphenyl		
4-Nitrophenol			5,5-Diphenylydantoin		
5-Chloro-2-methylaniline			5-Nitroacenaphthene		
5-Nitro-o-toluidine			7,12-Dimethylbenz(a)anthracene		
Acenapthene			Acenaphththylene		
Acetophenone			Aminoazobenzene		
Aniline			Anthracene		
Benz(a)anthracene			Benzidine		
Benzo(a)pyrene			Benzo(b)fluoranthene		

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Matrix: Non-Potable Water

Category/Method: SVOCs by GC/MS/EPA 8270C (cont.)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Benzo(g,h,i)perylene			Benzo(k)fluoranthene		
Benzoic acid			Benzyl alcohol		
Benzyl butyl phthalate			Bis(2-chloroethoxy)methane		
Bis(2-chlorethyl)ether			Bis(2-chlorisopropyl)ether		
Bis(2-ethylhexyl)phthalate			Carbazole		
Chrysene			Dibenz(a,h)anthracene		
Dibenzo(a,e)pyrene			Dibenz(a,j)acridine		
Dibenzofuran			Diethylstilbestrol		
Diethyl phthalate			Di-n-butyl phthalate		
Dimethyl phthalate			Diphenylamine		
Di-n-octyl phthalate			Endrin ketone		
Fluoranthene			Ethyl methanesulfonate		
Fluorene			Hexachlorobutadiene		
Hexachlorobenzene			Hexachloroethane		
Hexachlorcyclopentadiene			Hexachlorpropene		
Hexachlorophene			Isodrin		
Indeno(1,2,3-c,d)pyrene			Isophorone		
Isosafrole			Mestranol		
Napthalene			Nitroquinoline-1-oxide		
Nitrobenzene			N-Nitrosodimethylamine		
N-Nitrosodiethylamine			N-Nitrosodi-n-propylamine		
N-Nitrosodi-n-butylamine			N-Nitrosomethylethylamine		
N-Nitrosodiphenylamine			N-Nitrosopiperdine		
N-Nitrosomorpholine			o-Anisidine		
N-Nitrosopyrrolidine			o-Toluidine		
p-Cresidine			Pentachlorobenzene		
Pentachloronitrobenzene			Pentachlorophenol		
Phenacetin			Phenanthrene		
Phenol			Pronamide		
Pyridine			Safrole		

Category/Method: Organics by GC/TCEQ 1005

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Total Petroleum Hydrocarbons					

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Matrix: Non-Potable Water

Category/Method: Organics by GC/EPA 602

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Benzene			Ethylbenzene		
Toluene			Xylene, ortho		
Xylenes, meta, para					

Category/Method: Organics by GC/EPA 608

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
4,4'-DDD			4,4'-DDE		
4,4'-DDT			a-BHC		
Aldrin			b-BHC		
Chlordane, Technical			d-BHC		
Dieldrin			Endosulfan I		
Endosulfan II			Endosulfan sulfate		
Endrin			Endrin aldehyde		
g-BHC (Lindane)			Heptachlor		
Heptachlor epoxide			Methoxychlor		
PCB 1016			PCB-1221		
PCB-1232			PCB-1242		
PCB-1248			PCB-1254		
PCB-1260			Toxaphene		

Category/Method: Organics by GC/EPA 610

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Acenaphthene			Acenaphthylene		
Anthracene			Benzo(a)anthracene		
Benzo(a)pyrene			Benzo(b)fluoranthene		
Benzo(g,h,i)perylene			Benzo(k)fluoranthene		
Chrysene			Dibenzo(a,h)anthracene		
Fluoranthene			Fluorene		
Ideno(1,2,3-cd)pyrene			Naphthalene		
Phenanthrene			Pyrene		

Category/Method: Organics by GC/EPA 615

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
2,4,5-T			2,4,5-TP		
2,4-D			2,4-DB		
Dalapon			Dicamba		

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Matrix: Non-Potable Water

Category/Method: Organics by GC/EPA 615 (cont.)

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Dichloroprop			Dinoseb		
MCPA			MCPP		

Category/Method: Organics by GC/EPA 8015B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Diesel Range Organics (DRO)			Gasoline Range Organics (GRO)		

Category/Method: Organics by GC/EPA 8021B

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Benzene			Ethylbenzene		
Methyl tert-butyl ether (MTBE)			Napthalene		
Toluene			Xylene, ortho		
Xylenes, meta, para			Xylenes, Total		

Category/Method: Organics by GC/EPA 8081A

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
4,4'-DDD			4,4'-DDE		
4,4'-DDT			a-BHC		
Aldrin			b-BHC		
Chlordane, alpha			Chlordane, gamma		
Chlordane, Technical			d-BHC		
Dieldrin			Endosulfan I		
Endosulfan II			Endosulfan sulfate		
Endrin			Endrin aldehyde		
Endrin ketone			g-BHC (Lindane)		
Heptachlor			Heptachlor epoxide		
Mirex			Methoxychlor		
Toxaphene					

Category/Method: Organics by GC/EPA 8082

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
PCB-1016			PCB-1221		
PCB-1232			PCB-1242		
PCB-1248			PCB-1254		
PCB-1260					

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NELAP-Recognized Laboratory Fields of Accreditation

ERMI Environmental Laboratories
400 W. Bethany, Suite 190
Allen, Texas 75013-3714

Certificate Number: TX104704232-07-TX
Issue Date: July 1, 2007
Expiration Date: June 30, 2008

