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HALEY & ALDRICH

Revised 15 April 2005
25 February 2005
File No. 30603-001

New York State Department of Environmental Conservation
Kirkwood Sub-Office, Region 7
1679 NY Route 11
Kirkwood, NY 13795-1602

Attention: Thomas S. Suozzo, P.E.

Subject: Interim Remedial Measure Work Plan
Management of Oil-Filled Electrical Equipment and Potentially Impacted Materials - Mechanical Building and Powerhouse
Former Endicott-Johnson Ranger Paracord Facility (the "site")
Johnson City, New York

Dear Mr. Suozzo:

Haley & Aldrich of New York ("Haley & Aldrich") is pleased to submit this Interim Remedial Measure Work Plan on behalf of our client, Stella Ireland Road Associates, LLC ("Stella"), the site owner. This document presents the Work Plan for management of oil-filled electrical equipment and potentially impacted materials (nearby soils, concrete slab, and stockpiled scrap metal) encountered in or near the Mechanical Building and Powerhouse structures associated with the Former Endicott-Johnson Ranger Paracord Facility in Johnson City, New York. The original Work Plan, dated 25 February 2005, has been revised to address verbal comments provided by the NYSDEC Project Manager.

The oil-filled electrical equipment and potentially-impacted materials that are the subject of this Work Plan are located outside the boundaries of the existing Brownfield Cleanup Agreement for the Ranger Paracord facility (BCP Site #C704041). Accordingly, the proposed activities described in this Work Plan will be subsumed under a new BCA, to be applied for by Stella in the near future. This document presents a summary of background information related to oil-filled electrical equipment encountered to-date; the basis for and details of the proposed investigation and anticipated remedial activities to be performed; and a summary of the anticipated implementation schedule and subsequent submittals.

BACKGROUND

During a site walkover on 29 December 2004, a Haley & Aldrich field representative and the NYSDEC Project Manager observed two metal bins containing approximately 25 to 30 accumulated electric capacitors, which hold roughly 1.4 gallons of oil each, located to the south of the debris pile that resulted from demolition of the former Mechanical Building (see Figure 1 for approximate locations). The accumulated capacitors are located to the north of that portion of the Ranger Paracord facility that is currently the subject of a BCA and is designated as BCP Site #C704041. The term "site," as used herein, specifically excludes that area defined as Site #C704041.

Several of the capacitors appeared to be leaking within the bins, and a small area of stained soil, approximately 6-inches in diameter, was observed on the ground surface near the bins. In addition, a metal oil-containing reservoir, roughly 10 gallons capacity, and several oil-impacted scrap metal pieces were observed in a scrap metal pile located at the southwestern edge of the former Mechanical building. A series of four sets of oil-containing circuit breakers was also observed on the ground, to the north of the scrap metal pile, and another small stain was observed on the ground surface. (Note that the circuit breakers were originally identified as a "large transformer" by the contractor. Consequently, the analytical data reports and other documentation related to the circuit breakers refer to "Large Transformer.") No additional staining was readily-visible on the ground surface in the vicinity of the bins, scrap metal pile, or circuit breakers. Each of these features is located outside the boundary of BCP Site #C704041.

Haley & Aldrich interviewed a representative from Gorick Construction Co., Inc., the site demolition contractor, on 5 January 2005, to obtain information regarding the capacitors and other electrical equipment encountered during demolition activities. According to Gorick's representative, he observed the capacitors and circuit breakers on the concrete slab of the Mechanical Building electrical room "outbuilding," a small building located just to the west and rear of the former Mechanical Building, in roughly early December 2004, during routine site cleaning and organization activities. The contractor's representative indicated that the capacitors, oil reservoir, and circuit breakers were likely encountered by work crews during an earlier phase of building demolition, and that he placed the capacitors into the metal bins and moved them to their present location, a lower-traffic area, in early December, prior to additional building demolition. The Gorick representative was unsure how long the materials had been on the concrete slab of the electrical room outbuilding before they were relocated.

After observing the oil-filled capacitors in metal bins adjacent to the Mechanical Building demolition debris pile, the NYSDEC Project Manager directed Stella's consultant for contractor health and safety, O'Rourke Incorporated ("O'Rourke"), to cover the metal bins, surrounding ground surface, scrap metal pile, and electrical room outbuilding concrete slab with weighted-down, 6-mil poly sheeting in order to mitigate exposure to the elements. Refer to the attached site sketch plan (Figure 1) for approximate locations of the electrical room outbuilding, scrap metal pile, metal bins containing capacitors, and circuit breakers, and to Appendix A for site photographs.

On 30 December 2004, the NYSDEC Project Manager met at the site with personnel from O'Rourke and Haley & Aldrich. The NYSDEC Project Manager directed O'Rourke personnel to obtain samples of oil from the following: "Light Interteen Capac." and "Dark Interteen Capac." (one sample from each of the two types of capacitors observed in the bins); "Tank-Scrap Metal Pile" (the small, oil-filled reservoir observed in the scrap metal pile); and "Large Transformer" (one of the four circuit breakers that were observed to the north of the scrap metal pile and originally identified as a transformer), and to have the samples analyzed for Polychlorinated Biphenyls (PCBs).

The oil samples were obtained by O'Rourke, Inc. and were analyzed by Upstate Laboratories, Inc. for PCBs via EPA Method 8082. Results indicated that the oil samples from "Tank-Scrap Metal Pile" and "Large Transformer" (one of four circuit breakers) do not contain PCBs above laboratory reporting limits. Results also indicated that the oil sample "Light Interteen Capac." contains 84% PCBs (Aroclor 1254), and the oil sample "Dark Interteen Capac." contains 30% PCBs (Aroclor 1254). The analytical data is summarized in Table I; chain of custody documentation and laboratory reports are attached in Appendix B.

Subsequent to the discovery of the capacitors in the metal bins on 29 December 2004, Stella engaged O'Rourke to perform a pre-demolition survey at the Power House, which is scheduled for demolition during February 2005, in an effort to mitigate the possibility of encountering oil-filled electric equipment during demolition activities. O'Rourke personnel completed a survey within the Power House on 3 January 2005 and identified 72 capacitors along with roughly 8 equipment oil reservoirs. According to O'Rourke personnel, the capacitors and reservoirs "appeared to be in good condition" but the condition could not be fully evaluated because they were in cabinets with mesh screening. O'Rourke also identified a series of electrical panels that could not be inspected because they were locked and inaccessible.

O'Rourke also reported observing a drum in the Power House labeled "Hazardous Waste--Mercury" which, reportedly, had been put there by the asbestos abatement contractor, Sunstream. (According to Gary Lasky, a Sunstream official, the drum contains the residues of a broken "gauge," which they believe contained mercury. Mr. Lasky indicated that Sunstream personnel used a specialized vacuum device to clean up the residue to avoid a potential hazard for their workers. Mr. Lasky further indicated that there are a number of similar, apparently intact, gauges that remain in place in the Power House.)

POSSIBLE IMPLICATIONS UNDER 40 CFR 761

It is possible, based on the concentrations of PCBs detected in the capacitor oils, that conditions at the site could be subject to regulation under 40 CFR 761, the Toxic Substances Control Act ("TSCA") "Mega-Rule." According to 40 CFR 761.3, "PCB Remediation Waste" means "waste containing PCBs as a result of a spill, release, or other unauthorized disposal..."at any volume or concentration where the original source was ≥ 500ppm beginning on April 18, 1978..." The definition of "PCB Remediation Waste" under 40 CFR 761.3 includes soil, concrete floors, and non-porous surfaces containing PCBs at any

concentration. Additionally, PCB spills[1] are regulated under 40 CFR 761.120 (Subpart G - "PCB Spill Cleanup Policy").

As discussed in the Background section of this report, the damaged PCB-containing capacitors are confined to two metal bins. Although a small oil stain was observed on the ground surface near the bins, it has not been determined to be PCB-oil. The Ranger Paracord site is an active construction site, and, as demonstrated by the non-PCB oil in the reservoir encountered in the scrap metal pile, there are other sources of oil in the vicinity of the capacitors. Thus, although it is recognized that the capacitors containing PCB oil must be handled in accordance with TSCA, it is not currently clear whether there has been a release of PCB oil at the site that requires application of the TSCA Mega-Rule. Nevertheless, this Work Plan has been developed to include sampling protocols for uncharacterized oils, soil, non-porous surfaces (scrap metal), and porous surfaces (concrete) that are consistent with 40 CFR 761, so that the data can be used in support of a TSCA-level investigation and remediation program, if required.

