Interim Remedial Measure Work Plan

Former JML Optical Facility
678-690 Portland Avenue
City of Rochester, New York

BCP ID No. C828151

Prepared for:
690 Portland Avenue Company

Prepared by:

RAVI ENGINEERING & LAND SURVEYING, P.C.

2110 South Clinton Road
Rochester, New York 14618

I Nancy S. Van Dussen, P.E. am currently a NYS registered professional engineer and that this Report (Interim Remedial Measure Work Plan) was prepared in accordance with applicable statutes and regulations, and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Nancy S. Vandussen, P.E.
Signature

9-2-16
Date

Project Number: 45-13-002-0B

September 2016

1.0 INTRODUCTION

The 690 Portland Avenue Company has entered into a Brownfield Cleanup Agreement (BCA) through the New York State Department of Environmental Conservation's (NYSDEC) Brownfield Cleanup Program (BCP), it is listed as BCP ID No. C828151. The property is located at 690 Portland Avenue in Rochester, New York; it is identified as the former *JML Optical Facility* (the "Site," Figure 1).

Ravi Engineering & Land Surveying, P.C. (RE&LS) is submitting this Work Plan (WP) for the proposed Interim Remedial Measures to be conducted to address conditions identified during our Remedial Investigation (RI). The WP presents the activities and work to be completed by RE&LS and our selected Contractor in support of completing this IRM. The following sections of the WP include a background summary of the Site, a brief scope of work for the IRM, and descriptions of the roles and responsibilities of the parties involved in the work.

The Site is the former JML Optical Site located at 690 Portland Avenue in the City of Rochester, New York. It is an approximately 1.565-acre parcel that is the former JML buildings, paved surfaces, and a mowed grass area along the Portland Avenue entrance to the Site and a strip of grass along the eastern property boundary. The building is currently unoccupied.

The Site and neighboring properties are located in an Industrial (M-1) zoning district. It is serviced by public sewer and water, as are the surrounding properties.

2.0 INTERIM REMEDIAL MEASURE

An Interim Remedial Measure (IRM) is a cleanup activity that may be performed when a source of contamination or exposure pathway (the way in which a person may contact contamination) can be effectively addressed without extensive investigation and evaluation.

Per NYSDEC Division of Environmental Remediation (DER) 10, an IRM can be performed to contain and/or stabilize sources of contamination to reduce/eliminate exposure pathways. IRMs may include the removal of source areas and installation of non-aqueous phase liquid (NAPL) recovery systems. An IRM construction completion report (CCR) will be prepared upon completion of the proposed IRM discussed below.

The IRM will be conducted in two phases:

1. Trichloroethylene (TCE)-impacted soils will be removed from the sub-slab sump-like structure beneath a metal manhole cover in the north-central portion of the building; the soils will be disposed of as a hazardous waste.
2. Light non-aqueous phase liquid (LNAPL) will be removed from the top of the groundwater table from the area that a 5,000-gallon underground storage tank (UST) was removed in 1999; the LNAPL will be containerized and disposed of in compliance with applicable regulations.

The areas to be addressed by the IRM are indicated on Figure 2.

3.0 SCOPE OF WORK

The IRM will include an access control component to deter unauthorized Site access and reduce potential public exposure to accessible contaminant source areas, and other on-site contamination while work is being performed. The work areas are located inside the Site boundary.

Our selected contractor is TREC Environmental Inc. (TREC). They will supply all labor and furnish all materials, supplies, tools, and equipment required to complete the work.

TREC will address the IRMs in the following manner:

Sump

The structure described as a "sump" is beneath a metal manhole cover in the building slab; it appears to be comprised of a circular clay tile box with a bottom. It is partially filled with sediment that is proposed for removal as part of this IRM.

RE&LS characterized the sump sediment with a "grab" sample on April 27, 2016. Paradigm Environmental Services, Inc. (Paradigm) identified the following volatile organic compounds (VOCs) at the concentrations reported below (Attachment 1):

Toluene 404,000 µg/Kg (micrograms per kilogram, or parts per billion, ppb)

TCE 18,400,000 µg/Kg

This work will be conducted in conformance with the RE&LS and TREC Health and Safety Plans (HASP) included in Attachment 1.

1. After removing the metal manhole cover over the sump, TREC will use a negative air blower to ventilate the sump; an 18-inch diameter hose will draw vapors from the sump for discharge outside of the building; the discharge point will be above the roofline to prevent discharge into the ambient breathing zone around the building. As this will be a solitary discharge, no treatment of the vapors is proposed.

2. Prior to disturbing sump soils, TREC personnel will don Level C personal protective equipment (PPE); half-faced air-purifying respirators will be employed.

3. TREC will manually shovel the sump soils into a 55-gallon drum(s); the drummed soils will be sampled for waste disposal characterization.

4. After TREC has manually removed the soils from the sump, they will pressure wash the crock to remove residuals; the rinsate waters will be vacuumed out and containerized for disposal.

5. Tools that come into contact with impacted soils will be washed with Alconox and rinsed with potable water; rinsate will be drummed.

Confirmatory Samples

After the sump has been cleaned, RE&LS will collect confirmatory samples at the north, south, east, and west sides of the sump. TREC will drill sub-slab borings by Geoprobe to a depth several feet deeper than the bottom of the sump. Soils will be screened for organic vapors. RE&LS will collect one confirmatory soil sample from each boring (4 total) for laboratory analysis for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260 in conformance with New York Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) protocols with a Category B deliverable. These results will be submitted for third party data usability validation (DUSR).

LNAPL

On May 12, 2016, RE&LS attempted to sample Labella Associate's MW-3 that was installed north of the boiler house in the vicinity of the fuel oil tank that was removed in 1999. We measured approximately 12 inches of LNAPL on top of the groundwater. Paradigm characterized the LNAPL as "pure product" identified as "medium weight PHC (petroleum hydrocarbon) as Fuel Oil #4" (data attached).

1. TREC will install an extraction well with an excavator to recover the LNAPL; the pit will be dug approximately 5 feet into the saturated zone to recover floating product.

2. A pit will be dug with a backhoe to the depth at which the LNAPL is encountered.

3. The LNAPL recovery well will be constructed with a 12-inch diameter high density polyethylene (HDPE) pipe that will be fashioned into a well screen with saw cuts to allow the LNAPL to permeate the pipe; it will be placed vertically into the LNAPL and groundwater in the pit and packed with "pea gravel" to allow the LNAPL to accumulate.

4. The recovery well be backfilled with washed peastone and completed with a one-foot PVC standpipe with a plastic cover.

5. After the HDPE pipe is installed, TREC will use a drum vacuum or vacuum truck to recover the LNAPL.

6. When enough LNAPL is recovered, it will be disposed of at Industrial Oil Tank Service Corporation in Oriskany, New York (or the equivalent).

7. Soils removed during the recovery well excavation will be staged on polyethylene and sampled for laboratory analysis as required for landfill approval.

8. Upon completion, the excavator bucket will be pressure-washed and any tools that come into contact with impacted soils will be washed with Alconox; rinsate waters will be drummed.

9. TREC will return to the Site periodically to recover LNAPL until it appears that the oil is no longer accumulating in the sump. RE&LS will consult with NYSDEC to determine when the LNAPL recovery potion of the IRM is completed.

HEALTH & SAFETY

The RE&LS and TREC Health and Safety Plans (HASPs) are included in Attachment 2. TREC will perform the work in a manner that is compliant with its corporate HASP and all governing Occupational Safety and Health Administration (OSHA) regulations. If required, TREC will develop a site-specific HASP to direct work with and around the contaminants of concern (COCs). The COCs for the Site are volatile organic compounds, primarily TCE, and heavier hydrocarbons in the form of medium weight petroleum hydrocarbons.

COMMUNITY AIR MONITORING PROGRAM (CAMP)

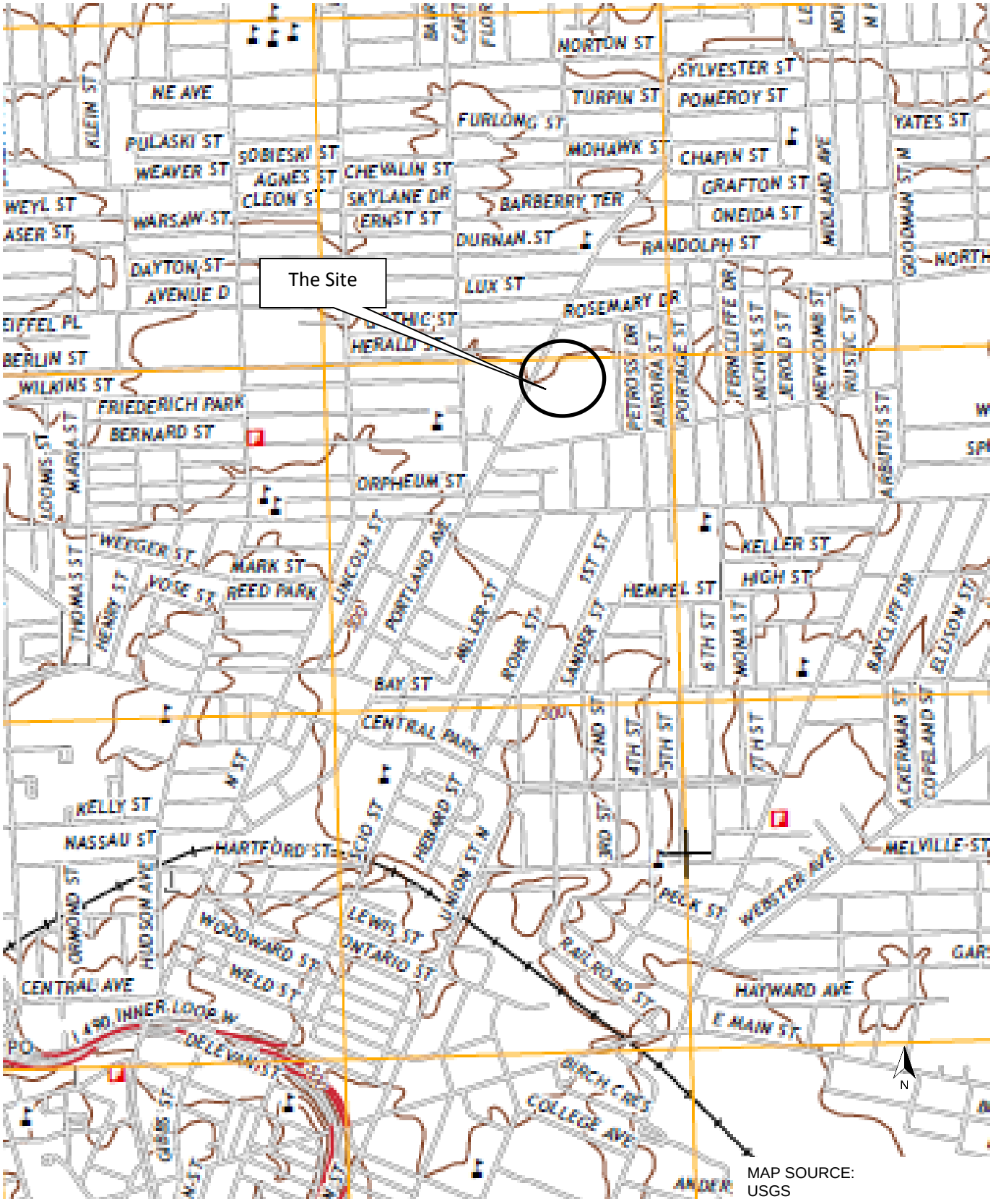
This CAMP will be implemented during the excavation and removal of soils during installation of the LNAPL recovery well. The purpose of the CAMP is to provide a measure of protection for the downwind community, more specifically off-site receptors including residents and workers, from potential airborne contaminant releases as a result of remedial work activities performed at the Site.

- Particulate monitoring will be conducted during ground intrusive activities at the Site in accordance with the Fugitive Dust and Particulate Monitoring from DER-10 Technical Guidance for Site Investigation and Remediation (Attachment 3). Particulate air monitoring will be conducted with a TSI DustTrak (or a similar device). It will continually record emissions (calculating 15-minute running average concentrations) generated during field activities. The dust monitoring devices will be checked and the results will be recorded periodically throughout the day of intrusive activities to assess emissions and the need for corrective action. If the downwind particulate level is 100 micrograms per cubic meter (ug/m^3) greater than background (upwind perimeter) for the 15-minute period, or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed.

- Volatile organic compound (VOC) air monitoring will be conducted in conjunction with the dust monitoring program. VOC air monitoring will be conducted using a RAE Systems MiniRAE 2000 photoionization detector (PID). VOCs will be monitored and recorded at the downwind perimeter of the immediate work area. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued until VOCs return to background levels.

The PID will be calibrated prior to daily field activities according to manufacturer's instructions and standard industrial hygiene practices.

FIGURE 1
SITE LOCATION MAP



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690 Portland Avenue
Rochester NY 14621
NYSDEC BCP No. C828151

PROJECT NO.	DATE:
4514003-0P	7/22/16

FIGURE 1: SITE LOCATION MAP

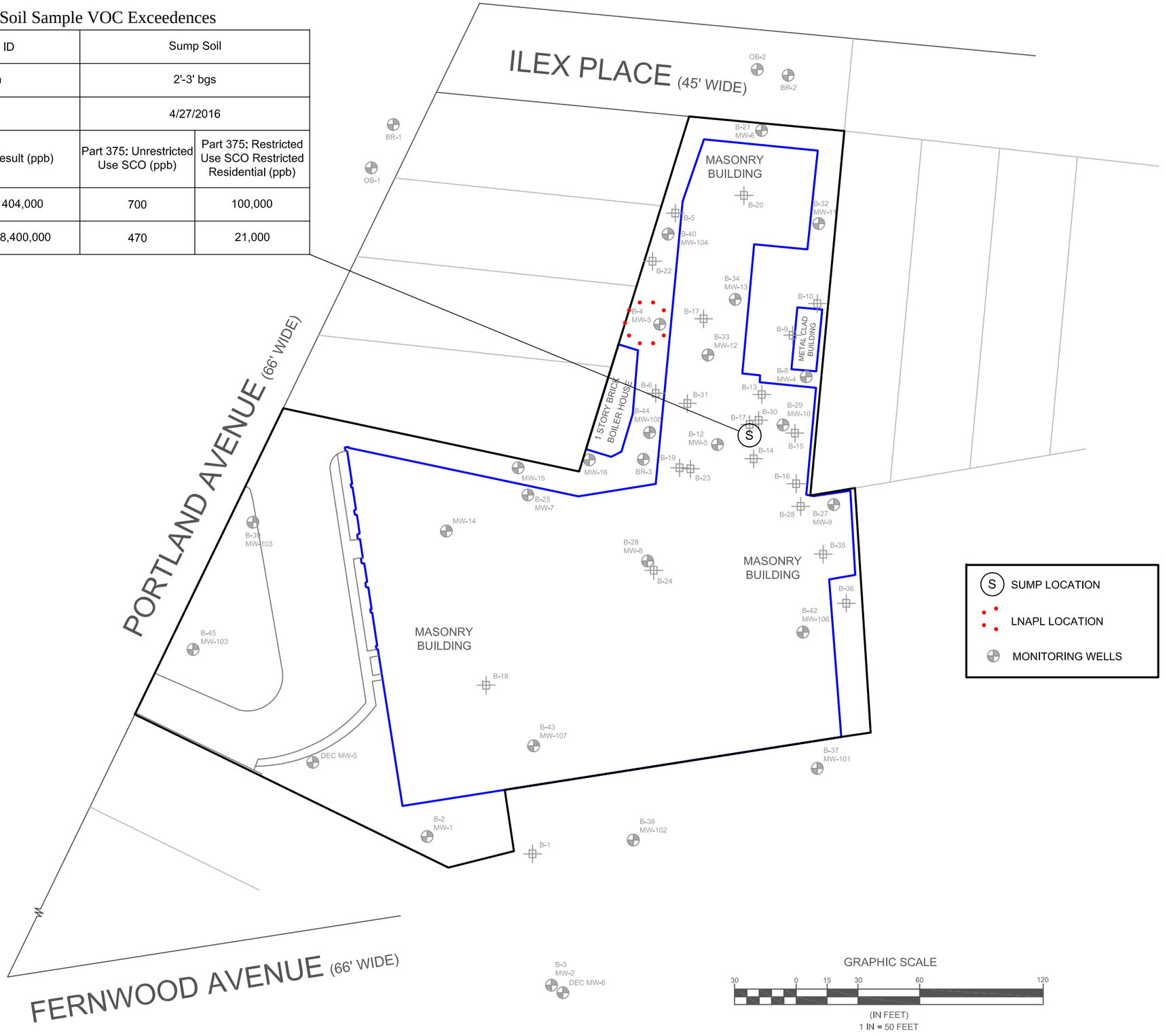
SCALE:	DRAWING NO:
N.T.S.	1

RAVI ENGINEERING & LAND SURVEYING, P.C.

Figure 2
IRM Work Plan Locations

Sump Soil Sample VOC Exceedences

RE&LS Location ID		Sump Soil	
Sample Depth		2'-3' bgs	
Sample Date		4/27/2016	
Analyte	Result (ppb)	Part 375: Unrestricted Use SCO (ppb)	Part 375: Restricted Use SCO Restricted Residential (ppb)
Toulene	404,000	700	100,000
Trichloroethene	18,400,000	470	21,000



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An MBE/DBE Firm
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PROJECT MANAGER: P.M.

MAPPING BY: L.Z.

MAP SCALE: 1" = 50'

PROJECT NAME:
FORMER JML OPTICAL, INC.
690 PORTLAND AVENUE, ROCHESTER, NEW YORK
BROWNFIELD CLEANUP PROGRAM
NYSDEC SITE #C828151

TITLE:
IRM Work Plan Locations

PROJECT NO: 45-14-003-0B

DATE: July 2016

DRAWING NO: FIGURE 2

RAVI ENGINEERING & LAND SURVEYING, P.C.

Attachment 1

ANALYTICAL RESULTS

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

Ravi Engineering & Land Surveying, P.C.

For Lab Project ID

161909

Referencing

690 Portland Ave Supplemental GW Samples

Prepared

Thursday, May 19, 2016

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 161909

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 690 Portland Ave Supplemental GW Samples

Sample Identifier:	MW-03-20160512		
Lab Sample ID:	161909-01	**Date Sampled:**	5/12/2016
Matrix:	Non Aq Liquid	**Date Received:**	5/13/2016

Petroleum Hydrocarbons by GC

Analyte	Result	Units	Qualifier	Date Analyzed
Medium weight PHC as Fuel Oil #4	Pure Product	mg/Kg		5/17/2016 13:29

Sample chromatogram not an exact match to reference chromatogram. Closest match made.

Method Reference(s): NYSDOH 310.13

Preparation Date: 5/17/2016

ELAP does not offer this test for approval as part of their laboratory certification program.

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 1270	ug/Kg		5/18/2016 15:24
1,1,2,2-Tetrachloroethane	< 1270	ug/Kg		5/18/2016 15:24
1,1,2-Trichloroethane	< 1270	ug/Kg		5/18/2016 15:24
1,1-Dichloroethane	< 1270	ug/Kg		5/18/2016 15:24
1,1-Dichloroethene	< 1270	ug/Kg		5/18/2016 15:24
1,2,3-Trichlorobenzene	< 3160	ug/Kg		5/18/2016 15:24
1,2,4-Trichlorobenzene	< 3160	ug/Kg		5/18/2016 15:24
1,2-Dibromo-3-Chloropropane	< 6330	ug/Kg		5/18/2016 15:24
1,2-Dibromoethane	< 1270	ug/Kg		5/18/2016 15:24
1,2-Dichlorobenzene	**14400**	ug/Kg		5/18/2016 15:24
1,2-Dichloroethane	< 1270	ug/Kg		5/18/2016 15:24
1,2-Dichloropropane	< 1270	ug/Kg		5/18/2016 15:24
1,3-Dichlorobenzene	< 1270	ug/Kg		5/18/2016 15:24
1,4-Dichlorobenzene	**2330**	ug/Kg		5/18/2016 15:24
1,4-dioxane	< 12700	ug/Kg		5/18/2016 15:24
2-Butanone	< 6330	ug/Kg		5/18/2016 15:24
2-Hexanone	< 3160	ug/Kg		5/18/2016 15:24
4-Methyl-2-pentanone	< 3160	ug/Kg		5/18/2016 15:24
Acetone	< 6330	ug/Kg		5/18/2016 15:24
Benzene	< 1270	ug/Kg		5/18/2016 15:24
Bromochloromethane	< 3160	ug/Kg		5/18/2016 15:24
Bromodichloromethane	< 1270	ug/Kg		5/18/2016 15:24

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 161909

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 690 Portland Ave Supplemental GW Samples

Sample Identifier: MW-03-20160512
Lab Sample ID: 161909-01 **Date Sampled:** 5/12/2016
Matrix: Non Aq Liquid **Date Received:** 5/13/2016

Bromoform	< 3160	ug/Kg	5/18/2016	15:24
Bromomethane	< 1270	ug/Kg	5/18/2016	15:24
Carbon disulfide	< 1270	ug/Kg	5/18/2016	15:24
Carbon Tetrachloride	< 1270	ug/Kg	5/18/2016	15:24
Chlorobenzene	< 1270	ug/Kg	5/18/2016	15:24
Chloroethane	< 1270	ug/Kg	5/18/2016	15:24
Chloroform	< 1270	ug/Kg	5/18/2016	15:24
Chloromethane	< 1270	ug/Kg	5/18/2016	15:24
cis-1,2-Dichloroethene	< 1270	ug/Kg	5/18/2016	15:24
cis-1,3-Dichloropropene	< 1270	ug/Kg	5/18/2016	15:24
Cyclohexane	< 6330	ug/Kg	5/18/2016	15:24
Dibromochloromethane	< 1270	ug/Kg	5/18/2016	15:24
Dichlorodifluoromethane	< 1270	ug/Kg	5/18/2016	15:24
Ethylbenzene	**9160**	ug/Kg	5/18/2016	15:24
Freon 113	< 1270	ug/Kg	5/18/2016	15:24
Isopropylbenzene	**7280**	ug/Kg	5/18/2016	15:24
m,p-Xylene	**15800**	ug/Kg	5/18/2016	15:24
Methyl acetate	< 1270	ug/Kg	5/18/2016	15:24
Methyl tert-butyl Ether	< 1270	ug/Kg	5/18/2016	15:24
Methylcyclohexane	**14400**	ug/Kg	5/18/2016	15:24
Methylene chloride	< 3160	ug/Kg	5/18/2016	15:24
o-Xylene	**23000**	ug/Kg	5/18/2016	15:24
Styrene	< 3160	ug/Kg	5/18/2016	15:24
Tetrachloroethene	< 1270	ug/Kg	5/18/2016	15:24
Toluene	< 1270	ug/Kg	5/18/2016	15:24
trans-1,2-Dichloroethene	< 1270	ug/Kg	5/18/2016	15:24
trans-1,3-Dichloropropene	< 1270	ug/Kg	5/18/2016	15:24
Trichloroethene	< 1270	ug/Kg	5/18/2016	15:24
Trichlorofluoromethane	< 1270	ug/Kg	5/18/2016	15:24
Vinyl chloride	< 1270	ug/Kg	5/18/2016	15:24

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 161909

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: 690 Portland Ave Supplemental GW Samples

Sample Identifier: MW-03-20160512

Lab Sample ID: 161909-01 **Date Sampled:** 5/12/2016

Matrix: Non Aq Liquid **Date Received:** 5/13/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**102**	85.4 - 122		5/18/2016	15:24
4-Bromofluorobenzene	**113**	81.1 - 115		5/18/2016	15:24
Pentafluorobenzene	**103**	90.7 - 109		5/18/2016	15:24
Toluene-D8	**106**	88.5 - 110		5/18/2016	15:24

Method Reference(s): EPA 8260C
EPA 3585

Data File: x32353.D

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC

REPORT TO:		INVOICE TO:		
CLIENT: RAVI		CLIENT: Same		LAB PROJECT ID: 161909
ADDRESS:		ADDRESS:		Quotation #:
CITY:	STATE: ZIP	CITY:	STATE: ZIP:	Email: Lzicari@raveng.com pmorton@raveng.com
PHONE:		PHONE:		
ATTN: LZICARI		ATTN:		

PROJECT REFERENCE
690 Portland Ave
Supplemental GW Samples

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 rel	3013	REMARKS	PARADIGM LAB SAMPLE NUMBER
5/12/16			X	MW-03-20160512	NQ	1	X	X	(Product layer only (For 3013 Need (PHC ID	01
									10°C iced started in field 5/12/16 1459hrs	

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒	None Required	☒	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate date needed:	☐	Other please indicate package needed:	☐	Other EDD please indicate EDD needed :	☐

Lynn Zicari	5/12/16	Total Cost:
Sampled By	Date/Time	
Lynn Zicari	5/12/16	
Relinquished By	Date/Time	
	5/12/16 1450	P.I.F.
Received By	Date/Time	
	5/13/16 11:41	
Received @ Lab By	Date/Time	

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: Ravi Engineering **Completed by:** Glen Pezzulo

Lab Project ID: 161909 **Date:** 5/13/16

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		
Comments	10°C iced started in field		
Sufficient Sample Quantity	X		
Comments			

RAVI ENGINEERING & LAND SURVEYING, P.C.

Attachment 2

HEALTH & SAFETY PLANS

Former JML Optical
678-690 Portland Avenue
Rochester, New York
BCP Site ID #C828151

HEALTH AND SAFETY PLAN

Interim Remedial Investigation

Prepared By:

Ravi Engineering & Land Surveying
2110 S. Clinton Avenue, Suite 1
Rochester, New York 14526

September 2016

Project No. 45-14-003-0P

Table of Contents

APPENDICES

A. GENERAL INFORMATION

This Health and Safety Plan (HASP) is prepared to ensure that the drilling activities are conducted safely, and in accordance with applicable regulations when fieldwork activities begin. This HASP should be followed by the Owner(s) and their contractors that may encounter contaminated materials during field activities.

Project Title: NYSDEC Site # C828151 Project No. 45-14-003-0P
678-690 Portland Avenue
City of Rochester
New York, 14621
Monroe County

Project Manager: Peter S. Morton, C.P.G. Project Director: Nancy Gillette, P.E.

Location: 678-690 Portland Avenue
City of Rochester, Monroe County, New York 14621

Site Safety Officer: Lynn Zicari

Scope/Objective of Work:

- Groundwater Sampling
- Monitoring Well Installation
- Survey
- Health and Safety
- Coordination with Contractors and Sub-Contractors
- Coordination with NYSDEC

Proposed Date of Field Activities: April 2015

Background Information: [X]* Partially Complete [ ] Preliminary (no analytical data available)
* Background information provided by Clough Harbor Associates (CHA)

Overall Chemical Hazard: [ ] Serious [ ] Moderate
[X] Low [ ] Unknown

Overall Physical Hazard: [ ] Serious [ ] Moderate
[X]Low [ ] Unknown

B. SITE/WASTE CHARACTERISTICS

Waste Type(s):

[X] Liquid [X] Solid [X] Sludge [X] Gas/Vapor

Characteristic(s):

[ ] Flammable/Ignitable [**X**] Volatile [ ] Corrosive [ ] Acutely Toxic
[ ] Explosive (moderate) [ ] Reactive [X] Carcinogen [ ] Radioactive
Other: _____

Physical Hazards:

[X] Overhead [ ] Confined Space [ ] Below Grade [X] Trip/Fall
[X] Puncture [X] Burn [X] Cut [X] Splash
[X] Noise [X] Other: Heat Stress/Cold Stress

Site Description/ History:

The Site is an approximately 1.6-acre property at 678-690 Portland Avenue in the City of Rochester, New York (Figure 1). The Site is almost entirely covered with buildings or paved surfaces, except for a mowed grass area along the Portland Avenue entrance to the Site, and a strip of grass along the eastern property boundary (rear side of building). ILEX Optical constructed the first buildings on the Site in circa 1930 and the most recent addition to the building was constructed on the south end of the Site around 1970.

The 690 Portland Avenue Company has entered into the Brownfield Cleanup Program (BCP) with an assigned NYSDEC Site No. C828151. Clough Harbor Associates (CHA) performed the Remedial Investigation (RI) and submitted a draft RI Report (RIR) to NYSDEC dated May 2011. CHA determined the following:

- Contaminants of concern are primarily chlorinated volatile organic compounds (VOCs) including trichloroethylene (TCE) and its breakdown products cis-1,2-Dichloroethene (DCE), trans-1,2-DCE, and vinyl chloride.

- In addition, petroleum contamination was identified where a 5,000-gallon underground storage tank (UST) was removed from the northwest side of the subject building.

- Five semivolatile organic compounds (SVOCs) were detected in soils at concentrations greater than Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs). These SVOCs are Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, and Indeno(1,2,3-cd)pyrene.

- Four metals were detected at concentrations greater than the Unrestricted Use SCOs. These metals are copper, lead, mercury, and zinc.

Locations of Chemicals/Wastes: Soil, sediment, and/or groundwater.

Estimated Volume of Chemicals/Wastes: Due to the potential various locations of contaminated materials in soil and groundwater, the volume of contaminated material remains to be determined.

Site Currently in Operation: [ ] Yes [X] No [ ] Not Applicable

C. HAZARD EVALUATION

PHYSICAL HAZARD EVALUATION:		
TASK	**HAZARD(S)**	**HAZARD PREVENTION**
Soil boring, bedrock coring, and monitoring well installation	Contact with or inhalation of contaminants, potentially in high concentration in sampling media and/or fire and explosion.	To minimize exposure to chemical contaminants, a thorough review of suspected contaminants should be completed ; implementation of an adequate protection program.
	Back strain and muscle fatigue due to lifting, and using equipment.	Use proper lifting techniques to prevent back strain.
	Heat stress/ cold stress exposure.	Implement heat stress management techniques such as shifting work hours, increasing fluid intake, and monitoring employees**. See Appendix A.**
	Slip/tripping/overhead/fall.	Observe terrain and drilling equipment while walking to minimize slips and falls. Steel-toed boots will provide additional support and stability. Use adequate lighting. Wear hard hat. Inspect all lifting equipment prior to use.
	Native wildlife presents the possibility of insect bites and associated diseases. Wildlife of concern in this area includes the deer tick and mosquito, which may carry lyme disease and the West Nile virus respectively. **See Appendix E and F**	Avoid wildlife when possible. Wear insect repellent and tick/chigger gators. Apply tick repellent to clothing. **See Appendix E and F.**
	Sunburn.	Apply sunscreen, wear appropriate clothing.
	Utility Lines.	Identify location(s) prior to work, maintain 25 foot minimum distance to overhead utilities.
	Weather Extremes.	Establish site-specific contingencies for severe weather situations. Discontinue work in severe weather.

Physical Hazard Evaluation: Basic health and safety protection (steel-toed boots, Level D work clothes,) will be worn by all personnel. Personnel should be made aware of area flora (poison ivy) and fauna (ticks). Snakes and other endemic wildlife should be avoided at all times. Any encounters that result in bites or scratches should be reported to the Site Safety Officer immediately. All allergies should be reported to the Site Safety Officer prior to the start of the project.

The Chemical Hazard Evaluation is tabulated on the following pages:

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Soil boring, bedrock coring, and monitoring well installation	Lead	0.05 mg/m^3	0.1 mg/m^3	0.05 mg/m^3	Y	Inhalation, Ingestion, Skin Contact	Poison, abdominal pain, spasms, nausea, vomiting, headache, irritation to eyes; skin, weakness, metallic taste, anorexia/loss of appetite, insomnia, facial pallor, colic, anemia, tremor, "lead line" in gums, constipation, abdominal pain, paralysis in wrists and ankles, encephalopathy (inflammation of brain)	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Soil boring, bedrock coring, and monitoring well installation	Arsenic	0.01 mg/m^3	---	---	Y	Inhalation, Ingestion, Skin Contact	Poison, abdominal pain, spasms, nausea, vomiting, headache, irritation to eyes; skin, weakness, metallic taste, anorexia/loss of appetite, insomnia, facial pallor, colic, anemia, tremor, "lead line" in gums, constipation, abdominal pain, paralysis in wrists and ankles, encephalopathy (inflammation of brain)	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Soil boring, bedrock coring, and monitoring well installation	Copper	0.01 mg/m^3	---	---	Y	Eye Contact, Ingestion, Inhalation, Skin Contact	Very hazardous in case of ingestion. Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (irritant).	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Soil boring, bedrock coring, and monitoring well installation	Mercury	0.025 mg/m^3	---	---	Y	Eye Contact, Ingestion, Inhalation, Skin Contact	Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth, and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
							of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.			

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Soil boring, bedrock coring, and monitoring well installation	Zinc	---	---	---	Y	Eye Contact, Ingestion, Inhalation, Skin Contact	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Soil boring, bedrock coring, and monitoring well installation	Quikrete Silica Sand	10.0 mg/m^3	10.0 mg/m^3	0.05 mg/m^3	N	Inhalation, Eye, Respiratory (vapor)	Crystalline silica (quartz) may cause abrasion of the cornea, Respiratory tract irritation, coughing, choking and shortness of breath, vomiting	Odorless	---	---
Same	Trichloroethylene (TCE)	100 ppm	25 ppm (10-hour TWA)	50 ppm	Y	Inhalation, Ingestion, Eye, Skin Contact	Skin contact (irritant, permeator), irritant to eye, and dangerous to inhale or ingest.	Odorless	---	---
Same	Benzo (a) anthracene	0.1 mg/m^3	0.1 mg/m^3	0.05 mg/m^3	Y	Inhalation, Ingestion, Eye, Skin Contact	Cancer, urinary conditions, skin irritation	Faint aromatic odor	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Same	Benzo (a) pyrene	0.1 mg/m^3	0.2 mg/m^3	0.05 mg/m^3	Y	Inhalation, Ingestion, Eye, Skin Contact, Chronic	Impair fertility, cause eye, skin, and respiratory tract irritation	Faint aromatic odor	---	---
Same	Benzo (b) fluoranthene	---	---	---	Y	Inhalation, Ingestion, Eye, Skin Contact, Chronic	Impair fertility, cause eye, skin, and respiratory tract irritation	Faint aromatic odor	---	---
Same	Benzo (k) fluoranthene	---	---	---	Y	Inhalation, Ingestion, Eye, Skin Contact, Chronic	May be fatal if swallowed, impair fertility, cause eye, skin, and respiratory tract irritation, cancer hazard	Odorless	---	---
Same	Chrysene	---	0.2 mg/m^3	---	Y	Inhalation, Ingestion, Eye, Skin Contact, Chronic	May be fatal if swallowed, impair fertility, cause eye, skin, and respiratory tract irritation, cancer hazard	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Same	Dibenzo (a,h) anthracene	0.2 mg/m3	0.2 mg/m3	Not Listed	Y	Inhalation, Ingestion, Eye, Skin Contact	Impair fertility, cause eye, skin, and respiratory tract irritation, cancer hazard	Odorless	---	---
Same	Indeno (1,2,3-cd) pyrene	---	---	---	Y	Inhalation, Ingestion, Eye, Skin Contact	Impair fertility, cause eye, skin, and respiratory tract irritation, cancer hazard	Odorless	---	---
Same	Phenanthrene	---	---	---	Y	Inhalation, Ingestion, Eye, Skin Contact	Chronic, teratogenic, and mutagenic effects, Impair fertility, cause eye, skin, and respiratory tract irritation, cancer hazard	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Same	Pyrene	---	---	---	Y	Inhalation, Ingestion, Eye, Skin Contact	Chronic, teratogenic, and mutagenic effects, Impair fertility, cause eye, skin, and respiratory tract irritation, cancer hazard	Odorless	---	---

[1]There are over 100 different PAHs and the health effects of the individual PAHs are not exactly a like. A public health state and a fact sheet for PAHs from the U.S. Health and Human Services, public Health Service for Toxic Substances and disease Registry is provided in Appendix C.