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: Non-Potable Water

Category/Method: Organics by GC/EPA 8141A

Analytes:	Code:	CAS No.:
Atrazine		
Bolstar (Sulprofos)		
Coumaphos		
Demeton-S		
Dichlorvos (DDVP)		
Disulfoton		
Ethoprop		
Fenthion		
Merphos		
Monocrotophos		
Parathion ethyl		
Phorate		
Sulfotepp		
Tricloronate		
Azinphos methyl (Guthion)		
Chlorpyrifos (Dursban)		
Demeton-O		
Diazinon		
Dimethoate		
EPN		
Fensulfothion		
Malathion		
Mevinphos		
Naled		
Parathion methyl		
Ronnel		
Tokuthion (Prothiofos)		

Category/Method: Organics by GC/EPA 8151A

Analytes:	Code:	CAS No.:
2,4,5-T		
2,4-D		
Dalapon		
Dichloroprop (Weedone)		
MCPA		
2,4,5-TP (Silvex)		
2,4-DB		
Dicamba		
Dinoseb		
MCPP		

Category/Method: Organics by HPLC/EPA 8310

Analytes:	Code:	CAS No.:
Acenaphthene		
Anthracene		
Benzo(a)pyrene		
Benzo(g,h,i)perylene		
Chrysene		
Fluoranthene		
Indeno(1,2,3-c,d)pyrene		
Phenanthrene		
Acenaphthylene		
Benzo(a)anthracene		
Benzo(b)fluoranthene		
Benzo(k)fluoranthene		
Dibenzo(a,h)anthracene		
Fluorene		
Napthalene		
Pyrene		

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NELAP-Recognized Laboratory Fields of Accreditation

ERMI Environmental Laboratories
400 W. Bethany, Suite 190
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Certificate Number: TX104704232-07-TX
Issue Date: July 1, 2007
Expiration Date: June 30, 2008

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: Non-Potable Water

Category/Method: Organics by HPLC/EPA 8318

Analytes:	Code:	CAS No.:	Analytes:	Code:	CAS No.:
Carbaryl (Sevin)					

Appendix B
Forms

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

(800) 228-ERMI
or
(972) 727-1123

Document Review Form

Document ID#/Name:

I have reviewed this document against current practices, regulations, and methods and have found no need for revision.

Reviewer:

Date of review:

Approved by QA Manager: **Karen Young**

_____ Signature _____ Date

Approved by Department Manager(s):

_____ Signature _____ Date

Approved by President: **Kendall Brown**

_____ Signature _____ Date

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

(800) 228-ERMI
or
(972) 727-1123

Quality System Approval Documentation

SOP Number :

SOP Name :

Reference Method (s) :

SOP Effective Date :

SOP Revision Date/author :

Approved by QA Manager: Karen Young _____ _____
Signature Date

Approved by President: Kendall Brown _____ _____
Signature Date

COPY NO._____

This is a Controlled Document. **ERMI** has a document control system in place to assure (1) all parties holding a controlled copy of this document receive the revisions/addenda and (2) outdated material is removed from circulation.

Copying of controlled documents is strictly prohibited and grounds for termination. If a copy is needed, it must be obtained from the QA Manager. The distribution list, for controlled and uncontrolled copies, is maintained by the QA Manager.

Purchase Requisition

P.O. Number:	**Date Submitted:**
Vendor:	**Date Needed:**
Contact:	**Ship Via:**
Phone:	**Terms:** NET 30 DAYS
Fax:	**Address:** ERMI Environmental Laboratories
Address:	**Ship to:** Bethany Tech Center
	400 West Bethany Road, Suite 190
	Allen, Texas 75013
	Phone: (972) 727-1123
	Fax: (972) 727-1175

Department: **Laboratory:**

Account Classification	Date Received	Catalog Number	Product/Description	Purpose	Quantity	Unit Price $	Extended Price $
			Purchase Order Total				

IMPORTANT: Our order number must appear on invoices, packages and correspondence. Acknowledge if unable to deliver by date required.

Ordered by: _____

Confirmation No.: _____

Requisitioned By: _____

Department Approval: _____

Quality Assurance Manager Approval: _____

Management Approval: _____

All unshaded fields must be completed for order processing.

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

(800) 228-ERMI
or
(972) 727-1123

ERMI
Record Storage Form

Storage Site: _____ Date Stored: _____

Stored By: _____

Contents Description:	Year Generated:

Lab Number(s): _____

ERMI

Sample Preservation Documentation*

On Ice (Circle One): YES OR NO (check if on Dry Ice_____)

Parameters	Containers #	Size	Required Preservation	Sample Container	Circle pH Note any discrepancy
Metals			pH < 2	Glass or Plastic	pH < 2
Dissolved Metals			Unpreserved prior to being filtered, Cool**	Glass or Plastic	
Hexavalent Chromium			CWA - pH 9.3-9.7, Cool; RCRA - Cool	Glass or Plastic	Checked At Analysis
Semivolatiles, Pesticides, PCBs, Herbicides			Cool	Glass only with Teflon lid	Chlorine □yes □no
VOA (BTEX, MTBE, 624, 8260, TPH-GRO)			Cool, pH < 2 Zero Head Space	40 ml VOA vial	DO NOT OPEN
VOA (TPH-1005)			Cool, Zero Head Space Please check if collected in pre-weighed vials_____	40 ml VOA vial	DO NOT OPEN
Phos., NO_3/NO_2, NH_3N, COD, TKN,TOC			Cool, pH < 2	Glass or Plastic	pH < 2
TDS, BOD, CBOD, Cond, pH, TSS, F, SO_4, Cl, Alk, Sulfite			Cool	Glass or Plastic, Plastic only if F	
Phenols, TPH-DRO			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	pH < 2
Oil & Grease, TPH (by 1664a)			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	DO NOT Check pH
Cyanide			Cool, pH >12	Glass or Plastic	pH > 12 Chlorine □yes □no Sulfide □yes □no □na
Sulfide			Cool, pH > 9	Glass or Plastic	pH > 9
Bacteria			Cool	Plastic Sterile Cup	
Soil, Sludge, Solid, Oil, Liquid			Cool Note: please check if collected in pre-weighed vials_____		