If the results of the sampling and analysis activities described herein indicate that the site is regulated under TSCA and a Self-Implementing Plan is required, additional data will not be collected and PCB Remediation Waste will not be disposed offsite until such a plan is submitted and reviewed by EPA in accordance with 40 CFR 761.

[1] The PCB Spill Cleanup Policy defines "spill" to mean "both intentional and unintentional spills, leaks, and other uncontrolled discharges where the release results in any quantity of PCBs running off or about to run off of the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases...." 40 CFR § 761.123. Cleanup of spills of materials other than low-concentration materials will be considered complete if the requirements of 40 CFR §§ 761.125(c)(1) through (5) are met, including six "immediate" requirements: (i) notification of the EPA regional office and the NRC, as required [note: under § 761.125(a)(1)(iv), spills of 10 pounds or less must be cleaned up, but notification of EPA is not required]; (ii) an area encompassing any visible traces, plus a 3-foot buffer, must be effectively cordoned off and posted with clearly visible warning signs; (iii) the area of visible contamination must be recorded and documented; (iv) cleanup of all visible traces of the fluid on hard surfaces must be initiated and removal of all visible traces on soil must also be initiated; (v) if, because of a delay in reaching the site, there are insufficient visible traces, a statistically based sampling scheme must be used to identify the boundaries of the spill area; and (vi) decontamination should be achieved "promptly," but there is no set time limit on completion of the cleanup effort.

OBJECTIVES

The objectives of this IRM Work Plan are to:

1. Properly dispose of the oils, mercury residues, and containers referenced above. PCB oil will be disposed as PCB Waste at a permitted disposal facility.

2. Evaluate whether the PCB-oil contained in the capacitors has resulted in PCB impacts to soil, scrap metal, or concrete in the vicinity of the former and current capacitor locations that will require site investigation and remediation in accordance with 40 CFR 761 (the TSCA "Mega-Rule").

3. Obtain additional representative samples of the oil-filled circuit breakers to confirm whether they contain PCB oil, as requested by NYSDEC.

PROPOSED SCOPE OF WORK

Consistent with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation Draft Brownfield Cleanup Program Guide, Section 3.14, this Work Plan describes a discrete set of activities to be undertaken as an Interim Remedial Measure ("IRM"), without extensive remedial investigation and evaluation, to prevent or mitigate environmental damage to the site. Haley & Aldrich has communicated with the NYSDEC Project Manager with respect to the elements of this Work Plan, and will work closely with Stella's remediation contractor to implement the scope of work outlined below. Haley & Aldrich will be onsite during work plan implementation in order to observe and document contractor activities and to facilitate communication with the NYSDEC Project Manager.

1. Evaluation and Management of Oil-Filled and Mercury-Containing Equipment

   Stella's remediation contractor will be responsible for management of oil-filled and potential mercury-containing equipment, including the equipment associated with the former Mechanical Building (capacitors and the metal bins within which they are contained; the reservoir observed in the scrap metal pile; and the circuit breakers currently located to the north of the scrap metal pile) and within the Power House building, as follows:

   - Cataloguing of undisturbed oil-filled equipment within the Power House building, using the assumptions provided under 40 CFR 761.2 ("PCB concentration assumptions for use"), to evaluate whether sampling and analysis is necessary for characterization of the oil. (If equipment labeling or TSCA-listed assumptions indicate that the oil within the equipment contains PCBs, the oil will be disposed at an appropriate facility without sampling and analysis.)

- Collection of samples of oil within equipment that is not labeled for PCB-content and is not discussed in 40 CFR 761.2, including collection of samples from two of the three untested circuit breakers to the north of the scrap metal pile.

- Screening analysis of samples for PCB-content using a Dexsil Clor-N-Oil field testing kit.

- Submission of representative oil samples with elevated field test kit results to an ELAP-certified laboratory for PCB analysis.

- Collection of samples of materials that are suspected to be mercury-containing, and submission of the samples to an ELAP-certified laboratory for mercury analysis.

- Coordination with appropriate receiving facilities with respect to obtaining additional laboratory data, as required, to facilitate approvals for offsite disposal of the equipment.

- Offsite transportation of materials to the appropriate receiving facilities, including coordination of associated documentation.

- PCB capacitors and other PCB material will be disposed in accordance with 40 CFR 761.60 Subpart D ("Storage and Disposal").

- Transport and disposal of PCB Waste will be recorded and manifested in accordance with the provisions of 40 CFR 761 Subpart K ("PCB Waste Disposal Records and Reports").

2. Evaluation and Management of Existing Scrap Metal Stockpile

As discussed with the NYSDEC Project Manager, Haley & Aldrich will work with the remediation contractor in order to segregate the scrap metal pile and evaluate visibly oil-impacted metal. Poly sheeting will be placed on the ground surface under the scrap metal to prevent possible oil-impacted metal from contacting the ground surface during the segregation process.

- If metal pieces in the pile are observed to be oil-impacted, the remediation contractor will obtain wipe samples from representative metal pieces and analyze these samples for PCB content. Wipe samples will be obtained and analyzed in accordance with 40 CFR 761.300 ("Sampling Non-Porous Surfaces for ... Off-Site Disposal"), which specifies that one-meter square areas should be sampled by random selection of halves, and a minimum of 10% of the one-meter square areas should be sampled and analyzed. Consistent with 40 CFR 761.300, wipe samples of one 10 cm x 10 cm area will be obtained to represent each one-meter square area.

- The remediation contractor will coordinate with appropriate receiving facilities with respect to obtaining additional laboratory data, as required, to facilitate approvals for offsite disposal of oil and/or PCB-impacted scrap metal.

- If it is determined that the material is not suitable for transportation to a construction and demolition debris scrap metal yard, the remediation contractor will coordinate offsite transportation of scrap metal to the appropriate receiving facilities, including coordination of associated documentation.

- Transport and disposal of PCB Remediation Waste will be recorded and manifested in accordance with the provisions of 40 CFR 761 Subpart K ("PCB Waste Disposal Records and Reports").

3. Evaluation and Management of Mechanical Building Electrical Room Slab

As discussed with the NYSDEC Project Manager, Haley & Aldrich will work with the remediation contractor in order to evaluate the concrete slab of the Mechanical Building's Electrical Room outbuilding. (It is our understanding that the concrete slab was not observed by Gorick or O'Rourke personnel to be stained. However, NYSDEC has expressed concerns relative to potential impacts associated with volatilization of oil in the equipment. Therefore, the NYSDEC Project Manager has requested that an evaluation of the concrete slab be included in this IRM Work Plan.) Because the concrete slab will be removed and transported offsite in preparation for property redevelopment activities, the concrete sampling plan discussed below is focused on removal and disposal of the slab. Consistent with the approach to evaluation of soils and non-porous surfaces discussed above, concrete samples will be obtained using EPA-approved methods to facilitate support of a TSCA-level investigation, if required.

- The remediation contractor will obtain three representative concrete core samples, drilled to ½ of the thickness of the concrete slab, consistent with EPA's Draft Standard Operating Procedure for Sampling Concrete in the Field (12/97).

- The remediation contractor will submit the core samples to a ELAP-certified laboratory for PCB analysis.

- If it is determined that the concrete is not suitable for disposal at a construction and demolition debris receiving facility, the remediation contractor will be responsible for obtaining necessary approvals and arranging transportation to an appropriate receiving facility.

4. Evaluation and Management of Surrounding Soils

As discussed with the NYSDEC Project Manager, Haley & Aldrich will work with the remediation contractor in order to evaluate the soils in the vicinity of the Mechanical Building electrical room. Specifically, Haley & Aldrich will evaluate the small stained soil area observed adjacent to the metal bins, a small area of stained soil observed near the circuit breakers, and also the surficial soil within the pathway between the location where the capacitors were originally encountered (the Mechanical Building electrical room outbuilding) and their current location (to the southeast of the former Mechanical building).

- The remediation contractor will excavate the small amount of soil that was observed to be stained, near the current location of the metal bins and the circuit breakers. The soil will be placed on poly sheeting, sampled, and analyzed for PCB content. Results will be evaluated with respect to TAGM 4046 criteria and cleanup criteria under 40 CFR 761.