KEY:
PEL = Permissible Exposure Limit
REL = Recommended Exposure Limit
--- = Information not available
mg/m^3 = Milligrams per cubic meter
ppm = Parts per million
TLV = Threshold Limit Value (ACGIH)

D. SITE SAFETY WORK PLAN

Site Control:

Perimeter Identified? [Y] **Site Secured? [N]**

Work Areas Designated? [Y] **Zone(s) of contamination identified? [Partial]**

Anticipated Level of Protection (cross-reference task numbers in Section C):

	A	B	C	D
Task 1			Available	X

All site work will be performed using a Level D (steel-toed boots, work clothes, eye protection, gloves, and hard hats) degree of Personal Protection Equipment (PPE), unless monitoring indicates otherwise. Gloves will be worn if contact with site soil, sediment or water is anticipated, due to concerns of heavy metals, chlorinated solvent, and the potential of SVOC contamination.

See Appendices A, B and C for Specific Site Safety Requirements.

Decontamination Solutions and Procedures for Equipment, Sampling Gear, etc.:

Disposable sampling equipment will be used where possible. If decontamination (decon) is necessary, distilled or deionized water and alconox will be used.

Prior to use and between monitoring wells, the pump and other reusable (non-disposable) groundwater sampling equipment will be decontaminated. Water generated from the well sampling and equipment decontamination activities will be drummed for later disposal.

Personnel Decon Protocol:

Soap, water and paper towels will be available for all personnel and will be used before eating, drinking or leaving the Site. Personnel will shower upon return to home. Disposable PPE will be double bagged and disposed of as non-hazardous waste.

Decon Solution Monitoring Procedures, if Applicable:

Decon solutions will be disposed of on the Site with the Owner's permission.

Site Entry Procedures and Special Considerations:

Prior to the start of each workday, all parties will be required to attend an on-site briefing, which will identify the roles of each organization’s personnel and will integrate emergency procedures for all Site participants.

Level D will be used based on the results of previous investigations. Level C will be available, and used when indicated by continuous PID/FID readings of 5 ppm or greater in the breathing zone, and/or 0.15 mg/m^3 above ambient air for particulate readings.

Work Limitations (time of day, weather conditions, etc.) and Heat/Cold Stress Requirements:

All work will be completed during daylights hours. Heavy equipment will not be used during electrical storms.

Investigation Derived Material (i.e., Expendables, Decon Waste, Cuttings) Disposal:

Drill cuttings and monitoring well purge waters will be drummed for characterization and disposal purposes. All disposable gloves, Geoprobe sleeves, etc. will be properly bagged and disposed of offsite.

* All entries into the work zone require "Buddy System" use. All RE&LS field staff participate in a medical monitoring program and have completed applicable training per 29CFR 1910.120. The respiratory protection program meets requirements of 29CFR 1910.134.

E. EMERGENCY INFORMATION

LOCAL RESOURCES

Ambulance:	911
Hospital Emergency Room:	Rochester General Hospital (585) 922-4000
	1425 Portland Ave, Rochester, NY 14621
Poison Control Center:	911
Police (include local, county sheriff, state):	911
Fire Department:	911
Airport:	N/A
Local Laboratory:	N/A
UPS/Federal Express:	N/A

SITE RESOURCES

Site Emergency Evaluation Alarm Method: Sound vehicle horn.

Water Supply Source: Water will be available in containers in vehicles.

Telephone Location, Number: All field personnel will have cell phones available

Cellular Phone, if Available: Lynn Zicari (585) 506-6975
Peter Morton (585) 645-8295

EMERGENCY CONTACTS

1. Fire/Police: 911

2. RE&LS, Safety Director: Geoff Bijak
(585) 223-3660, Ext. 329 (office)

EMERGENCY ROUTES

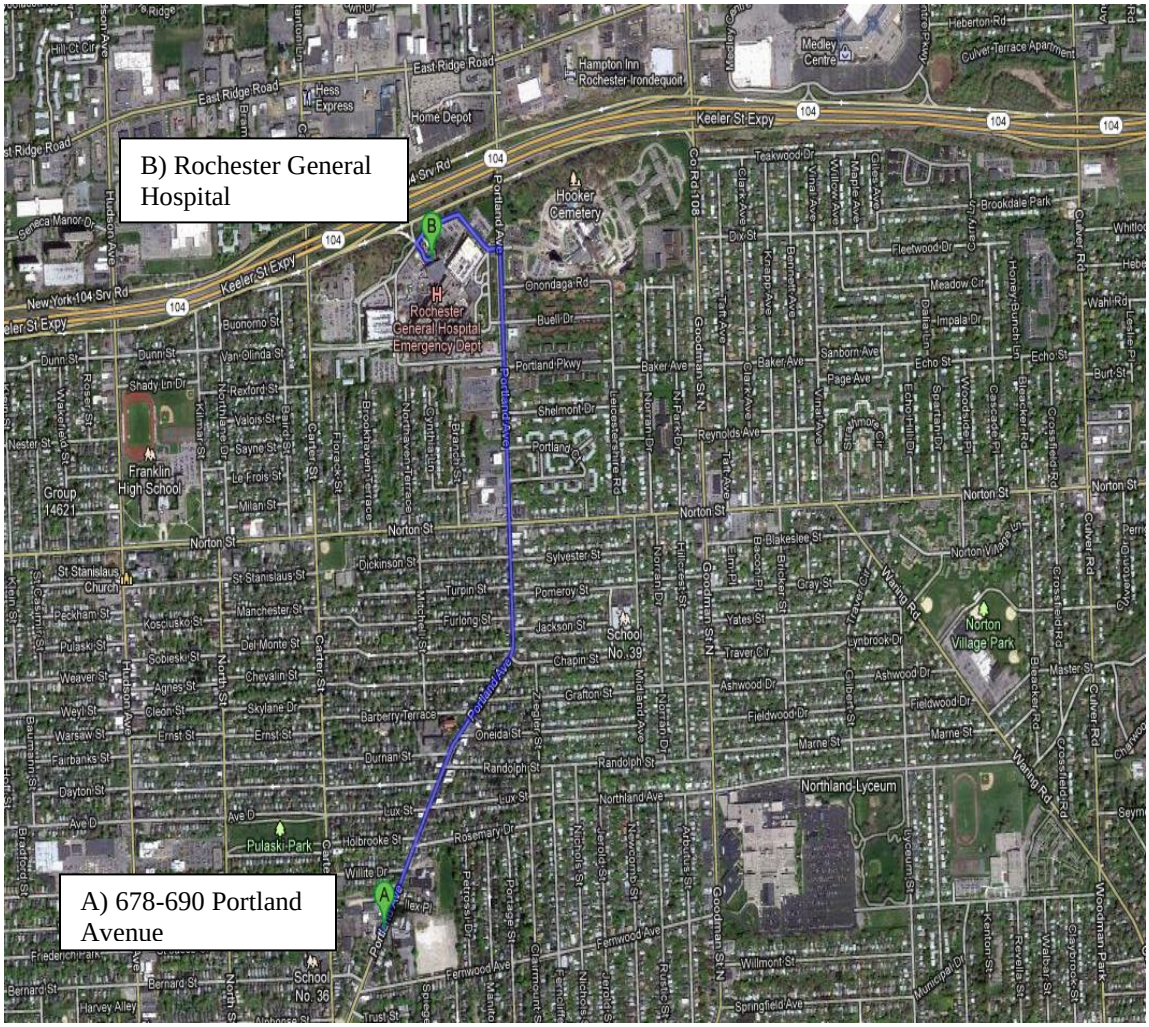
(Note: Field teams must know route(s) prior to start of work.)

Directions from the site to the hospital (include map):
Head NORTHEAST on Portland Avenue. Drive 1.3 miles (4 minutes).
The hospital will be on the LEFT located at 1425 Portland Ave.

On-site Assembly Area: At Site entry point.

Off site Assembly Area: The intersection of the site access road and Portland Avenue.

Directions from the Site to the Rochester General Hospital



TREC Environmental Inc.

TREC Environmental, Inc.

Safety and Health Program

April 10, 2014

1018 Washington Street
Spencerport, New York 14559
Phone: 585-594-5545
Fax: 585-594-5675

TREC Environmental, Inc.
Table of Contents

Safety and Health Program Manual
Review & Updates

DATE:

DESCRIPTION: Manual review

SIGNATURE:

DATE:

DESCRIPTION:

SIGNATURE:

DATE:

DESCRIPTION:

SIGNATURE:

DATE:

DESCRIPTION:

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DESCRIPTION:

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DATE:

DESCRIPTION:

TREC Environmental, Inc.
Safety and Health Policy Statement

We are dedicated to providing a safe and healthful environment for employees and customers, protecting the public, and preserving TREC Environmental, Inc. assets and property.

At TREC Environmental, Inc. our most valuable resources are the people who work for us. Injuries can be prevented. To achieve this objective, TREC Environmental, Inc. will make all reasonable efforts to comply with all government regulations pertaining to safety and health issues. An effective Safety and Health Program will be carried out throughout our organization.

The Safety and Health Program will assist management and non-supervisory employees in controlling hazards and risks which will minimize employee and customer injuries, damage to customer's property and damage or destruction of TREC Environmental, Inc. property.

All employees will follow this program. This program is designed to encourage all employees to promote the safety of their fellow employees and customers. To accomplish our safety and health goals, all members of management are responsible and accountable for implementing this policy, and to insure it is followed.

TREC Environmental, Inc. is sincerely interested in the employee's safety. The policy of TREC Environmental, Inc. is to provide safe equipment, adequate tools and training, and the necessary protective equipment. It is the employee's responsibility to follow the rules of safety as established for their protection and the protection of others, and to use the protective devices, which TREC Environmental, Inc. provides.

This Safety and Health program is a general rule for TREC's operations. Projects requiring a site specific Health and Safety Plan, HASP, will have very site specific details for each project and will be reviewed by all site personnel prior to the start of any project.

Safety Education and Training Program

TREC Environmental, Inc. is committed to instructing all employees in safe and healthy work practices. TREC Environmental, Inc. will provide training to each employee with regard to general, acceptable, safety procedures and to any hazards or safety procedures that are specific to that employee's work situation.

Purpose of a Hazard Communication Program:

To provide employees with the knowledge and training necessary to understand and protect themselves and others from the chemicals they use. Also, to comply with the OSHA Hazard Communication Standard (1910.1200).

Training Will Occur When:

- Upon Hiring
- TREC Environmental, Inc. believes additional training is warranted
- An employee is given a new job assignment
- New substances, equipment, or new procedures are introduced which represent a new hazard
- TREC Environmental, Inc. is made aware of a new hazard

Training Areas:

Employee training will consist of new employee orientation, periodic group meetings, and one-on-one training. The Safety and Health training provided to employees will include:

- Employee Safety Handbook
- First Aid
- TREC Environmental, Inc. Safety and Health Policy
- TREC Environmental, Inc. Safety and Health Program
- Incident Reporting
- Hazard Communication
- Hazardous Material Spill Response
- Personal Protective Equipment requirements
- Emergency Procedures
- Housekeeping
- Job Specific Hazards

Employee Safety Training Checklist

Employee Name: _____ Hire Date: _____

Position: _____ Trainer: _____

I acknowledge that I have been trained in the SAFETY AND HEALTH areas checked below, and agree to follow all TREC Environmental, Inc. Safety and Health Rules, Policies and Procedures.

_____ Safety and Health Program

- My right to ask questions, or report any safety hazards, either directly or anonymously without any fear of reprisal.
- The location of TREC Environmental, Inc. safety bulletins and required safety postings (i.e., summary of occupational injuries and illnesses, and Safety and Health Protection Poster).
- Disciplinary procedures that may be used to ensure compliance with safe work practices.
- Reporting safety concerns.
- Accessing the department safety committee.

_____ Incident Reporting and Reporting Occupational Injuries and Illnesses.

_____ Hazard Communication

- The potential occupational hazards in the work area associated with my job assignment.
- The safe work practices and personal protective equipment required for my job title.
- The location and availability of MSDS's.
- The hazards of any chemicals to which I may be exposed, and my right to the information contained on Material Safety Data Sheets (MSDS's) for those Chemicals.

_____ Hazardous Material Spill Response

_____ Bloodborne Pathogen Response

_____ Personal Protective Equipment

_____ Employee Safety Manual

_____ Machinery Tag Out Program

_____ Emergency Procedures

_____ Other: _____

I understand the above items and agree to comply with safe work practices in my work area.

_____ _____

Employee Signature Date

I have trained the above employee in the categories indicated on this form.

Trainers Signature Date

Safety Meeting Record

Job: _____

Department or Crew: _____ **Date:** _____

OUTLINE

Safety Title: _____

Key Points:

1. _____
2. _____
3. _____
4. _____
5. _____

Applications to Project:

_____
_____
_____.

Safety Reminders:

_____
_____.

Employee Safety Recommendations:

_____
_____
_____.

Meeting Attended By:

_____

_____

Safety and Health Communication

Communicating With Employees on Safety and Health Issues

Communicating with employees regarding health and safety issues must be a two way street. It must consist of both employer-to-employee **and** employee-to-employer communications. Employees will be trained through the formal Safety and Health Program, new employee orientation, and training specific to new or current job assignments and/or hazards.

Reporting of Safety and Health Hazards:

TREC Environmental, Inc. has a system for the employee to report a hazard or unsafe condition. The form on the next page will be used for reporting and documenting such hazards. The employee should also notify his/her immediate supervisor verbally of such hazard or condition. The "Safety Suggestion Form" will be sent to the employee's supervisor or designated Safety Manager. A prompt and thorough investigation will be conducted of the situation.

Postings:

As a routine part of the Safety and Health Program, postings required by state and federal law (for example, Safety and Health protection on the Job, state OSHA citations and responses, etc.) will be prominently displayed in employee areas.

Training:

TREC Environmental, Inc. has training requirements designed to instruct each employee on general safety procedures as well as safety procedures specific to the employee's job. These training requirements are described in greater detail in the chapter entitled SAFETY AND HEALTH TRAINING.

Employee Safety Handbook:

All employees will be provided with an Employee Safety Handbook before they are to begin work and at the time of orientation. (Management will photocopy pages 17 through 28 of this manual, staple the pages together, and give it to every new hire). They are to read the handbook and acknowledge its receipt by filling out the second page of the handbook. This page will be removed from the handbook and placed in their personnel record.

Safety Committee

The Safety Committee will be composed of rank and file employees. The President will appoint the Safety Committee Chairperson. The Safety Committee will function as an advisory body to develop and recommend to TREC Environmental, Inc. Management matters of policy and procedure affecting administration of TREC Environmental, Inc. Safety and Health Program.

The Committee will meet at a mutually convenient time, at the request of a member of the Committee, but not less than once every two months. The Committee is responsible for:

- Reviewing statistical data, records, and reports of safety matters to determine the effectiveness of overall accident and loss prevention efforts and to develop recommendations for improvement.

- Reviewing and analyzing accident and property loss investigation reports for:
  - Accuracy and completeness (recommending follow-up investigation if necessary).
  - Provide recommendations for corrective action and provide consistency throughout TREC Environmental, Inc. operations.
  - Identification of accident problem or trend and determination of what order they should be given attention.

- Reviewing safety and property inspection reports, job safety analyses, supervisor's safety observation reports, and employees' suggestions for:
  - Possible changes in work practices or procedures.
  - Need for safety procedures.
  - Need for protective device or equipment.
  - Need for training.

- Developing practical safety and property inspection procedures, and assisting in making inspections when requested by the Safety and Health Manager.

- Keeping Managers informed of the progress of the Safety Program and informed as to the safety records of employees or other segments of TREC Environmental, Inc.

- Assisting in developing the records and statistical data necessary to provide an accurate picture of TREC Environmental, Inc. safety problems.

- Identify unsafe work practices and conditions and suggest appropriate remedies. Ensure that employees and others (visitors, contractors, etc.) are informed about safety policies, training programs, injury risks and causation, and other health and safety-related matters.

- Maintain an open channel of communication between employees and management concerning occupational and environmental health and safety matters.

- Provide a means by which employees can utilize their knowledge of workplace operations to advise management in the improvement of policies, condition, and practices.

SAFETY SUGGESTION FORM

NAME: _____ **DATE:** _____
(OPTIONAL)

DESCRIPTION OF UNSAFE CONDITION OR PRACTICE:

CAUSE OR CONTRIBUTING FACTORS:

SUGGESTION FOR IMPROVING SAFETY:

Draw a picture to describe situation:

Disciplinary Program

Role of Disciplinary Systems in the Workplace:

TREC Environmental, Inc. will be referred to as TREC or the company in the following program.

The disciplinary system does not exist primarily to punish employees. Its purpose should be to control the work environment so that workers are protected and accidents are prevented. A disciplinary system helps ensure workplace safety and health by letting the TREC's employees know what is expected of them. It provides workers with opportunities to correct their behavior before an accident happens.

A disciplinary system is one of the keys to successfully implementing the TREC's safety and health program. It ensures that the Company's rules and safe working practices are taken seriously by employees and are actually followed. It lets employees know how
TREC expects them to operate in relation to the goals of the Company's safety and health program. And it lays out the actions that TREC will take if individuals do not meet the Company's expectations. The employee's supervisor and all members of management are responsible for the enforcement of this disciplinary program.

Policy Statement:

Employees need to know the TREC's position on safety and health and what the Company expects of them. They need a clear understanding of the rules and the consequences of breaking those rules. This is true in all areas of work, but it is especially important for worker safety and health. As part of the policy statement, and in the employee safety handbook, the TREC has a written statement setting forth the TREC's disciplinary policy. TREC managers and supervisors will always be on the lookout for safety violations and will conscientiously and vigorously enforce the Company's commitment to safety.

Employee Information and Training:

It is important that employees understand the system and have a reference to turn to if they have any questions. Therefore, in addition to issuing a written statement of the TREC's disciplinary policy, the Company has drawn up a list of what it considers major violations of Company policy and less serious violations. This list specifies the disciplinary actions that will be taken for first, second, or repeated offenses. TREC will use the 5 Step Disciplinary System listed in Appendix B to correct minor, "General Offences" (that are listed on the next page).

The list for immediate termination and grounds for immediate discharge are:

1) Drinking alcohol, and/or drug abuse prior to or during working hours
2) Fighting, provoking or engaging in an act of violence against another person on Company property
3) Theft
4) Willful damage to property
5) Failure to wear Personal Protective Equipment (eye protection, hearing protection, safety helmets, etc.).
6) Not using safety harnesses and lanyards when there is a potential for falling
7) Removing and/or making inoperative safety guards on tools and equipment
8) Tampering with machine safeguards or removing machine tags or locks
9) Removing barriers and/or guardrails and not replacing them

10) Failure to follow recognized industry practices
11) Failure to follow rules regarding the use of company equipment or materials
12) Major traffic violations while using a company vehicle
13) Engaging in dangerous horseplay
14) Failure to notify the Company of a hazardous situation and
15) Other major violations of company rules or policies

General Offences requiring a warning and can lead to termination:

1) Minor traffic violations while using Company vehicles
2) Creating unsafe or unsanitary conditions or poor housekeeping habits
3) Threatening an act of violence against another person while on company property
4) Misrepresentation of facts
5) Unauthorized use of Company property
6) Excessive tardies and late to work
7) Disrespect and/or insubordination to authority
8) Other violations of Company Policy and rules

Training:

Training can reduce the need for disciplinary action. The Company shall instruct employees in the importance of workplace safety and health, the need to develop safety habits, the Company's operations, safe work practices, and the hazards they control, and the standards of behavior that the Company expects. The Company's employees must understand the disciplinary system and the consequences of any deliberate, unacceptable behavior.

Supervision:

Supervision includes both training and corrective action. Ongoing monitoring of the Company's employees' work and safety habits gives the Company's supervisors the opportunity to correct any problems before serious situations develop. In most cases, effective supervision means correcting a problem before issuing any punishment.

Where the relationship between employees and their supervisors is open and interactive, problems are discussed and solutions are mutually agreed upon. This type of relationship fosters a work environment where the need for disciplinary action is reduced. When such action is needed, the parties are more likely to perceive it as corrective as punitive.

Employee Involvement:

Employees are encouraged to help informally in the enforcement of rules and practices. The intent here is not to turn employees into spies and informers, but to encourage them to
be their "brother's keeper" and to watch out for the safety and health of their colleagues. Many employers successfully have encouraged an atmosphere -- a company "culture" – where employees readily speak up when they see an easily corrected problem, for example, a coworker who needs reminding to put on safety goggles.

The Company's employees deserve the opportunity to correct their own behavior problems. An effective disciplinary system is a two-way process. Once a problem is spotted, discuss it with the employee, who should be given at least one or two opportunities to change the behavior or correct the problem. Only after these discussions (and possibly some retraining) should disciplinary action be taken.

Appropriate Control Measures:

Disciplinary actions need to be proportionate to the seriousness of the offense and the frequency of its occurrence. It is certainly inappropriate to fire someone for occasional tardiness. It is equally inappropriate to issue only oral warnings to an employee who repeatedly removes a machine guard. Appendix B provides an example of disciplinary actions in a five-step disciplinary system.

Disciplinary procedures should not be instituted without explanation. The Company will provide feedback to the employee on what behavior is unacceptable, why the corrective action is necessary, and how the employee can prevent future violations and disciplinary action. In addition, take time to recognize an employee who improves or corrects his/her behavior.

Consistent Enforcement:

Workers must realize that safe work practices are a requirement of employment and that unsafe practices will not be tolerated. It is necessary, therefore, that the employer have a disciplinary system that is implemented fairly and consistently.

If the Company's disciplinary system is to work well and be accepted by the Company's workforce, the system applies equally to everyone. This includes subjecting managers and supervisors to similar rules and similar or even more stringent disciplinary procedures.

For minor violations, supervisors shall meet with the employee to discuss the infraction and inform the employee of the rule or procedure that was violated AND describe the corrective action needed to remedy the situation.

Documentation:

One key to ensuring fairness and consistency in a disciplinary system is keeping good records. It is in the best interest of both the Company and the employee to have written rules and disciplinary procedures. It is just as important to document instances of good or poor safety and health behavior, including discussions with the employee, and to place relevant information in the employee's personnel file. The "**Safety Hazard Citation**"
On the next page will be used to document infractions.

Documentation serves a variety of purposes. It helps the Company to track the development of a problem, corrective actions, and the impact of measures taken. It provides information so the Company can keep employees informed of problems that need correction.

When the Company is evaluating the managerial and supervisory skills of a supervisor, it provides a useful record of how they handled problems.

If warnings, retraining, and other corrective actions fail to achieve the desired effect, and if the Company decides to discharge an employee, then documentation becomes even more critical. Conversely, the Company will conduct an annual clearing of the personnel files of employees whose good overall safety records are marred by minor warnings.

Minor safety violations will be documented and a copy of the below form will become part of the employee's personnel record:

Safety Hazard Citation **Date:** _____

Name of Violator: _____

Location of Violation: _____

Type of Violation: _____

_____

_____

Violator's Signature:

_____

A Copy of this Citation will be placed in the employees Employment File
Three Citations can be grounds for termination

Positive Reinforcement:

Each supervisor should provide frequent reinforcement of work practices training. The informal observation described above serves not only to gauge training effectiveness, but also to reinforce the desired behavior. Some worksites also provide special recognition for the use of safe work practices. Some supervisors periodically hand out "Thank you for working safely" cards that can be redeemed for a free cup of coffee or soft drink. Other supervisors periodically observe individual workers at their tasks and give oral and/or written feedback on what was done safely.

OSHA recommends award systems that recognize positive activities rather than absence of injuries. Award programs with prizes for hours worked without injury can put heavy pressure on workers not to report injuries.

Reward System:

Rewarding safe behavior is at least as important as correcting and punishing unsafe actions. Positive feedback can be a powerful motivator. It is especially important to recognize self-initiated acts of safety or health protection, those times when employees, of their own accord, act to protect themselves or others.

A reward system can be very simple and inexpensive: letters or certificates of appreciation, a few hours of paid leave, a special and convenient parking space for a month in the company parking lot, a small pin or tie tack. Rewarding an employee for good safety and health behavior not only recognizes the employee, it also provides incentive to other workers. Public recognition is likely to be more important than monetary value when distributing one-time awards. Of course, taking safety and health performance into account when promoting employees or issuing bonuses is probably the most meaningful reward.

One type of reward program can backfire and should be avoided. Rewards based on the least number of accidents can do more harm than good. They tend to create pressure on employees to avoid reporting injuries and illnesses. For best results, the Company shall emphasize the positive: reward the Company's employees' constructive safety and health efforts

Manager's Disciplinary System Worksheet

The nature and severity of disciplinary action should be appropriate for the seriousness and frequency of the violation. Below are a series of questions designed to help you develop a disciplinary system that best meets the needs of the Company's workplace. Managers already may have addressed the first two areas when developing safe work practices for various jobs. If management has not yet developed these practices, it makes sense to do so before developing a disciplinary system. Other workplace problems, such as attendance and attitude, are equally important but are not addressed here.

1. Operations.
   What key operation(s) occur at the Company's workplace?
   What equipment is used?
   By whom?
   What materials are used, and by whom?
   Are there any hazards associated with the use of the equipment or the materials?

2. Practices and Procedures.
   What are the key types of jobs at the Company's workplace?
   What do most people do in the course of their work?
   What is the most efficient way for them to perform their jobs?
   What is the safest way for them to perform their jobs?
   (Note: You will need to perform a job hazard analysis to properly answer this. For information, see OSHA Publication 3071 (Revised 1992), "Job Hazard Analysis."

3. Problems.
   What would happen if a job or procedures were not done safely?
   Exactly what would happen if an employee performed in an unsafe or unhealthful manner?
   What would happen if all employees did the same thing?
   How serious would the consequences be?
   Would the unsafe action or behavior affect just one employee, or all employees?

4. Correction.
   For each type of safety and health violation you have identified, what kind of corrective action seems appropriate?
   What would you do for a second offense, or for repeated violations of the same rule? Should warnings be oral or written?
   How long a suspension is warranted for what type of violation?
   Are there any actions that should automatically result in termination?
   For this last stage in developing the TREC's disciplinary system, you may find it helpful to develop a grid, like the one on the next page, to identify corrective actions for different kinds of violations and repetitions.

Appendix B

In the example below, a few types of safety problems are listed on the left and their frequency across the top. Fill in each box with the type of corrective action that you consider appropriate. Examples include oral warning, written warning, re-instruction, suspension, and termination.

	First Offense	Second Offense	Repeated Violations
Unsafe Work Habits			
Refusal to Follow Safety Instructions			
Unsafe Actions that Jeopardize Self and Others			

Five-Step Discipline System

First violation:	Instruction/discussion concerning violation, proper procedures, and the hazards they control; notation for the supervisor's file.
Second violation:	Re-instruction with notation in the employee's personnel file.
Third violation:	Written warning describing the violation and actions that will be taken if it recurs.
Fourth violation:	Final warning; may include suspension.
Fifth violation:	Discharge.

DRUG PREVENTION PLAN

SECTION I. INTRODUCTION

A. Prohibited Drug Policy.

1. The Company has a long standing commitment to maintain the highest standards for employee safety and health and the use of controlled substances is contrary to these high standards.

2. This policy is also to bring the Company into compliance with federal law. The purpose of the drug prevention plan is to reduce accidents that result from the use of controlled substances, thereby reducing fatalities, injuries, and property damage.

3. The presence in the body of prohibited substances is not condoned.

B. Implementation of Drug prevention plan.

1. The Company has implemented the Research and Special Programs Administration, Drug Testing Regulations as set forth in 49 CFR Part 199 and the Department of Transportation, Procedures for Transportation Workplace Drug Testing Programs as set forth in 49 CFR Part 40.

C. Background.

1. The catalyst for the drug prevention plan is Title 49 Code of Federal Regulations (CFR) Part 199 which requires Company's subject to 49 CFR Parts 192, 193, and 195, and their contractors to test their employees for prohibited drugs under the following work-related conditions:

   a. Pre-Employment

   b. Post-Accident

   c. Random

   d. Reasonable Cause

   e. Return-to-Duty

2. Title 49 CFR Part 40 specifies procedures which must be followed by the Company when conducting drug testing pursuant to regulations issued by agencies of the Department of Transportation (DOT).

D. Definitions.

For purposes of this drug prevention plan the following definitions apply:

1. Accident means a reportable incident as follows:

   (1) Death of any person.

(2) Bodily harm to any person resulting in one or more of the following:

(a) Loss of consciousness.

(b) Necessity to carry the person from the scene.

(c) Necessity for medical treatment.

(d) Disability which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident.

(3) Estimated property damage, including cost of clean-up and recovery, value of lost product and damage to the property of the Company or others, or both, exceeding $1,000.

(4) An event that results in an emergency shutdown of the Company.

(5) An event that is significant, in the judgment of the Company, even though it did not meet the criteria of paragraphs (1) or (2).

2. Blind Sample – a urine specimen submitted to a laboratory for quality control testing purposes, with a fictitious identifier, so that the laboratory cannot distinguish it from employee specimens, and which is spiked with known quantities of specific drugs or which is blank, containing no drugs.

3. Chain-of-Custody – procedures to account for the integrity of each urine specimen by tracking its handling and storage from point of specimen collection to final disposition of the specimen. These procedures shall require that an appropriate drug testing custody form from a Department of Health and Human Services (DHHS) certified laboratory be used from time of collection to receipt by the laboratory.

4. Collection Site – a designated clinic/facility where applicants or employees may present themselves for the purpose of providing a specimen of their urine to be analyzed for the presence of drugs.

5. Collection Site Person – a person who instructs and assists applicants and employees through the specimen collection process.

6. Company – an organization or commercial enterprise that uses this drug prevention plan.

7. Confirmation Test – a second analytical procedure to identify the presence of a specific drug or metabolite which is independent of the initial test and which uses a different technique and chemical principle from that of the initial test in order to ensure reliability and accuracy. Gas chromatography/mass spectrometry (GC/MS) is the only authorized confirmation method for cocaine, marijuana, opiates, amphetamines, and phencyclidine (PCP).

8. Covered employee – any person who performs work on Company property such person may be employed directly by the Company, or by a contractor engaged by the Company.

As applied in the regulations, "employee" and "applicant for employment" have the same meaning for the purpose of these requirements.

9. Covered Function (safety-sensitive function) – an operation, maintenance, or emergency-response function that is performed during Company business.

10. Fail a Drug Test or Test Positive – the confirmation test result shows positive evidence of the presence under DOT procedures of a prohibited drug in the employee's or applicant's system.

11. Initial Test – an immunoassay screen to eliminate "negative" urine specimens from further consideration.

12. Pass a Drug Test or Test Negative – that initial testing or confirmation testing under DOT procedures does not show evidence of the presence of a prohibited drug in the employee's or applicant's system.

13. Prohibited Drug – marijuana, cocaine, opiates, phencyclidine, and amphetamines.

14. Refusal to Submit – refusal by an individual to provide a urine sample after receiving notice of the requirement to be tested in accordance with the Company's anti-drug program.

15. SAMHSA – Substance Abuse and Mental Health Services Administration, formerly National Institute on Drug Abuse (NIDA), was established by the Department of Health and Human Services in 1986 to regulate laboratories performing analytical tests (drug tests) on human body fluids for employment purposes in the public sector.

E. Company Responsibilities.

1. Drug Program Manager (DPM): Appendix A contains the name, address, and phone number of the responsible individual(s). The DPM or other TREC designated individual shall be responsible for the preparation of a drug testing drug prevention plan which complies with requirements of the Department of Transportation regulations as set forth in 49 CFR Parts 199 and 40. The DPM shall be responsible for providing oversight and evaluation on the plan; providing guidance and counseling; reviewing of all discipline applied under this plan for consistency and conformance to human resources policies and procedures; scheduling random drug testing and return-to-duty testing; maintaining a locked file system on drug testing results; and overseeing the employee assistance program (EAP) as it is defined in 49 CFR Part 199.19. The Company shall ensure that all covered employees are aware of the provisions and coverage of the Company's drug prevention plan.

2. Supervisors: Company individuals responsible for observing the performance and behavior of employees; observation/documentation of events suggestive of reasonable cause; responsible for requests of second supervisor for substantiation and concurrence for reasonable cause testing, if applicable.

3. Employees: Each employee has the responsibility to be knowledgeable of the requirements of the Company's drug prevention plan and to fully comply with the provisions of the plan.

SECTION II. DRUG TESTING REQUIREMENTS

A. Applicability.

1. Individuals Subject to Drug Testing: Any applicant/employee who would performs work and is employed by the Company. The person may be employed by the Company, be a contractor engaged by the Company, or be employed by such a contractor. Refer to Appendix B for specific employee titles subject to testing under this program.

2. Procedure for Notifying Employees: This anti-drug testing plan shall be included in the appropriate Company manual. Upon receipt of the Company's drug prevention plan, each manager shall post the plan in a prominent location that is readily accessible to all covered employees. All covered employees will be provided a complete copy of the drug prevention plan or a condensed/summarized version of the plan. This document must indicate where the entire plan may be obtained for review by an employee.