Metals Preserved By Login □yes □no

COMMENTS:_____

*This form is used to document sample preservation. Circle parameter requested. Fill in number and size of containers received. Check pH (adjust if needed) and note if different from what is required and make a notation of any samples not received on ice. Note any incorrect sample containers or preservation on chain-of-custody.

**Cool means cooled to ≤6°C but not frozen for CWA samples and ± 4°C for RCRA samples.

Preservation Checked By _____ _____ _____

Date **Time**

kkb 4/18/071000.0-3

Q:\Form Masters\ Sample Preservation Form 1000.0-3

Lab Number(s): _____

ERMI Field Data Form

Customer: _____ **Address:** _____

Outfall / Sample Location: _____

(print)	SET-UP BY	(signature)	(print)	PICKED UP/COLLECTED BY	(signature)

Date: _____ Time: _____ Date: _____ Time: _____

COMPOSITE SAMPLER RUN TIME

From: Date: _____ Time: _____ **To:** Date: _____ Time: _____

PARAMETER(S) COLLECTED FROM COMPOSITE: _____

PARAMETER(S) COLLECTED AS GRABS:

_____	**Date Collected:** _____	**Time Collected:** _____
_____	**Date Collected:** _____	**Time Collected:** _____
_____	**Date Collected:** _____	**Time Collected:** _____
_____	**Date Collected:** _____	**Time Collected:** _____

Automated Sampler Information

- Sampler: _____
- Sample Interval _____
- Suction Line _____
- Count Down _____
- Mode Switch _____
- Sampler Number: _____
- Sample Volume _____
- Suction Head _____
- Multiplex ----------
- Desiccant _____
- Estimated jar volume _____

Comments: _____

SAMPLE CHECK LIST:

Sample Collected on Ice: ☐ Yes ☐ No Amount of Ice (lbs.) _____

Sample Transported on Ice: ☐ Yes ☐ No

Custody Seals on Bottles Intact: ☐ Yes ☐ No

Sample Description ☐ Wastewater ☐Water ☐Liquid ☐Soil ☐Sludge ☐ Other _____

Dissolved Oxygen: (R_1_____ + R_2_____)/2 = Average _____

pH* _____ Temperature* _____ R. Chlorine _____ Conductivity _____

* Taken at time of sampler set-up, unless otherwise noted.

Relinquished By: _____ _____ _____
(signature) Date Time

_____ ,ERMI Laboratories
(print name)

Received at Laboratory By: _____ _____ _____
(signature) Date Time

_____ ,ERMI Laboratories
(print name)

Date Report Mailed: _____

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

(800) 228-ERMI
or
(972) 727-1123

Method Detection Limit (MDL) Approval Documentation

Method Name :

Method Number(s) :

MDL Effective Date :

MDL Expiration Date :

Approved by Analyst: _____ Signature _____ Date

Approved by Team Leader/Manager: _____ Signature _____ Date

Approved by Lab President: _____ Signature _____ Date

Approved by QA Manager: _____ Signature _____ Date

This documentation has two criteria that an MDL Study must meet before acceptance and approval by ERMI.

1.) The data package must be reviewed, signed and dated by the Analyst performing the study and their Manager. The package also requires the signature of the Lab President.
2.) The data package must be reviewed and signed by the QA Manager.

All supporting documentation for this MDL study shall be included with this package.

Environmental Laboratories
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400 W. Bethany Rd. • Allen, Texas 75013

Detectability Check Sample (DCS) Approval Documentation

Method Name : _____

Method Number(s) : _____

MDL : _____

DCS Level : _____

Approved by Analyst:

_____ Signature _____ Date

Approved by Team Leader/ Manager:

_____ Signature _____ Date

Approved by Lab President:

_____ Signature _____ Date

Approved by QA Manager:

_____ Signature _____ Date

This documentation has two criteria that a DCS must meet before acceptance and approval by **ERMI**.

1.) The data package must be reviewed, signed and dated by the Analyst performing the study and their Manager. The package may also require the signature of the Lab President.
2.) The data package must be reviewed and signed by the QA Manager.
3.) A DCS is a reagent matrix spiked with the analyte(s) of interest at or within two to three times the calculated MDL for a single analyte or one to four times the MDL for multi-analyte procedures. It is carried through all sample preparation procedures for the analysis.

All supporting documentation for this DCS shall be included with this package.

Access Log for Archived Information

Box Title	Description of what was Accessed including year	Date Accessed	Signature	Date Returned	Signature

Comments: _____

_____

_____

_____

ERMI

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

(800) 228-ERMI
or
(972) 727-1123

ERMI
Document Distribution Control Sheet

Document Name: ______________________________

Date	Version/ Revision	Copy Number	QAM release Approval*	Internal		Outside ERMI	
				Assigned To	Received By	Assigned To	Date

- All controlled documents and revisions of these documents must be reviewed and approved by the Quality Assurance Manager prior to distribution.