- The remediation contractor will also collect samples of other soils that are observed to be stained, if applicable, and several samples of representative soils in the "pathway" described above. The "pathway" area will be sampled in a 3-meter grid pattern, in accordance with 40 CFR 761 Subpart N, to facilitate support of an investigation under 40 CFR 761 if required. The samples will be provided to a ELAP-certified laboratory for PCB analysis. Results will be evaluated with respect to TAGM 4046 criteria and cleanup criteria under 40 CFR 761.

- The remediation contractor will identify a suitable disposal facility for the soils, based on the analytical results, and will arrange for transportation of the soils and coordination of necessary approvals and documentation.

- Haley & Aldrich will obtain post-excavation confirmatory soil samples, as appropriate for impacted soils, if any, and will submit the samples to a ELAP-certified laboratory for analysis for PCBs. Post-excavation samples will be obtained in accordance with 40 CFR 761 to facilitate support of an investigation under 40 CFR 761, if necessary. Analytical results will be reviewed with respect to TAGM 4046 criteria and cleanup criteria under 40 CFR 761. If it is determined that soil has been impacted by PCBs, the soil will be remediated to a cleanup goal of 1 part per million, consistent with TAGM 4046 criteria and 40 CFR 761.

REPORTING

An Interim Remedial Measures Investigation Report will be generated based on the work described above, including:

- A summary of field work performed, and field and laboratory data presented in appropriate tabular and graphic summary form.
- Site plans showing sample locations and pertinent site features.
- Appendices with laboratory reports and similar information that forms the basis for text discussion, evaluation and conclusions.
- Recommendations for additional investigative and/or remedial work, if needed.

SCHEDULE

Stella Ireland and Haley & Aldrich are prepared to commence work within a week following NYSDEC approval of this Work Plan. It is anticipated that up to one week of initial field work will be required for the work scope items listed above, with additional field work to be coordinated as necessary.

QA/QC PLAN

Denis Conley of Haley & Aldrich, a qualified data validator, will serve as Quality Assurance Officer for this project. Data will be reviewed, and a Data Usability Summary Report (DUSR) will be completed consistent with NYSDEC DUSR guidance. Field test kit results and laboratory reports will be reviewed for quality assurance/quality control criteria (including but not limited to instrument calibration, control sample analyses, instrument blanks, run settings, etc.) consistent with manufacturer directions (for Dexsil field kits), NYSDEC DUSR guidance, and conclusions regarding the usability of the generated data will be included with the Investigation Report.

HEALTH AND SAFETY PLAN

Haley & Aldrich has prepared a site-specific health and safety plan (HASP), using existing chemical data and site history information, in accordance with NYSDEC and NYSDOH guidelines. The HASP includes a description of health & safety protocols to be followed during the IRM investigation activities. A copy of the site-specific HASP is provided in Appendix C.

CLOSING

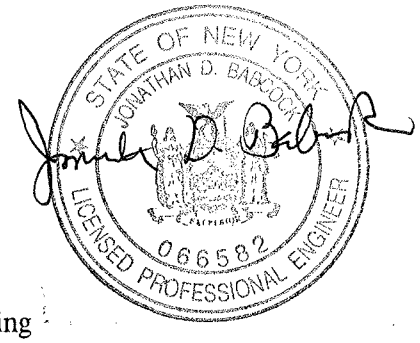
We appreciate your continued assistance with the Ranger Paracord project. Please do not hesitate to contact us should you have any questions.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK

Lisa Turturro
Senior Environmental Geologist

Jonathan D. Babcock, P.E.
Senior Engineer

Vincent B. Dick
Vice President



Attachments:

Figure 1:	Site Sketch
Table I:	Summary of Equipment Oil Data – Mechanical Building Electrical Room Outbuilding
Appendix A:	Site Photographs
Appendix B:	Laboratory Data Reports
Appendix C:	Health & Safety Plan

c: NYSDEC Division of Environmental Remediation, Region 7; Attn: Tom Suozzo
NYSDEC Division of Environmental Remediation; Attn: David Smith, P.E.
NYSDEC Division of Environmental Enforcement; Attn: Glen R. Bailey, Esq.
NYSDOH Bureau of Environmental Exposure Investigation; Attn: Gary Litwin
NYSDOH Bureau of Environmental Exposure Investigation; Attn: Dawn Hettrick
NYSDEC Division of Environmental Remediation; Attn: Mary Jane Peachey
NYSDEC Division of Environmental Remediation; Attn: Robert Cozzy
Stella Ireland Road Associates, LLC; Attn: Kenneth S. Kamlet, Esq.

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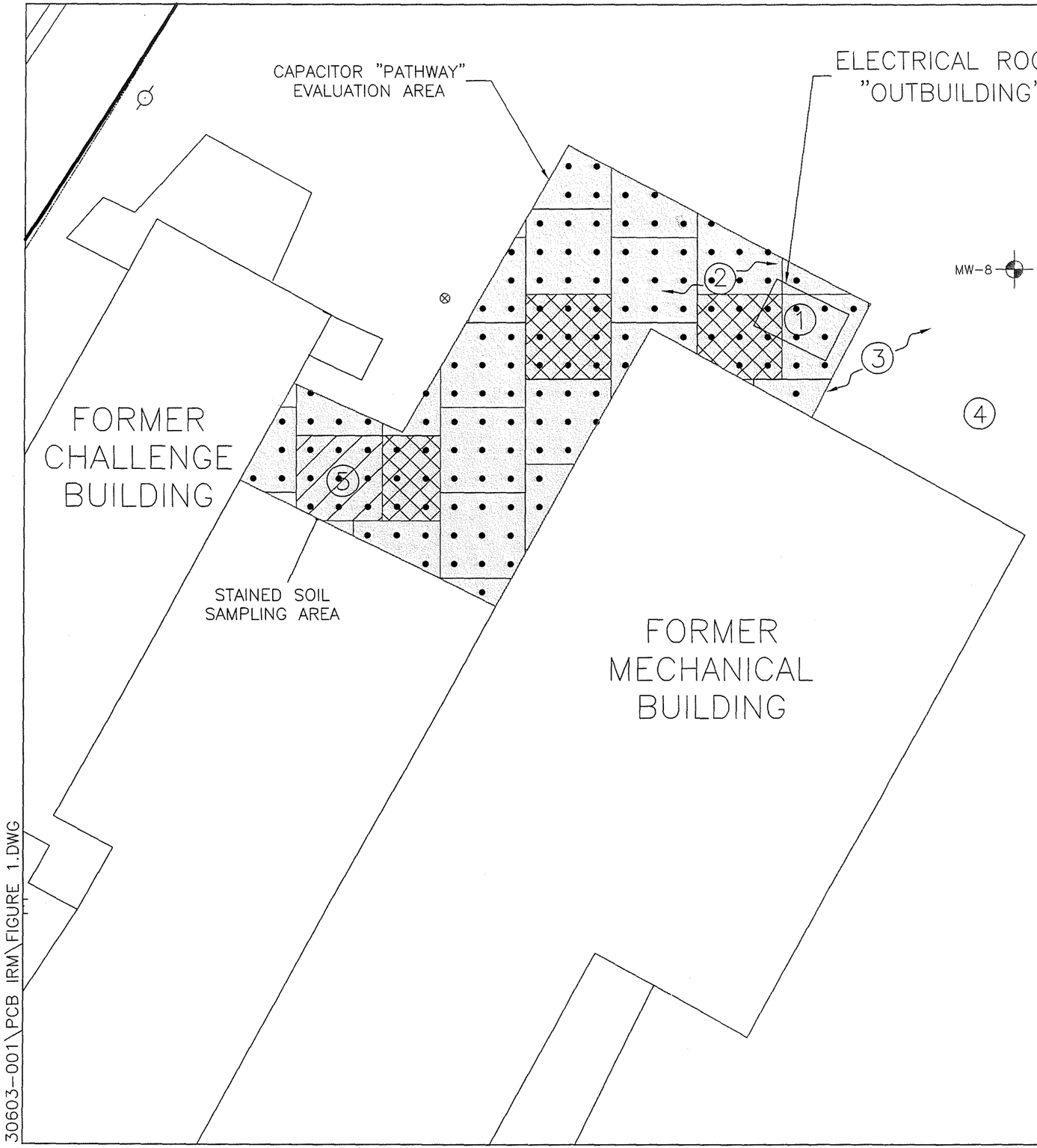
TABLE I
SUMMARY OF EQUIPMENT OIL DATA
FORMER MECHANICAL BUILDING - ELECTRICAL ROOM OUTBUILDING
FORMER ENDICOTT-JOHNSON RANGER PARACORD FACILITY
JOHNSON CITY, NEW YORK