3. Substances for Which Testing Must Be Conducted: The Company shall test each employee who performs a function listed in Appendix B for evidence of the following substances:

Marijuana, Cocaine, Opiates, Phencyclidine, and Amphetamines

B. Drug Tests Required.

1. Pre-Employment Testing. A pre-employment drug test must be conducted before an individual is hired or contracted and when an individual is transferred/promoted from a non-covered to a covered position. This also applies to employees returning from a leave of absence who have not been participating in the drug prevention plan and subject to the random selection process. A negative test result is required prior to performing covered functions

2. Post-Accident Testing.

a. The Company shall promptly determine if the employee's performance contributed to the "accident" or cannot be completely discounted as a contributing factor to the accident. Each of these employees shall be drug tested as soon as possible but no later than 32 hours after the accident. The Company must take all reasonable steps to obtain a urine specimen from an employee after an accident, as defined above, but any injury should be treated first.

b. The following steps will be used to guide the supervisor to a satisfactory outcome in a post-accident situation.

(1) Verify the post-accident decision. Does the definition of accident in Section I apply to the current situation? Does the possibility exist that the employee's performance contributed to the accident or cannot be completely discounted as a contributing factor to the accident? Anonymous tips must
be taken seriously, but should not be the sole reason to initiate a request for a specimen. If witnesses saw a specific event or behavior, ask them to describe what they saw. How far away were they? Before proceeding

further, obtain approval from the division manager/department head or designee to proceed with post-accident testing.

(2) Isolate and inform the employee. Remove the employee from the covered position or work place. Explain that you have reason to believe their performance contributed to the accident or cannot be completely discounted as a contributing factor to the accident.

(3) Transport the employee. The potentially affected employee will not be allowed to proceed alone to or from the collection site. In addition to the safety concerns for the employee, accompanying the employee also assures that there is no opportunity en route to the collection site for the employee to ingest anything that could affect the test result or to acquire "clean" urine from another person.

(4) Document the events. Record the activity performed that supports the determination to conduct a post-accident test. This documentation of the employee's activity should be prepared and signed by the supervisor within 24 hours of the accident or before the results of the tests are released, whichever is earlier, if possible.

(5) Denial should be an expected reaction. If a person knows they will test positive, they may give many explanations and protestations, wanting to avoid drug testing. If they are not under the influence or affected by a prohibited drug, vehement denial also would be expected. Listen to the employee and carefully evaluate the employee's explanation. Remember, a request for urine specimen is not an accusation; it is merely a request for additional objective data. To the employee it may feel like an accusation; so it is important to stress that this is merely a request for additional data.

(6) Following collection. After returning from the collection site, the employee should not be allowed to perform covered functions pending the results of the drug test.

3. Random Testing.

a. The primary purposes of random testing are to deter prohibited drug use and to ensure a drug free workforce. DOT regulations require that covered employees shall be subject to drug testing on an unannounced and random basis.

b. The following is a discussion of the key aspects of the random testing selection process.

(1) Employees remain in the random selection pool at all times, regardless of whether or not they have been previously selected for testing.

(2) Employees shall be selected for testing by using a computer-based random number generator or equivalent random selection method that is matched with an employee's social security number or employee ID number.

(3) The process will be unannounced as well as random. Employees will be notified that they have been selected for testing after they have reported for duty on the day of collection.

(4) Employees will be selected for random testing based on the number of covered employees at the time and the necessary testing rate.

(5) Specimen collection will be conducted on different days of the week throughout the annual cycle to prevent employees from matching their drug use patterns to the schedule for collection.

c. Steps for random testing:

(1) The DPM (or designee), on a pre-determined date, shall use the random selection procedures to compile a list of covered employees selected for random testing during that testing cycle.

(2) The DPM (or designee) shall ensure that the list of social security numbers or employee identification numbers will identify the correct employees who are to be randomly tested during the testing cycle.

(3) It is the intent of this plan to notify employees of their selection for random testing after they have reported for duty.

(a) The list of employees to be tested will be provided to the appropriate division manager, department head, or supervisor.

(b) The list of employees selected will be retained by the DPM (or designee) in a secure location.

d. Notification of employees:

(1) The appropriate manager/supervisor will notify the employee to be tested to report to the manager/supervisor's office at a specified time.

(2) The employee will not be notified of the test until after reporting for duty.

(3) Employees shall report immediately to the collection site or to the collection site within 30 minutes, plus travel time, once notified by the appropriate Company official.

4. Reasonable Cause Testing. Reasonable cause testing is designed to provide management with a tool (in conjunction with supervisor training on the signs and symptoms of drug use) to identify drug affected employees who may pose a danger to themselves and others in their job performance. Employees may be at work in a condition that raises concern regarding their safety or productivity. Supervisors must then make a decision as to whether there is reasonable cause to believe an employee is using or has used a prohibited drug.

a. The decision to test must be based on a reasonable and articulate belief that the employee is using a prohibited drug on the basis of specific, contemporaneous physical, behavioral, or performance indicators of probable drug use. At least two of the employee's supervisors, one of whom is trained in detection of the possible symptoms of drug use, shall substantiate and concur in the decision to test an employee. The concurrence by both supervisors can be accomplished by phone, by discussions a few hours later, or by having another supervisor travel to the job site, if only one supervisor is available at that particular job site.

NOTE: For small companies with 50 or fewer employees subject to testing only one supervisor of the employee trained in detecting possible drug use symptoms shall substantiate the decision to test.

b. In making a determination of reasonable cause, the factors to be considered include, but are not limited to the following:

(1) Adequately documented pattern of unsatisfactory work performance, for which no apparent non-impairment related reason exists, or a change in an employee's prior pattern of work performance, especially where there is some evidence of drug related behavior on or off the work site.

(2) Physical signs and symptoms consistent with substance abuse.

(3) Evidence of illegal substance use, possession, sale, or delivery while on duty.

(4) Occurrence of a serious or potentially serious accident that may have been caused by human error, or flagrant violations of established safety, security, or other operational procedures.

NOTE: This information is presented as guidance in determining whether reasonable cause exists to require an employee to submit to a drug test.

c. The following steps will be used to guide the supervisor to a satisfactory outcome in a reasonable cause situation.

(1) Verify the reasonable cause decision. Anonymous tips must be taken seriously, but should not be the sole reason to initiate a request for a specimen. Hearsay is not an acceptable basis for reasonable cause referral. If witnesses saw a specific event or behavior, ask them to describe what they saw. How far away were they? How long did they observe the person? What, if anything, caused them to believe it was substance abuse related? On what basis did they reach their conclusion? Before proceeding further, obtain approval from the division manager/department head or designee to proceed with reasonable cause testing.

(2) Isolate and inform the employee. Remove the employee from the work location. Explain that there is reasonable cause to believe the employee's

performance is being affected by some substance. Ask the employee to explain the suspected behavior and to describe the events that took place from their perspective. Ask if there is any medication or physical condition that would explain the behavior. A persuasive explanation may or may not deter you from asking for a urine sample. If there is still a reasonable belief that drugs are a factor in the situation/incident, a request for testing should be made; if no reasonable belief is determined then no request for testing should not be made. If the decision to test is made, inform the employee that they are being requested to accompany the appropriate official to the specimen collection site to provide a urine specimen. Inform the employee of the consequences of refusal to submit to testing.

(3) Review your findings. During the conversation, observe physical and mental symptoms. Be sure to document any characteristics that either support or contradict initial information. In all cases, a reasonable cause decision must be made by two of the employee's supervisors. This creates greater objectivity, provides additional observation, and generally strengthens the defensibility of the reasonable cause determination.

(4) Transport the employee. The potentially affected employee should not be allowed to proceed alone to or from the collection site. In addition to the safety concerns for the employee, accompanying the employee also assures that there is no opportunity en route to the collection site for the employee to ingest anything that could affect the test result or to acquire "clean" urine from another person.

(5) Document the events. Record the behavioral signs and symptoms that support the determination to conduct a reasonable cause test. This documentation of the employee's conduct should be prepared and signed by the witnesses within 24 hours of the observed behavior or before the results of the tests are released, whichever is earlier.

(6) Denial should be an expected reaction. If a person knows they will test positive, they may give many explanations and protestations, wanting to avoid drug testing. If they are not under the influence or affected by a prohibited drug, vehement denial also would be expected. Listen to the employee and carefully evaluate the employee's explanation. Remember, a request to provide a urine specimen is not an accusation; it is merely a request for additional objective data. To the employee it may feel like an accusation; so it is important to stress that this is merely a request for additional data.

(7) Following collection.

After returning from the collection site, the employee shall not perform duties pending the receipt of the drug test results. The employee should make arrangements to be transported home. The employee should be instructed not to drive any motor vehicle due to the reasonable cause belief that they may be under the influence of a drug. If the employee insists on driving, the proper local enforcement authority should be notified that an employee who we believe may be under the influence of a drug is leaving the Company premises driving a motor vehicle.

5. Return-to-Duty Testing. An employee who refuses to take or fails a drug test may not return to duty until the employee passes a drug test and the Medical Review Officer (MRO) and the Company have determined that the employee may return to duty. An employee who returns to duty shall be subject to a reasonable program of follow-up drug testing, without prior notice, for up to 60 months after his or her return to duty.

NOTE: Return-to-Duty testing is not an option under this plan if the Company terminates an employee who has tested positive or refuses to test. A statement to this effect would appear under return-to-duty testing section of the plan.

SECTION III. USE OF EMPLOYEE WHO FAILS OR REFUSES A DRUG TEST

A. General. Compliance with this drug testing plan is a condition of employment. Refusal to take a required drug test or failure of a drug test shall result in removal from performing covered functions. Additional disciplinary action up to and including termination may result.

B. Prohibitions On Use. The Company shall not use, in a function covered by Part 199, anyone who:

1. Fails a drug test as verified by the MRO, or

2. Refuses to take a drug test required by this plan.

C. Options For Return-to-Duty. An employee will be given an opportunity to retain his or her employment, provided they first:

1. Have been recommended by the MRO for return to duty,

2. Pass a DOT drug test, and

3. Not failed a drug test required by Part 199 after returning to duty.

* 4. Enter into a Company approved evaluation/rehabilitation program and successfully completes the program.

***** **NOTE:** Rehabilitation is not mandated by DOT regulations and paragraph 4 is based on Company policy and procedures.

SECTION IV. SPECIMEN COLLECTION REQUIREMENTS

A. TREC has contracted with Riverfront Medical Services for the collection and testing of all drug screening.

SECTION V. DRUG TESTING LABORATORY

A. NIDA Laboratory.

1. The Company shall use a drug testing laboratory certified under DHHS Mandatory Guidelines for Federal Workplace Drug Testing Programs; 53 FR 11970, April 11, 1988 and subsequent amendments.

2. The laboratory shall provide services in accordance with Part 40 and Part 199. The name and address of each NIDA laboratory used by the Company is contained in Appendix A.

3. The laboratory shall permit inspections by the Company, the RSPA Administrator, or if the Company is subject to the jurisdiction of a state agency, a representative of the state agency.

SECTION IX. RETESTING OF SAMPLES

A. General. An employee/applicant may request in writing to the MRO a retest of the sample within 60 days of notification of a positive test result from the MRO.

B. Retest Provisions. The employee may specify that the specimen be retested by the original laboratory or sent to another certified laboratory. The employee may be required to pay in advance for the cost of the shipment and reanalysis of the sample. The employee will be reimbursed for the costs incurred in the reanalysis if the retest of the specimen is negative. If the employee requests a retest at a second laboratory, then the original laboratory must follow the approved custody and control procedures in transferring a portion of the specimen.

C. Detection Levels. Because some analytes deteriorate or are lost during freezing and/or storage, quantitation for a retest is not subject to a specific cutoff requirement but must provide data sufficient to confirm the presence of the drug or metabolite.

SECTION X. EMPLOYEE ASSISTANCE PROGRAM (EAP)

A. Scope of Program.

The EAP will provide education and training on drug use to all employees. The education shall include:

1. Informational material displayed on bulletin boards, employee break rooms, locker rooms, etc., and distributed to employees.

2. A community service hot-line telephone number for employee assistance displayed on bulletin boards and distributed to employees, and

3. Distribution of the TREC's policy regarding the use of prohibited drugs to all new employees. The policy shall be displayed in prominent places throughout the Company (i.e., employee bulletin board, break room, locker rooms).

SECTION XI. RECORDKEEPING PROCEDURES

A. General.

1. The DPM (or designee) shall maintain a locked file system which will contain drug test results. This file shall be maintained as Confidential. Employee files shall be handled on strict "need to know" basis.

2. Drug tests results shall not be included in personnel files. Information regarding an individual's drug testing result or rehabilitation may be released only upon written consent of the individual, except:

   a. Such information must be released regardless of consent to RSPA or other government agency as a part of an accident investigation;

   b. Such information may be disclosed regardless of consent in a lawsuit, grievance, or other proceeding initiated by or on behalf of the individual and arising from a verified positive drug test.

B. Statistical Data. Statistical data related to drug testing and rehabilitation that is non name-specified and training records may be released to RSPA or other governmental agency upon request.

C. Record Retention.

The records that must be maintained are:

1. Records that demonstrate the collection process conforms to § 40.25 shall be retained for a 3-year period.

2. Employee drug test results that show positive and test type (pre-employment test, random test, post-accident test, or post-rehabilitation test), and records that demonstrate rehabilitation (including the MRO's determination). These records shall be retained for a 5-year period and must include the following information:

   a. Job classification and functions of employee.

   b. Prohibited drug(s) used.

   c. Disposition of employee (i.e., rehab, suspension, termination, etc.)

3. Employee drug tests that demonstrate negative results shall be retained for a period of 1 year.

4. A record indicating the total number of employees tested and the results of tests separated into categories shall be retained for a 5-year period.

5. Training records confirming that supervisors and employees have been trained as required under § 199.19, and copies of training material used shall be retained for a 3-year period.

SECTION XII. CONTRACTOR MONITORING

A. General. The Company shall include a clause in contracts that drug testing, education and training shall be addressed by the contractor.

B. Records and Access. Contractors shall retain copies of appropriate records required by Part 199 and Part 40. The records and access to the contractor's property shall be readily accessible for inspection by the Company, RSPA, and representatives of those state agencies under which jurisdiction the Company operates.

C. Monitoring Procedures. Confirmation of contractor compliance - see Appendix E for Contractor Monitoring Procedures.

D. Contractor Coverage. The Company can, as an alternative to the above guidance, provide coverage for the contractor’s employees by including them in the Company's drug testing program and random pool for the duration of the contract.

Alcohol Prevention Plan (APP)

SECTION I. INTRODUCTION

A. Alcohol Misuse Prevention Policy.

1. TREC has a long standing commitment to maintain the highest standards for employee safety and health and to help prevent accidents/injuries resulting from the misuse of alcohol by employees who perform covered functions.

2. In addition, TREC must comply with all DOT regulations and other regulations which require affirmative actions to eliminate the impact of the misuse of alcohol in the workplace. The purpose of the Alcohol Prevention Plan is to reduce accidents that result from the misuse of alcohol, thereby reducing fatalities, injuries, and property damage.

3. The Alcohol Prevention Plan contained herein sets forth the requirements of 49 CFR Part 199 and 40.

4. **The use or possession of alcoholic beverages while on Company property, or in any company vehicle, or on company time, including breaks or lunch, paid or unpaid, on any shift, is strictly prohibited.**

5. **Those areas of the plan that appear in bold and underlined print reflect this company's independent authority to require additional provisions with regard to the alcohol testing procedures.**

B. Implementation of Alcohol Prevention Plan (APP).

1. The Company has implemented the Research and Special Programs Administration, Alcohol Regulations as set forth in 49 CFR Part 199, Subpart B and the Department of Transportation, Procedures for Transportation Workplace Alcohol Testing Programs as set forth in 49 CFR Part 40, Subpart C.

2. The privacy/confidentiality of any covered employee subject to this plan must be maintained at all times.

C. Background.

1. The catalyst for the alcohol misuse plan is Title 49 Code of Federal Regulations (CFR) Part 199 Subpart B which requires the Company subject to 49 CFR Parts 192, 193, and 195, and their contractors to test their employees for misuse of alcohol under the following work-related conditions:

a. Post-Accident

b. Reasonable Suspicion

c. Return-to-duty

d. Follow-up

2. Title 49 CFR Part 40 specifies procedures which must be followed by the Company when conducting alcohol misuse testing pursuant to regulations issued by agencies of the Department of Transportation.

D. Preemption Provisions.

1. Except as provided in paragraph 2 of this section, Part 199 Subpart B preempts any state or local law, rule, regulation, or order to the extent that:

a. Compliance with both the state or local requirement and this regulation is not possible;

b. Compliance with the state or local requirement is an obstacle to the accomplishment and execution of any requirement as set forth in 49 CFR Part 199, Subpart B; or

c. The state or local requirement is a safety standard applicable to interstate Company facilities.

2. This provision shall not be construed to preempt provisions of state criminal law that impose sanctions for reckless conduct leading to actual loss of life, injury, or damage to property, whether the provisions apply specifically to transportation employees or employers or to the general public.

E. Definitions. For purposes of this APP the following definitions apply:

1. Accident means a reportable incident as follows:

(1) Death of any person.

(2) Bodily harm to any person resulting in one or more of the following:

(a) Loss of consciousness.

(b) Necessity to carry the person from the scene.

(c) Necessity for medical treatment.

(d) Disability which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident.

(3) Estimated property damage, including cost of clean-up and recovery, value of lost product and damage to the property of the operator or others, or both, exceeding $1,000.

2. Air Blank means a reading by an evidential breath testing (EBT) device of ambient air containing no alcohol.

3. Alcohol means the intoxicating agent in beverage alcohol, ethyl alcohol or other low molecular weight alcohols including methyl or isopropyl alcohol.

4. Alcohol concentration means the alcohol in a volume of breath expressed in terms of grams of alcohol per 210 liters of breath as indicated by an evidential breath test conducted under the federal regulations.

5. Alcohol Use means the consumption of any beverage, mixture, or preparation, including any medication, containing alcohol.

6. Breath Alcohol Technician (BAT) means an individual who instructs and assists individuals in the alcohol testing process and operates an EBT.

7. Canceled or invalid test means a test that is deemed to be invalid as listed in Appendix C of the APP.

8. Confirmation Test means a second test following a screening test with a result of 0.02 or greater that provides quantitative data of alcohol concentration.

9. Covered employee means any person who performs work on Company premises and/or employed directly by the Company, or by a contractor engaged by the Company.

10. Covered Function (safety-sensitive function) means an operation, maintenance, or emergency-response function that is performed by Company personnel Company, or by a contractor engaged by the Company.

11. EBT (or evidential breath testing device) means an EBT approved by the National Highway Traffic Safety Administration (NHTSA) for the evidential testing of breath and placed on NHTSA's "Conforming Products List" (CPL) of evidential breath measurement devices.

12. Missed Tests means any test that is not administered within 8 hour time period. These tests must be reported to Safety and Health Manager.

13. Operator is defined as an owner or operator of a Company facility.

14. Performing (a covered function) is when a safety-sensitive function is being carried out by an employee. This would be considered any person who is actually carrying out the function, ready to carry out the function or immediately available to carry out the function.

15. Company means all parts of the physical facilities through which a product moves in transportation. This includes pipe, valves, and other appurtenances attached to pipe, compressor units, metering stations, delivery stations, holders, and fabricated assemblies.

16. Company Facilities means Company, rights-of-way, and any equipment, facility, or building used in the transportation of a product.

17. Prohibited Conduct means anyone who has an alcohol concentration of 0.04 or greater, who has used alcohol within 4 hours of reporting for duty and anyone who has used alcohol on-duty.

18. Refusal to Submit (to an alcohol test) means that a covered employee fails to provide an adequate breath for testing without a valid medical explanation after receiving notice of the

requirement to be tested in accordance with the provisions of 49 CFR Part 199 and the Company's Alcohol Prevention Plan or engages in conduct that clearly obstructs the testing process.

19. Screening test (or initial test) means an analytic procedure to determine whether an employee may have a prohibited concentration of alcohol in a breath specimen.

20. Screening Test Technician (STT) means an individual who has successfully completed an approved Department of Transportation non-evidential training course and who will conduct alcohol screening tests in accordance with Part 199 and 40.

21. State Agency means an agency of any of the several states, the District of Columbia, or Puerto Rico that participates under Chapter 601, 49 United States Code.

22. Substance Abuse Professional (SAP) means a licensed physician (Medical Doctor or Doctor of Osteopathy), or a licensed or certified psychologist, social worker, or employee assistance professional; or an addiction counselor (certified by the National Association of Alcoholism and Drug Abuse Counselors Certification Commission or by the International Certification Reciprocity Consortium/Alcohol & Other Drug Abuse). All must have knowledge of and clinical experience in the diagnosis and treatment of alcohol and controlled substances-related disorders.

F. TREC's Responsibilities.

1. Alcohol Program Manager (APM): Appendix A contains the name, address, and phone number of the responsible individual(s). The APM or other company designated individual shall be responsible for the preparation of an alcohol misuse plan which complies with requirements of the Department of Transportation regulations as set forth in 49 CFR Parts 199 Subpart B and 49 CFR Part 40 Subpart C. The APM shall be responsible for providing oversight and evaluation on the plan; providing guidance and counseling; reviewing of all discipline applied under this plan for consistency and conformance to human resources policies and procedures; scheduling for types of testing (return-to-duty, or follow-up, etc.); maintaining a locked file system on all alcohol test results; and overseeing the referral of employees for evaluation and treatment as it is defined in 49 CFR Part 199.243.

2. Supervisor(s): TREC individuals responsible for observing the performance and behavior of employees; observation/documentation of events suggestive of reasonable suspicion; and post-accident testing if determined that it is applicable.

3. Employees: The Company shall ensure that each employee is notified and aware of the provisions of the Company APP and is knowledgeable of the requirements of the Company's APP. Each employee must fully comply with the provisions of the plan.

SECTION II. EMPLOYEE/SUPERVISOR ALCOHOL TESTING PROVISIONS

Applicability.

A. Individuals Subject to Alcohol Testing – Any applicant/employee who performs work on Company property or on the Company's behalf, an operating, maintenance, or emergency response function regulated by Part 192, 193, or 195, is subject to alcohol testing under this program. This does not include clerical, truck driving, accounting, or other functions not subject

to Part 192, 193 or 195. The person may be employed by the operator, be a contractor engaged by the operator, or be employed by such a contractor. Refer to Appendix B for specific employee titles/ job classifications subject to testing under this program.

B. Procedures for Notifying Covered Employees – This APP shall be included in the appropriate company manual. Upon receipt of the Company's APP, each manager shall post the plan in a prominent location or indicate where a copy is readily accessible to all covered employees. All covered employees will be provided a complete copy of the APP or a condensed/summarized version of the plan. The condensed document must indicate where the entire plan may be obtained for review by an employee.

C. Criteria for Employee Notification –

1. General Criteria. The Company shall provide written educational materials explaining the alcohol misuse requirements and the Company's policies and procedures on how they will comply with those requirements.

   a. The Company will distribute to each covered employee a copy of the plan prior to the start of alcohol testing and to each person subsequently hired/transferred to perform covered functions.

   b. The Company shall provide written notice to representatives of employee organizations on the availability of this written educational information.

SECTION III. ALCOHOL TESTS REQUIRED

A. Post-Accident Testing.

1. TREC shall promptly determine and test each surviving covered employee for alcohol if that employee's performance contributed to the accident or cannot be completely discounted as a contributing factor to the accident. The decision not to administer an alcohol test under this section shall be based on the Company's determination, using the best available information at the time of the determination, that the employee's performance could have not have contributed to the accident.

2. Each employee shall be required to submit to an alcohol test within 2 hours of the accident. If a test is not administered within 2 hours, the Company will prepare and maintain on file a record stating why the test was not administered. If a test is not administered within 8 hours following the accident the Company shall cease all attempts to conduct an alcohol test and shall prepare and maintain on file written documentation indicating why the alcohol test was not conducted.

3. An employee who is subject to post-accident testing who fails to remain readily available for such testing, including notifying the Company or company representative of his/her location if he/she leaves the scene of the accident prior to submission to such test, may be deemed by the Company to have refused to submit to testing.

4. The employee must remain available for alcohol testing and may not consume any alcohol for 8 hours following the accident or until the alcohol test has been conducted. Notwithstanding the previous statement, employees should seek and obtain emergency medical care whenever necessary or a covered employee should not be prohibited from leaving the scene of an accident for the period necessary to obtain assistance in responding to the accident.

5. The following steps will be used to guide supervisor to a satisfactory outcome in a post-accident situation.

   a. Verify the post-accident decision. Does the definition of accident in Section I apply to the current situation? Does the possibility exist that the employee's performance contributed to the accident or cannot be completely discounted as a factor which contributed to the accident? Anonymous tips must be taken seriously, but should not be the sole reason to initiate a request for a specimen. If witnesses saw a specific event or behavior, ask them to describe what they saw. How far away were they? Before proceeding further, individual may need to obtain approval from the division manager/department head or designee to proceed with post-accident testing.

   b. Isolate and inform the employee. Remove the employee from the work area. Explain that you have reason to believe his/her performance contributed to the accident or cannot be completely discounted as a contributing factor to the accident and therefore, they will be required to submit to an alcohol test.

   c. Transport the employee. The potentially affected employee should not be allowed to proceed alone to or from the collection site (the collection site may be at the accident scene). In addition to the safety concerns for the employee, accompanying the employee also assures that there is no opportunity en route to the collection site for the employee to ingest anything that could affect the outcome of the alcohol test.

   d. Document the events. Record the activity performed that supports the determination to conduct a post-accident alcohol test. This documentation of the employee's activity should be prepared and signed by the supervisor and remain on file.

   e. Denial should be an expected reaction. If a person knows he/she will test positive, he/she may give many explanations and protestations, wanting to avoid submission to an alcohol test. If he/she is not under the influence of alcohol, vehement denial also would be expected. Listen to the employee and carefully evaluate the employee's explanation. Remember, a request for an alcohol test is not an accusation; it is merely a request for additional objective data.

   f. Following administration of alcohol test. After returning from the collection site, the employee should not be allowed to return to performing any covered functions if their alcohol test result is positive and if any disciplinary action is pending.

B. Reasonable Suspicion Testing. Reasonable suspicion testing is designed to provide management with a tool (in conjunction with supervisor training on the signs and symptoms of alcohol misuse) to identify alcohol affected employees who may pose a danger to themselves and others in their job performance. Employees may be at work in a condition that raises concern regarding their

safety or productivity. Supervisors must then make a decision as to whether there is reasonable suspicion to believe an employee is using or has used alcohol.

1. Supervisor Reasonable Suspicion Determinations:

    a. The Company's determination that reasonable suspicion exists to require a covered employee to undergo an alcohol test shall be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech, or body odors of the employee. The required observations shall be made by a supervisor who has received at least 60 minutes of training in detecting the symptoms of alcohol misuse.

    b. The supervisor's observation must be made just before, during, or just after the employee is performing a covered function.

    c. The supervisor who makes such a determination that reasonable suspicion exists shall not be authorized to conduct the breath alcohol test on that employee.

2. In making a determination of reasonable suspicion, the factors to be considered include, but are not limited to the following:

    a. Adequately documented pattern of unsatisfactory work performance, for which no apparent non-impairment related reason exists, or a change in an employee's prior pattern of work performance, especially where there is some evidence of alcohol related behavior on or off the work site.

    b. Physical signs and symptoms consistent with alcohol abuse.

    c. Evidence of prohibited alcohol use, possession, sale, or delivery while on duty.

    d. Occurrence of a serious or potentially serious accident that may have been caused by human error, or flagrant violations of established safety, security, or other operational procedures.

3. The following steps will be used to guide the supervisor to a satisfactory outcome in a reasonable suspicion situation.

    a. Verify the reasonable suspicion decision. Anonymous tips must be taken seriously, but should not be the sole reason to initiate a request for a specimen. Hearsay is not an acceptable basis for reasonable suspicion referral. If witnesses saw a specific event or behavior, ask them to describe what they saw. How far away were they? How long did they observe the person? What, if anything, caused them to believe it was alcohol related? On what basis did they reach their conclusion? Before proceeding further, obtain concurrence or approval from the manager/department head or designee to proceed with reasonable suspicion alcohol testing.

b. Isolate and inform the employee. Remove the employee from the work location. Explain that there is reasonable suspicion to believe the employee's performance is being affected by alcohol. Ask the employee to explain the suspected behavior and to describe the events that took place from his/her perspective. Ask if there is any medication or physical condition that would explain the behavior. A persuasive explanation may or may not deter you from asking for the employee to submit to an alcohol test. If there is still a reasonable suspicion that alcohol is a factor in the situation, a request for testing should be made; if no reasonable belief is determined then a request for testing should not be made. If the decision to test is made, inform the employee that they are being requested to accompany the appropriate company official or representative to the specimen collection site to conduct an alcohol test. Inform the employee of the consequences of refusal to submit to alcohol testing.

c. Review your findings. During the conversation, observe physical and mental symptoms. Be sure to document any characteristics that either support or contradict initial information. In all cases, a reasonable suspicion decision must be made by a supervisor who has received the required training. This creates greater objectivity, provides additional observation, and generally strengthens the defensibility of the reasonable suspicion determination.

d. Transport the employee. The potentially affected employee should not be allowed to proceed alone to or from the collection site. In addition to the safety concerns for the employee, accompanying the employee also assures that there is no opportunity en route to the collection site for the employee to ingest anything that could affect the alcohol test result.

e. Document the events. Record the behavioral signs and symptoms that support the determination to conduct a reasonable suspicion alcohol test. This documentation of the employee's conduct should be prepared and maintained on file to document the request for reasonable suspicion alcohol testing.

f. Denial should be an expected reaction. If a person knows he/she will test positive, he/she may give many explanations and protestations, wanting to avoid alcohol testing. If he/she is not under the influence or affected by alcohol, vehement denial also would be expected. Listen to the employee and carefully evaluate the employee's explanation. Remember, a request to submit to an alcohol test is not an accusation; it is merely a request for additional objective data.

g. Following administration of alcohol test. After returning from the collection site, the employee should not be allowed to return to performing any covered functions if their alcohol test result is positive. The employee should make arrangements to be transported home. The employee should be instructed not to drive any motor vehicle due to the reasonable suspicion belief that he/she may be under the influence of alcohol.

4. If a reasonable suspicion test is not administered within 2 hours following the determination, the Company shall prepare and maintain on file a record stating the reasons why the test was not promptly administered. If the required test is not administered within 8 hours of the determination, the Company shall cease all attempts to administer an alcohol test and shall state in the record the reasons for not administering the test. Upon request such records shall be made available to enforcement and/or government agencies.

5. The Company shall not permit a covered employee to report for duty or remain on duty requiring the performance of covered functions while the employee is under the influence of or impaired by alcohol, as shown by the behavioral, speech, or performance indicators of alcohol misuse, nor shall the employee be permitted to perform or continue to perform covered functions until:

   a. An alcohol test is administered and the employee's alcohol concentration measures less than 0.02; or

   b. The start of the employee's next regularly scheduled duty period, but not less than 8 hours following the determination that there is reasonable suspicion to believe that the employee has violated the prohibitions as contained in the APP.

6. Except as provided above, the Company shall not take any action under 49 CFR Part 199 against a covered employee based solely on the employee's behavior and appearance in the absence of an alcohol test. However, this does not prohibit the Company from taking any disciplinary action otherwise consistent with local and/or state laws.

C. Return-to-Duty Testing.

1. If the substance abuse professional makes a determination that some form of evaluation and/or treatment is required then the employee must comply with the recommended provisions in order to be considered eligible to return-to-duty.

2. The Company shall ensure that before an employee may return-to-duty to perform covered functions after engaging in prohibited conduct that the employee shall undergo a return-to-duty alcohol test with a result indicating an alcohol concentration of less than 0.02.

D. Follow-up Testing.

1. Following the determination that a covered employee is in need of assistance in resolving problems associated with alcohol misuse, the employee will be subject to unannounced follow-up alcohol testing as directed by a substance abuse professional. An employee who returns to duty shall be subject to a reasonable program of follow-up alcohol testing, without prior notice, for up to 60 months after his/her return to duty.

2. The employee shall be subject to at least six, unannounced alcohol follow-up tests during the first 12 months following his/her return to duty. The substance abuse professional may terminate the requirement for follow-up testing at any time after the initial six tests have been completed, if the substance abuse professional makes the determination that such testing is no longer warranted.

3. The Company may require a covered employee to submit to drug follow-up testing when the substance abuse professional has reason to suspect drug involvement. The drug testing must comply with the requirements contained in 49 CFR Part 40, Subpart A.

4. Follow-up testing shall be conducted just before the employee is to perform, while an employee is performing or just after the employee has ceased performing a covered function.

SECTION IV. ALCOHOL PROHIBITED CONDUCT

A. General. TREC shall provide guidance to all covered employees regarding the various types of alcohol prohibited conducts. A covered employee who engages in prohibited conduct shall be advised of available resources to evaluate and resolve problems associated with alcohol misuse.

B. Alcohol Concentration. A covered employee shall be prohibited from reporting for duty or remaining on duty requiring the performance of covered functions while having an alcohol concentration of 0.04 or greater. If a company representative has actual knowledge that a covered employee has an alcohol concentration of 0.04 or greater, the employee shall not be permitted to perform or continue to perform covered functions.

C. Pre-Duty Use. The Company shall prohibit a covered employee from using alcohol within 4 hours prior to performing covered functions, or, if an employee is called to duty to respond to an emergency, within the time period after the employee has been notified to report for duty. If the Company has actual knowledge that a covered employee has used alcohol within 4 hours prior to performing covered functions or within the time period after the employee has been notified to report for duty, the employee shall not be permitted to perform or continue to perform covered functions.

D. On-Duty Use. The Company shall prohibit a covered employee from using alcohol while performing covered functions. If a company representative has actual knowledge that a covered employee is using alcohol while performing covered functions, the employee shall not be permitted to perform or continue to perform covered functions.

SECTION V. USE OF EMPLOYEE WHO REFUSES ALCOHOL TEST

A. General. Refusal to submit to a post-accident, reasonable suspicion or follow-up alcohol test shall result in the covered employee not being allowed to perform or to continue to perform any covered functions.

SECTION VI. DISCIPLINARY ACTIONS

A. General. A covered employee who has engaged in prohibited conduct as described in §§ 199.215 through 199.223 (alcohol concentration, on-duty use, pre-duty use, use following an accident and refusal to submit to an alcohol test) shall not be permitted to perform covered functions or continue to perform covered functions.