ERMI Laboratories
ERMI NON-CONFORMANCE/VARIANCE REPORT

Dept. Affected: Semivolatiles GCMS Date: 03/15/2007 Initiator: Messay, Ben NC No.: 4500
Analysis Requested: 625 472 Batch Non-Conformance: 7B14020

Sample Non Conformance	Samples Affected	Other Description
0702225		

Description of Sample (Check where appropriate):
X Water _ Soil/Solid _ TCLP _ MS/MSD _ LCS/LCS _ Blank _ Split Duplicate
_ Other:

Description of Problems (Check where appropriate):
X Poor Surrogate Recoveries _ Contamination _ Insufficient Sample _ Poor MS/MSD Recoveries
X Dilution Required _ Out of Holding
Other (Please describe) Low surr due to sample matrix and dilution

Steps Taken To Resolve Problem (Describe):

Outcome (Describe):

QAM Resolution (Check Where Appropriate):
X Report Original Results _ Report Results of Re-analysis _ Report Both Original and Re-Analysis Results
_ Report without footnote if the Non-Conformance had no direct effect or bearing on the analytical method
X Report with the following footnote CPAR Required? Yes:_ No: X

Estimated Value		Method Issues		Quality Issues		Reporting Issues			Sample Issues	
--	--	--	--	Q-03	--	R-01	--	--	--	--
--	--	--	--	Q-15	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--		--	--	--	--	--	--	--
				--	--	--	--		--	--
				--		--	--		--	
				--						

Custom Codes:

Client Notification Required? Yes: _ No: X Information to be transmitted to Customer:
Customer Notified?: Yes:_ No: X By: Date:
Authorized Signature: Date: 5/18/07
Req'd Distribution: X QAM, X Data Pkg, X Cust Svc. Distribution for follow-up only: --Select Dept. Mgr-- Other:

ERMI Environmental Laboratories

Qualifier List

01/03/07 10:01

Qualifier	TextBody
C-01	[Custom Value]
C-02	[Custom Value]
C-03	[Custom Value]
C-04	[Custom Value]
C-11	[Custom Value]
E	Value exceeds calibration range and is, therefore, an estimate.
J	This value is above the method detection limit but below the reporting limit.
M-01	The Biochemical Oxygen Demand (BOD) sample aliquot was held [Custom Value] hours following collection prior to the initiation of analysis. A period of 48 hours is the EPA recommended maximum allowable holding time for this parameter.
M-02	The Carbonaceous Biochemical Oxygen Demand (CBOD) sample aliquot was held [Custom Value] hours following collection prior to the initiation of analysis. A period of 48 hours is the EPA recommended maximum allowable holding time for this parameter.
M-03	Analyses performed in accordance with Standard Methods, 18th Edition.
M-04	This analysis was subcontracted to another laboratory.
M-05	Analyses performed in accordance with 40 CFR 136.
M-06	pH was measured at [Custom Value]°C.
M-07	The presence or absence of this bacteria, as indicated by the result presented, was confirmed according to method protocols.
Q-01	The recovery of the internal standard(s) was outside the expected range in this sample due to matrix interferences. No target compounds were identified in the sample, therefore, this has no effect on the results presented.
Q-02	The recovery of an analyte(s) in the MSs was outside the acceptable range due to interference, large dilutions required for analysis or a combination of these factors. The recovery of this analyte(s) in the LCSs was within the required limits.
Q-03	The recovery of the surrogate(s) were outside of the acceptable range due to matrix interferences and/or large dilutions required for the analysis of this sample. The results presented should, therefore, be considered an estimated concentration(s).
Q-04	The RPD of the target analyte(s) in the MS/MSD is outside of established limits. The RPD of this same analyte(s) in the LCS/LCSD is within acceptable limits. Therefore, the data were reported and are acceptable.
Q-05	The RPD is higher than expected because the concentrations are low relative to the reporting limit.
Q-06	The blank contains the target analyte at a concentration above the reporting limit. The concentration of this analyte in the sample may be higher as a result.
Q-07	Positive and Negative Controls Confirmed.
Q-08	The recovery of the internal standards was lower than expected in this sample due to matrix interferences. The sample was diluted to reduce these effects thereby improving recovery to within an acceptable range.
Q-09	Calibrated using 2 buffer solutions.
Q-10	The recovery of the calibration check standard was higher than expected. This may indicate a high bias to the result presented.
Q-11	The recovery of the calibration check standard was lower than expected. This may indicate a low bias to the result presented.
Q-12	The recovery of the internal standard used to quantify this result is lower than expected due to matrix inteference. This causes a high bias to the result presented.
Q-13	The recovery of the internal standard used to quantify this result is higher than expected due to matrix interference. This causes a low bias to the result presented.
Q-14	The recovery was higher than expected. This may indicate a high bias to results presented.
Q-15	The recovery was lower than expected. This may indicate a low bias to results presented.
R-01	The higher reporting limit(s) is due to dilutions required for analysis as a result of a high concentration of target and/or non-target parameters in this sample.
R-02	The higher reporting limit(s) is due to an insufficient volume or mass of sample available for analysis.
R-03	The elevated methylene chloride is possibly due to trace levels of this solvent in the laboratory air.
R-04	See Notes
R-05	The analysis indicates the presence of an analyte considered to be a tentatively-identified-compound and the associated numerical value represents an approximate concentration.
R-06	These results are expressed on an as-received basis.
R-07	See Flags/Notes
R-08	>70°C (158°F)
R-09	Not ignitable using the criteria applied for a not-a-liquid-sample, SW-846 Section 7.1.2.2.
R-10	[Custom Value]
R-11	Ignitable using the criteria applied for a not-a-liquid-sample, SW-846 Section 7.1.2.2.
R-12	No fractionation was performed because the initial TPH-1005 results were below the detection limit.
R-13	Negative
R-14	Positive
R-15	Completed
R-16	The reported result is an average of [Custom Value] individual analyses.
R-17	No "J" values were detected in this analysis.
S-01	The custody seal on this sample was broken upon receipt.
S-02	The temperature of this sample upon receipt was above that specified for adequate preservation.
S-03	This analysis was conducted on an unpreserved aliquot of sample.
S-04	The sample container was found broken upon receipt. The analysis was performed on recovered sample.
S-05	The lid of the sample container was loose or off upon receipt. The analysis was performed on sample remaining in the container or recovered sample.
S-06	This sample was received outside of the EPA recommended holding time for this parameter. The result presented is, therefore, considered an estimated value.
S-07	This analysis was performed on an aliquot of sample filtered through a glass fiber filter.
S-08	This analysis was performed on an aliquot of sample held beyond the EPA recommended holding time for this parameter. The result presented is, therefore, considered an estimated value.
S-09	Sampled but analysis lost or not performed.
S-10	This analysis was performed on an unpreserved or improperly preserved sample. Therefore, the data may not be accurate.
S-11	This sample was received in an improper container type for this parameter. The result presented may, therefore, not be an accurate value.
S-12	Parameter collected as a Grab Sample.
S-13	Grab sample(s) were collected on [Custom Value]
S-14	This analysis was performed outside the recommended holding time. This analysis is used only for dry weight calculation and is representative of the total solids present in the sample at the time the dry weight corrected analyses were performed.