Sample ID	Light Interteen Capacitor	Dark Interteen Capacitor	Tank-Scrape Metal Pile	Large Transformer
Sample Depth	**NA**	**NA**	**NA**	**NA**
Sample Date	**12/30/2004**	**12/30/2004**	**12/30/2004**	**12/30/2004**
Sampled By	**O'Rourke**	**O'Rourke**	**O'Rourke**	**O'Rourke**
Polychlorinated Biphenols (mg/kg)				
Aroclor 1016	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND
Aroclor 1254	84%	30%	ND	ND
Aroclor 1260	ND	ND	ND	ND

Notes:
1. ND = Not Detected above method detection limit



LEGEND:

1. ORIGINAL LOCATION OF CAPACITORS
2. APPROXIMATE LOCATION OF SCRAP METAL PILE
3. APPROXIMATE LOCATION OF BRICK PILE
4. APPROXIMATE CURRENT LOCATION OF CIRCUIT BREAKERS (LARGE TRANSFORMER)
5. APPROXIMATE LOCATION OF METAL BINS CONTAINING CAPACITORS

TSCA – ALLOWABLE COMPOSITE SAMPLING AREA

REPRESENTATIVE SOIL SAMPLE TO BE OBTAINED – COMPOSITE AREA

0 40 80
SCALE IN FEET

HALEY & ALDRICH

FORMER ENDICOTT-JOHNSON RANGER PARACORD SITE
JOHNSON CITY, NY

SITE SKETCH PLAN

SCALE: AS SHOWN FEBRUARY 2005

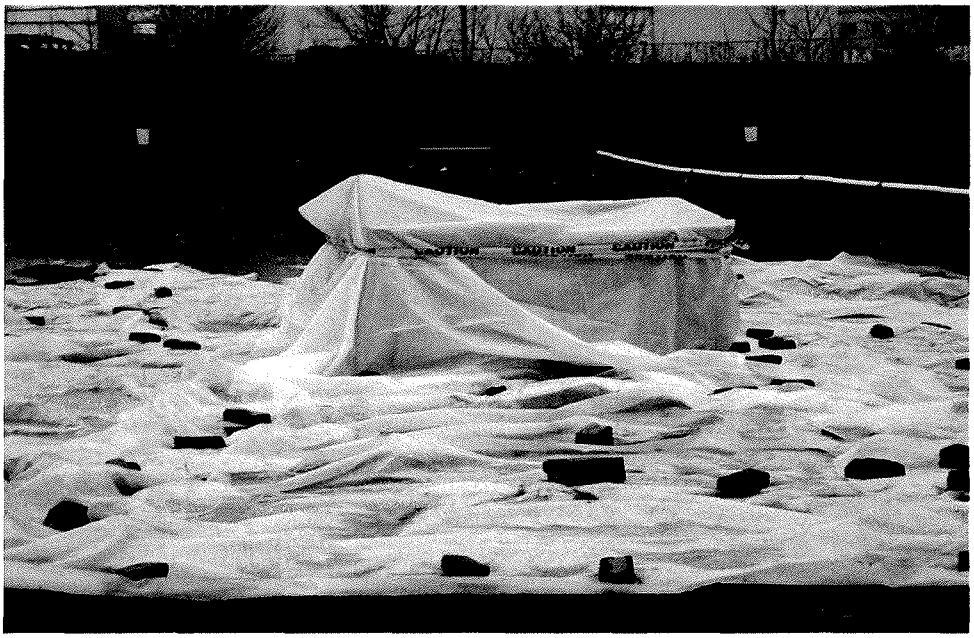
30603-001\PCB IRM\FIGURE 1.DWG

FIGURE 1

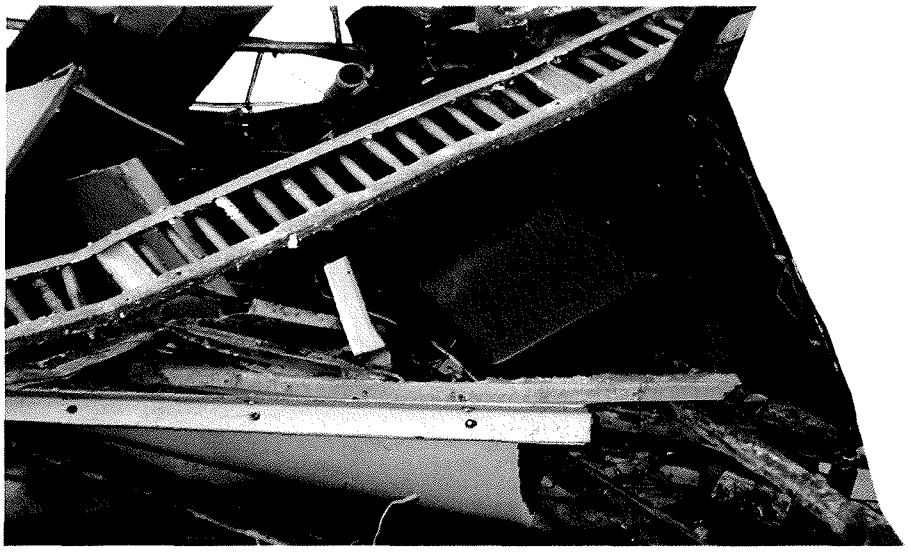
APPENDIX A

Site Photographs

Photograph 1. Metal bins holding capacitors.



Photograph 2. Metal bins situated on and covered with poly sheeting.



Photograph 3. Reservoir in scrap metal pile.

Photograph 4. Covered scrap metal pile.

APPENDIX B

Laboratory Data Reports

Upstate Laboratories, Inc.

Date: *03-Jan-05*

CLIENT: O'Rourke Incorporated **Lab Order:** U0412514
Project: EJ - Paracord

Lab ID: U0412514-003 **Collection Date:** 12/30/04 10:00:00 AM
Client Sample ID: Tank-Scrap Metal Pile **Matrix:** OIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN OIL		**SW8082**		**(SW3580A)**		Analyst: **BW**
Aroclor 1016	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1221	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1232	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1242	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1248	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1254	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1260	ND	0.50		mg/Kg	1	1/3/05

NOTES:
No arochlor pattern is present.

Lab ID: U0412514-004 **Collection Date:** 12/30/04 10:10:00 AM
Client Sample ID: Large Transformer **Matrix:** OIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN OIL		**SW8082**		**(SW3580A)**		Analyst: **BW**
Aroclor 1016	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1221	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1232	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1242	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1248	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1254	ND	0.50		mg/Kg	1	1/3/05
Aroclor 1260	ND	0.50		mg/Kg	1	1/3/05

NOTES:
No arochlor pattern is present.

Approved By: PFF **Date:** 1-3-05

Qualifiers:

*	Low Level	**	Value exceeds Maximum Contaminant Value
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Date: *03-Jan-05*

CLIENT: O'Rourke Incorporated **Lab Order:** U0412514
Project: EJ - Paracord

Lab ID: U0412514-001 **Collection Date:** 12/30/04 9:40:00 AM
Client Sample ID: Light Interteen Capac. **Matrix:** OIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN OIL		**SW8082**				Analyst: **BW**
Aroclor 1016	ND	0.50		mg/Kg	1	12/30/04
Aroclor 1221	ND	0.50		mg/Kg	1	12/30/04
Aroclor 1232	ND	0.50		mg/Kg	1	12/30/04
Aroclor 1242	ND	0.50		mg/Kg	1	12/30/04
Aroclor 1248	ND	0.50		mg/Kg	1	12/30/04
Aroclor 1254	84%	0.50		mg/Kg	1	12/30/04
Aroclor 1260	ND	0.50		mg/Kg	1	12/30/04

NOTES:
The reporting limits were raised due to matrix interference.

Lab ID: U0412514-002 **Collection Date:** 12/30/04 9:50:00 AM
Client Sample ID: Dark Interteen Capac. **Matrix:** OIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN OIL		**SW8082**				Analyst: **BW**
Aroclor 1016	ND	0.50		mg/Kg	1	12/30/04
Aroclor 1221	ND	0.50		mg/Kg	1	12/30/04

APPENDIX C

Health & Safety Plan

HALEY & ALDRICH, INC.