B. Required Referrals and Evaluations.

1. No covered employee who has violated the rules on alcohol misuse or refuses to submit to testing can perform any covered function unless and until that employee has:

   a. Been evaluated by a SAP (Substance Abuse Professional) to determine whether the employee is in need of assistance in resolving problems related to alcohol use.

   b. Completed any treatment recommended by the SAP.

   c. Been evaluated by a SAP to ensure that the employee has properly followed the treatment program.

d. **Entered into a company approved evaluation/rehabilitation program and successfully completed the program**.

e. Undergone a return-to-duty alcohol test with resulting alcohol concentration of less than 0.02.

NOTE: Rehabilitation is not mandated by DOT regulations and the below is based on individual company policy. The Company may spell out the provisions for such evaluations/rehabilitation in the APP or may reference another company publication which would provide detailed information on its program.

C. Evaluation, treatment and rehabilitation may be provided by the operator, SAP under contract, or SAP not affiliated with the operator.

1. A SAP cannot refer an employee to that SAP's private practice, to a person or organization from which the SAP receives remuneration or in which the SAP has financial interests.

D. Levels of Disciplinary Actions. Disciplinary action as set forth below will be taken under each of the described circumstances.

1. **Refusal to report for assessment with a substance abuse professional. If an employee refuses to report for assessment, evaluation, and/or referral for treatment with a substance abuse professional, he/she will be terminated**.

2. **Refusal to enter or successfully complete a rehabilitation program. If an employee, after assessment, is referred for rehabilitation and the employee refuses to enter or successfully complete such a rehabilitation assessment program, he/she will be terminated**.

3. **Repeat usage. In all cases of an employee having an alcohol concentration of 0.04 or greater, and who has tested a second time, at alcohol concentrations 0.04 or greater, will be terminated**.

4. **Refusal to submit to an alcohol test. An employee who refuses to provide an adequate breath for alcohol testing without a valid medical explanation after he/she has received notice of the requirement to be tested in accordance with the requirements of the APP, or who engages in conduct that clearly obstructs the testing procedure, will be terminated from the Company**.

5. **On duty use of alcohol. On duty use or possession of alcohol on company time or on company premises will result in termination from the Company**.

6. **Results of an alcohol (confirmation) test indicating an alcohol concentration of 0.04 or greater. When an employee has tested for alcohol in a concentration of 0.04 or greater, the employee will be removed from performing a covered function and shall be suspended for 10 working days with pay and shall be referred to a substance abuse professional who shall determine what assistance, if any, the employee needs in resolving problems associated with alcohol misuse**.

7. **Results of an alcohol (confirmation) test indicate an alcohol concentration of 0.02 or greater, but less than 0.04. When an employee has tested for alcohol in a concentration of 0.02 or greater, but less than 0.04, that employee will be removed from performing a covered function and suspended without pay for the remainder of his/her shift**.

8. **Results of a second alcohol (confirmation) test (specify an allotted amount of time) indicate an alcohol concentration of 0.02 or greater, but less than 0.04. When an employee has an alcohol test conducted and the alcohol concentration is 0.02 or greater, but less than 0.04, on a second test, the employee will be removed from performing covered functions and shall be suspended for five working days without pay and referred to a substance abuse professional, and must follow all the recommendations of the assessment. Any subsequent test at 0.02 or greater will result in termination from the Company**.

9. **Results of a second alcohol (confirmation) test (specify an allotted amount of time) indicate alcohol concentration 0.02 or greater, but less than 0.04 after an alcohol test which had produced an alcohol concentration of 0.04 or greater. When an employee has an alcohol test conducted and the alcohol concentration is 0.02 or greater, but less than 0.04 after having had a prior alcohol concentration 0.04 or greater, then that employee will be removed from performing covered functions and shall be suspended for 20 working days and referred to the substance abuse professional and any subsequent alcohol concentration 0.02 or greater will result in immediate termination**.

SECTION VII. ALCOHOL TESTING REQUIREMENTS

TREC Environmental, Inc. has contracted with Riverfront Medical Services for the Alcohol Testing of all TREC employees.

A. Scope.

1. The alcohol testing procedures contained herein shall be complied with by the designated alcohol testing sites.

2. These procedures address the requirements contained in 49 CFR Part 40 Subpart C.

B. General.

1. The alcohol testing site shall have all necessary personnel, materials, equipment, facilities, and supervision to provide for the testing and processing of alcohol test results. An independent medical facility may also be utilized as an alcohol testing site provided the other applicable requirements of Appendix C are met.

2. An alcohol testing site shall be any suitable location where a breath alcohol test can be collected under conditions set forth in Appendix C, including a properly equipped mobile facility. A designated alcohol testing site shall provide for privacy during the testing period and completion of all necessary record procedures.

3. Detailed alcohol testing procedures are outlined in Appendix C.

SECTION X. DISCLOSURE OF ALCOHOL INFORMATION/RECORDS

A. General.

1. The Company shall maintain all alcohol related testing information including all test results and other appropriate records in a secure manner to prevent the disclosure of such information to unauthorized personnel.

2. The APM or designee shall maintain a locked file system which will contain the alcohol testing information and records. This file shall be maintained as confidential. Employee files shall be handled on strict "need to know" basis.

3. Alcohol test results shall not be included in personnel files.

B. Disclosure Provisions.

1. The Company shall not release covered employee information that is contained in records as required to be maintained by the provisions of the APP and in accordance with federal requirements except as required by law or when expressly authorized or required by 49 CFR Parts 199 and 40.

2. A covered employee is entitled, upon written request, to obtain copies of any records pertaining to the employee's use of alcohol, including any records pertaining to his/her alcohol tests. The Company shall promptly provide the requested records. Access to an employee's records shall not be contingent upon payment for records other than those specifically requested.

3. The Company shall permit access to all facilities utilized in complying with the requirements of 49 CFR Parts 199 and 40 to the Secretary of Transportation or any DOT or state agency with regulatory authority over the Company.

4. The Company shall make available copies of all results for alcohol testing and any other information pertaining to the administrative process of the operator’s APP as required by 49 CFR Parts 199 and 40 when requested by the Secretary of Transportation or any DOT or state agency with regulatory authority over the Company. When specified by the agency the information shall include name-specific alcohol test results, records, and reports.

5. When requested by the National Transportation Safety Board as part of an accident investigation, the Company shall disclose information related to its administration of any post-accident alcohol tests administered following the accident under investigation.

6. The Company shall make records available to a subsequent employer upon receipt of the written request from the covered employee. Disclosure by the subsequent regulated employer is permitted only as expressly authorized by the terms of the employee's written request.

7. The Company may disclose required information pertaining to a covered employee to the employee or the decision-maker in a lawsuit, grievance, or other proceeding initiated by or on behalf of the individual, and arising from the results of an alcohol test administered as required by the APP and the regulations set forth in 49 CFR Parts 199 and 40 or from The Company's determination that the covered employee engaged in prohibited alcohol

conduct including, but not limited to, a worker's compensation, unemployment compensation, or other proceeding relating to a benefit sought by the employee.

8. The Company shall release information regarding a covered employee's records as directed by the specific, written consent of the employee authorizing release of the information to an identified person. Release of such information by a regulated entity receiving the information is permitted only in accordance with the terms of the employee's consent.

SECTION XI. EMPLOYEE ASSISTANCE PROGRAM (EAP)

A. Scope of Program.

The EAP will provide education and training on alcohol misuse to all employees. The education shall include:

1. Informational material displayed on bulletin boards, employee break rooms, locker rooms, etc., and distributed to employees.

2. A community service hot-line telephone number for employee assistance displayed on bulletin boards and distributed to employees, and,

3. Distribution of the Company's policy regarding the alcohol misuse to all employees. The policy shall be displayed in prominent places throughout the Company (i.e., employee bulletin board, break room, locker rooms).

B. Supervisor Training.

1. Supervisory personnel responsible for those employees covered under Part 199 will receive training under the Alcohol Prevention Plan. The training shall include at least *one 60-minute period of training* on the specific, contemporaneous physical, behavioral, speech, and performance indicators of probable alcohol misuse. This training shall be for supervisors who may determine whether an employee must be alcohol tested for reasonable suspicion.

Injury and Illness Prevention Program (IIPP)

(Note: This is just an abbreviated IIPP Program. You should not rely on this as absolute or as legal advice)

Purpose:

It is the policy of the Company to maintain a safe and healthful work environment for each employee and to comply with all applicable occupational health and safety regulations. The Company's Injury and Illness Prevention Program (IIPP) is intended to establish a framework for identifying and correcting workplace hazards within the Company, while addressing legal requirements for a formal, written IIPP.

Responsibilities:

The Safety and Health Manager has primary authority and responsibility to ensure departmental implementation of the IIPP and to ensure the health and safety of the Company's employees. This is accomplished by communicating the Company's emphasis on health and safety, analyzing work procedures for hazard identification and correction, ensuring regular workplace inspections, providing health and safety training, and encouraging prompt employee reporting of health and safety concerns without fear of reprisal.

The Safety and Health Manager has responsibility for:

- Ensuring that the Safety Committee is aware of all accidents which have occurred, and all hazards which have been observed since the last meeting
    - Working with the Safety Committee and management to address facility-related safety concerns
    - Assisting in the coordination of required health and safety training
    - Maintaining copies of Safety Committee minutes and other safety-related records

The Safety and Health Manager may seek assistance from any member of the Company as necessary to meet these responsibilities.

The Safety Committee

The Safety Committee has the ongoing responsibility to maintain and update this IIPP, to assess TREC's compliance with applicable regulations and policies, to evaluate reports of unsafe conditions, and to coordinate any necessary corrective actions. The Safety Committee meets at least quarterly and will be composed of rank and file employees. Each employee has a designated representative on the committee. Currently, the Company's Safety Committee consists of: *(list the committee members and the committee chair)*

The Safety Committee membership rotates periodically.

Unsafe conditions that cannot be immediately corrected by an employee or his/her supervisor should be reported to the Safety and Health Manager or any Safety Committee member by filling out a "Report of Unsafe Condition or Hazard" form (IIPP Form 1).

Timely correction of workplace hazards will be tracked by the Safety Committee which will receive and review reports of unsafe conditions, workplace inspection reports, and injury reports. Specifically, the Safety Committee will:

- Review the results of periodic, scheduled workplace inspections to identify any needed safety procedures or programs and to track specific corrective actions
- Review supervisors' investigations of accidents and injuries to ensure that all causes have been identified and corrected
- Where appropriate, submit suggestions to department management for the prevention of future incidents
- Review alleged hazardous conditions brought to the attention of any committee member, determine necessary corrective actions, and assign responsible parties and correction deadlines
- When determined necessary by the Committee, the Committee may conduct its own investigation of accidents and/or alleged hazards to assist in establishing corrective actions
- Submit recommendations to assist department management in the evaluation of employee safety suggestions

The Safety Committee must prepare and make available to all employees written minutes of issues discussed at the meetings. The Committee meeting minutes must be documented on IIPP Form 2, "Safety Committee Meeting Documentation," or a similar form. These minutes are posted at *(convenient high traffic area)* and must be maintained on file for at least one year.

The Safety Committee can seek assistance in the remediation of a hazard from any source it deems necessary and prudent.

Supervisors

Employee Supervisors play a key role in the implementation of the Company's IIPP. They are responsible for:

- Communicating to their staff the Company's emphasis on health and safety
- Ensuring periodic, documented inspection of workspaces under their authority
- Promptly correcting identified hazards
- Modeling and enforcing safe and healthful work practices
- Providing appropriate safety training and personal protective equipment
- Implementing measures to eliminate or control workplace hazards

- Stopping any employee's work that poses an imminent hazard to either the employee or any other individual

- Encouraging employees to report health and safety issues to the Safety Committee without fear of reprisal

All Employees

It is the responsibility of all employees to comply with all applicable health and safety regulations, Company policies, and established work practices. This includes but is not limited to:

- Observing health and safety-related signs, posters, warning signals and directions

- Reviewing the building emergency plan and assembly area

- Learning about the potential hazards of assigned tasks and work areas

- Taking part in appropriate health and safety training

- Following all safe operating procedures and precautions

- Using proper personal protective equipment

- Warning coworkers about defective equipment and other hazards

- Reporting unsafe conditions immediately to a supervisor, and stopping work if an imminent hazard is presented

- Participating in workplace safety inspections

<u>Identifying Workplace Hazards:</u>

Generally, supervisors are responsible for identification and correction of hazards that their staff and/or students face and should ensure that work areas they exercise control over are inspected at least annually. Supervisors should check for safe work practices with each visit to the workplace and should provide immediate verbal feedback where hazards are observed.

The "Report of Unsafe Condition" Form 1 should be filled out when a referral is made to the Safety Committee as a result of a condition discovered during an inspection for which the responsible supervisor could not determine an immediate remedy. The "Report of Unsafe Condition" form can also be obtained *(convenient location)*, filled out and turned in *(convenient location)* anonymously.

Communicating Workplace Hazards:

Supervisors are responsible for communicating with all employees about safety and health issues in a form readily understandable by all employees. All Company personnel are encouraged to communicate safety concerns to their supervisor without fear of reprisal.
The Safety Committee is another resource for communication regarding health and safety issues for department employees. Each employee has a representative on the committee that will inform him or her of hazard corrections and committee activities. Additionally, Safety Committee minutes and other safety-related items are posted at *(convenient high traffic area).* Employees will also be informed about safety matters by e-mail, voice mail, and distribution of written memoranda. Occasionally, the Safety Committee may also sponsor seminars or speakers or coordinate other means to communicate with employees regarding health and safety matters.

Supervisors are responsible for ensuring that employees are supplied access to hazard information pertinent to their work assignments. Information concerning the health and safety hazards of tasks performed by Company employees is available from a number of sources. These sources include, but are not limited to, Material Safety Data Sheets (MSDSs, see next page), equipment operating manuals, the Company Safety and Health Manager, container labels and work area postings.

Material Safety Data Sheets

Material Safety Data Sheets (MSDSs) provide information on the potential hazards of products or chemicals. Hard copies of MSDSs for the chemicals used in the Company are available in *(a convenient location).* If an MSDS is found to be missing, a new one can be obtained by faxing a written request to the manufacturer. A copy of this request should be kept until the MSDS arrives.

Equipment Operating Manuals

All equipment is to be operated in accordance with the manufacturer's instructions, as specified in the equipment's operating manual. Copies of operating manuals should be kept with each piece of equipment in the department. Persons who are unfamiliar with the operation of a piece of equipment and its potential hazards must at least read the operating manual before using the equipment. Training should also be sought from an experienced operator or supervisor.

Correcting Workplace Hazards:

Hazards discovered either as a result of a scheduled periodic inspection or during normal operations must be corrected by the supervisor in control of the work area. Supervisors of affected employees are expected to correct unsafe conditions as quickly as possible after discovery of a hazard, based on the severity of the hazard.

Specific procedures that can be used to correct hazards include but are not limited to the following:

- Tagging unsafe equipment "Do Not Use Until Repaired," and providing a list of alternatives for employees to use until the item is repaired

- Stopping unsafe work practices and providing retraining on proper procedures before work resumes

- Reinforcing and explaining the need for proper personal protective equipment and ensuring its availability

- Barricading areas that have chemical spills or other hazards and reporting the hazardous conditions to a supervisor.

Supervisors should use the "Hazard Correction Report" (IIPP Form 4) to document corrective actions, including projected and actual completion dates. If necessary, supervisors can seek assistance in developing appropriate corrective actions by submitting a "Report of Unsafe Condition" to the Safety Committee. If the Safety Committee requires assistance from other resources these resources should be contacted immediately.

If an imminent hazard exists, work in the area should cease, and the appropriate supervisor must be contacted immediately. If the hazard cannot be immediately corrected without endangering employees or property, all personnel need to be removed from the area except those qualified and necessary to correct the condition. These qualified individuals will be equipped with necessary safeguards before addressing the situation.

Investigating Injuries and Illnesses:

Injury Reporting
Employees who are injured at work must report the injury immediately to their supervisor. If immediate medical treatment beyond first aid is needed, call 911. The injured party will be taken to the appropriate hospital or medical center.

The supervisor of the injured employee must work with the Company's Personnel Office to ensure that the "Employer's Report of Occupational Injury or Illness" and a "Workers' Compensation Claim Form" are completed properly and submitted to the Workers' Compensation Office.

If the injured employee saw a physician, the supervisor should obtain a medical release form before allowing the employee to return to work. The health care provider may stipulate work tasks that must be avoided or work conditions that must be altered before the employee resumes his or her full duties.

Injury Investigation
The employee's supervisor is responsible for performing an investigation to determine and correct the cause(s) of the incident. Specific procedures that can be used to investigate workplace accidents and hazardous substance exposures include:

- Interviewing injured personnel and witnesses
- Examining the injured employee's workstation for causative factors
- Reviewing established procedures to ensure they are adequate and were followed
- Reviewing training records of affected employees
- Determining all contributing causes to the accident
- Taking corrective actions to prevent the accident/exposure from reoccurring
- Recording all findings and actions taken

The supervisor's findings and corrective actions should be documented and presented to the Safety Committee using the "Occupational Accident, Injury or Illness Investigation Report" (IIPP Form 5). If the supervisor is unable to determine the cause(s) and appropriate corrective actions, other resources should be sought. Available resources include the Company's Safety Committee and Safety and Health Manager.

The Safety Committee will review each accident or injury report to ensure that the investigation was thorough and that all corrective actions are completed. Investigations and/or corrective actions that are found to be incomplete will be routed back to the supervisor for further follow-up, with specific recommendations noted by the committee. Corrective actions that are not implemented in a reasonable period of time will be brought to the attention of the Company President by the Company's Safety and Health Manager.

Employee Health and Safety Training:

Employee safety training is provided at no cost to the employee and is conducted during the employee's normal working hours on Company time. Safety training may be presented by a knowledgeable supervisor, other Company personnel, or by representatives from other relevant departments. Regardless of the instructor, all safety training must be documented using the "Safety Training Attendance Record" (IIPP Form 6). By law, this documentation must be retained by the department for at least one year.

Initial IIPP Training
When the IIPP is first implemented, all TREC personnel will be trained on the structure of the IIPP, including individual responsibilities under the program, and the availability of the written program. Training will also be provided on how to report unsafe conditions, how to access the Safety Committee, and where to obtain information on workplace safety and health issues.

Personnel hired after the initial training session will be oriented on this material as soon as possible by the Safety Coordinator or appropriate supervisor. These individual training sessions will be documented using IIPP Form 7, "New Employee Safety Training Record," or the equivalent. This document must also be kept by the department for at least one year.

Training on Specific Hazards
Supervisors are required to be trained on the hazards to which the employees under their immediate control may be exposed. This training aids a supervisor in understanding and enforcing proper protective measures.

All supervisors must ensure that the personnel they supervise receive appropriate training on the specific hazards of work they perform, and the proper precautions for protection against those hazards. Training is particularly important for new employees and whenever a new hazard is introduced into the workplace. Such hazards may include new equipment, hazardous materials, or procedures. Health and Safety training is also required when employees are given new job assignments on which they have not previously been trained and whenever a supervisor is made aware of a new or previously unrecognized hazard. Re-training shall be conducted annually, at minimum.

Specific topics which may be appropriate to Company personnel include but are not limited to the following:

- Fire prevention techniques and fire extinguisher use
- Obtaining emergency medical assistance and first aid
- Disaster preparedness and response, including building evacuation procedures
- Health and safety for computer users
- Back care, body mechanics, and proper lifting techniques

- Hazard communication, including training on MSDSs, chemical hazards and container labeling

- Proper housekeeping

- Chemical spill reporting procedures

Ensuring Compliance:

All TREC personnel have the responsibility for complying with safe and healthful work practices, including applicable regulations, Company policy, and Company safety procedures. Overall performance in maintenance of a safe and healthful work environment should be recognized by the supervisor and noted in performance evaluations. Employees will not be discriminated against for work-related injuries, and injuries will not be included in performance evaluations, unless the injuries were a result of an unsafe act on the part of the employee.

Standard progressive disciplinary measures in accordance with the applicable personnel policy or labor contract will result when employees fail to comply with applicable regulations, Company policy, and/or Company safety procedures. All personnel will be given instruction and an opportunity to correct unsafe behavior. Repeated failure to comply or willful and intentional non-compliance may result in disciplinary measures up to and including termination.

Recordkeeping:

Documents related to the IIPP are maintained in *(convenient, safe location for record keeping).* By law, certain documents related to the IIPP must kept by the department for at least one year. These records include:

- Records of scheduled and periodic workplace inspections, including the persons conducting the inspection, any identified unsafe conditions or work practices, and corrective actions (IIPP Form 3 or equivalent)

- Employee safety training records, including the names of all attendees and instructors, the training date, and material covered (IIPP Forms 6 and 7 or equivalent)

REPORT OF UNSAFE CONDITION OR HAZARD

I. Unsafe Condition or Hazard	
Name: (optional)	Job Description:
Location:	
Date and time the condition or hazard was observed:	
Description of unsafe condition or hazard:	
What changes would you recommend to correct the condition or hazard?	
Employee Signature: (optional)	
Date:	

II. Management Safety Committee Investigation
Name of person investigating unsafe condition or hazard:
Results of investigation (What was found? Was condition unsafe or a hazard?): (Attach additional sheets if necessary.)
Proposed action to be taken to correct hazard or unsafe condition: (Complete and attach a Hazard Correction Report IIPP Form 4)
Signature of Investigating Party:
Date:

Completed copies of this form should be routed to the appropriate supervisor and department Safety Committee, and must be maintained in department files for at least one year.

SAFETY COMMITTEE MEETING DOCUMENTATION

NOTE: This form, meeting minutes, or similar record must be completed for each Safety Committee meeting held.

Meeting Date:	Meeting Chair:
Title:	
Other Attendees:	
Attach any additional supporting documentation to this form.	

Issue Discussed:
Required Actions and Schedule:
Responsible Party:
Issue Discussed:
Required Actions and Schedule:
Responsible Party:
Issue Discussed:
Required Actions and Schedule:
Responsible Party:

Completed copies of this form must be maintained in Department files for at least one year.

IIPP - Form 2

Safety Inspection Report

Do you have an active safety and health program in operation that deals with general safety and health program elements as well as management of hazards specific to your work site?
Is one person clearly responsible for the overall activities of the safety and health program?
Do you have a safety committee or group made up of management and labor representatives that meets regularly and reports in writing on its activities?
Do you have a working procedure for handling in-house employee complaints regarding safety and health?
Are you keeping your employees advised of the successful effort and accomplishments you and/or your safety committee have made in assuring they will have a workplace that is safe and healthful?
Have you considered incentives for employees or workgroups who have excelled in reducing workplace injuries/illnesses?

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Are employers assessing the workplace to determine if hazards that require the use of personal protective equipment (for example, head, eye, face, hand, or foot protection) are present or are likely to be present?
If hazards or the likelihood of hazards are found, are employers selecting and having affected employees use properly fitted personal protective equipment suitable for protection from these hazards?
Has the employer been trained on ppe procedures that is, what ppe is necessary for a job task, when they need it, and how to properly adjust it?
Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?
Are approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns?
Are employees who need corrective lenses (glasses or contacts) in working environments having harmful exposures, required to wear only approved safety glasses, protective goggles, or use other medically approved precautionary procedures?
Are protective gloves, aprons, shields, or other means provided and required where employees could be cut or where there is reasonably anticipated exposure to corrosive liquids, chemicals, blood, or other potentially infectious materials?

Hazard Identification and Communication

The purpose of this notice is to inform you that TREC Environmental, Inc. is complying with the OSHA HAZARD COMMUNICATION STANDARD, TITLE 29 CODE OF FEDERAL REGULATIONS 1910.1200, by using MSDS's, by compiling a Hazards Chemicals List, by insuring that containers are labeled, and by providing each employee with training.

This program applies to all work operations in TREC Environmental, Inc. where the employee may be exposed to hazardous substances under normal working conditions or during emergency situations.

The Safety and Health Manager is the program coordinator, acting as the representative of TREC Environmental, Inc., who has overall responsibility for the program. The Safety and Health Manager will review and update the program as necessary

Under this program, each employee will be informed of the contents of the Hazard Communication Standard, the hazardous properties of chemicals which they will use, safe handling procedures, and measures to be taken to protect themselves from these chemicals. Employees will also be informed of the hazards associated with chemicals in unlabeled pipes.

List of Hazardous Chemicals

The Safety and Health Manager will make a list of all hazardous chemicals and related work practices used in TREC Environmental, Inc. and will update the list as necessary. This list of chemicals will be found at all locations TREC Environmental, Inc. conducts business. This list also identifies the corresponding Material Safety Data Sheet (MSDS) for each chemical. Any new hazardous chemicals received by TREC Environmental, Inc. will have an MSDS document available for inspection before any employee uses the chemical. A master list of these chemicals will be maintained by, and is available from the Safety and Health Manager. The **MSDS Master List** form may be used.

Material Safety Data Sheets (MSDS's)

MSDS's provide each employee with specific information on the chemicals used. The Safety and Health Manager will maintain a binder with an MSDS on every substance on the list of hazardous chemicals. TREC's Safety and Health Manager, will insure that each site maintains an MSDS for hazardous materials in that area and will be made readily available to any employee at every work site.

Material Safety Data Sheet
May be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements

U.S. Department of Labor
Occupational Safety and Health Administration

(Non-mandatory Form)
Form Approved OMB No. 1218-0072

Manufacturer's Name	Emergency Telephone Number
Address *(Number, Street, City, State, and ZIP Code)*	Telephone Number for Information
	Date Prepared
	Signature of Preparer *(optional)*

Section II – Hazardous Ingredients/Identity Information
Hazardous Components (Specific Chemical Identity; Common Name(s)) OSHA PEL ACGIH TLV Other Limits Recommended % (optional)

_____
_____
_____
_____
_____
_____
_____
_____

Section III –Physical/Chemical Characteristics

Boiling Point		Specific Gravity (H_2O = 1)	
Vapor Pressure (mm Hg.)		Melting Point	
Vapor Density (AIR = 1)		Evaporation Rate (Butyl Acetate = 1)	
Solubility in Water			
Appearance and Odor			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Extinguish Media			
Special Fire Fighting Procedures			
Unusual Fire Fighting Procedures			

Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable		
Incompatibility *(Materials to Avoid)*			
Hazardous Decomposition or Byproducts			

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will not Occur		

Section VI – Health Hazard Data

Route(s) of Entry: Inhalation? Skin? Ingestion?
Health Hazards (Acute and Chronic)
Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?
Signs and Symptoms of Exposure
Medical Conditions- Generally Aggravated by Exposure

Emergency and First Aid Procedures

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled
Waste Disposal Method
Precautions to be taken in Handling and Storing
Other Precautions

Section VIII – Control Measures

Respiratory Protection *(Specify Type)*		
Ventilation	Local Exhaust	Special
	Mechanical *(General)*	Other
Protective Gloves	Eye Protection	
Other Protective Clothing or Equipment		
Work/Hygienic Practices		

MSDS Master List			
Hazardous Chemical	**Where on Site**	**Date on Site**	**Date off Site**

MSDS Responsibility

The Safety and Health Manager is responsible for acquiring and updating MSDS's. The Safety and Health Manager will contact the chemical manufacturer or vendor if additional research is necessary or if an MSDS has not been supplied with an initial shipment. The attached form will be used to request hazardous information.

Labels and Other Forms of Warning

The Safety and Health Manager will insure that all hazardous chemicals in the work place are properly labeled and updated as necessary. Labels should list at least the chemical's identity, appropriate hazard warnings, and the name, and address of the manufacturer, importer, or other responsible party. The Safety and Health Manager will refer to the corresponding MSDS to assist each employee in verifying label information. Labels are required on portable containers.

Non-Routine Tasks

When employees are required to perform hazardous, non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), a special training session will be conducted to inform them of any hazards they may encounter, and the precautions to take to reduce and avoid exposure or danger.

Training

Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training on the Hazardous Communication Standard and the safe use of those hazardous chemicals by the Safety and Health Manager. Whenever a new chemical or hazard is introduced, additional training will be conducted to address the new hazard and protective measures to be taken.

The training plan will emphasize these components:

- Summary of the standard and this written program.
- Chemical and physical properties of hazardous materials (e.g., flash point, reactivity, etc.) and methods that can be used to detect the presence or release of chemicals (including chemicals in unlabeled pipes).
- Physical hazards of chemicals (e.g., potential for fire, explosion, etc.), health hazards, including signs and symptoms of exposure, associated with exposure to chemicals and any medical condition known to be aggravated by exposure to the chemical.

The training plan will emphasize these components (continued):

- Procedures to protect against hazards (e.g. personal protective equipment required, proper use and maintenance, work practices, methods to assure the proper use and handling techniques, and procedures for emergency response).
- Work procedures to follow to assure protection when cleaning hazardous chemical spills and leaks.
- Where MSDS's are located, how to read and interpret information on both labels and MSDS's and how employees may obtain additional hazard information.

Contractor Employees

The Safety and Health Manager will advise outside contractors in person of any chemical hazards that may be encountered in the normal course of their work on TREC Environmental, Inc. premises, the labeling system in use, the protective measures to be taken, and the safe handling procedures to be used. In addition, these individuals will be notified of the location of all MSDS's. Each contractor that brings chemicals onto TREC Environmental, Inc. premises must provide TREC Environmental, Inc. with the appropriate hazard information on these substances, including the labels used and the precautionary measures to be taken in working with these chemicals.

Identification of Workplace Hazards:

Periodic, scheduled inspections will occur as a routine part of TREC Environmental, Inc. business. The Safety and Health Manager will insure these inspections occur. The Safety Inspection Checklist (a copy of which is included in this plan) will be used for that purpose.

Employees who wish to remain anonymous may report unsafe conditions or hazards by submitting a Safety Suggestion Form to the Safety and Health Manager, or their immediate supervisor, without identifying themselves.

Employees must report immediately any unsafe condition or unsafe practice. No employee will be disciplined or discharged for reporting any workplace hazard or unsafe condition. Failure to report any obvious unsafe situation may result in disciplinary action, up to and including termination.
.

Material Safety Data Sheet Request Form

Please Print!

Company Name: _____

Date of Request: _____ **Phone:** _____

Street Address: _____ **FAX:** _____

City/ State / Zip: _____

Requestor's Name: _____

Product Description:

Full Label Name: _____

Manufacturer: _____

Vendor (if known): _____

Address: _____

_____
_____.

Telephone Number: _____

Container Size: _____

Other: _____

Safety Inspection Checklist

Inspected By: _____ Date: _____

(Mark N/A as appropriate)

1. WORK SITE INFORMATION:
   a. Posting OSHA and other work site warning posters _____
   b. Are Safety Meetings conducted periodically? When was the last meeting? _____
   c. First aid equipment properly stocked _____
   d. Are work site injury records being kept? _____
   e. Are emergency telephone numbers conspicuously posted? _____
   f. Is the EMERGENCY INFORMATION form posted? (Page 8) _____

Describe Violation – Location – Remedy Taken

_____

_____

_____

_____.

2. HOUSEKEEPING AND SANITATION: a. Are emergency lights fully operational? b. General neatness of working areas _____
_____
c. Regular disposal of waste and trash _____
d. Passageways and walkways clear _____
e. Waste containers provided and used _____
f. Sanitary facilities adequate and clean _____
g. Adequate supply of water _____
h. Adequate lighting _____
i. Trash receptacle for drinking cups _____
j. Are handrails and stair treads in good repair? _____
k. Is smoking restricted to certain locations? _____
l. Are electrical cords and plugs in good condition? _____
m. Is a clearance of 3' maintained around hot water heaters electric breaker panels, heating units, and fire sprinkler riser? _____
n. Are electric circuit breakers free of obstructions? _____

Describe Violation – Location – Remedy Taken

_____

_____

_____

_____

3. FIRE PREVENTION:

a. Fire instruction to personnel _____
b. Fire extinguishers identified, accessible, and fully charged _____
c. "No Smoking" signs posted and enforced where needed _____
d. Good housekeeping _____
e. Storage, use and handling of flammable liquids properly done _____
f. Fire hazards checked _____
g. Is gasoline contained only in UL listed containers? _____

Describe Violation – Location – Remedy Taken

_____

_____.

4. HANDLING AND STORAGE OF MATERIALS:
   a. Are materials properly stored and stacked? _____
   b. Are passageways clear? _____
   c. Shelves in stockrooms in good repair and properly anchored _____
   d. Stacks on firm footing, not too high _____
   e. Are employees lifting loads correctly? _____
   f. Are materials protected from weather conditions? _____
   g. Flammable liquids not stored in areas used for exits or stairways _____

Describe Violation – Location – Remedy Taken

_____.

5. HAND TOOLS:
   a. Proper tool being used for each job _____
   b. Neat storage, safe carrying _____
   c. Inspection and maintenance _____
   d. Electric tools are grounded _____

Describe Violation – Location – Remedy Taken

_____.

6. PERSONAL PROTECTIVE EQUIPMENT:
   a. Eye protection _____
   b. Respirators and masks _____
   c. Helmets, hoods, head protection _____
   d. Gloves, aprons, sleeves _____
   e. Hearing protection _____
   f. Safety harnesses and lifelines _____
   g. Shirts are to be worn _____
   h. Back support belts _____

Describe Violation – Location – Remedy Taken

_____.

7. HAZARDOUS MATERIALS:
   a. Is a binder containing MSDS for supplies containing hazardous chemicals available to employees before using? _____
   b. Are "Material Safety Data Sheets are Available on Request" signs posted in conspicuous locations? _____
   c. Is the hazardous waste inventory log maintained? _____
   d. Are hazardous waste storage areas inspected weekly? _____
   e. Is the hazardous material dispositioning log maintained? _____
   f. All containers clearly identified _____
   g. Proper storage practices observed _____
   h. Proper storage temperatures and protection _____
   i. Proper type and number of extinguishers nearby _____

Describe Violation – Location – Remedy Taken

_____
_____
_____
_____.

Unsafe acts and/or practices observed

_____
_____
_____
_____

EMERGENCY INFORMATION

FIRE:

Telephone Fire Department: _____

Nearest Alarm Box: _____

Crime:

Telephone Police: _____

Injury/Illness:

Avoid infection of minor injuries; always get medical attention or skilled first aid

Employees who are First Aid and/or CPR Certified

_____ _____

_____ _____

Doctor _____

Office _____ **Phone** _____

Residence _____ **Phone** _____

Hospital _____

Address _____ **Phone** _____

Ambulance _____

Address _____ **Phone** _____

In all cases of Fire, Crime, Accident, or Sickness, promptly notify:

1. Name _____ **Office Phone** _____

Home Phone _____

2. Name _____ **Office Phone** _____

Home Phone _____

Additional Numbers: _____ _____

(Alarm Company., Office Phone, etc.)