Maintenance Log Summary

Month:_____ 200_

Day	Change septum	Trim column	Replace column	Replace seal	Replace liner	Replace connector	Clean source	Decontam purge trap	Major	None	Analyst
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
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21											
22											
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24											
25											
26											
27											
28											
29											
30											
31											

Appendix C
Laboratory Instrumentation and Equipment

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Organic Inst **Inventory Date____** January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
Volatile GCMS System #1						
Gas Chromatograph	5890	HP/Agilent	3223A43155	268	1992	New
Mass Selective Detector	5971	HP/Agilent	3234A03867	269	1992	New
Purge & Trap		HP/Agilent	70710649	270	NA[2]	Used
Autosampler, Archon Type	4552	OI	14233	271	8/31/2004	New
Software for Vol #1	G1701BA	HP/Agilent				New
Volatile GCMS System #2						
Gas Chromatograph	5890	HP/Agilent	3223A43154	264	1992	New
Mass Selective Detector	5971	HP/Agilent	3234A03868	265	1992	New
Purge & Trap		HP/Agilent	3548A10466	153	Apr-00	Used
Autosampler, Archon Type	4552	OI	12065	273	NA	New
Software For Vol #2	G1701BA	HP/Agilent		NA	NA	New
Volatile GCMS System #3						
Gas Chromatograph	6890 Plus	HP/Agilent	7964	274		Unknown
Mass Selective Detector	5973	HP/Agilent	71410462	275		New
Purge & Trap	3100	Tekmar	60011	276		New
Autosampler, Archon Type	4552	OI	12226	267		New
Software for Vol #3	G1701AA	HP/Agilent		NA	NA	New
Volatile GCMS System #4						
Gas Chromatograph	6890 Plus	HP/Agilent	7749	120	Feb-98	Unknown
Mass Selective Detector	5973	HP/Agilent	72810387	272	Feb-98	New
Purge & Trap	2000	Tekmar	92161004	266	NA	New
Autosampler, Archon Type	4552	OI	13534	173	May-01	New
Software for Vol #4	G1701AA	HP/Agilent		NA	NA	New
BTEX System #1						
Gas Chromatograph	6890 Plus	HP/Agilent	20113	117	Jan-99	Unknown
PID/FID Detectors	4430/4410	HP/Agilent	3757	147	Jul-99	New
Purge & Trap	2000	Tekmar	88312011	111	NA	New
Autosampler, Archon Type	4552	OI	14223	173	May-01	New
Software for BTEX #1	G1701BA	HP/Agilent		NA	NA	New

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Organic Inst **Inventory Date____** January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
BTEX System #2						
Gas Chromatograph	6890 Plus	HP/Agilent	6494	279	NA	Unknown
PID/FID Detectors	4430/4410	HP/Agilent	3538	280	NA	New
Purge & Trap	2000	Tekmar	626460231	278	NA	New
Autosampler, Archon Type	4552	OI	14261	277	8/31/2004	New
Software for BTEX #2	G1701BA	HP/Agilent		NA	NA	New
Semivolatile GCMS System #2						
Gas Chromatograph	6890 Plus	HP/Agilent	8710	130	Jun-99	Unknown
Mass Selective Detector	5973	HP/Agilent	72010560	223	NA	New
Controller	7673	HP/Agilent	3527A02250	224	NA	New
Autoinjector		HP/Agilent	3230A31600	229	NA	New
Software for Semi MS #2	G1701AA	HP/Agilent		NA	NA	New
Semivolatile GCMS System #3						
Gas Chromatograph	6890 Plus	HP/Agilent	7972	226	NA	Unknown
Mass Selective Detector	5973	HP/Agilent	71410468	227	NA	New
Controller	7673	HP/Agilent	74703943	228	NA	New
Autoinjector		HP/Agilent	3508A41854	291	NA	New
Software for Semi MS #3	G1701AA	HP/Agilent		NA	NA	New
Pest_PCB Micro System						
Gas Chromatograph	6890 Plus	HP/Agilent	34115	167	Nov-00	New
Controller	7673	HP/Agilent	1501580	296	NA	New
Autoinjector		HP/Agilent	73504230	298	NA	New
Autoinjector		HP/Agilent	71201508	297	NA	New
Software for Pest_PCB	G1701AA	HP/Agilent		NA	NA	New
Herb_PCP Macro System						
Gas Chromatograph	6890 Plus	HP/Agilent	5442	177	NA	New
Controller	7673	HP/Agilent	3638A06293	290	NA	New
Autoinjector		HP/Agilent	3540A44328	225	NA	New
Software for Herb_PCP	G1701BA	HP/Agilent		NA	NA	New