SITE-SPECIFIC HEALTH & SAFETY PLAN

for

Former Endicott-Johnson Ranger Paracord Site
PCB-Containing Electrical Equipment and Potentially-Impacted Materials
Interim Remedial Measures

Johnson City, New York

Project/File No. 30603-001

Prepared by: Lisa Turturro Date: 22 February 2005

Revised by: Date:

APPROVALS: The following signatures constitute approval of this Health & Safety Plan. Deviations from this Plan are not permitted without prior approval from the undersigned.

Michael G. Beikirch 2.23.05

Michael G. Beikirch - Office H&S Coordinator Date

Lisa Turturro 2.23.05

Lisa Turturro - Site/Project Manager Date

PRE-WORK HEALTH & SAFETY BRIEFING

I have attended a briefing on this Health & Safety Plan prior to the start of on-site work and declare that I understand and agree to follow the provisions and procedures set forth herein while working on this site.

PRINTED NAME	SIGNATURE	DATE

NOTE: This Site Health and Safety Plan provides only site-specific descriptions and work procedures. General safety and health compliance programs in support of this site plan, including safe work, training, medical monitoring, and recordkeeping practices, are described in the Haley & Aldrich Corporate Health and Safety Program Manual and are hereby made part of this plan by reference. The manual is available to all employees and to outside parties by request.

1.0 PROJECT INFORMATION

Name of Project: PCB Interim Remedial Measures	**H&A File No.:** 30603-001
Location: Former Endicott-Johnson Ranger Paracord Site	
Client/Site Contact: Ken Kamlet, Stella Ireland Road Associates LLC	**Contact Phone No.:** 607-770-0155 x229
H&A Project Manager: Lisa Turturro	**PM Phone No.:** 585-321-4237

SCOPE OF WORK:

The PCB Interim Remedial Measures to be undertaken by Haley & Aldrich staff include monitoring of remediation contractor activities. Remediation contractor activities to be monitored by Haley & Aldrich include collection of soil samples; segregation of stockpiled scrap metal pieces and collection of wipe samples from representative scrap metal surfaces; collection of core samples from a building concrete floor slab; packaging and offsite disposal of PCB-containing materials; and possible excavation and offsite disposal of PCB-impacted soils.

Subcontractor(s) to be involved in on-site Investigation activities:

Name	Work Activity
Remediation contractor to be engaged by Stella Ireland.	Work activities described above.

Projected Start Date: March 2005

Projected Completion Date: March 2005

Estimated Number of Days to Complete Field Work: Several weeks.

2.0 SITE DESCRIPTION

Check one of the following:

Site classification:		Industrial	X	Commercial		Other:

2.1 General Description: (include site history/usage; type of facility; type of investigation; materials stored/used on site; whether paved or landscaped, etc.)

The site is a former rubber manufacturing plant. PCB-containing equipment was disturbed during recent building demolition activities. IRM investigation will focus on whether a release of PCB oil occurred to the soil, scrap metal, or concrete slab in the vicinity of the PCB-containing equipment.

Site Status (mark all that apply):

	Active	X	Inactive (buildings are vacant)
X	Partially Active (adjacent to a construction site)		Other:

Site history information sources used; check all that apply:

	Geological References	X	State Files
X	Previous reports by others		Water Quality Maps
X	Sanborn Maps		Inquiries

Is a **site plan** or sketch available? Y_X_ N___ If yes, attach a copy to this plan.

Indicate any **unusual features** at the site (power lines, variable terrain, etc.):

2.2 Work Areas

List/identify each specific work area(s) on the job site and indicate its location(s) on the site plan:

1. Exterior Locations – Observation and documentation of remediation contractor activities described above.

2. Interior Locations – Remediation contractor will be cataloguing, sampling, and packaging electrical equipment for disposal. Haley & Aldrich will not be monitoring that portion of the work.

3.0 PROJECT TASK BREAKDOWN

List and describe each distinct work task below:

Task No.	Task Description	Employee(s)	Work Date(s) or Duration
1	Management of undisturbed electrical equipment	Remediation contractor	1 week
2	Collection of soil, wipe, and concrete core samples	Remediation contractor	1 week
3	Possible excavation of PCB-contaminated soil	Remediation contractor	TBD or N/A
4	Packaging and offsite disposal of PCB-waste	Remediation contractor	N/A

4.0 HAZARD ASSESSMENT

4.1 Chemical Hazards

Is **chemical analysis data** available? Y_X_ N__ (If yes, a data summary should be attached)

Does chemical analysis data indicate that the site is contaminated? Y_X_ N __

Potential **physical state** of the hazardous materials at the site (mark all that apply):

	Gas/Vapor		Sludge
X	Liquid	X	Solid/Particulate

Anticipated/actual **class of compounds** (mark all that apply):

	Asbestos		Inorganics
	BTEX		Pesticides
	Chlorinated Solvents		Petroleum products
	Heavy Metals	X	Other: PCBs

Impacted environments (indicate all media in which contamination is expected):

	Air		Groundwater
X	Soil		Sediment
	Surface water	X	Other: Concrete, scrap metal

Estimated concentrations/medium of major chemicals expected to be encountered by onsite personnel: Refer to data tables attached in accompanying Work Plan for specific concentrations previously detected.

The remediation contractor will be responsible for handling the PCB wastes identified at the site.

(Media key: A = Air; GW = Groundwater; SW = Surface Water; SO = Soil; SE = Sediment)

Other site (safety) concerns related to the chemicals present on this site: N/A

4.2 Physical Hazards

Is any site work area(s) to be entered for this project considered a confined space? Y___N **X**
If yes, indicate which area(s) and why: N/A

Under no circumstances are Haley & Aldrich personnel to enter an excavation for purposes of sample collection, inspection, etc. All samples will be collected using contractor equipment (backhoe, etc.). A safe distance (at least 2x the depth of excavation) from excavation edges will be maintained at all times. Similarly, safe distances from all building demolition activities will also be maintained.

Physical Hazard Checklist

Indicate all hazards that may be present for each task. If any of these potential hazards are checked, it is the project manager's responsibility to determine how to eliminate/minimize the hazard to protect onsite personnel. Note: Task numbers refer to those identified in section 3.

(Highlight the check mark [√], copy and paste in the appropriate box)

Hazards	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
Underground utilities						
Overhead utilities						
Excavations greater than 4' depth			√			
Open excavation fall hazards			√			
Heavy equipment			√			
Drilling hazards		√				
Noise (above 85 dBA)		√	√			
Traffic concerns						
Extreme weather conditions						
Rough terrain for drilling equipment						
Buried drums						
Heavy lifting (more than 50 lbs)						
High risk fire hazard						
Poisonous insects or plants						
Water hazards						
Use of a boat						
Lockout/Tagout requirements						
Other: Trip and fall hazards	√	√	√			

5.0 PROTECTIVE MEASURES

5.1 Personal Protective Equipment Requirements

PPE Checklist

(Highlight the check mark [√], copy and paste in the appropriate box)

Required PPE	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
Hard hat	√	√	√			
Safety glasses w/side shields	√	√	√			
Steel-toe footwear	√	√	√			
Hearing protection (plugs, muffs)	√	√	√			
Tyvek ™ coveralls	√	√	√			
PE-coated Tyvek™ coveralls						
Boots, chemical resistant	√	√	√			
Boot covers, disposable	√	√	√			
Leather work gloves						
Inner gloves - latex	√	√	√			
Outer gloves - pvc	√	√	√			
Tape all wrist/ankle interfaces						
Half-face respirator						
Full-face respirator						
Organic vapor cartridges						
Acid gas cartridges						
Other cartridges:						
P-100 (HEPA) filters						
Face shield						
Other:						
Level of protection required [C or D]:	**D mod**	**D mod**	**D mod**	**D mod**	**D mod**	**D mod**

Standby equipment to be available onsite:

Level C respiratory equipment, although not anticipated to be required, will be available on-site for potential use.

5.2 Personal Hygiene Safeguards

All personnel shall be clean shaven in the event Level C respiratory equipment is required.

Do not eat, drink, smoke, or touch the facial area while in any designated work areas or while wearing PPE. Eating, drinking, or smoking permitted only in designated clean areas.