_____

_____

Employee Safety

Handbook

Safety Handbook Acknowledgement

Name

Date of Hire

Signature **Date**

(Remove and retain this sheet in the Employee's Personnel File)

Employee Safety Handbook

TREC Environmental, Inc. provides an additional Employee Handbook. A copy will be provided, and each employee will sign an acknowledgment upon the receipt of the Hand Book. This book will provide additional safety information on the various procedures implemented at TREC.

At TREC, our most valued resources are our employees, our customers, and the communities we serve. We are dedicated to providing a safe and healthful environment for employees and customers, protecting the public, and preserving TREC Environmental, Inc. properties and assets. Injuries can be prevented. In order to achieve an accident free workplace, an organized and effective Safety Program must be carried out companywide to make this policy work.

The Safety and Health Program will assist management and employees in controlling hazards which will minimize employee and customer injuries, damage to customer's property and damage to TREC Environmental, Inc. property.

All employees will follow this program

Please take the time to study and understand these safety policies and procedures. It is your responsibility (and ours) to make this program work. You are a valued member of the team, and we care about your safety.

Safety and Health Requirements

All employees will comply with the provisions of the OSHA Health Act of 1970. Therefore, any employee who, knowingly commits an unsafe act or creates an unsafe condition, disregards the safety policy, or is a repeated safety or health offender, will be discharged. Grounds for immediate discharge are:

16) Drinking alcohol, and/or drug abuse prior to or during working hours
17) Fighting
18) Theft
19) Willful damage to property
20) Failure to wear eye protection, hearing protection, safety helmets, etc.
21) Not using safety harness and lanyards when there is a potential for falling
22) Removing and/or making inoperative safety guards on tools and equipment
23) Removing barriers and/or guardrails and not replacing them
24) Failure to follow recognized industry practices
25) Engaging in dangerous horseplay
26) Failure to notify TREC Environmental, Inc. of a hazardous situation

The following safety and accident activities will be adhered to:

1) Report all injuries immediately to your supervisor
2) Notify your supervisor should you become ill while on the job
3) Inform you supervisor if you have a disability or physical handicap
4) Never move an injured or ill person, unless to prevent further injury

Minor safety violations will be documented and a copy of the below form will become part of the employee's personnel record:

Safety Hazard Citation **Date:** _____

Name of Violator: _____

Location of Violation: _____

Type of Violation: _____

_____

_____

Violator's Signature: _____

Accident and Incident Reporting

It is important that you report all accidents and incidents that result in injury, illness, or damage (however slight), to your supervisor immediately. TREC Environmental, Inc. can learn how to prevent them from occurring in the future. It is TREC Environmental, Inc. responsibility to investigate each incident, and your responsibility to report them when they occur.

First Aid and Medical Treatment

TREC Environmental, Inc. provides a First Aid Kit on the premises. It is there for your use in the treatment of minor scratches, burns, headaches, nausea, etc. Ask your supervisor to show you its location. Let your supervisor know if you need to use the First Aid Kit.

If you have a work related injury or illnesses that requires professional medical assistance notify your supervisor and let him/her know before you receive this assistance. If you fail to notify your supervisor, you may be ineligible for Worker's Compensation, benefits to pay for doctor's bills, and/or lost wages.

FIRST AID PROCEDURES AND INSTRUCTIONS

In all cases requiring emergency medical treatment, immediately call, or have a co-worker call, to request emergency medical assistance.

EMERGENCY PHONE NUMBERS

Safety and Health Manager: _____ Poison Control: _____ First Aid: _____ Fire Department: _____ Ambulance: Police: _____ Medical Clinic: _____

Clinic Address: _____

Minor First Aid Treatment

First aid kits are stored in the _____ . If you sustain an injury or are involved in an accident requiring minor first aid treatment:

- Inform your supervisor.
- Administer first aid treatment to the injury or wound.
- If a first aid kit is used, indicate usage on the accident investigation report.
- Access to a first aid kit is not intended to be a substitute for medical attention.
- Provide details for the completion of the accident investigation report.

Non-Emergency Medical Treatment

For non-emergency work-related injuries requiring professional medical assistance, management must first authorize treatment. If you sustain an injury requiring treatment other than first aid:

- Inform your supervisor.
- Proceed to the posted medical facility. Your supervisor will assist with transportation, if necessary.

- Provide details for the completion of the accident investigation report.

Emergency Medical Treatment

If you sustain a severe injury requiring emergency treatment:

- Call for help and seek assistance from a co-worker.
- Use the emergency telephone numbers and instructions posted next to the telephone in your work area to request assistance and transportation to the local hospital emergency room.
- Provide details for the completion of the accident investigation report.

Workers' Compensation

Every state has a Workers' Compensation Law to provide benefits to employees for lost wages and medical bills resulting from a work related injury or illness. You are covered under Workers' Compensation. You may request Workers' Compensation benefits from your supervisor. Qualification for benefits is determined by the state, not TREC Environmental, Inc. Your responsibilities are to keep appointments, follow all doctors' instructions on and off the job, maintain good communication with your supervisor, and to fully cooperate with all instructions you are given.

Doesn't it make sense to be safe so that you don't have to be out on Workers' Compensation?

Your Safety Rights

You have several important rights concerning safety, which are protected by federal, state and local laws that you should be aware of. They are:

- The right to a safe work-place free from recognized hazards

- The right to request information on safety and health hazards in the workplace, precautions that may be taken, and procedures to be followed if an employee is injured or exposed to toxic substances.

- The right to know about the hazards associated with the chemicals you work with, and the safety procedures you need to follow to protect yourself from those hazards.

- The right to question any instruction which requires you to disobey a safety rule, which puts you or someone else in unnecessary danger of serious injury, or requires you to perform a task which you have not been trained to safely perform.

- The right of freedom from retaliation for demanding your safety rights.

Your Safety Responsibilities

You also have some important responsibilities concerning safety. These are:

- The responsibility of reporting all injuries and illnesses to your supervisor, no matter how small.

- The responsibility of always following the safety rules for every task you perform,

- The responsibility of reporting any hazards you see.
- The responsibility of helping your co-workers recognize unsafe actions or conditions they cause.
- The responsibility of asking about the safety rules you are not sure about.

Employee Safety Rules

It is impossible to list or include all safety rules for all the possible tasks you may have to do. But the following rules have been prepared to help you avoid hazards, which may cause injury while doing some of the more common tasks you may be asked to do. You should study and follow the rules provided in this booklet, and to ask your supervisor for additional rules when asked to do a task you are not familiar with, and this booklet does not cover. Failure to follow safety rules and /or safe practices will result in disciplinary action, up to and including termination.

GENERAL SAFETY RULES:

- Read and follow the safety notices and other information that is posted.
- Observe and follow all safety instructions, signs, and operation procedures.
- Help your fellow employees when they ask for assistance or when needed for their safety.
- Never participate in "horseplay". Horseplay that results in injury is often not covered by Workers' Compensation.
- Clean up spills immediately.
- Report all unsafe conditions, hazards, or equipment immediately. Make sure other people are warned of the problem so that they may avoid it.
- Wear personal protective equipment as required to reduce injury potential. Use gloves, safety glasses, back support belts, etc., as necessary.
- Never stand on chairs, furniture, or anything other than an approved ladder or step stool.
- Never use intoxicating beverages or controlled drugs before or during work. Prescription medication should only be used at work with your Doctor's approval.

FIRE SAFETY:

- Report all fire hazards to your supervisor immediately.
- Firefighting equipment shall be used only for firefighting purposes.
- Smoking is not permitted at any time in the areas where "No Smoking" signs are posted.
- Do not block off access to firefighting equipment.
- Keep doors, aisles, fire escapes and stairways completely unobstructed at all times.

- In the case of a fire, your first consideration must be the safety of all persons, then attention should be directed to the protection of property.

- Change clothes immediately if they are soaked with oil, gasoline, paint thinner or any other flammable liquid.

- Know how to report a fire and how to turn on a fire alarm.

- Know the location of all fire extinguishers, and how to use them.

- Know the fire exits to be used in an emergency.

HAND TOOL SAFETY:

- Wear protective equipment necessary for the job you are performing. Discuss any required safety equipment with your supervisor as changes occur.

- Defective tools must not be used.

- Do not carry sharp hand tools in clothing.

- Check all wiring on electric hand tools for proper insulation and 3-prong plug grounding.

- **Hammers:** Use eye protection at all times!

- **Screwdrivers:** Use the right size and type of screwdriver for the job. Do not use a screwdriver as a chisel.

- **Wrenches:** In using any wrench, it is better to pull than to push. If you have to push, use your open palm. Use the proper wrench for the job.

- **Handsaws:** Saws that are sharp and rust free are less likely to bind or jump. Insure the object being cut is secured tightly to a flat surface.

PROTECTIVE EQUIPMENT:

- Approved eye protection (safety glasses with side shields, goggles, etc.) must be worn at all times when assigned any certain job classifications. It is important to check with your supervisor to assure compliance.

- Moccasins and shoes with open toes are not permitted.

- Wear protective clothing and equipment as required by your job classification to protect against hazards at hand. These include, but are not limited to, hard hats, steel toed shoes, gloves, fall safety harnesses, ear plugs, etc.

MATERIAL HANDLING SAFETY RULES:

- When lifting, lift properly. Keep the back straight, stand close to the load, and use your leg muscles to do the lifting, keeping the load close to the body. Never twist your upper body while carrying a load.

- When lifting heavy objects, utilize a two-wheeled dolly, or, ask for assistance from another employee.

- Inspect the object you are going to lift for sharp corners, nails, black widow spiders, or other things that may cause injury.

- Use gloves when handling rough or sharp materials.

HOUSEKEEPING:

- Do not place materials in aisles, stairways, or any designated path of travel.

- Stack material at a safe height so that material will not fall if bumped. Insure heavy loads have proper support, and make sure there is no overhanging or irregular stacking of material.

- Place all trash or scrap in places provided. Clean up all spills immediately.

- Report worn or broken flooring, stair treads, handrails, furniture, or other office equipment.

- Smoking is permitted only in designated areas. Use ashtrays for disposing of butts. Do not throw butts on the floor.

Personal Protective Equipment

Purpose:
To establish the policy for employees to wear and use Personal Protective Equipment in the proper fashion, including training and all appropriate re-training on the proper use of each piece of PPE. To monitor and ensure all training is up-to-date, recordkeeping of all training will be kept and reviewed on a regular basis.

Policy:

TREC Environmental, Inc. is dedicated to providing a safe and healthy workplace. All employees are expected to do their part to achieve this goal. Employees can do their part by using the proper Personal Protective Equipment (PPE) provided to them (employee-owned PPE is not allowed).

Prior to each job or type of work activity, the company's Health & Safety Officer will conduct a review of potential hazards and assign the appropriate PPE in the correct size for each individual. All PPE will be properly functioning, and any malfunctioning PPE will be discarded.

Personal Protective Equipment will be provided, used and maintained in a sanitary and reliable condition wherever it is necessary to prevent injury. Personal Protective Equipment requirements include, but are not necessarily limited to the items below:

Protective Headwear:

Where there is the exposure of overhead danger from falling objects or from electric shock or burns, protective headwear must be worn. Protective headwear is an approved hard hat that meets the requirements of the American National Standards Institute (ANSI Z889.1-1969).

Protective headwear will be issued to the required employees. Employees are responsible for using their hard hats while working. Also, employees must notify their supervisor about a damaged or lost hardhat immediately.

Protective Eyewear:

Protective eyewear is required. Protective eyewear is an approved safety eye protector or safety goggle, which meets the standards of the American National Standards Institute (ANSI Z87.1-1968). Protective eyewear will be issued to the required employees.

Disposable Dust Masks:

When there is the potential of exposure to airborne nuisance dust or particles, disposable dust masks should be worn.

Protective Gloves:

When there is an exposure to the hands, protective gloves are required. Protective gloves are

construction type work gloves and chemical resistive gloves.

Construction type work gloves are required for, but not limited to, employees that have an opportunity of cutting, pinching, hitting, or burning their hands.

Chemical resistive gloves are required for, but not limited to, employees that have an opportunity of spilling hazardous chemicals or corrosive material onto their hands.

Lock Out / Tag Out Program

Purpose:

This policy and procedure establishes the minimum requirements for TREC Environmental, Inc. Lock-Out / Tag-Out Program. It governs lock out and/or tag out procedures to be used to verify that equipment or machines are isolated from all potentially hazardous energy. Machinery is to be locked out or tagged out before employees perform any servicing or maintenance activities where the unexpected energizing, start up or release of stored energy could cause injury.

Policy:

Procedures described apply to all electrical equipment and machinery connected to an energy source by either hard wire or other permanent connection (hydraulic lines, electrical, etc.) that is repaired, serviced, or maintained by TREC Environmental, Inc. personnel. The Lock Out /Tag Out Program applies to all equipment or machinery operated by mechanical, hydraulic, pneumatic, chemical, thermal, or other energy resources where the unexpected energizing could cause injury to employees or customers.

Circuit breakers disconnect switches, and other energy isolating devices used to control the flow of energy to the machine/equipment must be operated in such a manner as to shut off or "isolate" all energy to the machine.

Definitions:

Energy Source- Any source of electrical, mechanical, hydraulic, chemical, thermal, or any other energy source.

Energized- Connected to an energy source or containing residual or stored energy.

Energy Isolating Device- A mechanical device that physically prevents the transmission or release of energy (for example, circuit breaker, disconnect switch, slide gate, line valve, etc.)

Lock out- Placing a lock out device on an energy isolating device to shut down its flow of energy.

Lock out device- A device such as a lock, either combination or key type, to hold an energy isolating device in the "safe" position and prevent energizing of a machine or equipment.

Tag out- Placing a tag or sign on an energy isolating device indicating that the equipment shall not be operated until the tag out sign is

removed.

Tag out device- A prominent warning device or sign that can be attached to the energy isolating device. Tags will state the following:

"DANGER-DO NOT OPERATE"

Initial Training:

Employees involved in the use of this Lock Out / Tag Out Program must receive training in the requirements of this program upon initial assignment. The Safety and Health Manager is responsible for verifying that training is completed as required by this program.

Authorized employees will be trained in the recognition of hazardous energy sources present at the location they work, the type and magnitude of the energy available in the workplace, and the methods/means needed for energy isolation and control.

Employees must be trained to recognize when the Lock Out / Tag Out Program is being implemented and understand the purpose of the procedure and the importance of not attempting to start up or use machinery or equipment that has been locked or tagged out.

When tags are used, employees must be specifically instructed in the following limitations of tags:

- Tags are warning devices: they do not provide physical restraint that a lock out does.
- When a tag or lock is attached, it is not to be removed by anyone without authorization from the employee who placed it on the machine or equipment. They are never to be bypassed, ignored, or defaced.
- Tags must be legible and understandable to be effective.
- Tags and locks, and their means of attachment must be made of material that will withstand the working environment where the tags will be used.
- Tags and locks must be attached securely so they cannot inadvertently be detached during use.
- Tags evoke a false sense of security. They are only part of the entire Lock Out / Tag Out Program.

Group Lock-Out/Tag-Out Procedures:

- Primary responsibility is vested in an authorized employee for a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock);
- Authorized employee to ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment;
- When more than one crew, craft, department, etc. is involved, the authorized employee will have

overall job-associated lockout or tagout control responsibility to coordinate affected work forces and ensure continuity of protection; and

- Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

Lock Out / Tag Out Program
Inspection Form

This form will be used when inspecting the Tag Out/ Lock Out Procedure

Inspector's Name _____ **Date** _____

MACHINERY / EQUIPMENT INSPECTED	**COMMENTS**
1. _____	_____.
2. _____	_____.
3. _____	_____.
4. _____	_____.
5. _____	_____.
6. _____	_____.
7. _____	_____.
8. _____	_____.
9. _____	_____.
10. _____	_____.

I hereby certify that I have inspected the Lock Out/Tag Out procedure for the above listed equipment, have interviewed operators of such equipment and determined that compliance with TREC Environmental, Inc. Lock Out/Tag Out procedure is satisfactory.

_____ _____
Inspectors Signature Date

Lock and Tag Check Out / Check In Log

Date	Lock# Tag#	Employee	Equipment to be Locked or Tagged Out	Checkout Time	Check In Time

Hazard Prevention and Control

TREC Environmental, Inc. shall undertake efforts as outlined in this section to correct or control potential hazards in a timely manner.

TREC Environmental, Inc. will implement methods to eliminate the hazard, and will implement procedures for safe work. Safe work will be done through training, correction of unsafe performance, and compliance through the disciplinary system.

Identified Safety and Health Concerns:

All identified potential workplace safety and health hazards should be reported to the Safety and Health Manager, or a member of management. Situations that are unsafe, or posing as a safety and health hazard, will be reviewed and reported to management for corrective action.

Newly Identified Safety and Health Concerns:

Anytime a new substance, procedure, equipment, or process is introduced into the workplace, which creates or is reported to create an unsafe condition or situation, the Safety and Health Manager will evaluate the substance, procedure, equipment, or process. Employees will have an opportunity to submit their recommendations and suggestions regarding new workplace hazards at any time.

Hazards Which Create a Risk of Imminent Harm:

When a hazard exists which TREC Environmental, Inc. cannot control or abate immediately without endangering employees and /or property, all exposed personnel will be removed from the immediate area of potential exposure, except those employees that are necessary to correct the hazardous condition. All employees involved in correcting the hazardous situation will receive appropriate training and/or instruction in how to do so. They will also be provided with the appropriate personal protective equipment.

Hazards Which Do Not Create a Risk of Imminent Harm:

Unless there are factors beyond TREC Environmental, Inc. reasonable control, such hazards are to be abated within 5 days or less.

Housekeeping:

Good housekeeping is an integral part of any effective safety program. Keeping work areas neat and clean reduces the potential for accidents and injuries. Each employee is responsible for keeping his or her work area neat, orderly, and free of any hazardous condition.

Emergency Action Plan

Purpose:

To establish the policy and procedures regarding management's and employee's response to various emergency situations. Examples of an emergency are fire, tornado, earthquake, and bomb threat.

Overview:

The procedures cover the following topics:

1. **Fire Reporting and Response**
2. **Evacuation**
3. **Severe Weather**
4. **First Aid**
5. **Hazardous Material Spill**

Policy:

TREC Environmental, Inc. has developed plans that address emergency situations that may arise in TREC Environmental, Inc. locations and which may threaten human health and safety, and damages TREC Environmental, Inc. assets. Management is responsible for implementing the Emergency Action Plans. These Emergency Action Plans will meet the following objectives:

1. Provide a means of notifying employees, customers and local authorities of an emergency situation.
2. Provide for a safe and orderly method of evacuation of employees and customers from TREC Environmental, Inc. premises.
3. Account for all employees who occupied TREC Environmental, Inc. premises at the time of evacuation, should one occur.
4. Provide emergency first aid treatment or summon emergency medical assistance for injured individuals.
5. Provide training and needed information to those employees responsible for taking action in the event of an emergency.

Signs as required by ordinance, regulation, or law will identify emergency exits. Employees are required to be familiar with the location(s) of alarm pull stations and emergency exits.

Training on Emergency Action Plans will take place during new employee orientation, when changes occur in the action plans, and periodically as coordinated by the Safety and Health Manager.

Smoking is never allowed anywhere on TREC Environmental, Inc. premises during an emergency

If hazardous materials are involved, disposal must be done in compliance with federal, state, and local environmental laws.

Procedure:

I. Fire Reporting and Procedure:

If a fire alarm or alert is sounded or a fire is reported by an employee, regardless of the reason for the alarm or the severity of the fire, the following action must be taken immediately:

Senior Management

1. Immediately notifies the Fire Department by dialing 911 (where applicable) or the local fire emergency number: _____ .

2. Gives TREC Environmental, Inc. name, address, and area where the fire is located.

3. Assigns an employee to wait for the fire department outside TREC Environmental, Inc. and direct them to the fire's location.

4. Announces evacuation instructions over the public address system. "Ladies and Gentlemen. TREC Environmental, Inc. is being temporarily closed. We request that you leave by the nearest exit immediately. Thank you."

5. Once outside TREC Environmental, Inc., takes a head count of employees to insure all were safely evacuated. Double checks that all individuals are out of TREC Environmental, Inc. premises.

   Note: When one or more employees are unaccounted for, employees are not to re-enter the building to conduct a search. Notify the ranking fire or other emergency response official on the scene and their approximate location.

6. Immediately after the fire, notify the President of TREC Environmental, Inc. and all other management individuals. Coordinate any salvage and repair operations.

Employee

7. If trained in the use of fire extinguishers, may attempt to suppress a small fire, until relieved by the Fire Department or until it becomes apparent that the fire cannot be controlled by fire extinguishers.

   Note: Employees should never attempt to control a fire, which endangers their health. They must immediately evacuate the area when it becomes apparent that the fire cannot be controlled or when conditions become more hazardous.

II. Evacuation:

Senior Management 1. Telephones the local emergency agency (for example, fire, police, hazardous materials team, etc.).

2. Makes the following announcement on the public address system, "Ladies and Gentlemen. TREC Environmental, Inc. is being temporarily closed. Please leave by the nearest exit immediately. Thank you." Make this announcement twice, and repeats it every minute or more frequently if needed.

3. Checks all areas of their respective departments, restrooms, and public areas to verify that employees and individuals are evacuated.

Evacuation (continued):

Senior Management 4. Secures all cash, checks, and charge documents in the safe if time permits.

5. Designates a safe area outside TREC Environmental, Inc. as a gathering point for all employees. Takes a head count of employees to insure all were safely evacuated.

Note: Employees are not to re-enter the building. Management will notify the ranking fire or other emergency response official on the scene of a potentially trapped person and their approximate whereabouts.

6. Dismisses all non-essential employees.

7. Telephones the President of TREC Environmental, Inc. and all other management personnel.

III. Severe Weather:

Severe weather conditions can either be identified by site conditions, weather warnings, or notifications from other crews.

Senior Management 1. The management staff in the office will notify all crews that may be potentially affected by the weather conditions.

Severe Weather (continued):

Field Supervisor 1. In the event of lightning, all field operations will be stopped and employees will move to a safe location. Work on the site will not continue until a minimum of 30 minutes has passed since the last sighting of lightning.

II. First Aid:

If an employee / individual is injured, the initial responsibility of management is to provide the needed first aid or arrange for emergency medical response or professional medical care.

Senior Management

1. Treats the injured individual using the supplies from TREC Environmental, Inc. first aid kit.

2. In the event an employee is seriously injured and requires professional medical care, drive the employee to a medical provider. If any individual is not mobile or has a life threatening injury or illness, arrange for emergency care and transportation (call 911).

III. Hazardous Material Spill:

Management will respond to incidental releases of hazardous substances when the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate area or by maintenance personnel. If a large spill or fire occurs that is not controllable, Management will contact the appropriate local authorities, such as the Fire Department.

11. .

OSHA Inspection

Purpose:

To establish the policy for all managers to follow if an OSHA Compliance inspection will be conducted.

Overview:

The Occupational Safety and Health Administration (OSHA) is authorized to conduct workplace inspections to determine whether employees are complying with standards issued by the agency for safe and healthful workplaces. Many States have their own occupational safety and health programs, and regularly inspect workplaces. Inspections are usually conducted without advance notice and can be conducted for one or more of the following reasons:

- Imminent Danger Situations – Any condition where there is reasonable danger that a situation exists that can be expected to immediately cause death or serious harm.

- Catastrophes and Fatal Accidents – Investigation of fatalities and accidents resulting in the hospitalization of 3 or more employees. Such catastrophes must be reported to OSHA within 8 hours.

- Employee Complaints

- Programmed Inspections – Based on injury rates, previous citation history, and employee exposure to toxic substances or random computerized selection.

This policy details the phases of an OSHA compliance inspection, the response and attitude of management to an inspection and steps to insure completion of the appropriate follow-up corrective action.

Policy:

TREC Environmental, Inc. policy is to demonstrate "**good faith**" effort to comply with all OSHA standards and any health and safety issues raised in an OSHA compliance inspection.

Management is responsible for implementing this policy and correcting all health and safety deficiencies revealed during compliance inspections. The Safety and Health Manager will provide technical assistance and coordination of corrective action, as required.

Admitting an OSHA Compliance Officer:

If an OSHA compliance inspector requests to conduct an inspection, the senior management member is to ask to see the officer's credentials. An OSHA inspector carries either U.S. or the state's Department of Labor credentials bearing their photograph and a serial number. In every case, verify the authenticity of the compliance inspector's identification by calling the nearest OSHA office.

Note: DO NOT REFUSE THE COMPLIANCE OFFICER ADMITTANCE.

The TREC supervisor is to contact the Safety and Health Manager immediately.

If TREC Environmental, Inc. requires a Search Warrant, inform the OSHA compliance officer before the opening conference begins. TREC Environmental, Inc. rights to challenge a warrant may be lost if it permits the inspection to proceed.

OSHA Facts:

An OSHA Inspection is divided into three parts:

1. The Opening Conference
2. The Walk Around Inspection
3. The Closing Conference

There are no time limits specifying how long an inspector may remain on the premises.

Violations are considered to be "alleged violations" until they become a final order of the Occupational Safety and Health Review Commission.

1. TREC Environmental, Inc. may contest (appeal), in writing any part of the citation within 15 working days after it has received it.

2. The citation must be posted in the work place for three days following its receipt or until the condition creating the alleged violation is corrected.

3. Management will ask for clarification about any point(s) an inspector raises that they don't understand.

4. Management and employees will not admit to violating any safety standard.

If TREC Environmental, Inc. contests (appeals) an alleged violation, copies of the appeal will be posted at the work site.

Opening Conference:

Before inspecting the premises, the OSHA compliance officer will conduct an opening conference at which they will explain:

- The reason for the inspection (for example. employee or individual complaint)
- Purpose of the visit
- Scope of the inspection
- OSHA Standards that apply

Standard Interpretations and Compliance Letters

There are several hundred Standard Interpretations and Compliance Letters relating directly to the topic of Recordkeeping. Please refer to the Search Page on the "http://www.OSHA.gov" web site. From here you can access these documents either by the specific regulation, or by conducting a search. You can also contact OSHA at one of their regional offices. They will provide you with forms and answers to any questions you may have. Don't hesitate to use them as a valuable resource.

Senior Management must arrange for the following to attend the opening conference:

- The President of TREC Environmental, Inc.
- Other Personnel, as directed

Management must request copies of all applicable safety and health standards as well as a copy of any employee complaint.

The Walk Around Inspection:

After the opening conference, the OSHA compliance officer will go through the facility to inspect for safety and health hazards. At a minimum, the OSHA compliance officer will likely ask for documentation of the following:

- Compliance with the hazard communication standard.
- Compliance with the lockout/ tagout standard.
- Record keeping for employee training
- The employee written safety and health management program

When senior management members and other TREC Environmental, Inc. employees accompany an OSHA compliance officer on an inspection, they should be respectful while firmly standing up for TREC Environmental, Inc. rights and viewpoints. The conduct of TREC Environmental, Inc. personnel shall be in accordance with the following guidelines:

- Do not physically interfere with the OSHA compliance officer when they are making the inspection
- Do not give false or misleading information.
- Accompany the OSHA compliance officer at all times during the inspection.
- Answers to an OSHA compliance officer's questions are to be responsive to the question asked. Do not offer any information beyond the scope of the question. Avoid making any statement that could be construed as an admission of a violation of any recognized health standard.
- Do not discuss with the OSHA compliance officer any previous safety inspections.

The conduct of TREC Environmental, Inc. personnel shall be in accordance with the following guidelines (continued):

- If the OSHA compliance officer wants to take photographs, senior management must request copies of the photographs. Senior management will also take photographs of the area from the same and different angle.

- Watch and take notes regarding all activities of the OSHA compliance officer. Notes should be detailed and should include such pertinent information as to the name(s) of the OSHA compliance officer(s), time of arrival, activities of OSHA compliance officer, amount of time spent at each location, comments about violations and potential citations, who was interviewed, what was said, etc.

- Immediately correct minor but apparent safety problems in order to help establish TREC Environmental, Inc. "**good faith"** effort to comply with all OSHA health and safety standards.

- The OSHA compliance officer cannot and will not act in a consultative capacity. If they see or if TREC Environmental, Inc. personnel points out a violation, the OSHA compliance officer must issue a citation.

Closing Conference:

After the walk around inspection, a closing conference is held with the OSHA compliance officer, senior management, and any employee representative. The OSHA compliance officer will discuss all unsafe and unhealthy situations observed and will identify all applicable sections of the standards which may have been violated. Management will insure that all violations are understood. When appropriate, Management will produce records to show compliance efforts and fully explain any difficulties that will be encountered in the correction of safety hazards. Management and employees will not admit violation or indicate how long it will take to correct a potential violation.

Post Inspection Activities:

Time limits to correct violations generally range from 5 to 30 days, unless an extension is requested. Time limits will be given in person at the closing conference or mailed within 30 days in a written report of the inspection findings. Follow-up action will be documented in writing, by senior management, listing specific action steps, the individual accountable, and the target date for completion. Management is responsible for completing all corrective action.

OSHA inspection reports, TREC Environmental, Inc. response, and all correspondence to and from OSHA will be retained permanently by the Safety and Health Manager.

OSHA Recordkeeping and Posting Requirements

Purpose:

To establish the policy and procedures regarding TREC Environmental, Inc. requirements for compliance with OSHA record keeping and posting guidelines for occupational injuries and illnesses.

Policy:

All locations are to post the "Job Safety and Health Protection" poster (or state equivalent) in prominent places in the workplace.

OSHA requires that employers maintain a record of certain occupational injuries that occur at each business establishment on the OSHA Form Log 300 and 300A: Log of Work-Related Injuries and Illnesses and Summary of Work-Related Injuries and Illnesses. At the end of each year, OSHA requires the summary section of the OSHA Form Log 300A to be posted at each business establishment no later than February 1 and remain in place until April 30. TREC Environmental, Inc. will comply with this requirement. The Safety and Health Manager is responsible for maintaining the information on the log in a current status and distributing the OSHA Form Logs.

The "Job Safety and Health Protection" poster and the Form Log and Summary of Occupational Injuries and Illnesses can be ordered from OSHA, free of charge, at 303-844-1600

Record Retention:

OSHA Form Log, January – November reports can be discarded upon receipt of the next monthly report.

Year-end OSHA Form Log 200, 300, 300A, and 301, retain for 5 years following the year to which they relate

BLOODBORNE PATHOGENS

It is imperative that management photocopies these four pages and gives them to all employees during a training session. All employees shall be trained on the risk of blood borne pathogens and the proper handling of blood and other bodily fluids.

What Everyone Needs to Know

Blood borne pathogens are microorganisms carried by human blood (and other body fluids) and cannot be seen with the naked eye. They can be spread through contact with infected blood. If they get into the bloodstream, an individual may become infected and sick.

Most personnel cannot reasonably anticipate coming into contact with blood during their day-to-day work duties. That's why it's imperative that all personnel understand the danger of exposure to blood borne pathogens and ways to minimize their risk.

Blood borne pathogens may be present in blood and other materials, such as:

- body fluids containing visible blood
- semen and vaginal secretions
- torn or loose skin

Blood borne pathogens can cause infection by entering the body through:

- open cuts and nicks
- skin abrasions
- dermatitis
- acne
- mucous membranes of the mouth, eyes or nose

WORKPLACE TRANSMISSION

The most common blood borne pathogens are HIV, Hepatitis B, and Hepatitis C:

HIV (AIDS)

HIV, the human immuno-deficiency virus, attacks the body's immune system causing it to weaken and become vulnerable to infections that can lead to a diagnosis of acquired immune deficiency syndrome or AIDS.

HIV is transmitted mainly through sexual contact and sharing contaminated needles, but also may be spread by contact with infected blood and body fluids. HIV is NOT transmitted indirectly by touching or working around people who are HIV-positive.

WORKPLACE TRANSMISSION (continued)

HIV (AIDS)(continued):

Employees can prevent getting HIV by stopping the passage of the virus from a person who has HIV to them. In many instances, the employee has control over the activities that can transmit HIV. Since HIV is most frequently transmitted by sharing needles or through

sexual intercourse, employees can stop transmission by refusing to engage in these behaviors.

Hepatitis B

Hepatitis is a general term used to describe inflammation (swelling) of the liver. Alcohol, certain chemicals or drugs, and viruses such as hepatitis A, B, C, D, E and G may cause hepatitis.

- Hepatitis B is a serious, sometimes fatal disease, caused by a virus that infects and attacks the liver. The virus is transmitted through direct contact with infected blood, semen, or vaginal fluid. It is primarily spread through sexual contact.
- In studies that examine transmission following injections into the skin, HBV is 100 times more contagious than HIV.
- **HBV can also be transmitted indirectly because it can survive on surfaces dried and at room temperature for at least a week!** That's why contaminated surfaces are a major factor in the spread of HBV.
- Each year there are up to 200,000 new infections and 5,000 hepatitis B related deaths in the U.S. (compared to 40,000 new HIV infections per year.
- One in approximately 20 persons now has, or will one day have, hepatitis B
- Transmission of hepatitis B is preventable:
    - Use latex condoms during sex
    - Do not share needles
    - Use universal precautions in the workplace
    - Get the hepatitis B vaccination

WORKPLACE TRANSMISSION (continued)

Hepatitis C

Hepatitis is a general term used to describe inflammation (swelling) of the liver. Alcohol, certain chemicals or drugs, and viruses such as hepatitis A, B, C, D, E and G may cause hepatitis.

- Hepatitis C is a serious, often fatal disease, caused by a virus that infects and attacks the liver. HCV is more common than hepatitis B and ranks slightly below alcoholism as a cause of liver disease.
- However, HCV is not as infectious as HBV because there are generally lower levels of the hepatitis C virus in the blood than of the hepatitis B virus
- HCV is primarily transmitted through blood-to-blood contact -- most commonly through shared needles. The risk of transmitting HCV through sexual contact appears to be low, but precautions should be taken anyway. HCV cannot be transmitted by casual contact such as shaking hands or sharing bathroom facilities.
- Up to 180,000 people may become infected with HCV each year in the U.S.
- Transmission of hepatitis C is preventable:
    - Use latex condoms during sex
    - Do not share needles
    - Use universal precautions in the workplace
    - HOWEVER, unlike hepatitis B, currently there is NO VACCINE for hepatitis C. And also unlike HBV, there is no drug to prevent HCV infection after an exposure.

Guidelines for Handling Blood and Other Bodily Fluids

Many personnel are concerned that HIV may be spread through contact with blood and other body fluids when an accident occurs at work.