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Organic Inst **Inventory Date**____ January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
EZ Flash System						
Gas Chromatograph	6890 Plus	HP/Agilent	20777	117	1/22/1998	New
Controller	7673	HP/Agilent	72602383	128	Feb-98	New
Autoinjector		HP/Agilent	5012079	304	NA	New
EZ Flash Unit		Thermedics	985513	295	12/17/1998	New
Software for Flash	G1701BA	HP/Agilent		NA	NA	New
Spares						
Autoinjector		Hp/Agilent	70400838	303	NA	New
Autoinjector		Hp/Agilent	83507892	294	NA	New
Controller		Hp/Agilent	3231A29327	299	NA	New
Post Column Derivitization Unit	PCX 5100	Pickering Labs	6746	129	Mar-98	New
Varian 3400cx System w/TSD/FID						
Gas Chromatograph	3400cx	Varian	19016	178	11/21/1994	New
Autoinjector	8200	Varian	6915	293	Jan-95	New
Software for Varian	G1701BA	HP/Agilent		NA	NA	New
Interface, Analog/Digital	35900E	HP/Agilent		292	NA	Used
Refrigerator, True 2 door - V1	GDM-41	True Manufacturing Co.	1789739	118	Jan-98	New
Balance, Platform	XE-510	Denver Instrument	77872	300	Feb-97	New
Refrigerator, True, 1 door(ss) - S1	T23	True Manufacturing Co.	1113632	288	NA	New
Freezer, S1F	Diploma	Danby		283	NA	New
Refrigerator, S2		Sanyo		282	NA	New
Flowmeter, Digital	Optiflow 520	Humonics	2800	285	NA	Used
Flowmeter, Digital	7243	J&W Scientific		287	NA	Used
Purge & Trap	4560	OI		284	NA	New
HPLC System w/ DAD & FLD	1090	HP/Agilent	2304G00241	119	Jan-98	Reconditioned
Software for HPLC	ver. A.07.01	Hp/Agilent		NA	NA	New
Freezer, V1F		Welbilt	18927862713	263	NA	New

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Organic Inst **Inventory Date**____ January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]

1= New/Used/Reconditioned/Unknown
2=NA is not applicable or not available as the case may be.

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Organic Prep **Inventory Date**____ January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
Oven	OV-490A-2	Blue M	OV3-889	194	NA	Used
Refrigerator, P4 & P4F		Kenmore 14	Refrig #2	27	NA	New
NEVAP	5085	Organomation	17034	195	10/31/1997	New
GPC, Autoprep	1000SI	OI Analytical	9380SI	197	1/20/1997	New
Autovap	AS2000	OI Analytical	9258AV	196	2/17/1997	New
Chart Recorder	D5116-1AO	Fisher Scientific	158782-10008	5	5/1/1987	New
GPC, Single Station	Sp-1000	ABC Laboratories	3344SP	198	NA	New
Rapid Vap	RV111	Labconco	258603	199	NA	Used
GPC UV Dectector	UVD-1/013	ABC Laboratories	9275	NA	4/19/1993	New
Ultrasonic Disruptor #1	W385	Heat Sys. Ultrasonics, Inc	G8849	202	NA	Used
Ultrasonic Disruptor #2	W385	Heat Sys. Ultrasonics, Inc	G9108	203	NA	Used
Ultrasonic Disruptor #3	TM375	Tekmar	14025	200	NA	New
Ultrasonic Disruptor #4	TM600-2	Tekmar	11569E	201	12/1/1990	New
Tubovap II		Zymart	TV9906R8632	151	Nov-99	New
Turbovap II		Zymart	TV9806N7960	122	Feb-98	New
Turbovap II		Zymart	TV9743R7756	123	NA	New
Shaker, 8 position	3D Shaker	Glas Col	279236	208	4/28/1997	New
Shaker, 8 position	3D Shaker	Glas Col	276283	209	12/8/1997	New
Refrigerator, True 2 door - P2	GDM 41	True Mfg Co	379306	191	NA	New
Refrigerator, True 3 door - P1	GDM 69	True Mfg Co	803314	190	NA	New
Refrigerator, Org. Prep - P3		Absocold		217	NA	New
Balance, Analytical	M-220	Denver Instrument	PCC93924	218	Feb-97	New
Balance, Platform	TP2KS	Ohaus	1557	219	NA	New

1= New/Used/Reconditioned/Unknown

2=NA is not applicable or not available as the case may be.