5.3 Site Safety Equipment

Check all items that are required to be on site:

	Fire extinguisher	√	First aid kit	√	Flashlight
	Air horn/Signaling device	√	Cellular phone		Duct tape
	Ladder	√	Barricade tape		Drum dolly
	Personal flotation devices	√	Safety cones		Harness/Lanyard
	Other, specify:				

5.4 Site Security & Work Area Controls

Access to each contaminated work area will be controlled during on-site activities as follows:

Access onto the property is generally restricted by posted signs and fencing. Access to the scrap metal pile and soil excavation work areas will be restricted by caution tape and poly sheeting.

Can **site access** be controlled by a perimeter fence or similar means? Y _x _ N ___

If not, how will the site/work area be controlled during non-work hours to prevent access by unauthorized persons?

Equipment and tools will be locked down during non-work hours while working at exterior locations.

6.0 MONITORING PLAN AND EQUIPMENT

Is air/**exposure monitoring** required at this work site for personal protection? Yes _X_ During soils excavation activities, if performed.

Is **perimeter monitoring** required for community protection? No _X_
(see CAM details below)

Monitoring/Screening equipment required to be on site:

	HNu analyzer (PID)		10.2e V		11.7eV		Combustible Gas Indicator (CGI) (LEL)
	Organic vapor monitor (FID)						Multiple Gas Detector - LEL/O_2/H_2S/CO
X	Photovac Micro Tip, 10.6eV, Mini Rae 2000						Dust/Aerosol/Fiber count monitor
	Photovac GC						Colorimetric tubes; Specify:
	Other:						

Standard action levels and required responses for readings obtained with a multiple gas detector or an individual monitoring instrument are listed below. Do not deviate from these guidelines unless granted specific approval from the Corporate Health and Safety Manager.

Instrument	Normal	Operating levels	Action levels – required responses
Oxygen Meter	20.9%	Between 19.5-23.5%	Below 19.5 %: leave area, requires supplied air Above 23.5%: leave area, fire hazard
CGI	0%	Less than 10%	Greater than 10%: fire/explosion hazard; cease work
Hydrogen Sulfide	0%	Less than 10 ppm.	Greater than 15 ppm (or 10 ppm for 8 hrs) requires supplied air respirator (SAR)
Carbon Monoxide	0%	Less than 25 ppm	Greater than 200 ppm for 1 hour or 25 ppm for 8 hrs requires SAR

Description of Monitoring Requirements (include frequency and location by Task):

Monitoring Plan for Task Number(s):	3	Frequency:	1x	times per	15 mins.

COMMUNITY AIR MONITORING PLAN

In the event that total organic vapor readings in the work area breathing zone exceed 5 ppm above background, real-time air monitoring for volatile compounds at the exclusion zone perimeter will be required. If total organic vapor levels exceed 5 ppm above background at the exclusion zone perimeter, work will be halted and monitoring will be continued under the provisions of a Minor Vapor Emission Response Plan, as described below. All readings must be recorded and be available for NYSDEC and NYSDOH personnel to review.

Minor Vapor Emissions Response Plan

If the ambient concentration of organic vapors exceeds 5 ppm at the work area perimeter, work will be halted and monitoring will continue. If the vapor levels decrease below 5 ppm above background, work activities can resume. If the organic vapor levels are greater

than 5 ppm but less than 25 ppm over background at the work area perimeter, work activities can resume provided:

1. The organic vapor level 200 ft downwind of the work area or one-half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background; AND
2. The benzene and vinyl chloride levels (as measured with a Draeger tube) at the work area perimeter are less than 0.5 ppm; AND
3. More frequent intervals of monitoring, as directed by the safety officer, are conducted.

If the total organic vapor level is above 25 ppm, or the benzene or vinyl chloride level is over 0.5 ppm at the work area perimeter, work must be stopped. Downwind monitoring will be continued to minimize the potential impact to the nearest residential/commercial structure, at the levels specified in the Major Vapor Emissions Response Plan described below.

Major Vapor Emissions Response Plan

If the total organic vapor levels measured 200 ft downwind of the work area, or one-half the distance to the nearest downwind residential or commercial structure (whichever is less), is more than 5 ppm over background, air monitoring must be performed within 20 ft of these structures ("20-ft Zone").

All active operations at the site shall stop and remain down if any of the following vapor levels are observed within the 20-ft Zone:

1. Total organic vapors at 5 ppm or greater over background; OR
2. Benzene or vinyl chloride levels greater than 0.5 ppm.

If, following cessation of work activities, efforts to abate the emission source are unsuccessful (engineering controls, etc.) and any of the above levels persist for more than 30 minutes in the 20-ft Zone, the Major Vapor Emissions Response Plan (MVERP) shall be placed into effect. In addition, any of the following **within the 20-ft Zone** will necessitate activation of the MVERP:

- Organic vapor levels greater than 50 ppm over background
  Benzene or vinyl chloride levels greater than 0.5 ppm.

Major Vapor Emissions Response Plan Activation

Upon MVERP activation, the following activities will be undertaken:

1. The site safety officer will be notified, all Emergency Response Contacts listed in the Health & Safety Plan will be contacted, including local police authorities; AND
2. Frequent air monitoring will be conducted at 30-minute intervals within the 20-ft Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the safety officer.

All appropriate personnel will be briefed with regard to the details of the Minor and Major Vapor Emissions Response Plans, including anticipated hazards, safety practices, emergency procedures, and communication pathways prior to initiating work.

It is anticipated that dust control measures will be employed during the Interim Remedial Measures, thereby eliminating the need for perimeter dust monitoring unless those control measures are ineffective at reducing fugitive dust on the site. Perimeter dust monitoring will be implemented during construction and remediation only if the dust control measures are not effective at preventing fugitive dust. Supplemental investigation activities are not anticipated to create fugitive dust. Thus, perimeter dust monitoring has not been planned for the supplemental investigation phase of work.

Notes: 1. Exposure Guidelines for common contaminants are listed in **Table 1 (attached)**.
2. Requirements for PPE upgrades based on monitoring are in **Table 2 (attached)**.

7.0 DECONTAMINATION

7.1 Personnel Decontamination

Are **decontamination procedures** required for personnel working on site? Y X N ___
If yes, describe steps:

1. Remove any PPE in the following order and contain in plastic bag prior to leaving work area: Boots, Tyvek coveralls, outer gloves, inner gloves.

2. Decontaminate any personal equipment which is not disposable with alconox wash and water rinse.

3. Dispose of PPE at appropriate Client-approved location at site (i.e, solid waste dumpster, drums, etc.).

Location of decontamination station: At the work area boundary next to excavating or sampling equipment.

Disposal of PPE: At site in Client-approved receptacle, e.g solid waste dumpster or as appropriate waste stream at site.

7.2 Tools & Equipment Decontamination

Check all **equipment and materials needed for decontamination** of tools and other equipment:

	Acetone		Distilled water		Poly sheeting
√	Alconox soap	√	Drums for water	√	Steam cleaner
√	Brushes		Hexane	√	Tap water
	Disposal bags		Methanol	√	Washtubs
√	Other, specify: Steam cleaner for heavy equipment.				

Outline the **equipment decontamination procedures** for this project:

1. Decontamination of heavy equipment to be performed by remediation contractor by physically removing heavy soils (to be containerized) and following up with steam cleaner or pressure washer located on a decontamination pad or other Client-approved staging or decon area.

2. Decontaminate smaller drilling tools or sampling equipment at each work area using either steam cleaning or an alconox wash and water rinse with wash buckets, brushes, tubs, clean water rinse, etc.

Disposal methods for contaminated decontamination materials (e.g., wash water, rags, brushes, poly sheeting) will consist of:

The solid waste materials will be managed with the approved solid waste stream and disposed off-site. Decontamination soils and other solid matter will be drummed pending follow up analysis for disposal purposes.

Decontamination water will be staged onsite; upon follow-up or back-up analysis the wash water may be disposed onsite if appropriate facilities exist, unless the water is identified to be contaminated (we do not currently anticipate the water will be contaminated during the decon process, as only low-level contaminants have been previously identified at the site) in which case it will remain containerized and disposed offsite.