HIV, as noted earlier, has been found in significant concentrations in blood, semen, vaginal secretions, and breast milk. Other body fluids, such as feces, urine, vomit, nasal secretions, tears, sputum, sweat, and saliva do not transmit HIV unless they contain visible blood. However, these body fluids do contain potentially infectious germs from diseases other than AIDS. **If an individual has contact with any of these body fluids, they are at risk of infection from these germs**. It should be remembered that the risk of transmission of these germs depends on many factors, including the type of fluid contacted, the type of contact made, and the duration of the contact.

Very simply, it is good hygiene policy to treat all spills of body fluids as ***infectious*** in order to protect personnel from becoming infected with any germs and viruses. The procedures outlined below offer protection from all types of infection, and should be followed routinely.

How Should Blood and Body Fluid Spills be Handled?

Whenever possible, employees shall wear disposable, waterproof gloves when they expect to come into direct hand contact with body fluids (when treating bloody noses, handling clothes soiled by incontinence, or cleaning small spills by hand). Gloves used for this purpose shall be put in a plastic bag or lined trash can, secured, and disposed of daily. Hands should always be washed after gloves are removed, even if the gloves appear to be intact.

If an employee has unexpected contact with body fluids or if gloves are not available (for example, applying pressure to a bleeding wound), the employee shall wash their hands and other affected skin for at least 30 seconds with soap and water after the direct contact has ended. This precaution is recommended to prevent exposure to other pathogens, not just HIV. As has been discussed, blood, semen, vaginal secretions, and blood-contaminated body fluids transmit HIV. Wiping a runny nose, saliva, or vomit does not pose a risk for HIV transmission.

Handwashing

Proper handwashing requires the use of soap and warm water and vigorous washing under a stream of running water for at least 30 seconds. If hands remain visibly soiled, more washing is required. Scrubbing hands with soap will suspend easily removable soil and microorganisms, allowing them to be washed off. Running water is necessary to carry away dirt and debris. Rinse your hands under running water and dry them thoroughly with paper towels or a blow dryer. When hand-washing facilities are not available, use a waterless antiseptic cleanser, following the manufacturer's directions for use.

Disinfectants

An EPA approved germicide or a solution of 99 parts water to 1 part household bleach (or ¼ cup bleach to one gallon of water) will inactivate HIV, and should be used to clean all body fluid spills. Higher concentrations of bleach can be corrosive, and are unnecessary. Surfaces should be cleaned thoroughly prior to disinfection.

Disinfecting Hard Surfaces and Caring for Equipment

Although hard surfaces have not been found to be a means of transmitting HIV, it is good hygiene policy to clean any soiled hard surfaces thoroughly. To do this, scrub the surface to remove any soil and apply a germicide (like the bleach/water solution described above) to the equipment used. Mops should be soaked in this solution after use and rinsed thoroughly with warm water. The solution should be promptly

disposed of down a drainpipe. Remove gloves and discard them in appropriate receptacles, and wash hands as described above.

Laundry Instructions for Clothing Soiled with Body Fluids

It is important to remember that laundry has never been implicated in the transmission of HIV. To ensure safety from transmission of other germs, contaminated clothes must be laundered with soap and water to eliminate potentially infectious agents. The addition of bleach will further reduce the number of potentially infectious agents. Clothing soaked with body fluids may be washed separately from other items. Pre-soaking may be required for heavily soiled clothing. Otherwise, wash and dry as usual, following the directions provided by the manufacturer of the laundry detergent. If the material can be bleached, add ½ cup of household bleach to the wash cycle. If the material is not colorfast, add ½ cup of non-chlorine bleach to the wash cycle.

It is good hygiene to treat all bodily fluids as infectious.

Hazardous Material Spill Response

Purpose:

To establish the policy and procedures regarding Management and employee response and actions to a hazardous material spill or leak.

Policy:

Federal, state, and local environmental laws dictate the specific handling and disposal methods of hazardous materials. Failure to comply with these laws can be very costly as well as environmentally negligent. TREC Environmental, Inc. will fully comply with all laws and regulations pertaining to the handling and disposal methods of hazardous materials. TREC Environmental, Inc. will train all employees in the proper procedures to follow and what to do when they encounter a hazardous spill or leak.

Overview:

There are four classifications of hazardous chemicals that employees will likely come into contact with. These are:

IGNITABLES---TOXICS---CAUSTICS---REACTIVES

IGNITABLES- Ignitable products are either flammable or combustible. A spill of this nature creates two problems: one involving the potential for explosion and/or fire, and the other is the pollution of the environment. Examples are gasoline, paint thinners, petroleum solvents, alcohol, and adhesives.

TOXICS- These products are poisonous to the body and can cause illness or death. Examples are anti-freeze, paint, insecticides, fertilizer, and cleaning fluids.

CAUSTICS- A caustic is anything that burns, strongly irritates, corrodes or simply destroys the skin. Examples are acids and drain cleaners.

REACTIVES- These products react violently when mixed with other products. The most common example is dry or liquid chlorine.

Procedure:

Regardless of the nature of the spill, and before starting any cleanup activities, the employee(s) shall always secure the area around the spill. This is to include asking all other unnecessary employees and customers to move a safe distance away from the spill site. The employee(s) shall also barricade or cordon off access to the site with tape or other visual barriers as needed to keep people from wandering into the spill site. Once the area is secure, Management shall be notified of the spill, its location, and when the area is clean. Management shall also notify public officials as necessary.

Procedure:(continued)

Employee(s) that are required and directed to conduct the cleanup shall always check the warning label of an unbroken container or the Material Safety Data Sheet (MSDS) of the product involved in the spill or leak. Either the product label or the MSDS should have cleanup procedures (Section VII of the MSDS

form). If not, or if time does not permit, the employee(s) shall consider the product extremely hazardous and use the following cleanup procedure:

1. Immediately shut off or eliminate all possible sources of ignition to include turning off anything that might produce a spark, flame, or friction.

2. A fire extinguisher must accompany all ignitable spill cleanups.

3. Cover the spill or leak with absorbent materials to reduce evaporation.

4. Ventilate the area as well as possible by opening doors and windows.

5. If a spill is large, a fan shall be set up at least ten feet from the person cleaning up the spill. The fan shall be behind the person cleaning up the spill to blow the hazardous vapors away from their breathing area.

6. Wear safety goggles, gloves, disposable overshoes, and respirator (as necessary) prior to cleaning up the substance.

7. Small spills (one pint or less) can be cleaned up with absorbent materials (rags, paper towels, etc.), and placed into a plastic bag. These bags will be labeled as a flammable or combustible. The label on the bag must also have the following information: (1) the name of the product in the bag, (2) the quantity of material in the bag, (3) name of manufacturer, (4) and the date of the spill. The words "Hazardous Waste" must be clearly marked on the bag.

8. After the spill area is thoroughly dry, the spill area shall be scrubbed with a mild detergent using a broom or mop.

9. The bags shall then be placed in properly labeled containers for disposal. The Safety and Health Manager shall ensure that storage and disposal shall be in accordance to guidelines of local and state regulations.

10. All efforts shall be taken to prevent hazardous material from entering sewage systems. If infiltration occurs, the fire department shall be notified.

Employee(s) in contact with the hazardous material shall be informed to recognize physical symptoms of accidental exposure (found in MSDS Section VI). They shall be told that if they develop a ***skin rash, shortness of breath, asthma or any abnormal condition, they are to see a doctor immediately for an evaluation!***

Confined Spaces

Policy:

It is the policy of TREC Environmental, Inc. to protect the health and welfare of all employees whose work assignments may require entering or working in permit-required confined spaces. Only persons with appropriate aptitudes and physical competence shall be employed in confined space work. Training of selected persons to carry out confined space work shall include:

- Emergency entry and exit procedures
- Use of appropriate respiratory protective equipment
- First aid, including Cardio-Pulmonary Resuscitation (CPR)
- Lock Out and Isolation procedures
- The use of safety equipment
- Rescue drills
- Fire protection
- Communications
- Aspects essential for maintaining the safety of the breathing environment
- Recognition of any hazards specific to the operation/activity.

Purpose:

To establish the policy and procedures regarding Management and employee response and actions to working in confined spaces. Working in confined spaces can lead to injury or even death if adequate precautions are not taken. Only trained persons may enter or work in confined spaces.

Confined spaces can include storage tanks, process vessels, boilers, silos, storage bins, pits, and pipes, sewers, tunnels and shafts. Any place of work where the atmosphere is liable to be contaminated at any time by dust, fumes, mist, vapor, gas or other harmful substance, or is liable at any time to be oxygen deficient is defined as a confined space. When any work area is not subject to good natural ventilation, people can be readily exposed to harmful vapors. They can then suffer lack of oxygen, and collapse as a result. People entering the same space to rescue colleagues may become the next victims.

TREC Environmental, Inc. will ensure that our employees are protected from the potential hazards involved in entering confined spaces. We will make every effort to comply with the OSHA Permit-Required Confined Space Standard (CFR 1910.146) and to exceed those requirements when necessary to ensure the safety of our workers.

For the purposes of this program the following definitions will apply:

- Confined Space - A confined space has limited or restricted means of entry or exit, is large enough for an employee to enter and perform assigned work, and is not designed for continuous occupancy by the employee. These spaces may include, but are not limited to, underground vaults, manholes, tanks, storage bins, pit areas, vessels, and silos.

- Permit-Required Confined Space - A "permit-required confined space" is one that meets the definition of a confined space and has one or more of these characteristics:
    (1) Contains or has the potential to contain a hazardous atmosphere
    (2) Contains a material that has the potential for engulfing an entrant
    (3) Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section
    (4) Contains any other recognized serious safety or health hazards.

Definitions:

a. Acceptable entry conditions means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

b. Attendant means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

c. Authorized entrant means an employee who is authorized by the employer to enter a permit space.

d. Blanking or blinding means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

e. Confined space means that:

• It is large enough and so configured that an employee can bodily enter and perform assigned work; and

• Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and

• Is not designed for continuous employee occupancy.

f. Double block and bleed means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

g. Emergency means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

h. Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

i. Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

j. Entry permit (permit) means the written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in paragraph (g) of this section.

k. Entry supervisor means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

l. Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

1.Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);

2.Airborne combustible dust at a concentration that meets or exceeds its LFL;

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.

l. Hazardous atmosphere means (continued)

3. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

4. Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information such as Material Safety Data Sheets that comply with the Hazard Communication Standard, §1910.1200, published information and internal documents can provide guidance in establishing acceptable atmospheric conditions.

m. Host employer means any employer who arranges to have the employees of another employer (contractor) perform work for them. Our Company is the host employer for the on-site Operations Maintenance Contractor who may also be a host employer.

n. Hot work permit means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

o. Immediately dangerous to life or health (IDLH) means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

NOTE: Some materials - hydrogen fluoride gas and cadmium vapor, for example - may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possible fatal collapse 12 - 72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

p. Inerting means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

NOTE: This procedure produces an IDLH oxygen-deficient atmosphere.

q. Isolation means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

r. Line breaking means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

s. Non-permit confined space means a confined space that does not contain, or with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

t. Oxygen-deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.

u. Oxygen-enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

v. Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

1.Contains or has a potential to contain a hazardous atmosphere.

2.Contains a material that has the potential for engulfing an entrant;

3.Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-sections; or

4.Contains any other recognized serious safety or health hazard.

w. Permit-required confined space program (permit space program) means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

x. Permit system means the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

y. Prohibited condition means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

z. Rescue service means the personnel designated to rescue employees from permit spaces.

aa. Retrieval system means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

ab. Testing means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

> NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

References:

American National Standards Institute "Safety Requirements for Working in Tanks and other Confined Spaces".

NIOSH "Criteria for a Recommended Standard...Working in Confined Spaces."

U.S. Department of Labor, OSHA regulations, 29 CFR 1910.146, "Permit-Required Confined Spaces."

Identification and Evaluation of Confined Spaces:

An inspection by TREC Environmental, Inc. and the site representative will determine if the space is a permit required confined space.

All Permit-Required Confined Spaces should be marked with warning signs reading:

"Danger - Permit-Required Confined Space - Authorized Entrants Only".

Procedure:

Work involving entry to a confined space must be planned. An assessment of likely hazards should be made prior to commencing the work. Precautions must be taken to avoid exposure to harmful substances or oxygen deficient atmospheres. Some thought should also be given to handling possible emergencies.

ENTRY INTO PERMIT-REQUIRED CONFINED SPACES:

Prior to entry into any permit-required confined space, the employee's supervisor will issue a permit that specifies the location, type, and duration of the work to be done, and the date. The permit will certify that all existing hazards have been evaluated by the supervisor and that necessary protective measures have been taken for the safety of workers. It will provide documentation of the atmospheric testing that has been done. It will assign entry and attendant duties to specific persons.

Before issuing an entry permit, the employee's supervisor will be responsible for the following:

- Identify all hazards and potential hazards associated with the confined space, such as the danger of explosion, asphyxiation, toxic gases/fumes, engulfment or entrapment, electrical or mechanical hazards, etc.

- Isolate the space from potential hazards, if possible, to provide for safe entry.

- Purge, inert, flush, ventilate to eliminate atmospheric hazards.

- Provide external barriers and warning signs.

- Perform pre-entry oxygen, flammable gas and toxicity air tests. All test results are to be recorded on the entry permit. If potential hazards cannot be isolated, continuous monitoring is required. If potential hazards can be isolated, periodic monitoring is required.

- Provide at least one trained attendant outside of each confined space that will be entered.

- Ensure that rescue and emergency services and equipment are in place as noted in this policy.

- Ensure that all required equipment is provided, maintained and properly used. This includes air monitoring equipment, forced air ventilation equipment, communications equipment, personal protective equipment (PPE), lighting, external barriers and warning signs, ladders, and rescue equipment.

If hazardous conditions are detected during entry, employees will immediately leave the space and the supervisor will determine the cause of the hazardous atmosphere and take corrective actions before allowing re-entry.

RESCUE & EMERGENCY SERVICES:

If proper protective measures are taken to eliminate and control any possible hazards in the confined space (i.e., ventilation, purging, monitoring, lock out/tag out, etc.), rescue operations should not be necessary. Nonetheless, TREC Environmental, Inc. will be prepared for the worst case scenario.

An attendant for the confined space will have access to a telephone and know the proper procedure for alerting the proper personnel in the event of an emergency, including the fire department, paramedics, police, and others as necessary.

Provisions will be made and equipment provided to ensure timely extraction of an unconscious or injured worker from the confined space. This will include a body harness with a lifeline attached to a tripod and rescue winch. Under no circumstances is the attendant to enter the space to effect rescue; rescue operations must be left to trained personnel.

<u>Training:</u>

Employees involved with permit-required confined space work will be trained to assure the knowledge, understanding, and skills necessary for the safe performance of their duties. Foremen will be trained in the identification and evaluation of confined space hazards and in the proper precautions to be taken to assure safe entry and work in confined spaces. Employees entering confined spaces will be trained in the hazards and potential hazards involved and how to protect themselves from those hazards. They will be trained to never enter a confined space until a permit is issued and they have been authorized to enter by the

foreman. Attendants will be trained in their duties and responsibilities and the actions to be taken in the event of an emergency.

Employees will receive a written certification following their training to document that they have been properly trained in their respective duties and the hazards and safety precautions involved in confined space entry.

Contractors:

a. When TREC Environmental, Inc. arranges to have employees of a sub-contractor (contractor) perform work that involves permit space entry, the host employer shall:

i. Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the OSHA regulations;

ii. Apprise the contractor of the elements, including the hazards identified and the host employer's experience with the space, that make the space in question a permit space;

iii. Apprise the contractor of any precautions or procedures that the host employer has implemented for the protection of employees in or near permit spaces where contractor personnel will be working;

iv. Coordinate entry operations with all contractors (including on-site contractors), when any combination of host employer personnel and/or contractor personnel will be working in or near permit spaces, as required by paragraph (f-8); and

v. Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during entry operations.

b. In addition to complying with the permit space requirements that apply to all employers, each contractor who is retained to perform permit space entry operations shall:

i. Obtain any available information regarding permit space hazards and entry operations from the host employer;

ii. Coordinate entry operations with the host employer, when both host employer personnel and contractor personnel will be working in or near permit spaces, as required; and

iii. Inform the host employer of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

TREC Environmental Inc.
Confined Space Entry Permit

Permit Number_____Date Issued_____

Location & Description of Confined Space:

Purpose of Entry:

Scheduled Start _____ a.m. p.m.

Scheduled Finish _____ a.m. p.m.

Employee(s) in charge of entry: _____

Entrants:

Attendants:

Pre-Entry Authorization: _____

{Check those items below which are applicable to your confined space permit.}

TYPES OF HAZARDS

‰ Oxygen-Deficient Atmosphere
‰ Oxygen-Enriched Atmosphere
‰ Welding/Cutting
‰ Engulfment
‰ Toxic Atmosphere
‰ Flammable Atmosphere
‰ Energized Electrical Equipment
‰ Noise
‰ Hazardous Chemical

SAFETY PRECAUTIONS

‰ Yes ‰ No ‰ N/A Lockout / Tagout
‰ Yes ‰ No ‰ N/A Ventilation / Mechanical
‰ Yes ‰ No ‰ N/A Ventilation / Passive
‰ Yes ‰ No ‰ N/A Protective Gloves
‰ Yes ‰ No ‰ N/A Protective Suits
‰ Yes ‰ No ‰ N/A Ground Fault Interupter
‰ Yes ‰ No ‰ N/A Lifelines
‰ Yes ‰ No ‰ N/A Lighting
‰ Yes ‰ No ‰ N/A Fire Extinguishers
‰ Yes ‰ No ‰ N/A Retrieval Tripod
‰ Yes ‰ No ‰ N/A Barricade Job Area
‰ Yes ‰ No ‰ N/A Signs Posted
‰ Yes ‰ No ‰ N/A Communication
‰ Yes ‰ No ‰ N/A Supplied Air / Respirator

ENVIRONMENTAL CONDITIONS

	Initial	#2	#3	#4	#5	#6	# 7	#8	#9	#10	#11	#12
Time of Reading												
Oxygen %, 19.5 – 23.5 %												
Lower Explosive Limit %, 0 -10 %												
Toxic Atmosphere, CO < 35 ppm												
Hydrogen Sulfide, < 10 ppm												

Instrument Used :_____**Calibration Date :**_____

Employee Conducting Safety Checks **# SIGNATURE**: _____

Remarks:

ENTRY AUTHORIZATION

All actions and/or conditions for safe entry have been performed.

Person in Charge of Entry _____
PLEASE PRINT

ENTRY CANCELLATION

Entry has been completed and all entrants have exited permit space.

Person in Charge of Entry _____
PLEASE PRINT

Excavation, Trenching and Shoring Procedures

Scope and Application:

This policy sets forth the official practices required for excavations made by Company employees on property owned by the Company.

Definitions:

Aluminum hydraulic shoring means an engineered shoring system comprised of aluminum hydraulic cylinders (cross braces), used in conjunction with vertical rails (uprights) or horizontal rails (whalers). Such a system is designed specifically to support the sidewalls of an excavation and prevent cave-ins.

Benching means a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

Cave-in means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent person means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. All competent persons must complete the 4-hour Physical Plant trenching and shoring class, successfully pass the exam, and be certified for successful completion of the class. A competent person should have and be able to demonstrate the following:

Training, experience, and knowledge of:
- soil analysis,
- use of protective systems, and
- requirements of 29 CFR 1926 Subpart P.

Ability to detect:
- conditions that could result in cave-ins,
- failures in protective systems,
- hazardous atmospheres, and
- other hazards including those associated with confined spaces.

Authority to take prompt corrective measures to eliminate existing and predictable hazards and to stop work when required.

Excavation means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Registered professional engineer means a person who is registered as a professional engineer.

Shield (shield system) means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees with the structure. Shields can be permanent structure or can be designed to be portable and moved along as work progresses. Also known as trench box or trench shield.

Shoring (shoring system) means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sloping (sloping system) means a method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

Trench (trench excavation) means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet or less, the excavation is also considered to be a trench.

General Requirements:

All excavations shall be made in accordance with the rules, regulations, requirements, and guidelines set forth in 29 CFR 1926.650, .651, and .652; the Occupational Safety and Health Administration's standard on Excavations, except where otherwise noted below.

Procedures:

A competent person shall be placed in charge of all excavations. Underground utilities must be located and marked before excavation begins. Employees are not allowed in the excavation while heavy equipment is digging.

Inspections:

The competent person shall conduct inspections:

Daily and before the start of each shift by using the DAILY EXCAVATION CHECKLIST found at the end of this chapter

As dictated by the work being done in the trench.

After every rain storm.

After other events that could increase hazards, such as snowstorm, windstorm, thaw, earthquake, dramatic change in weather, etc.

When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur.

When there is a change in the size, location, or placement of the spoil pile.

When there is any indication of change or movement in adjacent structures.

(For excavations 4 feet or greater in depth, a trench inspection form shall be filled out for each inspection.)

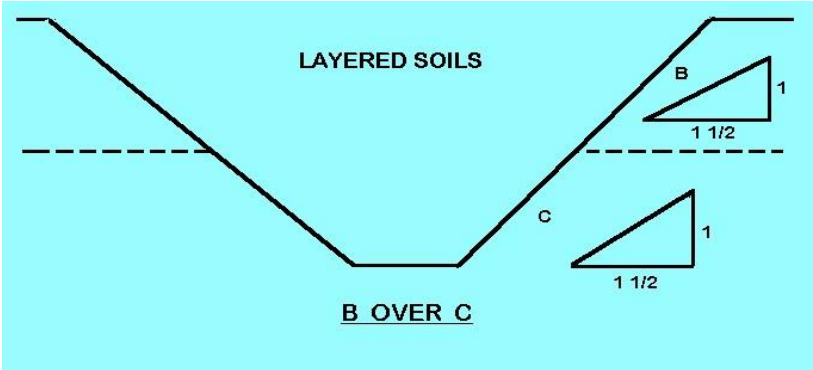
Soil Types:

Type A - Most stable: clay, silty clay, and hardpan (resists penetration). No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, or has seeping water.

Type B - Medium stability: silt, sandy loam, medium clay and unstable dry rock; previously disturbed soils unless otherwise classified as Type C; soils that meet the requirements of Type A soil but are fissured or subject to vibration.

Type C - Least stable: gravel, loamy sand, soft clay, submerged soil or dense, heavy unstable rock, and soil from which water is freely seeping.

Layered geological strata (where soils are configured in layers) - The soil must be classified on the basis of the soil classification of the weakest soil layer. Each layer may be classified individually if a more stable layer lies below a less stable layer, i.e. where a Type C soil rests on top of stable rock.



Testing Methods

The competent person in charge of the excavation shall be responsible for determining whether the soil is Type B or C. The competent person shall use a visual test coupled with one or more manual tests.

Visual test

In addition to checking the items on the trench inspection form, the competent person should perform a visual test to evaluate the conditions around the site. In a visual test, the entire excavation site is observed, including the soil adjacent to the site and the soil being excavated. The competent person also checks for any signs of vibration.

During the visual test, the competent person should check for crack-line openings along the failure zone that would indicate tension cracks, look for existing utilities that indicate that the soil has been previously disturbed, and observe the open side of the excavation for indications of layered geologic structuring.

This person should also look for signs of bulging, boiling, or sloughing, as well as for signs of surface water seeping from the sides of the excavation or from the water table.

In addition, the area adjacent to the excavation should be checked for signs of foundations or other intrusions into the failure zone, and the evaluator should check for surcharging and the spoil distance from the edge of the excavation.

Manual tests

Thumb penetration test- Attempt to press the thumb firmly into the soil in question. If the thumb penetrates no further than the length of the nail, it is probably Type B soil. If the thumb penetrates the full length of the thumb, it is Type C. It should be noted that the thumb penetration test is the least accurate testing method.

Dry strength test- Take a sample of dry soil. If it crumbles freely or with moderate pressure into individual grains it is considered granular (Type C). Dry soil that falls into clumps that subsequently break into smaller clumps (and the smaller clumps can only be broken with difficulty) it is probably clay in combination with gravel, sand, or silt (Type B).

Plasticity or Wet Thread Test- Take a moist sample of the soil. Mold it into a ball and then attempt to roll it into a thin thread approximately 1/8 inch in diameter by two inches in length. If the soil sample does not break when held by one end, it may be considered Type B.

A pocket penetrometer, shearvane, or torvane may also be used to determine the unconfined compression strength of soils.

Spoil

Temporary spoil shall be placed no closer than 2 feet from the surface edge of the excavation, measured from the nearest base of the spoil to the cut. This distance should not be measured from the crown of the spoil deposit. This distance requirement ensures that loose rock or soil from the temporary spoil will not fall on employees in the trench.

Spoil should be placed so that it channels rainwater and other run-off water away from the excavation. Spoil should be placed so that it cannot accidentally run, slide, or fall back into the excavation.

Permanent spoil should be placed some distance from the excavation.

Surface Crossing of Trenches

Surface crossing of trenches should not be made unless absolutely necessary. However, if necessary, they are only permitted under the following conditions:

Vehicle crossings must be designed by and installed under the supervision of a registered professional engineer.

Walkways or bridges must: have a minimum clear width of 20 inches, be fitted with standard rails, and extend a minimum of 24 inches past the surface edge of the trench.

Ingress and Egress

Trenches 4 feet or more in depth shall be provided with a fixed means of egress.

Spacing between ladders or other means of egress must be such that a worker will not have to travel more than 25 feet laterally to the nearest means of egress.

Ladders must be secured and extend a minimum of 36 inches above the landing.

Metal ladders should be used with caution, particularly when electric utilities are present.

IF A TRENCH CAVES IN:

Get out of the trench. Call 911 (or emergency services). Help your co-workers from outside the trench, if you can.

Never go into a trench that is caving in or has bad air — even to rescue co-workers. You can be killed.

DAILY EXCAVATION CHECKLIST

Client		Date	
Project Name		**Approximate Temp.**	
Project Location		**Approximate Wind Direction**	
Job Number		**Safety Rep**	
Excavation Depth and Width		**Soil Classification**	
Protective System Used			
Activities in Excavation			
Competent Person			

Excavation > 4 feet deep? Yes No. If YES, fill out a Confined Space Permit PRIOR to ANY person entering the excavation.

NOTE: Trenches over 4 feet in depth are considered excavations. Any items marked NO on this form MUST be remediated prior to any employees entering the excavation.

YES	NO	N/A	DESCRIPTION
			GENERAL
			Employees protected from cave-ins & loose rock/soil that could roll into the excavation
			Spoils, materials & equipment set back at least 2 feet from the edge of the excavation
			Engineering designs for sheeting &/or manufacturer's data on trench box capabilities on site
			Adequate signs posted and barricades provided
			Training (toolbox meeting) conducted w/ employees prior to entering excavation

YES	NO	N/A	UTILITIES
			Utility company contacted & given 24 hours' notice &/or utilities already located & marked
			Overhead lines located, noted and reviewed with the operator
			Utility locations reviewed with the operator, & precautions taken to ensure contact does not occur
			Utilities crossing the excavation supported, and protected from falling materials
			Underground installations protected, supported or removed when excavation is open
			WET CONDITIONS
			Air in the excavation tested for oxygen deficiency, combustibles, other contaminants
			Ventilation used in atmospheres that are oxygen rich/deficient &/or contains hazardous substances
			Ventilation provided to keep LEL below 10 %
			Emergency equipment available where hazardous atmospheres could or do exist
			Safety harness and lifeline used
			Supplied air necessary (if yes, contact safety department)
			ENTRY & EXIT
			Exit (i.e. ladder, sloped wall) no further than 25 feet from ANY employee
			Ladders secured and extend 3 feet above the edge of the trench
			Wood ramps constructed of uniform material thickness, cleated together @ the bottom
			Employees protected from cave-ins when entering or exiting the excavation

KEEP 1 COPY OF EACH DAILY EXCAVATION CHECKLIST ON SITE FOR THE PROJECT DURATION, AND FORWARD THE ORIGINAL TO THE SAFETY MANAGER

Tool Box Talks/Work Group Safety Meetings Policy

Purpose:

The purpose of Tool Box Talks/Work Group Safety Meetings is to provide a method for the dissemination of information to all employees regarding safety and health issues.

Regular Tool Box Talks/Work Group Safety Meetings demonstrate TREC Environmental, Inc's concern for the lives and well-being of its employees. Tool Box Talks/Work Group Safety Meetings help build a cooperative climate by providing employees with the opportunity to contribute ideas, and to make suggestions that may improve quality, productivity, morale, and safety.

Safety education is required of all employees *at all levels* within the organization. TREC Environmental, Inc. will have a formalized safety training program to prevent accidents and to train employees to do their job safely. Scheduled, Tool Box Talks/Work Group Safety Meetings, will be conducted every Monday morning at 8:00 am. and at times deemed necessary by the Safety and Health Manager or supervisory personnel

Responsibilities:

TREC Environmental, Inc. President will provide the direction and motivation to ensure that all managers conduct regular Tool Box Talks/Work Group Safety Meetings.

Managers and Supervisory Personnel that conduct safety discussions will maintain a log of what was discussed and who attended the meeting. This information shall be turned over to the Safety and Health Manager on a weekly basis.

The Safety and Health Manager shall be a resource for safety and health discussion topics, and shall keep all documentation of all training at a central location.

Employees are required to attend all Tool Box Talks/Work Group Safety Meetings. In the event an employee misses a Tool Box Talk/Work Group Safety Meeting, the employee shall be given individual instruction by their supervisor concerning what was discussed/covered

Procedure:

The Tool Box Talk/Work Group Safety Meeting is a method used by this Company to develop the employees' safety awareness.

Conducting Tool Box Talks/Work Group Safety Meetings

For greatest effectiveness, cover subjects that most interest the employees. These topics might include accidents, inspection results, the safety program, or a work procedure.

These daily meetings should last no longer than 15-30 minutes. Ideally, the meeting would include time for active participation by employees; at the least, there should be a question and answer session.

Schedule meetings at the beginning of new operations to ensure that all of the employees are familiar with safe job procedures and the requirements of the upcoming work. These meetings save a lot of time in the long run.

Tool Box Talks/Work Group Safety Meetings may be either motivational or instructional. The motivational meeting creates awareness and aims at worker self-protection. The instructional meeting covers a particular job task or procedure.

The supervisor is the key management communicator for work groups, because he or she is most familiar with the individual workers and their work requirements.

Hazardous Waste Operations

TREC Environmental, Inc. does not provide emergency spill response services for Hazardous Materials

(a) Scope, application, and definitions.

(1) Scope. This section covers the following operations, unless the Company can demonstrate that the operation does not involve employee exposure or the reasonable possibility for employee exposure to safety or health hazards:

(i) Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the
EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government
identified sites which are conducted before the presence or absence of hazardous substances has been ascertained);
(ii) Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq.);
(iii) Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites;
(iv) Operations involving hazardous wastes that are conducted at treatment, storage, and disposal (TSD) facilities regulated by 40 CFR Parts 264 and 265 pursuant to RCRA; or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations; and
(v) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

(2) Application.

(i) All requirements of Part 1910 and Part 1926 of Title 29 of the Code of Federal Regulations apply pursuant to their terms to hazardous waste and emergency response operations whether covered by this section or not. If there is a conflict or overlap, the provision more protective of employee safety and health shall apply without regard to 29 CFR 1910.5(c)(1).
(ii) Hazardous substance clean-up operations within the scope of paragraphs (a)(1)(i) through (a)(1)(iii) of this section must comply with all paragraphs of this section except paragraphs (p) and (q).
(iii) Operations within the scope of paragraph (a)(1)(iv) of this section must comply only with the requirements of paragraph (p) of this section.

Notes and Exceptions:

(A) All provisions of paragraph (p) of this section cover any treatment, storage or disposal (TSD) operation regulated by 40 CFR Parts 264 and 265 or by state law authorized under RCRA, and required to have a permit or interim status from EPA pursuant to 40 CFR 270.1 or from a state agency pursuant to RCRA.
(B) The Company is not required to have a permit or interim status because they are conditionally exempt small quantity generators
under 40 CFR 261.5 or are generators who qualify under 40 CFR 262.34 for exemptions from regulation under 40 CFR Parts 264, 265 and 270 ("excepted employers") are not covered by paragraphs (p)(1) through (p)(7) of this section. Excepted employers who are required by the EPA or state agency to have their employees engage in emergency response, or who direct their employees to engage

in emergency response, are covered by paragraph (p)(8) of this section, and cannot be exempted by (p)(8)(i) of this section. Excepted employers who are not required to have employees engage in emergency response, who direct their employees to evacuate in the case of such emergencies and who meet the requirements of paragraph (p)(8)(i) of this section, are exempt from the balance of paragraph (p)(8) of this section.

(C) If an area is used primarily for treatment, storage or disposal, any emergency response operations in that area shall comply with paragraph (p)(8) of this section. In other areas not used primarily for treatment, storage or disposal, any emergency response operations shall comply with paragraph (q) of this section. Compliance with the requirements of paragraph (q) of this section shall be deemed to be in compliance with the requirements of paragraph (p)(8) of this section.

(iv) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances which are not covered by paragraphs (a)(1)(i) through (a)(1)(iv) of this section must only comply with the requirements of paragraph (q) of this section.

(3) Definitions.

"Buddy system" means a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

"Clean-up operation" means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

"Decontamination" means the removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health effects.

"Emergency response" or **"responding to emergencies"** means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

"Facility" means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any water-borne vessel.

"Hazardous materials response (HAZMAT) team" means an organized group of employees, designated by the Company, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the sub-stance. The team members perform responses to releases or potential releases of hazardous sub-stances for the purpose of control or stabilization of the incident. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.

"Hazardous substance" means any substance designated or listed under paragraphs (A) through (D) of this definition, exposure to which results or may result in adverse effects on the health or safety of employees:

(A) Any substance defined under section 101(14) of CERCLA;

(B) Any substance listed by the U.S.Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices;

(C) Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring; and

(D) Hazardous waste as herein defined.

"Hazardous waste" means:

(A) A waste or combination of wastes as defined in 40 CFR 261.3, or

(B) Those substances defined as hazardous wastes in 49 CFR 171.8.

"Hazardous waste operation" means any operation conducted within the scope of this standard.

"Hazardous waste site" or **"Site"** means any facility or location within the scope of this standard at which hazardous waste operations take place.

"Health hazard" means a chemical, mixture of chemicals or a pathogen for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term **"health hazard"** includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. It also includes stress due to temperature extremes. Further definition of the terms used above can be found in Appendix A to 29 CFR 1910.1200.