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. QA **Inventory Date** ____ January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
Thermometer, Cert. - 0-100°C	Cat # 1005	ERYCO	ERMI11112	NA[2]	NA	New
Velocicheck	8310	FSI	92090403	NA	NA	New
Weight Set 070501	2mg wt	Denver Inst	05-191344	NA	7/27/2005	New
Weight Set 070501	1g wt	Denver Inst	05-191344-2	NA	7/27/2005	New
Weight Set 070501	100g Wt	Denver Inst	05-191344-4	NA	7/27/2005	New
Weight Set 070502	2mg wt	Denver Inst	05-216496	NA	9/19/2005	New
Weight Set 070502	1g wt	Denver Inst	05-191344-3	NA	7/27/2005	New
Weight Set 070502	100g Wt	Denver Inst	05-191344-5	NA	7/27/2005	New
Temperature Gun	Raynger ST	Raytek	IR-01	NA	NA	New

1= New/Used/Reconditioned/Unknown

2=NA is not applicable or not available as the case may be.

ERMI Environmental Laboratories
NELAP Equipment Inventory

Field Services & Warehouse Are: Inventory Date____ January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
Water Treatment System		Ionics/Ahlfinger		NA[2]	NA	New
Backup Power Supply	System 50	Exide Powerware		133	NA	Recondition.

1= New/Used/Reconditioned/Unknown

2=NA is not applicable or not available as the case may be.

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Metals **Inventory Date** January 1, 2006

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
Mercury Analyzer System	FS-M6000	Cetac	090001MAS	166	Sep-00	New
Mercury Analyzer Autosampler	ASX-500	Cetac	080056ASX	NA[2]	Sep-00	New
Mercury Analyzer Software	ver. 1.9.28	Cetac		NA	Sep-00	New
ICP-MS	7500a	Agilent	JP14100568	174	7/1/2002	New
ICP-MS ISIS System		Agilent	JP91600352	NA	7/1/2002	New
ICP-MS Autosampler	ASX-500	Cetac	040250ASX	NA	7/1/2002	New
ICP-MS Chem Station Software	Ver. B.02.00	Agilent		NA	7/1/2002	New
ICP-OES	61E-Trace	Thermo-Jarrell-Ash(TJA)	501890	132	8/31/1998	New
ICP-OES-Autosampler	AS300	Thermo-Jarrell-Ash(TJA)	G7528	NA	8/31/1998	New
ICP-OES Software	Ver 6.20	Thermo-Jarrell-Ash(TJA)		NA	8/31/1998	New
TCLP Tumbler		Lars Lande Mfg. Co.	1975	182	NA	Used
Hot Block Digestion	SC154	Environmental Express	1423CEC1104	175	9/2/2002	New
Hot Block Digestion	SC154	Environmental Express	1423CEC1108	184	NA	New
Chiller, Water - ICPMS	M75	Thermo Neslab	102192019	183	NA	New

1= New/Used/Reconditioned/Unknown

2=NA is not applicable or not available as the case may be.

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Wet Lab **Inventory Date** January 1, 2007

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
TOC Analyzer	Phoenix 8000	Teledyne-Tekmar	99062006	138	1999	New
TOC Autosampler	STS-8000	Teledyne-Tekmar	199B9055	233	1999	New
TOC Software	Ver. 3.0	Teledyne-Tekmar		NA	1999	New
Ion Chromatograph System	DX-500	Dionex	933310	222	7/31/1994	New
Ion Chromatograph Autosampler	AS40	Dionex	98080507E991001XTC	221	NA	Reconditioned
Ion Chromatograph Software	Peaknet Ver. 4.11	Dionex		NA	7/31/1994	New
TCLP Tumbler		Thames Technology Inc		230	Jul-90	New
TCLP Tumbler		Shopmade		20	10/15/1986	New
Refrigerator, 2 door -W2	GDM-41	True Manufacturing Co.	2757796	165	10/13/2000	New
Refrigerator, 2 door -W3	GDM-41	True Manufacturing Co.	2212771	143	1999	New
Refrigerator, 2 door -W4	GDM-41	True Manufacturing Co.	2202575	144	1999	New
Refrigerator, 2 door -W1	GDM-41	True Manufacturing Co.	1594470	232	11/11/1996	New
Refrigerator w/freezer-W5	IT18DKXRQ01	Whirlpool Estate	VSS4171814	231	12/5/06	New
Flashpoint Tester, Penksy Martin	K-16200	Koehler Instrument Co.	5081	235	NA	New
Flashpoint Tester, Penksy Martin	K-16200	Koehler Instrument Co.	2074	11	10/1/1987	New
Spectrophotometer - SA	400/4	Spectronic, Inc	3SGB029006	237	1999	New
Ion Analyzer	920A	Orion	4100	239	NA	Used
Ion Analyzer	920A	Orion	29089	240	NA	Used
Incubator, CO2	6101-0	NAPCO	699080067	241	1999	New
Incubator, BOD - #5	11-680-626-4	Fisher Scientific	B2155945	136	1999	New
Incubator, BOD - #1	11-680-626-4	Fisher Scientific	70799069	242	NA	New
COD Reactor		Hach	980700017914	244	NA	Used
COD Reactor		Hach	900903229	245	NA	Used
DO Meter w/probe - #3	5100	YSI	05D1802-AB	246	NA	New
DO Meter w/probe - #2	5100	YSI	03GO563-AC	247	NA	New
DO Meter w/probe - #1	5100	YSI	03D0661-AD	248	NA	New
Spectrophotometer - SB	4001/4	Spectronic Instruments	3SGB014035	261		New
DO Meter w/probe	820	Orion	910047	NA	NA	Used
Oven	DK-63	Baxter	214006	249		New
Distillation Units	Easy Dist	Westco Scientific		250	4/28/1997	New
Distillation Units	Easy Dist	Westco Scientific		NA	9/8/1997	New
Refrigerator, 2door - H3	GDM-41	True Manufacturing Co.	874152	181	NA	New
Freezer, 1 door - H2F	T-23F	True Manufacturing Co.	3933112	179	4/4/2005	New
Freezer, 1 door - H4F	T-19F	True Manufacturing Co.	4168924	180	6/30/2005	New