8.0 CONTINGENCY PLAN

EMERGENCY RESPONSE RESOURCES

Nearest Hospital: (see attached map) Address: Phone Number:	Wilson Memorial Regional Medical Center 33-57 Harrison Street Johnson City, NY 13790 607-762-2494
Emergency Response Number:	**911**
Local Emergency Response Number (if not on 911 system):	911
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	911
Occupational Health Physician: Address: Phone Number: Emergency Phone Number:	Strong Occupational Health Center 601 Elmwood Avenue Rochester, New York 14624 716-275-9192 716-275-9192
Haley & Aldrich Project Manager: Phone Number: Cell Phone Number: Emergency Phone Number: Client Contact/Project Manager: Phone Number: Emergency Phone Number:	Lisa Turturro 585-321-4237 585-370-3087 Office Main No. 585-359-9000 or Cell No.
Other Entity: Address: Phone Number:	

Evacuation alarms and/or emergency information be communicated among personnel on site by the following means: X Verbal communication. If communication will be by other means, describe:

Emergency services will be summoned: X Via on-site phone or on-site cell phone. If contact will be by other means, describe:

The **site evacuation plan** is as follows: For exterior work, move to facility parking lot or away from building along perimeter fire access road to safe distance from building. For interior work exit building from nearest emergency exit (routes are posted within facility).

(paste map showing route to hospital here)

Driving Directions:		Distance	Maps
1:	Start out going South on LESTER AVE toward HELEN DR.	0.3 miles	
2:	Turn RIGHT onto NY-17C/MAIN ST.	0.5 miles	
3:	Turn LEFT onto HARRISON ST.	<0.1 miles	
4:	End at 33-57 HARRISON ST JOHNSON CITY NY		

Total Est. Time: 3 minutes **Total Est. Distance:** 0.89 miles

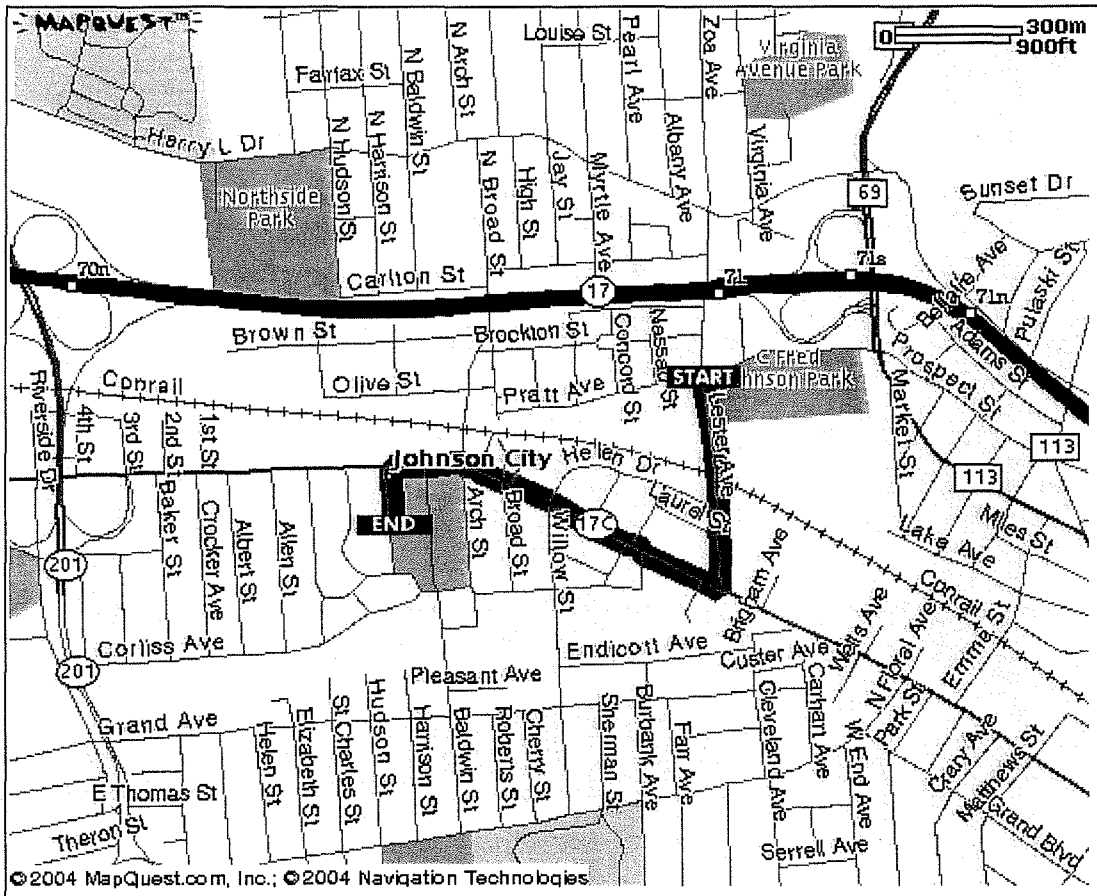


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TABLE 1
HAZARD MONITORING

(CIRCLE CONTAMINANTS OF CONCERN, WRITE ADDITIONAL CONTAMINANTS AND EXPOSURE ON LAST PAGE)

CONTAMINANTS OF CONCERN	ROUTES OF EXPOSURE	IDLH	PEL	TLV	PID (IP eV)	FID	ODOR THRES-HOLD	IRRITATION THRESHOLD	ODOR DESCRIPTION
Acetone	R, I, C	2500	1000	500 Cv 750	9.69	60	13	--	Chem, sweet, pungent
Ammonia	R, A, I, C	300	50	25 Cv 35	--	--	0.5-2	10	Pungent suffocating odor
Benzene	R,A,I,C	Ca	1	Sk 0.5	9.25	150	4.68	--	Solvent
Carbon tetrachloride (Tetrachlormethane)	R,A,I,C	Ca	2 Cv25 200: 5 min peak	Sk 5 Cv 10	11.47**	10	50	--	Sweet, pungent
Chlorobenzene	R,I,C	1000	75	10	9.07	200	0.68	--	Almond like
Chloroform	R,I,C	Ca	2	10	11.42**	65	50	--	Sweet
Cyanides (CN salts)	R,A,I,C	50 mg/m^3	5 mg/m^3	Sk Cv 5 mg/m^3	--	--	--	--	Faint almond odor
o-Dichlorobenzene	R,A,I,C	200	Cv 50	25 Cv 50	9.06	50	0.3	E 20-30	Pleasant, aromatic
p-Dichlorobenzene	R,I,C	150	Cv 75	10	8.94	--	0.18	E 80-160	Distinct, aromatic mothball-like
Dichlorodifluoromethane (Freon 12)	R,C	1500	1000	1000	11.97**	15	--	--	--
1,1-Dichloroethane	R,I,C	3000	100	100	--	80	200	--	Distinct
1,2-Dichloroethane	R,I,A,C	Ca	Cv 100 50	10	11.12**	80	88	--	Chloroform
1,1-Dichloroethylene (Vinylidene chloride, 1,1-DCE	R,I	Ca	--	5 Cv 20	*	40	190	--	--
1,2-Dichloroethylene	R,I,C	1000	200	200	9.65	50	0.85	--	Ether-like acrid
Ethanol	R,A,I,C	--	1000	1000	10.48**	25	10	--	Sweet
Ethylbenzene	R,I,C	800	100	Cv 125 100	8.76	100	2.3	E 200	Aromatic
Ethylene Glycol vapor	R,A,I,C	--	100 mg/m^3	-	--	--	--	--	--
Formaldehyde	I,C	Ca	0.75	Cv 0.3	10.88**	--	0.83	--	Hay
Gasoline	R,I,C	Ca	--	300	--	--	--	E 0.5	Petroleum
Hexane, n-isomer	R,I,C	--	500	50	10.18	70	130	E.T 1400-1500	Mild, gasoline-like
Hydrogen Cyanide (as CN)	R,A,I,C	50	10	Sk Cv-4.7	**	--	0.58	--	Bitter almond
Hydrogen peroxide	R,I,C	75	1	1	11**	--	--	--	Shar[
Methanol	R,I,C	25000	Sk 200	Sk 200	10.84**	12	1000	--	Sweet
MEK peroxide	R,I,C	--	Cv 0.7	Cv 0.2	--	--	--	--	--
Methyl Chloroform (1,1,1-TCA)	R,I,C	700	350	350	**	105	20-100	--	Chloroform-like
Methylene Chloride (Dichloromethane, Methylene dichloride)	R,I,C	Ca	25	50	11.35**	100	25-50	E 5000	Ether-like
Methyl Mercaptan	R,C	150	Cv 10	0.5	9.44	--	--	--	Garlic, Rotten Cabbage
MIBK (Hexone)	R,I,C	500	100	50 Cv 75	--	--	--	--	Pleasant
Naptha (coal tar)	R,I,C	1000	100	400	--	--	--	--	Aromatic
Naphthalene	R,A,I,C	250	10	10	8.14	--	0.3	E 15	Mothball-like
Octane	R,I,C	750	500	300 Cv 375	9.9	80	48	--	Gasoline-like
Pentachlorophenol	R,A,I,C	Ca 2.5 mg/m^3	0.5 mg/m^3 Sk	Sk 0.5 mg/m^3	--	--	--	--	Pungent when hot
Phenol	R,A,I,C	250	Sk 5	Sk 5	8.5	--	0.04	E.N.T. 68	Medicinal

TABLE 1
HAZARD MONITORING

(CIRCLE CONTAMINANTS OF CONCERN, WRITE ADDITIONAL CONTAMINANTS AND EXPOSURE ON LAST PAGE)

CONTAMINANTS OF CONCERN	ROUTES OF EXPOSURE	IDLH	PEL	TLV	PID (IP eV)	FID	ODOR THRES-HOLD	IRRITATION THRESHOLD	ODOR DESCRIPTION
Propane	R,C	2100	1000	2500	10.95**	80	1600	--	Natural gas odor
Stoddard Solvent (Mineral Sprits	R,Cl,I	20000 mg/m^3	500	100	*	--	1	E 400	Kerosene-like
1,1,2,2-Tetrachloroethane	R,A,I,C	Ca (100)	Sk 5	1	11.1**	100	1.5	--	--
Tetrachloroethylene (Perchloroethylene)	R,I,C	Ca	100	25	9.32	70	4.68	N.T513-690	Ether, chloroform-like
Toluene	R,A,I,C	500	200	50	8.82	110	2.14	E300-400	Mothball-like
Trichloroethylene	R,I,C	Ca (1000)	100	50	9.47	70	21.4	--	Solventy, chloroform-like
Turpentine	R,A,I,C	800	100	100	--	--	200	E.N 200	Pine-like
Vinyl Chloride	R	Ca	1	2	9.995	--	3000	--	Ethereal
Xylenes	R,A,I,C	1000	100	100	8.56/8.44	111/116	1.1	E.N.T. 200	Aromatic
DUSTS, MISTS AND MISCELLANEOUS COMPOUNDS									
Asbestos	R	Ca	0.1 fibr/cc	Species dependent	--	--	--	--	--
PCBs-42% Chlorine	R,A,I,C	Ca	1 mg/m^3 Sk	1 mg/m^3 Sk	--	--	--	--	Mild, hydrocarbon
PCBs-54% Chlorine	R,A,I,C	Ca	0.5 mg/m^3 Sk	0.5 mg/m^3 Sk	--	--	--	--	Mild, hydrocarbon
Styrene	R,I,C	700	100	20	8.47	85	0.047	E 200-400	Rubber, solvent
Aluminum- metal dust- total	R,I,C	--	15 mg/m^3	10 mg/m^3	--	--	--	--	--
-soluble salts	R,I,C	--	2 mg/m^3	2 mg/m^3	--	--	--	--	--
Arsenic- inorganic	R,A,I,C	Ca	0.01 mg/m^3	0.2 mg/m^3	--	--	--	--	--
Barium:soluble compounds	R,I,C	250 mg/m^3	0.5 mg/m^3	0.5 mg/m^3	--	--	--	--	--
Cadmium dusts	R,I	Ca	0.005 mg/m^3	0.01 mg/m^3	--	--	--	--	--
Chromium: Species Dependent (Hexavalent)	R,I,A,C	25 mg/m^3	Spec Dep hex- (.5mg/m^3)	Spec Dep	--	--	--	--	--
Copper - dust & mist	R,I,C	--	1 mg/m^3	1 mg/m^3	--	--	--	--	--
Lead - arsenate	R,I,C	Ca	0.05 mg/m^3	0.15 mg/m^3	--	--	--	--	--
- inorg. dust & fume	R,I,C	--	0.5 mg/m^3	0.15 mg/m^3	--	--	--	--	--
- chromate	R,I,C	--	--	0.05 mg/m^3	--	--	--	--	--
Manganese & compounds	R,I	500 mg/m^3	Cv-5 mg/m^3	0.2 mg/m^3	--	--	--	--	--
Mercury & inorg. comp.	R,A,C	10 mg/m^3	Cv0.1 mg/m^3	0.1 mg/m^3	--	--	--	--	--
- (organo) alkyl comp.	R,A,I,C	2 mg/m^3	0.01 mg/m^3	0.1 mg/m^3	--	--	--	--	--
Nickel - metal, insoluble	R,I,C	Ca	1 mg/m^3	1 mg/m^3	--	--	--	--	--
- soluble comp.	R,I,C	Ca	0.1 mg/m^3	0.1 mg/m^3	--	--	--	--	--
Nuisance Dust			5mg/m^3(Resp) 15mg/m^3(total)						
Portland cement	R,I,C	--	15 mg/m^3	10 mg/m^3	--	--	--	--	--
Selenium compounds	R,A,I,C	100 mg/m^3	0.2 mg/m^3	0.2 mg/m^3	--	--	--	--	--
Silver - metal	R,I,C	--	0.01 mg/m^3	0.1 mg/m^3	--	--	--	--	--
- soluble comp.	R,I,C	--	--	0.1 mg/m^3	--	--	--	--	--
Thallium, soluble	R,A,I,C	20 mg/m^3	0.1 mg/m^3 Sk	0.1 mg/m^3 Sk	--	--	--	--	--
Tin, metal & inorganic	R,C	400 mg/m^3	2 mg/m^3	2	--	--	--	--	--
Comp. except oxides									
Tin, organic compounds	R,A,I,C	200 mg/m^3	0.1 mg/m^3	0.1 mg/m^3 Sk	--	--	--	--	--
Zinc chromates, as Cr	R,I,C	--	Cv 0.1 mg/m^3	Cv 0.1 mg/m^3	--	--	--	--	--

TABLE 2
Last Revised September 2002

MONITORING METHOD, ACTION LEVELS AND PROTECTIVE MEASURES

INSTRUMENT	HAZARD	ACTION LEVEL	ACTION RESPONSE
Respirable Dust Monitor	Total Particulates	> 5 mg/m^3	Upgrade to Level C Protection
OVA, HNU[2], Photovac Microtip	Total Organic Vapors	Background	Level D Protection
		10 ppm > background or lowest OSHA permissible exposure limit, whichever is lower, or as modified for this task. Sustained for >5 minutes in the breathing zone.	Upgrade to Level C - site evacuation may be necessary for specific compounds
		50 ppm over background, unless lower values required due to respirator protection factors	Cease work; upgrade to Level B[3] may be required
Explosimeter[4] (LEL)	Flammable/Explosive Atmosphere	<10% Scale Reading	Proceed with work
		10-15% Scale Reading	Monitor with extreme caution
		>15% Scale Reading	Evacuate site
0xygen Meter[5]	Oxygen-Deficient Atmosphere	19.5% - 23.5% 0_2	Normal - Continue work
		< 19.5% 0_2	Evacuate site; oxygen deficient
		> 23.5% 0_2	Evacuate site; fire hazard
Radiation Meter[6]	Ionizing Radiation	0.1 Millirem/Hour	If > 0.1, radiation sources may be present[7]
		> 1 Millirem/Hour	Evacuate site; radiation hazard
Drager Tubes	Vapors/Gases	Species Dependent > 1 ppm vinyl chloride > 1 ppm benzene > 1 ppm 1,1-DCE	Consult Table 1 or other resources for concentration toxicity/detection data. Upgrade to Level C if concentration of compounds exceed thresholds shown at left; May need to cease work if other levels exceeded - site specific
Gas Chromatograph (GC)	Organic Vapors	3 ppm total OV > background or > lowest specific OSHA permissible exposure limit, whichever is lower	On-site monitoring or tedlar bag sample collection for off-site/laboratory analysis

Notes:
1. Monitor breathing zone.
2. Can also be used to monitor some inorganic species.
3. Positive pressure demand self contained breathing apparatus
4. Lower explosive limit (LEL) scale is 0-100%. LEL for most gasses is 15%.
5. Normal atmospheric oxygen concentration at sea level is 20%
6. Background gamma radiation is ~0.01-0.02 millirems/hour.
7. Contact H&A Health and Safety staff immediately.