"IDLH" or **"Immediately dangerous to life or health"** means an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

"Oxygen deficiency" means that concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.

"Permissible exposure limit" means the exposure, inhalation or dermal permissible exposure limit specified in 29 CFR Part 1910, Subparts G and Z.

"Published exposure level" means the exposure limits published in **"NIOSH Recommendations for Occupational Health Standards"** dated 1986, which is incorporated by reference as specified in §1910.6, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication **"Threshold Limit Values and Biological Exposure Indices for 1987-88"** dated 1987, which is incorporated by reference as specified in §1910.6.

"Post emergency response" means that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun. If post emergency response is performed by a Company's own employees who were part of the initial emergency response, it is considered to be part of the initial response and not post emergency response. However, if a group of a Company's own employees, separate from the group providing initial response, performs the clean-up operation, then the separate group of employees would be considered to be performing post-emergency response and subject to paragraph (q)(11) of this section.

"Qualified person" means a person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.

"Site safety and health supervisor (or official)" means the individual located on a hazardous waste site who is responsible to the Company and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.

"Small quantity generator" means a generator of hazardous wastes who in any calendar month generates no more than 1,000 kilograms (2,205 pounds) of hazardous waste in that month.

"Uncontrolled hazardous waste site" means an area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other, where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Some sites are found on public lands, such as those created by former municipal, county or state landfills where illegal or poorly managed waste disposal has taken place. Other sites are found on private property, often belonging to generators or former generators of hazardous substance wastes. Examples of such sites include, but are not limited to, surface impoundments, landfills, dumps, and tank or drum farms. Normal operations at TSD sites are not covered by this definition.

(b) Safety and health program.

Note to (b): Safety and health programs developed and implemented to meet other Federal, state, or local regulations are considered acceptable in meeting this topics required in this paragraph. An additional or separate safety and health program is not required by this paragraph.

(1) General.

(i) The Company shall develop and implement a written safety and health program for their employees involved in hazardous waste operations. The program shall be designed to identify, evaluate, and control safety and
health hazards, and provide for emergency response for hazardous waste operations.

(ii) The written safety and health program shall incorporate the following:

(A) An organizational structure;

(B) A comprehensive workplan;

(C) A site-specific safety and health plan which need not repeat the Company's standard operating procedures required in paragraph (b)(1)(ii)(F) of this section;

(D) The safety and health training program;

(E) The medical surveillance program;

(F) The Company's standard operating procedures for safety and health; and

(G) Any necessary interface between general program and site specific activities.

(iii) Site excavation. Site excavations created during initial site preparation or during hazardous waste operations shall be shored or sloped as appropriate to prevent accidental collapse in accordance with Subpart P of 29 CFR Part 1926.

(iv) Contractors and sub-contractors. The Company, if it retains contractors or subcontractors services for work in hazardous waste operations, shall inform those contractors, subcontractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety or other hazards of the hazardous waste operation that have been identified by the Company, including those identified in the Company's information program.

(v) Program availability. The written safety and health program shall be made available to any contractor or subcontractor or their representative who will be involved with the hazardous waste operation; to employees; to employee designated representatives; to OSHA personnel, and to personnel of other Federal, state, or local agencies with regulatory authority over the site.

(2) Organizational structure part of the site program.

(i) The organizational structure part of the program shall establish the specific chain of command and specify the overall responsibilities of supervisors and employees. It shall include, at a minimum, the following elements:

(A) A general supervisor who has the responsibility and authority to direct all hazardous waste operations.

(B) A site safety and health supervisor who has the responsibility and authority to develop and implement the site safety and health plan and verify compliance.

(C) All other personnel needed for hazardous waste site operations and emergency response and their general functions and responsibilities.

(D) The lines of authority, responsibility, and communication.

(ii) The organizational structure shall be reviewed and updated as necessary to reflect the current status of waste site operations.

(3) Comprehensive workplan part of the site program. The comprehensive workplan part of the program shall address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives.

(i) The comprehensive workplan shall address anticipated clean-up activities as well as normal operating procedures which need not repeat the Company's procedures available elsewhere.

(ii) The comprehensive workplan shall define work tasks and objectives and identify the methods for accomplishing those tasks and objectives.

(iii) The comprehensive workplan shall establish personnel requirements for implementing the plan.

(iv) The comprehensive workplan shall provide for the implementation of the training required in paragraph (e) of this section.

(v) The comprehensive workplan shall provide for the implementation of the required informational programs required in paragraph (i) of this section.

(vi) The comprehensive workplan shall provide for the implementation of the medical surveillance program described in paragraph (f) of this section.

(4) Site-specific safety and health plan part of the program.

(i) General. The site safety and health plan, which must be kept on site, shall address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection.

(ii) Elements. The site safety and health plan, as a minimum, shall address the following:

(A) A safety and health risk or hazard analysis for each site task and operation found in the workplan.

(B) Employee training assignments to assure compliance with paragraph (e) of this section.

(C) Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program in paragraph (g)(5) of this section.

(D) Medical surveillance requirements in accordance with the program in paragraph (f) of this section.

(E) Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.

(F) Site control measures in accordance with the site control program required in paragraph (d) of this section.

(G) Decontamination procedures in accordance with paragraph (k) of this section.

(H) An emergency response plan meeting the requirements of paragraph (l) of this section for safe and effective responses to emergencies, including the necessary PPE and other equipment.

(I) Confined space entry procedures.

(J) A spill containment program meeting the requirements of paragraph (j) of this section.

(K) All employees leaving a contaminated area shall be appropriately decontaminated; all contaminated clothing and equipment leaving a contaminated area shall be appropriately disposed of or decontaminated.

Decontamination procedures shall be monitored by the site safety and health supervisor to determine their effectiveness. When such procedures are found to be ineffective, appropriate steps shall be taken to correct any deficiencies.

Location. Decontamination shall be performed in geographical areas that will minimize the exposure of uncontaminated employees or equipment to contaminated employees or equipment.

Equipment and solvents. All equipment and solvents used for decontamination shall be decontaminated or disposed of properly.

Personal protective clothing and equipment. Protective clothing and equipment shall be decontaminated, cleaned, laundered, maintained or replaced as needed to maintain their effectiveness.

Employees whose non-impermeable clothing becomes wetted with hazardous substances shall immediately remove that clothing and proceed to shower. The clothing shall be disposed of or decontaminated before it is removed from the work zone.

Unauthorized employees. Unauthorized employees shall not remove protective clothing or equipment from change rooms.

Commercial laundries or cleaning establishments. Commercial laundries or cleaning establishments that decontaminate protective clothing or equipment shall be informed of the potentially harmful effects of exposures to hazardous substances.

Showers and change rooms. Where the decontamination procedure indicates a need for regular showers and change rooms outside of a contaminated area, they shall be provided and meet the requirements of 29 CFR 1910.141. If temperature conditions prevent the effective use of water, then other effective means for cleansing shall be provided and used.

(iii) Pre-entry briefing. The site specific safety and health plan shall provide for pre-entry briefings to be held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The information and data obtained from site characterization and analysis work required in paragraph (c) of this section shall be used to prepare and update the site safety and health plan.

(iv) Effectiveness of site safety and health plan. Inspections shall be conducted by the site safety and health supervisor or, in the absence of that individual, another individual who is knowledgeable in occupational safety and health, acting on behalf of the Company as necessary to determine the effectiveness of the site safety and health plan. Any deficiencies in the effectiveness of the site safety and health plan shall be corrected by the Company.

(c) Site characterization and analysis.

(1) General. Hazardous waste sites shall be evaluated in accordance with this paragraph to identify specific site hazards and to determine the appropriate safety and health control procedures needed to protect employees from the identified hazards.

(2) Preliminary evaluation. A preliminary evaluation of a site's characteristics shall be performed prior to site entry by a qualified person in order to aid in the selection of appropriate employee protection methods prior to site entry. Immediately after initial site entry, a more detailed evaluation of the site's specific characteristics shall be performed by a qualified person in order to further identify existing site hazards and to further aid in the selection of the appropriate engineering controls and personal protective equipment for the tasks to be performed.

(3) Hazard identification. All suspected conditions that may pose inhalation or skin absorption hazards that are immediately dangerous to life or health (IDLH), or other conditions that may cause death or serious harm, shall be identified during the preliminary survey and evaluated during the detailed survey. Examples of such hazards include, but are not limited to, confined space entry, potentially explosive or flammable situations, visible vapor clouds, or areas where biological indicators such as dead animals or vegetation are located.

(4) Required information. The following information to the extent available shall be obtained by the Company prior to allowing employees to enter a site:

(i) Location and approximate size of the site.

(ii) Description of the response activity and/or the job task to be performed.

(iii) Duration of the planned employee activity.

(iv) Site topography and accessibility by air and roads.

(v) Safety and health hazards expected at the site.

(vi) Pathways for hazardous substance dispersion.

(vii) Present status and capabilities of emergency response teams that would provide assistance to hazardous waste clean-up site employees at the time of an emergency.

(viii) Hazardous substances and health hazards involved or expected at the site, and their chemical and physical properties.

(5) Personal protective equipment. Personal protective equipment (PPE) shall be provided and used during initial site entry in accordance with the following requirements:

(i) Based upon the results of the preliminary site evaluation, an ensemble of PPE shall be selected and used during initial site entry which will provide protection to a level of exposure below permissible exposure limits and published exposure levels for known or suspected hazardous substances and health hazards, and which will provide protection against other known and suspected hazards identified during the preliminary site evaluation. If there is no permissible exposure limit or published exposure level, the Company may use other published studies and information as a guide to appropriate personal
protective equipment.

(ii) If positive-pressure self-contained breathing apparatus is not used as part of the entry ensemble, and if respiratory protection is warranted by the potential hazards identified

during the preliminary site evaluation, an escape self-contained breathing apparatus of at least five minute's duration shall be carried by employees during initial site entry.

(iii) If the preliminary site evaluation does not produce sufficient information to identify the hazards or suspected hazards of the site, an ensemble providing protection equivalent to Level B PPE shall be provided as minimum protection, and direct reading instruments shall be used as appropriate for identifying IDLH conditions.

(iv) Once the hazards of the site have been identified, the appropriate PPE shall be selected and used in accordance with paragraph (g) of this section.

(6) Monitoring. The following monitoring shall be conducted during initial site entry when the site evaluation produces information that shows the potential for ionizing radiation or IDLH conditions, or when the site information is not sufficient reasonably to eliminate these possible conditions:

(i) Monitoring with direct reading instruments for hazardous levels of ionizing radiation.

(ii) Monitoring the air with appropriate direct reading test equipment (i.e., combustible gas meters, detector tubes) for IDLH and other conditions that may cause death or serious harm (combustible or explosive atmospheres,
oxygen deficiency, toxic substances).

(iii) Visually observing for signs of actual or potential IDLH or other dangerous conditions.

(iv) An ongoing air monitoring program in accordance with paragraph (h) of this section shall be implemented after site characterization has determined the site is safe for the start-up of operations.

(7) Risk identification. Once the presence and concentrations of specific hazardous substances and health hazards have been established, the risks associated with these substances shall be identified. Employees who will be working on the site shall be informed of any risks that have been identified. In situations covered by the Hazard
Communication Standard, 29 CFR 1910.1200, training required by that standard need not be duplicated.

Note to (c)(7). – Risks to consider include, but are not limited to:
(a) Exposures exceeding the permissible exposure limits and published exposure levels.
(b) IDLH concentrations.
(c) Potential skin absorption and irritation sources.
(d) Potential eye irritation sources.
(e) Explosion sensitivity and flammability ranges.
(f) Oxygen deficiency.

(8) Employee notification. Any information concerning the chemical, physical, and toxicologic properties of each substance known or expected to be present on site that is available to the Company and relevant to the duties an employee is expected to perform shall be made available to the affected employees prior to the commencement of their work activities. The Company may utilize information developed for the hazard communication standard for this purpose.

(d) Site control.

(1) General. Appropriate site control procedures shall be implemented to control employee exposure to hazardous substances before clean-up work begins.

(2) Site control program. A site control program for protecting employees which is part of the Company's site safety and health program required in paragraph (b) of this section shall be developed during the planning stages of a hazardous waste
clean-up operation and modified as necessary as new information becomes available.

(3) Elements of the site control program. The site control program shall, as a minimum, include:

A site map;
Site work zones;
The use of a "buddy system";
Site communications including alerting means for emergencies;
The standard operating procedures or safe work practices; and,
Identification of the nearest medical assistance.

Where these requirements are covered elsewhere they need not be repeated.

(e) Training.

(1) General.

(i) All employees working on site (such as but not limited to equipment operators, general laborers and others) exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management
responsible for the site shall receive training meeting the requirements of this paragraph before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards, and they shall receive review training as specified in this paragraph.

(ii) Employees shall not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility.

(2) Elements to be covered. The training shall thoroughly cover the following:

(i) Names of personnel and alternates responsible for site safety and health;

(ii) Safety, health and other hazards present on the site;
(iii) Use of personal protective equipment;
(iv) Work practices by which the employee can minimize risks from hazards;
(v) Safe use of engineering controls and equipment on the site;
(vi) Medical surveillance requirements, including recognition of symptoms and signs which might indicate overexposure to hazards; and
(vii) The contents of paragraphs (G) through (J) of the site safety and health plan set forth in paragraph (b)(4)(ii) of this section.

(3) Initial training.

(i) General site workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous

substances and health hazards shall receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.

(ii) Workers on site only occasionally for a specific limited task (such as, but not limited to, ground water monitoring, land surveying, or geophysical surveying) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

(iii) Workers regularly on site who work in areas which have been monitored and fully characterized indicating that exposures are under permissible exposure limits and published exposure limits where respirators are not necessary, and the characterization indicates that there are no health hazards or the possibility of an emergency developing, shall receive a minimum of 24 hours of instruction off the site and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

(iv) Workers with 24 hours of training who are covered by paragraphs (e)(3)(ii) and (e)(3)(iii) of this section, and who become general site workers or who are required to wear respirators, shall have the additional 16 hours and two days of training necessary to total the training specified in paragraph (e)(3)(i).

(4) Management and supervisor training.
On-site management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations shall receive 40 hours initial training, and three days of supervised field experience (the training may be reduced to 24 hours and one day if the only area of their responsibility is employees covered by paragraphs (e)(3)(ii) and (e)(3)(iii)) and at least eight additional hours of specialized training at the time of job assignment on such topics as, but not limited to, the Company's safety and health program and the associated employee training program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques.

(5) Qualifications for trainers. Trainers shall be qualified to instruct employees bout the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they shall have the academic credentials and instructional experience necessary for teaching the subjects. Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

(6) Training certification. Employees and supervisors that have received and successfully completed the training and field experience specified in paragraphs (e)(1) through (e)(4) of this section shall be certified by their instructor or the head instructor and trained supervisor as having successfully completed the necessary training. A written certificate shall be given to each person so certified. Any person who has not been so certified or who does not meet the requirements of paragraph (e)(9) of this section shall be prohibited from engaging in hazardous waste operations.

(7) Emergency response. Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean-up sites that may expose them to hazardous substances shall be trained in how to respond to such expected
emergencies.

(8) Refresher training. Employees specified in paragraph (e)(1) of this section, and managers and supervisors specified in paragraph (e)(4) of this section, shall receive eight hours of refresher training annually on the items specified in paragraph
(e)(2) and/or (e)(4) of this section, any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics.

(9) Equivalent training. When the Company can show, by documentation or certification, that an employee's work experience and/or training has resulted in training equivalent to that training required in paragraphs (e)(1) through (e)(4) of this section shall not be required to provide the initial training requirements of those paragraphs to such employees and shall provide a copy of the certification or
documentation to the employee upon request. However, certified employees or employees with equivalent training new to a site shall receive appropriate, site specific training before site entry and have appropriate supervised field experience
at the new site. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site work experience.

(f) Medical surveillance.

(1) General. The Company, when engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section and not covered by (a)(2)(iii), exceptions and the Company of employees specified in paragraph (q)(9) shall institute a medical surveillance program in accordance with this paragraph.

(2) Employees covered. The medical surveillance program shall be instituted by the Company for the following employees:

(i) All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;

(ii) All employees who wear a respirator for 30 days or more a year or as required by §1910.134;

(iii) All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and

(iv) Members of HAZMAT teams.

(3) Frequency of medical examinations and consultations. Medical examinations and consultations shall be made available by the Company to each employee covered under paragraph (f)(2) of this section on the following schedules:

(i) For employees covered under paragraphs (f)(2)(i), (f)(2)(ii), and (f)(2)(iv):

(A) Prior to assignment;

(B) At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate;

(C) At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months;

(D) As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation;

(E) At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

(ii) For employees covered under paragraph (f)(2)(iii) and for all employees including those of the Company covered by paragraph (a)(1)(v) who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or exposed during an emergency incident to hazardous substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used:

(A) As soon as possible following the emergency incident or development of signs or symptoms;

(B) At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.

(4) Content of medical examinations and consultations.

(i) Medical examinations required by paragraph (f)(3) of this section shall include a medical and work history (or updated history if one is in the employee's file) with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.

(ii) The content of medical examinations or consultations made available to employees pursuant to paragraph (f) shall be determined by the attending physician. The guidelines in the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities should be consulted.

(5) Examination by a physician and costs. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(6) Information provided to the physician. The Company shall provide one copy of this standard and its appendices to the attending physician, and in addition the following for each employee:

(i) A description of the employee's duties as they relate to the employee's exposures.

(ii) The employee's exposure levels or anticipated exposure levels.

(iii) A description of any personal protective equipment used or to be used.

(iv) Information from previous medical examinations of the employee which is not readily available to the examining physician.

(v) Information required by §1910.134.

(7) Physician's written opinion.

(i) The Company shall obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:

(A) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health
from work in hazardous waste operations or emergency response, or from respirator use.

(B) The physician's recommended limitations upon the employee's assigned work.

(C) The results of the medical examination and tests if requested by the employee.

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The written opinion obtained by the Company shall not reveal specific findings or diagnoses unrelated to occupational exposures.

(8) Recordkeeping.

(i) An accurate record of the medical surveillance required by paragraph (f) of this section shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1910.20.

(ii) The record required in paragraph (f)(8)(i) of this section shall include at least the following information:

(A) The name and social security number of the employee;
(B) Physician's written opinions, recommended limitations, and results of examinations and tests;
(C) Any employee medical complaints related to exposure to hazardous substances;
(D) A copy of the information provided to the examining physician by the employer, with the exception of the standard and its appendices.

(g) Engineering controls, work practices, and personal protective equipment for employee protection. Engineering controls, work practices, personal protective equipment, or a combination of these shall be implemented in accordance with this paragraph to protect employees from exposure to hazardous substances and safety and health hazards.

(1) Engineering controls, work practices and PPE for substances regulated in Subparts G and Z.

(i) Engineering controls and work practices shall be instituted to reduce and maintain employee exposure to or below the permissible exposure limits for substances regulated by 29 CFR Part 1910, to the extent required by Subpart Z, except to the extent that such controls and practices are not feasible.

Note to (g)(1)(i): Engineering controls which may be feasible include the use of pressurized cabs or control booths on equipment, and/or the use of remotely operated material handling equipment. Work practices which may be feasible are removing all non-essential employees from potential exposure during opening of drums, wetting down dusty operations and locating
employees upwind of possible hazards.

(ii) Whenever engineering controls and work practices are not feasible or not required, any reasonable combination of engineering controls, work practices and PPE shall be used to reduce and maintain employee exposures to or below the permissible exposure limits or dose limits for substances regulated by 29 CFR Part 1910, Subpart Z.

(iii) The Company shall not implement a schedule of employee rotation as a means of compliance with permissible exposure limits or dose limits except when there is no other feasible way of complying with the airborne or dermal dose limits for ionizing radiation.

(iv) The provisions of 29 CFR 1910, Subpart G, shall be followed.

(2) Engineering controls, work practices, and PPE for substances not regulated in Subparts G and Z. An appropriate combination of engineering controls, work practices and personal protective equipment shall be used to reduce and maintain employee exposure to or below published exposure levels for hazardous substances and health hazards not regulated by 29 CFR Part 1910, Subparts G and Z. The Company may use the published literature and MSDS as a guide in making the Company's determination as to what level of protection the Company believes is appropriate for hazardous substances and health hazards for which there is no permissible exposure limit or published exposure limit.

(3) Personal protective equipment selection.

(i) Personal protective equipment (PPE) shall be selected and used which will protect employees from the hazards and potential hazards they are likely to encounter as identified during the site characterization and analysis.

(ii) Personal protective equipment selection shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.

(iii) Positive pressure self-contained breathing apparatus, or positive pressure air-line respirators equipped with an escape air supply, shall be used when chemical exposure levels present will create a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.

(iv) Totally-encapsulating chemical protective suits (protection equivalent to Level A protection) shall be used in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.

(v) The level of protection provided by PPE selection shall be increased when additional information on site conditions indicates that increased protection is necessary to reduce employee exposures below permissible exposure limits and published exposure levels for hazardous substances and health hazards.

(vi) Personal protective equipment shall be selected and used to meet the requirements of 29 CFR Part 1910, Subpart I, and additional requirements specified in this section.

Note to (g)(3): The level of employee protection provided may be decreased when additional information or site conditions show that decreased protection will not result in hazardous exposures to employees.

(4) Totally-encapsulating chemical protective suits.

(i) Totally-encapsulating suits shall protect employees from the particular hazards which are identified during site characterization and analysis.

(ii) Totally-encapsulating suits shall be capable of maintaining positive air pressure.

(iii) Totally-encapsulating suits shall be cap-able of preventing inward test gas leakage of more than 0.5 percent.

(5) Personal protective equipment (PPE) program. A written personal protective equipment program, which is part of the Company's safety and health program required in paragraph (b) of this section or required in paragraph (p)(1) of this section and which is also a part of the site-specific safety and health plan shall be established. The PPE program shall address the elements listed below. When elements, such as donning and doffing procedures, are provided by the manufacturer of a piece of equipment and are attached to the plan, they need not be rewritten into the plan as long as they adequately address the procedure or element.

(i) PPE selection based upon site hazards,
(ii) PPE use and limitations of the equipment,
(iii) Work mission duration,

(iv) PPE maintenance and storage,

(v) PPE decontamination and disposal,

(vi) PPE training and proper fitting,

(vii) PPE donning and doffing procedures,

(viii) PPE inspection procedures prior to, during, and after use,

(ix) Evaluation of the effectiveness of the PPE program, and

(x) Limitations during temperature extremes, heat stress, and other appropriate medical considerations.

(h) Monitoring.

(1) General.

(i) Monitoring shall be performed in accordance with this paragraph where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or
published exposure levels if there are no permissible exposure limits, for hazardous substances.

(ii) Air monitoring shall be used to identify and quantify airborne levels of hazardous substances and safety and health hazards in order to determine the appropriate level of employee protection needed on site.

(2) Initial entry. Upon initial entry, representative air monitoring shall be conducted to identify any IDLH condition, exposure over permissible exposure
limits or published exposure levels, exposure over a radioactive material's dose limits or other dangerous condition such as the presence of flammable atmospheres or oxygen-deficient environments.

(3) Periodic monitoring. Periodic monitoring shall be conducted when the possibility of an IDLH condition or flammable atmosphere has developed or when there is indication that exposures may have risen over permissible exposure limits or
published exposure levels since prior monitoring. Situations where it shall be considered whether the possibility that exposures have risen are as follows:

(i) When work begins on a different portion of the site.

(ii) When contaminants other than those previously identified are being handled.

(iii) When a different type of operation is initiated (e.g., drum opening as opposed to exploratory well drilling).

(iv) When employees are handling leaking drums or containers or working in areas with obvious liquid contamination (e.g., a spill or lagoon).

(4) Monitoring of high-risk employees. After the actual clean-up phase of any hazardous waste operation commences; for example, when soil, surface water or containers are moved or disturbed; the Company shall monitor those employees
likely to have the highest exposures to hazardous substances and health hazards likely to be present above permissible exposure limits or published exposure levels by using personal

sampling frequently enough to characterize employee exposures. If the employees likely to have the highest exposure are over permissible exposure limits or published exposure limits, then monitoring shall continue to determine all employees likely to be above those limits. The Company may utilize a representative sampling approach by documenting that the employees and chemicals
chosen for monitoring are based on the criteria stated above.

Note to (h): It is not required to monitor employees engaged in site characterization operations covered by paragraph (c) of this section.

(i) Informational programs. The Company shall develop and implement a program, which is part of the Company's safety and health program required in paragraph (b) of this section, to inform employees, contractors, and subcontractors (or their representative) actually engaged in hazardous waste operations of the nature, level and degree of exposure likely as a result of participation in such hazardous waste operations. Employees, contractors and subcontractors working outside of the operations part of a site are not covered by this standard.

Respiratory Protection Program

Policy:

All employees will be protected from exposure to airborne radioactive, chemical, or biological contamination by installing, implementing, or instituting feasible engineering or administrative controls. If these controls do not prove feasible, or while they are being installed/instituted, appropriate respiratory protection will be provided at no cost to the user. For some experiments, respiratory protection may be provided as an additional safeguard against exposure.

It is the TREC Environmental, Inc's policy to provide employees with a safe and healthful working environment. This is accomplished by utilizing facilities and equipment that have all feasible safeguards incorporated into their design. When effective engineering controls are not feasible, or when they are being initiated, protection shall be used to ensure personnel protection.

This program does not apply to contractors as they are responsible for providing their own respiratory protection programs and respiratory protective equipment.

Definitions:

a. Respirator – A device provided to protect the wearer from inhalation of harmful or nuisance atmospheres. Respirators may function by air purifying and/or air supplying techniques.

b. Air Purifying Respirator – A respirator that filters and/or absorbs contaminants from the ambient air being inhaled by the wearer.

c. Supplied Air Respirator – A respirator in which clean air is supplied to the facepiece from an auxiliary source away from the wearer.

d. Self-Contained Breathing Apparatus – A respirator in which the air supply is carried by the wearer.

e. Atmospheric Contamination – The term applies equally to gases such as nitrogen, carbon monoxide, and carbon dioxide; the vapors of volatile substances such as benzene and carbon tetrachloride; toxic dusts and fumes; radioactive materials; and so forth.

f. Respirator Fit Test – A test used to determine a proper match or fit between the facepiece of the respirator and face of the wearer.

Responsibilities:

a. Supervisor

Supervisors will ensure each employee under his or her supervision using a respirator has received appropriate training in its use and an annual medical evaluation. Supervisors will ensure the availability of appropriate respirators and accessories, provide adequate storage facilities, and encourage proper respirator equipment maintenance. Supervisors must be aware of tasks requiring the use of respiratory protection, and ensure all employees engaged in such work use the appropriate respirators at all times. The Supervisors are responsible for the following:

1. Ensures that all employees who wear respiratory protective devices are thoroughly trained in their use.

2. Provides employees with the respiratory protection appropriate for the operation, and ensures the use of such devices.

3. Identifies potentially hazardous conditions and immediately notifies the Safety and Health Manager for corrective action.

Supervisors shall contact the Safety and Health Manager prior to non-routine work which may expose workers to hazardous substances or oxygen deficient atmospheres. Examples of work which may require the use of respirators includes, but are not limited to:

- Asbestos abatement activities
- Abrasive blasting
- Cutting or melting lead or stripping lead-based paints from surfaces
- Welding or burning
- Painting, especially with epoxy or organic solvent coatings
- Using solvents, thinners, or degreasers
- Any work which generates large amounts of dust
- Working in a confined space
- Using formaldehyde to decontaminate a space
- Bioaerosols

b. Employee

1. Uses respiratory protective equipment as instructed and required under hazardous agent protocols.

2. Stores respirator properly to prevent damage and inspects prior to each use.

3. Reports any malfunction of respiratory protective equipment to the immediate supervisor.
Responsibilities: (continued)

c. Others

Personnel, such as employees, inspectors, and visitors, who must enter an area where the use of respiratory protective equipment is required, even when their stay time in the area may be 15 minutes or less, shall be provided with and use appropriate equipment, including instructions regarding use and limitations. Personnel shall be fit tested and medically qualified to wear the respirator being issued prior to entry to the site.

Contractors are required to develop and implement a respiratory protection program for their employees who must enter into or work in areas where exposure to hazardous materials can not be controlled or avoided. This program must meet OSHA regulations and include issuance of respirators, medical evaluations, fit testing and training.

d. Safety and Health Manager

1. Develops and implements all aspects of the respiratory protection program.

2. Develops training programs and standard operating procedures to fulfill the requirements of existing OSHA regulations and amendments. 3.Purchases, selects, inspects, maintains, cleans, stores, and fit tests respiratory protective equipment.

4. Periodically inspects and replaces all respiratory protective devices stored for emergency use.

Procedures:

a. Selection – Respirators shall be selected on the basis of the potential hazards to which the worker is exposed. The following factors shall be ascertained by the Health and Safety Branch to ensure that the device selected for the employee will provide satisfactory protection when used properly:

1. Chemical, physical, and toxicological properties of the contaminant(s).

2. Review of actual and potential hazards to assess extent of injurious effects produced under all conditions of potential exposure.

3. Evaluation of the duties to be performed by the wearer as they relate to restriction of movement and duration of potential exposure.

4. An understanding of the principles, design, scope of use, limitations, advantages, and disadvantages of the available respirators. Respiratory equipment selected will be approved by the TREC Environmental, Inc. or will otherwise be in accordance with existing OSHA regulations.

b. Medical Evaluations – It is the responsibility of the Health and Safety Branch to review the health status of all employees who may be required to wear respiratory equipment. In the event of prolonged respirator use, the wearer should have a medical examination to determine if he/she is medically able to wear respiratory protective equipment without aggravating a pre-existing medical condition. Medical evaluations prior to fit-testing must be confidential, occur during normal working hours, convenient, understandable, and the employee must be given a chance to discuss the results with the physician or other licensed health care professional (PLHCP).

Medical considerations include, but are not limited to the following:

- History of asthma or emphysema
- Difficulty in breathing
- Previously documented lung problems
- High blood pressure
- Artery diseases
- Documented heart problems
- Missing or arthritic fingers
- Facial scars
- Claustrophobia
- Poor eyesight

c. Fitting – Each individual required to use a respirator of any type will be fitted by the Safety and Health Manager prior to using any such device. The fit test will include a demonstration of proper donning, wearing, and field fit testing techniques, an extensive leak test using a solution of isoamyl acetate as the test vapor and a quantitative fit test using a respirator fit tester. Any individual with a beard or other facial hair that may prevent a proper facepiece-to-face seal will not be fit tested until the hair has been removed. A separate Respirator Fitting and Training Record shall be maintained for each participating individual.

Respirator Fit testing

A fit test shall be used to determine the ability of each individual respirator wearer to obtain a satisfactory fit with any air-purifying respirator. Both quantitative and qualitative fit tests will be performed. Personnel must successfully pass the fit test before being issued an air-purifying respirator.

No TREC Environmental, Inc. employee is permitted to wear a negative-pressure respirator in a work situation until he or she has demonstrated that an acceptable fit can be obtained. Respirator fitting is conducted initially upon assignment to a task requiring use of a respirator. Refitting is conducted annually thereafter upon successful completion of the respirator training.

Respirator Fit testing (continued)

Fit testing will be conducted by the Safety and Health Manager and the test results will be the determining factor in selecting the type, model, and size of negative-pressure respirator for use by each individual respirator wearer.

Fit Checking-

Each time a respirator is donned, the user will perform positive and negative pressure fit checks. These checks are not a substitute for fit testing. Respirator users must be properly trained in the performance of these checks and understand their limitations.

A. Negative Pressure Check

Applicability/Limitations:This test cannot be carried out on all respirators; however, it can be used on facepieces of air purifying respirators equipped with tight-fitting respirator inlet covers and on atmosphere supplying respirators equipped with breathing tubes which can be squeezed or blocked at the inlet to prevent the passage of air.

Procedure: Close off the inlet opening of the respirator's canister(s), cartridge(s), or filter(s) with the palm of the hand, or squeeze the breathing air tube or block its inlet so that it will not allow the passage of air. Inhale gently and hold for at least 10 seconds. If the facepiece collapses slightly and no inward leakage of air into the facepiece is detected, it can be reasonably assumed that the respirator has been properly positioned and the exhalation valve and facepiece are not leaking.

B. Positive Pressure Check

Applicability/Limitations:This test cannot be carried out on all respirators; however, respirators equipped with exhalation valves can be tested.

Procedure: Close off the exhalation valve or the breathing tube with the palm of the hand. Exhale gently. If the respirator has been properly positioned, a slight positive pressure will build up inside the facepiece without detection of any outward air leak between the sealing surface of the facepiece and the face.

Qualitative Fit Testing

Federal regulations (29 CFR 1910.1001) require qualitative fit tests of respirators and describe step-by-step procedures. This test checks the subject's response to a chemical introduced outside the respirator facepiece. This response is either voluntary or involuntary depending on the chemical used. Several methods may be used. The two most common are the irritant smoke test, and the odorous vapor test.

a. Irritant Smoke

The irritant smoke test is an involuntary response test. Air purifying respirators must be equipped with a high efficiency particulate air (HEPA) filter for this test. An irritant smoke, usually either stannic chloride or titanium tetrachloride, is directed from a smoke tube toward the respirator. If the test subject does not respond to the irritant smoke, a satisfactory fit is assumed to be achieved. Any response to the smoke indicates an unsatisfactory fit.

The irritant smoke is an irritant to the eyes, skin, and mucous membranes. It should not be introduced directly onto the skin. The test subject must keep his or her eyes closed during the testing if a full facepiece mask is not used.

b. Odorous Vapor

The odorous vapor test is a voluntary response test. It relies on the subject's ability to detect an odorous chemical while wearing the respirator. Air purifying respirators must be equipped with an organic cartridge or canister for this test. Isoamyl acetate (banana oil) is the usual test. An isoamyl acetate-saturated gauze pad is placed near the facepiece-to-face seal of the respirator of the test subject's skin. If the test subject is unable to smell the chemical, than a satisfactory fit is assumed to be achieved. If the subject smells the chemical, the fit is unsatisfactory.

If the subject cannot smell the chemical, the respirator will be momentarily pulled away from the subject's face. If the subject is then able to smell the chemical, a satisfactory fit is assumed. If the subject cannot smell the chemical with the respirator pulled away from the face, this test is inappropriate for this subject, and a different test will be used.

This test is limited by the wide variation of odor thresholds among individuals and the possibility of olfactory fatigue. Since it is a voluntary response test it depends upon an honest response.

Quantitative Fit Testing

Quantitative fit testing, using the Portacount Plus fit test system, is generally performed on both full-face and half-face negative pressure respirators. Fit factors are determined by comparing the particle concentration outside the respirator with the concentration inside the respirator facepiece. An acceptable fit is achieved when the respirator wearer successfully completes a series of six programmed exercises (normal breathing, deep breathing, moving head up and down, moving head side to side, reading, and normal breathing) with a fit factor of 100 or more.

Special Problems

A. Facial Hair

No attempt is made to fit a respirator on an employee who has facial hair which comes between the sealing periphery of the facepiece and the face, or if facial hair interferes with normal functioning of the exhalation valve of the respirator.

B. Glasses and Eye/Face Protective Devices

Proper fitting of a respiratory protective device facepiece for individuals wearing corrective eyeglasses or goggles, may not be established if temple bars or straps extend through the sealing edge of the facepiece. If eyeglasses, goggles, face shield or welding helmet must be worn with a respirator, they must be worn so as not to adversely affect the seal of the facepiece. If a full-facepiece respirator is used, special prescription glasses inserts are available if needed.

d. Training – Appropriate training and instructions in the proper use of each type of respirator shall be provided by the Safety and Health Manager. Respirator users and their supervisors will receive training on the contents of this Respiratory Protection Program and their responsibilities under it. They will be trained on the proper selection and use, as well as the limitations of the respirator. Training also covers how to ensure a proper fit before use and how to determine when a respirator is no longer providing the protection intended.

The Safety and Health Manager provides training of respirator wearers in the use, maintenance, capabilities, and limitations of respirators is initially upon assignment of personnel to tasks requiring the use of respirators. Retraining is given annually thereafter and only upon successful completion of the medical evaluation.

The training program will include the following:

Respirator training will be properly documented (Appendix A) and will include the type and model of respirator for which the individual has been trained and fit-tested.

This training will include, but not be limited to:

1.Nature and degree of respiratory hazard

2.Respirator selection, based on the hazard and respirator capabilities and limitations

3.Donning procedures and fit tests including hand’s-on practice to ensure an effective face piece to face seal

4. Actual handling of the respirator and wearing it for a period in a test atmosphere.

5. A discussion of respirators construction, operating principles and limitations.

6.Care of the respirator, e.g., need for cleaning, maintenance, storage, and/or replacement

7. Instruction on the nature of the hazard, including information on its physical properties, possible concentrations, modes of physiological action and means of detection.

8. Use and limitations of respirator

9. Discussions of maintenance and inspection procedures.

e. Inspection – For sanitary and health reasons, clean respirators shall be used by one individual only and shall be returned to the Safety and health Manager for cleaning, maintenance, and repairs. Cleaning and disinfecting of reusable components of a respirator unit will be performed by utilizing recognized procedures corresponding to the exposure atmosphere. Disposable respirators will be discarded properly after use by the individual. Inspection frequency for all unused devices shall be monthly. Units receiving routine use shall be inspected by the employee before and after each use. The inspection shall include the following checks when applicable.

1.Tightness of connections
2. Condition of facepiece, headbands, exhalation and inhalation valves, connecting tube, and canister
3. Pressure in cylinders (do not use if less than 1500 psi)
4. Deterioration of all rubber parts

The inspection shall include the following checks when applicable. (continued)

5. Regulator mechanism
6. Lens of facepieces
7. Warning alarm (self-contained units)
8. Seal on cartridge package

f. Location and Storage of Respirators – Location and storage of all respiratory devices shall be controlled by the Safety and Health Manager. When the need for respiratory equipment is anticipated, approval by the Safety and Health Manager should be obtained in advance.

After inspection, cleaning, and any necessary minor repairs, store respirators to protect against sunlight, heat, extreme cold, excessive moisture, damaging chemicals or other contaminants. Respirators placed at stations and work areas for emergency use shall be stored in compartments built for that purpose, shall be quickly accessible at all times and will be clearly marked. Routinely used respirators, such as half-mask or full-face air-purifying respirators, shall be placed in sealable plastic bags. Respirators may be stored in such places as lockers or tool boxes only if they are first placed in carrying cases or cartons. Respirators shall be packed or stored so that the facepiece and exhalation valves will rest in a normal position and not be crushed. Emergency use respirators shall be stored in a sturdy compartment that is quickly accessible and clearly marked.

g. Self-Contained Breathing Apparatus – Emergency respirators in carrying cases shall be located in areas designated by the Safety and Health Manager. These respirators are provided for emergency situations only, and for use by authorized personnel. Any conditions requiring the use of these devices shall be reported to Safety and Health Manager.

h. Special Requirements for Confined Spaces – In areas immediately hazardous to life or health, self-contained breathing apparatus, air line respirators or hose masks with blowers shall be used. For emergency rescue, a standby person with suitable self-contained breathing apparatus shall be at the nearest fresh air base. Communications (visual, voice or signal line) shall be maintained between all individuals present.

Persons using air line respirators and hose masks with blowers shall be equipped with safety harnesses and safety lines for lifting or removing them from hazardous atmospheres, or other equivalent provisions for rescue from hazardous atmospheres shall be used. More details concerning respiratory protection for confined space entry can be found in the TREC Environmental, Inc's Confined Space Program.

Types of Respirators-

A. Air-Purifying Respirator

These respirators remove air contaminants by filtering, absorbing, adsorbing, or chemical reaction with the contaminants as they pass through the respirator canister or cartridge. This respirator is to be used only where adequate oxygen (19.5 to 23.5 percent by volume) is available. Air-purifying respirators can be classified as follows:

1. Particulate removing respirators, which filter out dusts, fibers, fumes and mists. These respirators may be single-use disposable respirators or respirators with replaceable filters.

NOTE: Surgical masks do not provide protection against air contaminants. They are never to be used in place of an air-purifying respirator. They are for medical use only.

2. Gas- and vapor-removing respirators, which remove specific individual contaminants or a combination of contaminants by absorption, adsorption or by chemical reaction. Gas masks and chemical-cartridge respirators are examples of gas- and vapor-removing respirators.

3. Combination particulate/gas- and vapor-removing respirators, which combine the respirator characteristics of both kinds of air-purifyingrespirators.

B. Supplied-Air Respirators

These respirators provide breathing air independent of the environment. Such respirators are to be used when the contaminant has insufficient odor, taste or irritating warning properties, or when the contaminant is of such high concentration or toxicity that an air-purifying respirator is inadequate. Supplied- air respirators, also called air-line respirators, are classified as follows:

1. Demand

This respirator supplies air to the user on demand (inhalation) which creates a negative pressure within the facepiece. Leakage into the facepiece may occur if there is a poor seal between the respirator and the user's face.

2. Pressure-Demand

This respirator maintains a continuous positive pressure within the facepiece, thus preventing leakage into the facepiece.

3. Continuous Flow

This respirator maintains a continuous flow of air through the facepiece and prevents leakage into the facepiece.

C. Self-Contained Breathing Apparatus (SCBA)

This type of respirator allows the user complete independence from a fixed source of air and offers the greatest degree of protection but is also the most complex. Training and practice in its use and maintenance is essential. This type of device will be used in emergency situations only.

Breathing Air Quality-

Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

- Oxygen content (v/v) of 19.5-23.5%;
- Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
- Carbon monoxide (CO) content of 10 ppm or less;
- Carbon dioxide content of 1,000 ppm or less; and
- Lack of noticeable odor.

Compressed oxygen shall not be used in supplied-air respirators that have previously used compressed air. Compressed oxygen shall only be used in equipment designed for oxygen service or distribution.

Cylinders used to supply breathing air to respirators must meet the following requirements:

- Cylinders are tested and maintained as described in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 180);
- Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air; and
- The moisture content in the cylinder does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure.

Compressors used to supply breathing air to respirators shall be constructed and situated so as to:

- Prevent entry of contaminated air into the air-supply system;
- Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 deg.C) below the ambient temperature;
- Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.
- Have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change. The tag shall be maintained at the compressor.
- For compressors that are not oil-lubricated, the employer shall ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.

Identification of Respirator Cartridges and Gas Mask Canisters

Respirator cartridges and canisters are designed to protect against individual or a combination of potentially hazardous atmospheric contaminants, and are specifically labeled and color coded to indicate the type and nature of protection they provide.

An approved label on the respirator will also specify the maximum concentration of contaminant(s) for which the cartridge or canister is approved. For example, a label may read:

"DO NOT WEAR IN ATMOSPHERES IMMEDIATELY DANGEROUS TO LIFE. MUST BE USED IN AREAS CONTAINING AT LEAST 20 PERCENT OXYGEN. DO NOT WEAR IN ATMOSPHERES CONTAINING MORE THAN ONE-TENTH PERCENT ORGANIC VAPORS BY VOLUME. REFER TO COMPLETE LABEL ON RESPIRATOR OR CARTRIDGE CONTAINER FOR ASSEMBLY, MAINTENANCE, AND USE."

Warning Signs of Respirator Failure

A. Particulate Air-Purifying

When breathing difficulty is encountered with a filter respirator (due to partial clogging with increased resistance), the filter(s) must be replaced. Disposable filter respirators must be discarded.

B. Gas or Vapor Air-Purifying

If, when using a gas or vapor respirator (chemical cartridge or canister), any of the warning properties (e.g., odor, taste, eye irritation, or respiratory irritation) occur, promptly leave the area and check the following:

- Proper face seal
- Damaged or missing respirator parts
- Saturated or inappropriate cartridge or canister

If no discrepancies are observed, replace the cartridge or canister. If any of the warning properties appear again, the concentration of the contaminants may have exceeded the cartridge or canister design specification. When this occurs an airline respirator or SCBA is required.

C. Service Life of Air-Purifying Respirator Canisters and Cartridges

The canisters or cartridges of air-purifying respirators are intended to be used until filter resistance precludes further use, or the chemical sorbent is expended as signified by a specific warning property, e.g., odor, taste, etc. New canisters, cartridges or filters shall always be provided when a respirator is reissued. When in doubt about the previous use of the respirator, obtain a replacement canister or cartridge.

D. Supplied Air Respirator

When using an airlines respirator, leave the area immediately when the compressor failure alarm is activated or if an air pressure drop is sensed. When using an SCBA leave the are as soon as the air pressure alarm is activated.

Maintenance and Issuance of Respirators:

Maintenance

The maintenance of respiratory protective devices involves a thorough visual inspection for cleanliness and defects (i.e., cracking rubber, deterioration of straps, defective exhalation and inhalation valves, broken or cracked lenses, etc.). Worn or deteriorated parts will be replaced prior to reissue. No respirator with a known defect is reissued for use. No attempt is made to replace components, make adjustments or make repairs on any respirator beyond those recommended by the manufacturer. Under no circumstances will parts be substituted as such substitutions will invalidate the approval of the respirator. Any repair to reducing or admission valves, regulators, or alarms will be conducted by either the manufacturer or a qualified trained technician.

Cleaning of Respirators

All respirators in routine use shall be cleaned and sanitized on a periodic basis. Respirators used non-routinely shall be cleaned and sanitized after each use and filters and cartridges replaced. Routinely used respirators are maintained individually by the respirator wearer. Replacement cartridges and filters are obtained by contacting the Safety and Health Manager.

Cleaning and disinfection of respirators must be done frequently to ensure that skin-penetrating and dermatitis-causing contaminants are removed from the respirator surface. Respirators maintained for emergency use or those used by more than one person must be cleaned after each use by the user.

The following procedure is recommended for cleaning and disinfecting respirators:

1. Remove and discard all used filters, cartridges, or canisters.
2. Wash facepiece and breathing tube in a cleaner-disinfectant solution. A hand brush may be used to remove dirt. Solvents which can affect rubber and other parts shall not be used.
3. Rinse completely in clean, warm water.
4. Air dry in a clean area in such a way as to prevent distortion.
5. Clean other respirator parts as recommended by the manufacturer.
6. Inspect valves, headstraps, and other parts to ensure proper working condition.
7. Reassemble respirator and replace any defective parts.
8. Place in a clean, dry plastic bag or other suitable container for storage after each cleaning and disinfection.

Issuance of Respirators

Respiratory protective equipment shall not be ordered, purchased, or issued to personnel unless the respirator wearer has received respirator training and a fit test. New employees who require respiratory protective equipment, must be placed into the respirator program before being issued equipment.

APPENDIX A

RESPIRATOR TRAINING CERTIFICATION

I hereby certify that I have been trained in the proper use and limitations of the respirator issued to me. The training included the following:

1. Instruction on putting on, fitting, testing and wearing the respirator.

2. Instruction on inspection, cleaning, and maintaining the respirator.

3. Explanation of dangers related to misuse.

4. Instructions on emergency situations.

I further certify that I understand the use, care, and inspection of the respirator and have tested and worn the unit.

Date: _____

Signed: _____ SSN: _____

Respirator Type Issued: _____

Training Coordinator: _____

APPENDIX B – FIT TEST WORKSHEETS

QUALITATIVE RESPIRATOR FIT TEST

Name: _____ SSN: _____

Clean Shaven? __Yes __No

Spectacle Kit? ___Yes ___No

Manufacturer/Model _____ Size: ___S ___M ___L

Irritant Smoke ___Pass ___Fail

Isoamyl Acetate ___Pass ___Fail

Manufacturer/Model_____ Size: ___S___M___L

Irritant Smoke ___Pass ___Fail

Isoamyl Acetate ___Pass ___Fail

Examiner _____

Date_____

Employee _____

Date _____

APPENDIX B – FIT TEST WORKSHEETS

QUANTITATIVE RESPIRATOR FIT TEST REPORT

LAST NAME _____

FIRST NAME_____

ID NUMBER_____

NEXT TEST DUE_____

OPERATOR NAME_____

RESPIRATOR MODEL_____

•SIZE_____ •MANUFACTURER_____

•APPROVAL NUMBER_____

NOTES_____

TEST DATE_____

TEST TIME_____

TEST DATA

Fit Factor Pass Level: 100

Ex. Ambient
(Part/cc) Mask
(Part/cc) Fit FactorPass/FailNB
DB
SS
UD
R
NB
OVERALL FIT FACTOR = _____

Operator _____ Date _____

Subject_____ Date _____

Hearing Conservation Program

Introduction:

Evidence is well established that worker exposure to noise of sufficient intensity and duration can result in hearing damage. Noise-induced hearing loss rarely results from just one exposure; it can progress unnoticed over a period of years. Initial noise-induced hearing loss occurs at the higher frequencies where the consonant portion of speech is found, making communications difficult.

Engineering controls such as mufflers on heavy equipment exhausts or on air release valves are required where possible. If engineering solutions cannot reduce the noise, administrative controls such as increasing the distance between the noise source and the worker or rotation of jobs between workers in the high noise area should be used if possible.

Noise exposure is often not constant and is difficult to control with either engineering or administrative solutions. Hearing protection is often the only choice available.

Employees will be given the opportunity to select hearing protective devices from a variety of suitable ones provided by the Safety and Health Manager. In all cases the chosen hearing protectors shall have a Noise Reduction Ratio (NRR) high enough to reduce the noise at the ear drum to 85 dB(A) or lower.

Audiometric testing will be provided by the TREC Environmental, Inc's physician to all employees with exposure to noise levels of 80 dB(A) or greater.

Area noise monitoring will be conducted by the Safety and Health Manager using a sound level meter to determine the need for personnel monitoring or engineering controls. If any work areas register levels of 80 dB(A) or greater, personnel monitoring will be conducted, beginning after 14 consecutive hours of no exposure to workplace noise levels. Personnel monitoring is accomplished by using noise dosimeters which are worn by employees for their full work shift. The cumulative noise dose for the employee is then read at the end of their work shift.

Policy:

It is the policy of the TREC Environmental, Inc. to provide employees with a safe and healthful working environment. This is accomplished by utilizing facilities and equipment that have all feasible safeguards incorporated into their design. When effective engineering controls are not feasible, or when they are being initiated, administrative controls will be used when and where possible followed by the use of personal protective equipment.

The primary goal of the TREC Environmental, Inc's Hearing Conservation Program is to reduce, and eventually eliminate hearing loss due to workplace noise exposures. The program includes the following elements:

a. Work environments will be surveyed to identify potentially hazardous noise levels and personnel at risk.
b. Environments that contain or equipment that produces potentially hazardous noise should, wherever it is technologically and economically feasible, be modified to reduce the noise level to acceptable levels.
c. Where engineering controls are not feasible, administrative controls and/or the use of hearing protective devices will be employed.
d. Periodic hearing testing will be conducted to monitor the effectiveness of the

hearing conservation program. Early detection of temporary threshold shifts will allow further protective action to be taken before permanent hearing loss occurs.

e. Education is vital to the overall success of a hearing conservation program. An understanding by employees of the permanent nature of noise-induced hearing loss, the TREC Environmental, Inc. hearing conservation program, and the employee's responsibilities under the program are all essential for program effectiveness.

Responsibilities:

Safety and Health Manager-

The Safety and Health Manager is responsible for developing, implementing, and administering the TREC Environmental, Inc. Hearing Conservation Program. Additional responsibilities include:

1. Identification of work areas and equipment within TREC Environmental, Inc. facilities where noise levels equal or exceed 80 dBA.
2. Identification, through personnel monitoring, of TREC Environmental, Inc. employees whose noise exposure level equals or exceeds an 8-hour TWA (Time-Weighted Average) of 80 dBA. Notification of employee exposure measurements is sent to the Safety and Health Manager to be included in employees' medical files.
3. Annual remonitoring of identified at-risk employees.
4. Resurvey of work areas and equipment where noise levels exceed 80 dBA every 2 years.
5. Training of employees in the need for, proper use and care of hearing protection devices.
6. Identification of noise control measures (including engineering and administrative controls) and recommendations.

The Safety and Health Manager is also responsible for coordinating and scheduling health and safety training courses and seminars. The Safety and Health Manager also maintains documentation of the training courses presented in accordance with the Safety Program requirements.

Supervisors-

It is the responsibility of Supervisors to ensure that all of their employees exposed to noise levels equal to or greater than 80 dBA have access to appropriate hearing protective devices in the work area. Supervisors are also responsible for enforcing the use of hearing protective devices and engineering and administrative controls in designated noise hazardous areas.

Employees-

Employees are responsible for wearing and maintaining hearing protective devices as instructed. Employees exposed to excessive levels of noise must also participate in annual training programs and the medical surveillance program which includes audiometric testing.

NOISE EVALUATION AND SURVEILLANCE PROCEDURES

Identification of Hazardous Noise Areas-

The Safety and Health Manager will identify work areas within TREC Environmental, Inc. facilities where noise levels equal or exceed 80 dBA. Records shall be maintained by the Safety and Health Manager and updated at least every two years to determine if any alteration in noise levels has occurred. Those areas where the noise levels are below 80 dBA will not be routinely monitored. Identification of hazardous noise areas and equipment and any subsequent noise monitoring will be conducted by the Safety and Health Manager.

Signs will be posted at the entrance to any work area where noise levels exceed 80 dBA, requiring anyone entering the area to wear proper hearing protection. Personnel who work in these areas shall have hearing protection supplied to them, shall be instructed in its proper use, and be required to wear this equipment when in these identified areas. It is the responsibility of the area supervisor to ensure that these precautions are maintained.

Equipment which produces noise levels greater than 80 dBA, or 120 dB peak sound pressure levels shall also be appropriately labeled.

Noise Measurements and Exposure Assessments

In order to effectively control noise it is necessary that the noise be accurately measured according to standard procedures and that the measurements be properly evaluated against accepted criteria. All noise monitoring will be conducted in accordance with established standard operating procedures.

The monitoring of employees for noise exposure is made up of two parts, area and personal monitoring. Area measurements are generally obtained first. If noise levels are at or above 80 dBA, personal monitoring using dosimeters is then performed. Sample data sheets will be used to record monitoring data for both area and personal noise monitoring results.

Area Measurements

In an area survey, measurements of environmental noise levels are recorded using a sound level meter to identify work areas where employees' exposures may be above hazardous levels, and where more thorough exposure monitoring may be needed. Area monitoring is conducted using a calibrated sound level meter set to the A scale, slow response. Within the area of interest, several different locations will be measured. Typical measurement locations would include:

- In the hearing zone at the employee's normal work location.
- Next to the noise source(s).
- At the entrance(s) to the work area.
- At other locations within the area where the employee might spend time working.

A rough sketch of the area will be included with the results showing the locations where the noise readings were obtained.

If the noise levels are below 80 dBA on a time-weighted average basis in the area, no further routine monitoring will be required for that area. Should any of the noise measurements equal or exceed 80 dBA, records shall be maintained as to the noise levels recorded, where they were taken, and the source(s) of the noise. These records shall be updated at least once every two years to determine if any changes have occurred that would warrant remonitoring of exposed personnel.

If any of the measurements equal or exceed a noise level of 80 dBA, employees who work in or near the high noise area or equipment shall have their noise exposure determined through personnel monitoring using dosimeters.

Personnel Monitoring

Determination of the noise exposure level will be accomplished using calibrated noise dosimeters. Each employee to be monitored will have a dosimeter placed on him/her at the beginning of his/her normal work shift with the microphone placed in the "hearing zone". The dosimeter will be worn for the full duration of the work shift while the employee performs his/her normal work routine. At the end of the work shift, the dosimeter will be removed and information printed out as soon as possible. Background information will be collected from each employee detailing job description, unusual job activities, etc., for the time period sampled. Those employees whose noise exposure equals or exceeds 80 dBA on an 8-hour TWA (Time-Weighted Average) will be referred to the Safety and Health Manager for inclusion in the Hearing Conservation Medical Surveillance Program.

Remonitoring of Hazardous Noise Areas

All areas where noise levels equal or exceed 80 dBA shall be remonitored at least every two years. Employees who work for extended periods of time (>2 hours) in the high noise areas and where their 8-hour TWA (Time-Weighted Average) equals or exceeds 80 dBA will be monitored every year to determine their personal noise exposure.

Whenever an employee exhibits a standard threshold shift, as determined by the Safety and Health Manager, the employee's work place shall be remonitored to identify and ameliorate the cause. Additionally, the employee must be notified in writing within 21 days when a threshold shift occurs.

Remonitoring Due to Changes

Any area with noise levels that equal or exceed 80 dBA shall also be remonitored whenever a change in production process, equipment, or controls increase the noise exposure such that additional employees are exposed to noise levels at or above 80 dBA on a time-weighted average basis. Areas where the noise levels have dropped below 80 dBA due to alterations in equipment, controls or process changes shall be eliminated from the monitoring program.

NOISE CONTROL METHODS

Engineering and Administrative Controls

The primary means of reducing or eliminating personnel exposure to hazardous noise is through the application of engineering controls. Engineering controls are defined as any modification or replacement of equipment, or related physical change at the noise source or along the transmission path that reduces the noise level at the employee's ear. Engineering controls such as mufflers on heavy equipment exhausts or on air release valves are required where possible.

Engineering and Administrative Controls (continued)

Administrative controls are defined as changes in the work schedule or operations which reduce noise exposure. If engineering solutions cannot reduce the noise, administrative controls such as

increasing the distance between the noise source and the worker or rotation of jobs between workers in the high noise area should be used if possible.

The use of engineering and administrative controls should reduce noise exposure to the point where the hazard to hearing is eliminated or at least more manageable.

Personal Protective Equipment

Hearing protective devices (ear plugs, muffs, etc.) shall be the permanent solution only when engineering or administrative controls are considered to be infeasible or cost prohibitive. Hearing protective devices are defined as any device that can be worn to reduce the level of sound entering the ear. Hearing protective devices shall be worn by all personnel when they must enter or work in an area where the operations generate noise levels of:

- Greater than 80 dBA sound levels, or
- 120 dB peak sound pressure level or greater

Types of Hearing Protective Devices Hearing protective devices include the following:

a. Insert Type Earplugs

A device designed to provide an air-tight seal with the ear canal. There are three types of insert earplugs – premolded, formable, and custom earplugs.

1. Premolded Earplugs

Premolded earplugs are pliable devices of fixed proportions. Two standard styles, single flange and triple flange, come in various sizes, and will fit most people. Personnel responsible for fitting and dispensing earplugs will train users on proper insertion, wear, and care. While premolded earplugs are reusable, they may deteriorate and should be replaced periodically.

2. Formable

Formable earplugs come in just one size. Some are made of material which, after being compressed and inserted, expands to form a seal in the ear canal. When properly inserted, they provide noise attenuation values that are similar to those from correctly fitted premolded earplugs. Individual units may procure approved formable earplugs. Supervisors must instruct users in the proper use of these earplugs as part of the annual education program.

2. Formable Earplugs (continued)

Each earplug must be held in place while it expands enough to remain firmly seated. A set of earplugs with a cord attached is available. These earplugs may be washed and therefore are reusable, but will have to be replaced after two or three weeks or when they no longer form an airtight seal when properly inserted.

3.Custom Molded Earplugs

A small percentage of the population cannot be fitted with standard premolded or formable earplugs. Custom earplugs can be made to fit the exact size and shape of the individual's ear canal. Individuals needing custom earplugs will be referred to an audiologist.

b. Earmuffs

Earmuffs are devices worn around the ear to reduce the level of noise that reaches the ear. Their effectiveness depends on an air tight seal between the cushion and the head.Selection of Hearing Protective Devices

Employees will be given the opportunity to select hearing protective devices from a variety of suitable ones provided by the Office of Health and Safety. In all cases the chosen hearing protectors shall have a Noise Reduction Ratio (NRR) high enough to reduce the noise at the ear drum to 80 dBA or lower.

Issuance of Hearing Protective Devices

The issuance of hearing protective devices is handled through the Safety and Health Manager. The Safety and Health Manager will issue and fit the initial hearing protective devices (foam inserts, disposables). Instruction on the proper use and care of earplugs and earmuffs will be provided whenever HPDs (hearing protective devices) are dispensed. Personnel requiring earmuffs in addition to earplugs will be informed of this requirement and educated on the importance of using proper hearing protection. The Safety and Health Manager will dispense ear muffs when necessary, at no cost to the employee, and will maintain a supply of disposable earplugs.

Use of Hearing Protective Devices

a. Always use and maintain HPDs as originally intended and in accordance with instructions provided.
b. Earmuff performance may be degraded by anything that compromises the cushion-to-circumaural flesh seal. This includes other pieces of personal protective equipment such as eyewear, masks, faceshields, and helmets.

Maintenance of Hearing Protective Devices

a. Reusable earplugs, such as the triple flange or formable devices should be washed in lukewarm water using hand soap, rinsed in clean water, and dried thoroughly before use. Wet or damp earplugs should not be placed in their containers. Cleaning should be done as needed.
b. Earmuff cushions should be kept clean. The plastic or foam cushions may be cleaned in the same way as earplugs, but the inside of the muff should not get wet. When not n use, ear muffs should be placed in open air to allow moisture that may have been absorbed into the cups to evaporate.

Hearing Protection Performance Information

The maximum of sound attenuation one gets when wearing hearing protection devices is limited by human body and bone conduction mechanisms. Even though a particular device may provide outstanding values of noise attenuation the actual noise reductions may be less because of the noise surrounding the head and body bypasses the hearing protector and is transmitted through tissue and bone pathways to the inner ear.

The term “double hearing protection” is misleading. The attenuation provided from any combination earplug and earmuff is not equal to the sum of their individual attenuation values.

MEDICAL SURVEILLANCE

Notification

Upon identification of employees whose 8-hour TWA (Time-Weighted Average) equals or exceeds 80 dBA, the Safety and Health Manager will recommend to the employee’s Supervisor,

in writing, of the need to enroll certain employee(s) in the Hearing Conservation Medical Surveillance Program. Information supplied to the Safety and Health Manager will include the employee(s) name, supervisor's name, telephone number, and the noise levels recorded in the employee's work area, including dosimetry data. It will be the responsibility of the Supervisor to enroll his/her employee in the Hearing Conservation Medical Surveillance Program.

In work locations where either through administrative or engineering controls, noise levels are found to have fallen such that the employee's 8-hour TWA is below 80 dBA, the Safety and Health Manager shall notify the employee's Supervisor, by memo, that the employees working in that area are no longer required to be enrolled in the Hearing Conservation Program. The final decision as to an employee's enrollment status will be left with the TREC Environmental, Inc. Physician.

The results of area and personal remonitoring shall be forwarded to the Clinic upon completion of the noise surveys.

Any personnel experiencing difficulty in wearing assigned hearing protection (i.e., irritation of the canals, pain) will be advised to immediately report this to their supervisor and make arrangements to go to the TREC Environmental, Inc. Physician for evaluation as soon as possible.

Audiometric Testing

The TREC Environmental, Inc. Physician has the responsibility for administering the Audiometric Testing Program portion of the TREC Environmental, Inc. Hearing Conservation Program. The object of the audiometric testing program is to identify workers who are beginning to lose their hearing and to intervene before the hearing loss becomes worse. Audiometric testing will be provided to all employees with exposure to noise levels of 80 dBA or greater. Annual retesting will be performed for all personnel enrolled in the Hearing Conservation Medical Surveillance Program.

TRAINING

The training and education program will provide information about the adverse effects of noise and how to prevent noise-induced hearing loss. At a minimum, all training will cover the following topics:

a. Noise-induced hearing loss;
b. Recognizing hazardous noise;
c. Symptoms of overexposure to hazardous noise;
d. Hearing protection devices – advantages and limitations.
e. Selection, fitting, use, and maintenance of HPDs.
f. Explanation of noise measurement procedures.
g. Hearing conservation program requirements.

Employees will also be provided with copies of the OSHA noise standard (29 CFR 1910.95) and other handouts describing the TREC Environmental, Inc. Hearing Conservation Program.

TREC Environmental, Inc. employees shall be encouraged to use hearing protective devices when they are exposed to hazardous noise during activities at home; e.g., from lawn mowers, chain saws, etc.

All personnel identified for inclusion in the hearing conservation program should receive a minimum of one hour of initial instruction in the requirements of the program. Ideally this will be done when hearing protection is dispensed.
Appropriate refresher training annually thereafter and will be provided by the immediate supervisor. Supervisors will be provided annual training by the Office of Health and Safety.

Supervisors must contact the Safety Training Department to schedule training for new personnel assigned to work in noisy environments and for retraining of current personnel.

PROGRAM EVALUATION

Periodic program evaluations will be conducted to assess compliance with federal and state regulations and TREC Environmental, Inc. Program requirements. Both the monitoring and audiometric testing portions of the TREC Environmental, Inc. Hearing Conservation Program will be reviewed annually to assure its quality and effectiveness.

An evaluation of the Program, including wearer acceptance, appraisal of protection afforded, and field audits of hearing protection use and record keeping will be conducted at least annually. Items to be considered include:

a. Standard operating procedures
b. Training records and course content for supervisors and employees.
c. Maintenance of HPDs (hearing protection devices)
d. Field audits of HPD use
e. Review of recorded threshold shifts on OSHA log.

The findings of the TREC Environmental, Inc. Hearing Conservation Program evaluation will be documented, and this documentation will list plans to correct faults in the program and set target dates for the implementation of the plans.

RECORDKEEPING

All non-medical records (ex., work area and equipment surveys) will be maintained for a period of five years. Results of hearing tests and medical evaluations performed for hearing conservation purposes as well as noise exposure documentation shall be recorded and shall be a permanent part of an employee’s health record.

All personnel who routinely work in designated hazardous noise areas shall be identified and a current roster of such personnel shall be maintained and by the Safety and Health Manager, and updated periodically.

NOISE

Supervisors and exposed workers must become aware of and understand about the adverse effects of noise and how to prevent noise-induced hearing loss. People exposed to hazardous noise must take positive action, if progressive permanent hearing loss is to be prevented. Each exposed worker and supervisor should know the following.

A. Noise exposure may result in permanent damage to the auditory system and there is no medical or surgical treatment for this type of hearing loss. Though the use of a hearing aid may provide some benefit, normal hearing will not be restored. Many people don't realize loud sounds can cause hearing loss. Furthermore, in its initial stages, the person may not notice a problem since noise-induced hearing loss is invisible, painless, and occurs in the high frequencies. It is dangerous to ignore the temporary characteristics of noise-induced hearing loss (such as ringing or buzzing in the ears, excessive fatigue, etc.).

B. Each person should know how to recognize hazardous noise even if a noise survey has not been conducted an/or warning signs posted. Recognizing and understanding the adverse effects of off-duty noise exposures is also important. The best rule to follow is: "If you have to shout at arms length (approximately three feet) to talk face-to-face, you are probably being exposed to hazardous levels of noise."

C. Preventing noise-induced hearing loss is accomplished by reducing both the time and intensity of exposure. Reducing exposure time is accomplished by avoiding any unnecessary exposure to loud sound. Reducing intensity is usually accomplished by wearing personal hearing protection. Each person must be able to properly wear and care for the particular type of hearing protection selected. Speech communication is difficult in high intensity noise. However, most people don't realize it's easier to understand speech if hearing protection is worn in a hazardous noise environment. Hearing protection reduces the noise and the level of speech, resulting in a more favorable listening level. Hearing protection reduces the intensity of frequencies above the speech range; thus, reducing the noise and accentuating speech. People who claim wearing hearing protection makes it difficult to hear speech are probably in noise levels less than 85 dBA or have already developed a hearing loss.

D. Each person must know how to tell if they have been overexposed to loud sound. Overexposure may occur even while wearing hearing protection. Earplugs and/or earmuffs alone may not be enough protection. Each time a temporary threshold shift (TSS) occurs, a certain degree of permanent loss results. The recognizable symptoms of overexposure are described as "dullness in hearing or ringing in the ears."

RAVI ENGINEERING & LAND SURVEYING, P.C.

Attachment 3

CAMP

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

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Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50° C (14 to 122° F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

Response Levels and Actions

Table 1: Particulate response levels and actions

Particulate Concentration	< 100 µg/ m^3 (0.1 mg/m^3)	≥100 µg/ m^3	Visible Emissions	>150 µg/ m^3
	No action required	Dust suppression techniques[1]	Dust suppression techniques[1]	Stop work[2]

[1]Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 µg/ m^3 above the upwind level and provided that no visisble dust is migrating from the work area (DER 10, Appendix 1A).

[2]Re-Evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/ m^3 of the upwind level and in preventing visible dust migration (DER-10, appendix 1A).

Table 2: VOC response levels and actions

VOC Concentration (over background concentrations)	< 5 ppm	≥ 5 ppm - < 25 ppm	>25 ppm
	No action required	Activities halted –if levels decrease readily below 5ppm then work is resumed. If levels persist above 5 ppm then corrective actions are taken to abate emissions below 5 ppm at a location 200 ft downwind of exclusion zone or half the distance to nearest receptor (whichever is less) but in no case less than 20 ft. before work is resumed	Activities stopped