ERMI Environmental Laboratories
NELAP Equipment Inventory

Dept. Wet Lab **Inventory Date**____ January 1, 2007

Item	Model	Manufacturer	Serial #	ERMI ID #	Date Rec	Condition[1]
Refrigerator, 3 door - H1	T-72	True Manufacturing Co.	12002075	131	8/19/1998	New
Balance, Analytical	XA-200	Denver Instrument Co.	27620	10	NA	New
Balance, Analytical	A200S	Sartorius	38100009	NA	NA	New
Autoclave	ST75925	Harvey	118990651137	141	1999	New
Water Bath, Fecal Coliform		Precision	699052010	137	1999	New
Chorine Titrimeter	397	Fisher Scientific	004N0025	152	May-00	New
Balance, Analytical	R300S	Sartorius	MP02175	251	NA	Used
Conductivity Meter		Hanna Instruments		256	NA	New
COD Reactor	16500-10	Hach	860708036	7	NA	New
Furnace	55014	Fisher Scientific	103N0028	172	4/16/2001	New
Oven	OV-510A-2	Blue M	OV3-2038	107	NA	Used
Hot Block, TKN Digestion		Westco Scientific	1133	258	8/23/1999	New
Oven	OV-510A-2	Blue M	OV3-14127	77	NA	Used
Oven	630F	Fisher Scientific	Not Available	259	NA	Used
Spectrophotometer	DR/2000	Hach	9.204E+11	NA	NA	Used

1= New/Used/Reconditioned/Unknown

END OF DOCUMENT

APPENDIX 8

LABORATORY DATA PACKAGE AND LABORATORY REVIEW CHECKLIST

Laboratory Data Package Cover Page

This data package consists of:

- ☐ This signature page, the laboratory review checklist, and the following reportable data:
- ☐ R1 Field chain-of-custody documentation;
- ☐ R2 Sample identification cross-reference;
- ☐ R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- ☐ R5 Test reports/summary forms for blank samples;
- ☐ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- ☐ R9 List of practical quantitation limits (PQLs) for each analyte for each method and matrix;
- ☐ R10 Other problems or anomalies.
- ☐ The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

_____	_____	_____	_____
Name (Printed)	Signature	Official Title (printed)	Date

Laboratory Review Checklist: Reportable Data

Laboratory Name:	LRC Date:
Project Name:	Laboratory Job Number:
Reviewer Name:	Prep Batch Number(s):

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?					
		Were all departures from standard conditions described in an exception report?					
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?					
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?					
		Other than those results < PQL, were all other raw values bracketed by calibration standards?					
		Were calculations checked by a peer or supervisor?					
		Were all analyte identifications checked by a peer or supervisor?					
		Were sample quantitation limits reported for all analytes not detected?					
		Were all results for soil and sediment samples reported on a dry weight basis?					
		Were % moisture (or solids) reported for all soil and sediment samples?					
		If required for the project, TICs reported?					
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?					
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?					
		Were blanks analyzed at the appropriate frequency?					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?					
		Were blank concentrations < PQL?					
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?					
		Were LCSs analyzed at the required frequency?					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?					
		Was the LCSD RPD within QC limits?					
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?					
		Were MS/MSD analyzed at the appropriate frequency?					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?					
		Were MS/MSD RPDs within laboratory QC limits?					
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?					
		Were analytical duplicates analyzed at the appropriate frequency?					
		Were RPDs or relative standard deviations within the laboratory QC limits?					
R9	OI	**Practical quantitation limits (PQLs):**					
		Are the PQLs for each method analyte included in the laboratory data package?					
		Do the PQLs correspond to the concentration of the lowest non-zero calibration standard?					
		Are unadjusted PQLs included in the laboratory data package?					
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?					
		Were all necessary corrective actions performed for the reported data?					
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?					

1. Items identified by the letter "R" must be included in the laboratory data package submitted in required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable; and NR = Not reviewed;

Laboratory Review Checklist: Reportable Data

Laboratory Name:	LRC Date:
Project Name:	Laboratory Job Number:
Reviewer Name:	Prep Batch Number(s):

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?					
		Were percent RSDs or correlation coefficient criteria met?					
		Was the number of standards recommended in the method used for all analytes?					
		Were all points generated between the lowest and highest standard used to calculate the curve?					
		Are ICAL data available for all instruments used?					
		Has the initial calibration curve been verified using an appropriate second source standard?					
	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?					
		Were percent differences for each analyte within the method-required QC limits?					
		Was the ICAL curve verified for each analyte?					
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?					
	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?					
		Were ion abundance data within the method-required QC limits?					
	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?					
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)** ***(ONLY USE DATA FOR EPA LEVEL 3 QA/QC REVIEW, IF RAW DATA NOT APPLICABLE, THEN CHANGE APPROPRIATELY).***					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?					
		Were data associated with manual integrations flagged on the raw data?					
	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?					
	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?					
	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?					
	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?					
	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?					
		Is the MDL either adjusted or supported by the analysis of DCSs?					
	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?					
	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?					
	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?					
	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?					
		Is documentation of the analyst's competency up-to-date and on file?					
	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?					
	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?					

4. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name:	LRC Date:
Project Name:	Laboratory Job Number:
Reviewer Name:	Prep Batch Number(s):

ER #[1]	**DESCRIPTION**

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC