COOPERVISION, INC.
SITE INVESTIGATION PROJECT WORK PLAN
SCOTTSVILLE, NEW YORK FACILITY
REVISED JANUARY 1999

by

Haley & Aldrich of New York
Rochester, New York

for

CooperVision, Inc.

File No. 70665-005
January 1999

HALEY & ALDRICH

UNDERGROUND
ENGINEERING &
ENVIRONMENTAL
SOLUTIONS

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HALEY & ALDRICH

8 January 1999
File No. 70665-005

Mr. Chris Marraro, Esq.
Wallace King Marraro & Branson, PLLC
1735 New York Avenue, N.W.
Washington, DC 20006

Subject: CooperVision, Inc.
Revised Site Investigation Project Work Plan
Scottsville, New York Facility

Dear Mr. Marraro:

This document comprises the Revised Work Plan for Site Investigations at the CooperVision, Inc. Scottsville facility. It presents a summary of previously-gathered data, sets forth plans for site investigations based on NYSDEC comments, and includes reporting, notification, and scheduling information related to the work. Revisions made are according to NYSDEC's comments dated 23 November 1998 on the first draft of this plan.

This Work Plan supports CooperVision's application to the New York State Department of Environmental Conservation (NYSDEC) for participation in the NYSDEC Voluntary Cleanup (VC) Program; this work plan constitutes work to be performed as part of a Voluntary Investigation Agreement.

Thank you for the opportunity to assist you and CooperVision with this challenging project. Please contact us if you have any questions.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK

Vincent B. Dick
Vice President

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TABLE OF CONTENTS

HALEY & ALDRICH

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

CooperVision, Inc. applied to the New York State Department of Environmental Conservation ("NYSDEC") for participation in the State's Voluntary Cleanup ("VC") Program for CooperVision's facility at 711 North Road, Scottsville, New York (see Figure 1). By letter dated 21 July 1998, NYSDEC notified CooperVision that it was eligible for participation in VC program. In determining eligibility, NYSDEC reviewed a report prepared by Haley & Aldrich, dated 23 April 1998, describing investigations of the site ("April Report"). NYSDEC's review comments, dated 22 July 1998, contained requests for certain additional information and investigations. On 10 August 1998, and again on 1 September 1998, CooperVision submitted to NYSDEC written responses to the Agency's comments. This work plan describes investigations that CooperVision will conduct in response to NYSDEC's July 22 comments. The Work Plan will comprise an appendix to a Voluntary Cleanup Agreement (VCA) for implementation of the investigation described herein. NYSDEC and CooperVision will sign this as part of the VC Program.

The CooperVision facility is located on a parcel of land of about 5.4 acres. The property includes an original building with additions having a total area of approximately 50,000 sq. ft. Soil and groundwater on some portions of the property have been found to be impacted by 1,1,1-trichloroethane ("TCA"), possibly from activities of a former owner who beginning in the mid-1970's occupied the property and used it for manufacturing.

CooperVision plans to address existing site conditions in accordance with the VC Program. This is the first phase of the investigation. A second phase involving possible offsite issues, if any, may be required by the NYSDEC in the future. Results of investigations to date show that source residues at the CooperVision facility exist only in limited areas. The highest soil concentrations detected were only slightly above the TAGM levels. Sampled groundwater TCA concentrations exceed NYSDEC groundwater standards locally near the source and up to 240 feet downgradient.

CooperVision plans to implement the Work Plan within thirty days of the effective date of the VCA. The company intends to have a qualified representative onsite as activities described in the Work Plan are performed. CooperVision will notify NYSDEC if difficulties are encountered.

This Work Plan provides an overview of facility and the site's history, and describes the investigation activities that Coopervision intends to complete in response to NYSDEC requests. The Work Plan also summarizes project QA/QC, field documentation procedures, reporting, notification, and scheduling.

II. SITE HISTORY AND FACILITY OVERVIEW

A history of the site has been developed based on available historical documents, aerial photographs, and reports of recent investigations, including a comprehensive Phase I Environmental Site Assessment ("Phase I") conducted by LaBella Associates (1997) that was prepared in connection with a routine corporate financing. Subsequent investigations included Phase II sampling conducted by LaBella Associates (1997) and additional investigations conducted by Haley & Aldrich (1998).

Available information indicates that prior to 1976 the Scottsville property consisted of undeveloped agricultural land. The property was purchased, developed, and operated by Union Corporation thereafter for the manufacture of contact lens eyewear. CooperVision acquired the operation in 1983. Today, CooperVision continues to manufacture contact lenses at the facility.

The current building used for manufacturing is a slab-on-grade structure, developed for commercial purposes and founded on typical spread footings. The building is shaped as an inverted "L" with the original one-story portion of the structure located on the northeast side of the structure. The two-story sections, the western/southwestern wing, were added in two phases in 1995 and 1997. Manufacturing occupies the northeastern portion of the facility; manufacturing, warehousing and shipping occupy the western/southwestern portion. Subsurface utilities consist of municipal sewer, water, and electrical services (shown on Figure 2).

Historically, TCA, methylene chloride, methanol, caustics, polymers, monomers, silicone oil, low-odor paraffin solvent, acetone, alcohols, and other compounds have been stored on site. Most chemicals have been purchased in small volumes, generally a few liters or less. Certain compounds (TCA, methylene chloride) were stored in 55-gal. drums in a secure indoor chemical storage room.

Industrial grade TCA was used at this facility for the manufacture of contact lens eyewear from approximately the mid-1970's to 1993. It was delivered to the site in 55 gallon drums and dispensed by the transporter to an above-ground indoor 600-gal. tank. TCA was drawn off the 600 gal. Tank in small quantities, for use at work, stations to release lenses from lens forms, until the manufacturing process was modified in 1993. Once used, TCA was transferred to a 275-gal. above-ground tank, adjacent to the 600 gal. tank.

The 600 gal. and 275 gal. tanks were located in a compressor room on the south side of the facility. The facility is slab-on-grade construction with no floor drains apparent in the compressor room or immediately adjoining rooms. The tanks were removed from the facility in 1993 and 1995 respectively.

The 1997 Phase I investigations identified no reported releases or spills at the facility, except for one that had been reported in 1990 and resolved with the NYSDEC. This incident involved a refrigerated chemical storage room, located on the south-central side of the one-story section of the building. The storage room lost power and a drum of a temperature-sensitive chemical (hydroxethyl methacrylate) ignited when the drum warmed. The fire was

extinguished, spilled chemicals were contained, and the spill file was closed. The are no reports in the public records of spills or releases of TCA since CooperVision has owned the facility. Further, facility personnel who are familiar with the operation of the facility do not recall any such spill or release.

Phase II sampling conducted in 1997 in the area immediately outside the compressor room identified TCA in subsurface soils and groundwater. A subsequent grid of 20 soil vapor sample locations identified the soils beneath the former tank/delivery as the source of remaining TCA ("source area"). Subsurface soil testing confirmed the location as the Source Area, and found the highest concentrations of TCA, approximately 2 ppm, 8 to 12 ft. below the ground surface immediately outside the compressor room. Highest concentrations of TCA in groundwater were also detected at this location (approximately 420 ppm). Concentrations of TCA in groundwater were found to greatly diminish toward the downgradient property line to the east. The highest groundwater TCA concentration near a property line at the facility was found to be approximately 0.061 ppm, measured in a monitoring well located approximately 240 ft. due east of the source area. Other plume-edge downgradient monitoring wells showed detectable TCA, but at concentrations well below NYSDEC drinking water standards. Appendix A includes a summary of analytical results from previous investigations.

Site soils were found to consist of glacial till in the source residue area and at depth in all of the borings performed on site. Hydraulic conductivity in the Source Area was determined to be approximately 4.6E-07 cm/sec. Shallow till east of the source residue area was found to be less dense and to exhibit a slightly higher permeability, on the order of 2.7E-05 cm/s. Generally, the top of bedrock is reported to be 45 to 80 ft. below ground surface. Groundwater was encountered at approximately 6 to 8 ft. below ground surface.

Groundwater monitoring showed the site's groundwater flow direction to be toward the east-southeast, with a gradient of approximately 0.03 to 0.045 ft./ft. Based on the distance of the edge of the plume from the Source Area, and the estimated highest hydraulic conductivity and gradient, Haley & Aldrich estimated that the release of TCA took place more than 15 years ago, which is prior to CooperVision's acquisition. This estimate and other information related to site hydrogeology is summarized in Appendix A.

In 1998 a human health risk assessment was performed for potential exposure routes consistent with the current use of the site and property in the surrounding-vicinity. Haley & Aldrich found that the facility and surrounding areas were connected to municipal water, and no groundwater extraction wells were identified in the vicinity of the facility. Therefore consumption of groundwater was not considered as an exposure route. Potential routes the risk assessment evaluated included direct contact by a contractor during excavation in the source residue area, vapor infiltration into the CooperVision facility, and contact exposure with surface water (resulting from discharge from groundwater) in a drainage ditch along the eastern property boundary. Results of the risk assessment, presented in the April Report, indicated no unacceptable or uncontrollable risk.

III. WORK ACTIVITIES AND RESPONSES TO NYSDEC COMMENTS

As stated above, the NYSDEC comments on the April Report contained requests for certain additional information and investigations. On 10 August 1998, and again on 1 September 1998, CooperVision submitted to NYSDEC written responses to the Agency's comments which adequately addressed many of the comments.

This Work Plan describes activities CooperVision will conduct in response to the NYSDEC requests that required additional field or other site investigation. To assist NYSDEC, the tasks described by this Work Plan appear along with the related Agency request, shown in italics.

IV. GENERAL ISSUES

Description of Surrounding Land Uses:

NYSDEC requested that additional information concerning the surrounding properties be included in subsequent reports including the following:

- locations of residential, commercial and industrial properties
- water supply source
- locations of properties with basements, sumps or septic systems
- location of properties with private wells

CooperVision has obtained the following information about surrounding properties.

- Locations of residential, commercial, and industrial properties: Due south of the CooperVision facility is a property at 38 Briarwood Lane, operated by Heany Industries. Heany Industries is involved with the manufacture of industrial ceramics and coatings. Further to the south and to the southwest of the Heany industries are multiple- and single-family dwellings on Briarwood Lane and roads that branch from or intersect Briarwood Lane. To the east of the facility, across Briarwood Lane, are existing and "under-construction" multiple-family dwellings. To the north of the CooperVision facility across North Road are single-family houses. West of the CooperVision facility are several single-family houses, beyond which is Wheatland-Chili High School.

- Water supply: water supply for the facility and surrounding area is provided by Monroe County Water Authority.

- Locations of properties with basements, sumps or septic systems: The building occupied by Heany Industries on 38 Briarwood Lane appears to be slab on grade construction with no visible indications of a septic system The existing multiple- and single-family dwellings on Briarwood Lane to the south of the Heany Industries facility appear to have basements but no septic systems. The multiple-family dwellings in the new development directly to the east of the facility also appear to have basements, but no septic systems. The new development basements are equipped with sumps and pumps. Houses on North Road north and west of the CooperVision facility also appear to have basements but no

septic systems. Based only on the age of the structure, Haley & Aldrich believes that an 1800's brick residence several hundred feet west (and upgradient) of CooperVision's facility may have a septic system.

- Locations of properties with private wells: no private wells were observed on surrounding properties during a visual survey from public rights of way.

Additional inquiries to the Monroe County Health Department, the Village of Scottsville and the Town of Wheatland, will be made to determine if wells or septic systems exist in the vicinity of the CooperVision facility. Information obtained from public records will be included in future reports.

V. SCOPE OF INVESTIGATION

5.1 Utility Drains and Surveys

NYSDEC requested that the type and location of underground utilities and their potential to act as migration pathways be evaluated.

Locations of known utilities at the site are shown in Figure 2. Available records regarding depth and construction details will be gathered and submitted to NYSDEC in future reports. Inquiries have been made with municipal offices in Scottsville to obtain facility plans that may contain drain routes. If these inquiries do not yield information, existing floor drain connections will be addressed using dye tracing, as described in this Work Plan.

NYSDEC requested that all the floor drains be sampled and that more information including as-built diagrams, location of each floor drain, underground piping, type of piping, etc. be provided.

All floor drains exhibiting discernible residues have already been sampled. Regarding configuration details, facility records have already been checked for plans of the nature NYSDEC requested and were not found. Additional inquiries are pending with the Village of Scottsville for plans that may show these interior details. Figure 2 shows existing exterior sewer connections to the building.

If Village records are not available, CooperVision will investigate floor drainage using dye tracing. This will consist of determining drain connections to sewers, placing fluorescein or similar colored, water-soluble dye in each open drain, flushing the drain with water, and monitoring the progress of the dye as it moves past clean-out observation locations outside the building. If a drain does not appear to be connected to a sewer, CooperVision will resample materials in the drain for VOCs, with analysis by Method 8260. An additional focus will be an attempt to identify points of discharge, if any. If one or more points of discharge other than sewers are identified, then CooperVision will determine in conjunction with NYSDEC whether additional soil or groundwater sampling are needed near the discharge point(s).

5.2 Soil Borings and Nested Well Installation

NYSDEC requested that the deeper overburden be investigated to determine if this interval has been impacted.

The log for MW-205, a relatively deep well in the Source Area, indicates that soils in the source area are quite dense, and relatively impervious. Odor and PID screening of split-spoon samples during drilling indicated contamination at relatively shallow depths, with VOC values declining from 13.0 to 20.5 feet in depth. VOCs were not detected at 28 feet, the bottom of the boring. This indicates that soils in the deeper overburden in this area are not impacted by VOCs.

VOCs were detected in groundwater in MW-205. However, the sandpack for this well starts at 20 feet and extends down the remaining length of the well. Thus, it is likely that VOCs detected in groundwater originated in soils from the shallow end of the sandpack. Shorter screen sections in multi-level "nested" monitoring wells that will be installed as part of Work Plan should allow Haley & Aldrich to identify the source of the VOCs detected in groundwater in MW-205.

Accordingly, CooperVision plans to install two sets of multi-level monitoring wells. One set will be at the apparent edge of the source area, south of the compressor room and wells MW-205 and MW-1 (see Figure 2). The other set will be at a location east-northeast of the facility building to help define lateral extent to the northeast (Figure 2).

Installation of each multilevel nested well will begin with the installation of two closely spaced boreholes. Each borehole in the Source Area will contain three nested wells; each borehole in the east-northeast area will contain two nested wells. Each nested well will have a one-foot long screen. Adjacent screens of nested wells will be separated by several feet of a bentonite seal.

The screens for the three nested wells in one of the two boreholes in the source-area will be set with screen tops at 12, 20, and 28 ft. below ground surface; screen tops for nested wells in the other borehole will be set at 16, 24, and 32 ft. below ground surface. The total depth of the first well will be 29 ft. The total depth of the other nested well will be 33 ft.

The screens for the two nested wells in one of the two boreholes in east-northeast area will be set with screen tops at 12 and 25 ft. below ground surface; screen tops in the other borehole will be set at 19 and 32 ft. below ground surface. The total depth of the first well will be 26 feet. The total depth of the other nested well will be 33 feet.

This plan will allow for sampling at greater depth than has occurred to date and for more discrete characterization of compound distribution. Each set of nested wells will be installed using conventional hollow-stem auger methods and split-spoon sampling to monitor drilling progress during installation.

NYSDEC requested additional sampling to verify the geological conditions at the site, especially at depth near the suspected source area.

Haley & Aldrich expects that the results of soil sampling during drilling of the multi-level wells will verify the geological conditions of the site, particularly with respect to conditions at depth. At each nested well set, split-spoon samples will be gathered continuously from ground surface to the total depth of the deeper boring in each set. Samples will be visually inspected, classified, and screened with a Photovac Microtip PID or equivalent in the field, and all observations will be logged on field forms. The soil sample exhibiting the greatest PID response in the field will be submitted to an EPA-approved laboratory for Method 8260 analysis.

NYSDEC requested that the northeast corner of the site (near the parking lot labeled "22") be investigated.

As noted above, CooperVision is planning to install a set of multi-level monitoring wells in this area. The specific locations for the wells are shown on Figure 2.

5.3 Angled Boring Installation

NYSDEC requested that additional sampling investigation of the soil under the compressor room floor, be undertaken to evaluate potential hazards and remedial strategies. Soil samples were requested from the 0-6 foot zone to evaluate potential exposure to workers doing excavation work.

Site drilling will include an angle boring through the floor slab in the Compressor Room to more fully evaluate contamination in source soils. Angle drilling will be used because of the relatively low ceiling in the Compressor room and because piping and other overhead obstruction limit clearance. Drilling will be conducted over a weekend during off-shift hours.

Due to the angled nature of the boring, sampling cannot be done with a conventionally hammer-driven split spoon. Instead, sampling will be conducted, if possible, using a pneumatic hammer to push the split spoon sampler into the soils underlying the compressor room. If this is not possible, then, as a last resort, sampling will take place by "spinning" the split spoon sampler into the soils, and submitting soil materials from the interior of the split spoon samples for laboratory analysis. Sample description and screening will otherwise be conducted using conventional methods. The soil sample exhibiting the greatest PID response in the field will be submitted to an EPA-approved laboratory for Method 8260 analysis.

An attempt will be made to extend angle drilling to the top of the water table, as measured at MW-205, or to 6 feet below ground surface, whichever is deeper. It may be necessary to take more than 3 split spoon samples to account for the drilling angle and depth of water.

5.4 Surface Water/Sediment Sampling

NYSDEC requested that sediment and surface water from the nearby ditch be analyzed.

Sediment and surface water sampling of the ditch has already been performed in accordance with the procedures set forth in a 1 September 1998 letter to Frank Sowers of the NYSDEC. CooperVision received approval of the procedures in a letter from Mr. Sowers dated 4 September 1998. Copies of the request and approval letters are found in Appendix B. Sampling was performed on 9 September 1998. Results will be included in future reports resulting from this work plan.

On 15 September 1998, CooperVision obtained surface-water and pipe discharge samples that, when analyzed, exhibited acetone concentrations in excess of surface-water guidance values. It is believed that the acetone present resulted from cleaning activities of contractors (cleaning paint or wall-joint compound) at an earlier time. The contractors had performed their work near a point on the paved parking lot surface near one of the buildings where surface water runs into the pipe. Locations are shown in the Site Investigation Report. Inquiry continues into the actual source of the material, results of which will appear in summary form in the report resulting from VCA investigation activities.

5.5 Groundwater Well Monitoring

NYSDEC requested that additional water sample and water level measurements be collected to verify levels initially detected and to evaluate seasonal variations.

New wells will be surveyed to the same NGVD elevation datum as the previously installed well.

A new round of water level measurements and samples will be collected subsequent to the installation of the new wells called for by this Work Plan. Water elevations will be gathered and new isopotential maps prepared for the site. All wells will be sampled and analyzed for VOCs by USEPA Method 8260. A special provision will be made for the VOC sample from well MW-205 to avoid sample dilution and attempt a low detection limit for low concentration compounds that may be present (such as vinyl chloride). For wells MW-201, MW-202, and MW-1, analyses will be conducted for the complete set of Target Compound List (TCL) compounds.

NYSDEC requested that sample and analytical methods be used which will provide lower detection limits for vinyl chloride, particularly in the source area.

CooperVision will request those responsible for sampling and analysis to use methods helpful in providing a lower detection limit for vinyl chloride in groundwater sampled from Well MW-205 in the source area.

NYSDEC requested monitoring for vinyl chloride until remediation is complete.

Analyses to date have included vinyl chloride, and future analyses will include vinyl chloride.

NYSDEC requested that one upgradient and several downgradient locations be analyzed for TCL.

CooperVision plans for TCL analysis for samples from three locations: an upgradient well, MW-201, a source area well, MW-1, and a direct downgradient well, MW-202. The results of previous analyses for wells at the site are summarized in Appendix A.

5.6 Soil Borings and Temporary Well Installation

NYSDEC requested that the area upgradient from MW-203 be investigated to determine the extent of acetone contamination at the site.

CooperVision believes that previous detections of acetone may have resulted from laboratory contamination. However, in response to the request of the NYSDEC, one new soil boring and temporary groundwater monitoring well will be placed near and to the north of MW-203, south of the "A" row, as shown in Figure 2.

The boring will be carried to 12-14 feet, within the zone of saturation. The boring will be continuously split-spoon sampled and monitored during drilling. The soil sample exhibiting the highest field VOC detection will be submitted for VOC analysis, including acetone.

A temporary groundwater monitoring well will be constructed in the boring by inserting a new PVC screen and temporary sand pack and bentonite seal. The well will be purged and sampled as soon as a sufficient volume of water is present in the well. The well will be maintained as "temporary" until completing the first sampling event or a second confirmation event, if needed. In conjunction with the NYSDEC, CooperVision will determine based on sampling results whether to convert the well to a permanent installation or abandon it. Groundwater from this well will be analyzed by Method 8260. Once NYSDEC approval is obtained, the well will be removed and sealed.

NYSDEC requested further investigation to determine if additional source areas are present south of "A" row.

In addition to the boring described above, two temporary wells south of the "A" row will be installed and sampled for VOCs, including acetone. The locations of these two borings are shown in Figure 2. These borings, with temporary well installations, will help determine if additional source areas are present. The methods of drilling, sampling and analyses will be as described above. Once NYSDEC gives its approval, the wells will be removed and sealed.

5.7 Miscellaneous Comments and Activities

NYSDEC requested that additional investigation be undertaken to determine extent of BTEX contamination at the site.

No operations at the facility have involved products known to contain BTEX. Although there were detections of BTEX in soil vapor analyses, none showed up on lab analyses of soil or

water from the site as would be expected if these compounds had been present. The locations for which slight BTEX concentrations were reported in the soil vapor survey correspond to parking lot and new building addition areas that would have petroleum compounds associated with either auto parking activities or petroleum coatings of foundation elements. A copy of a plot showing EMFLUX isopleth interpretations of BTEX compounds present in soil gas was recently submitted to Frank Sowers of the NYSDEC for consideration of whether additional sampling is necessary.

As the NYSDEC has stated, an investigation focused on BTEX is not necessary. However, any analysis of soil or groundwater for this site investigation will include tests for BTEX compounds. When necessary and feasible, sampling and analytical methods will be those that facilitate lower detection limits for BTEX.

NYSDEC requested that source areas be adequately defined before evaluating remedial measures.

As previously discussed, an angle boring will be made through the floor slab to investigate conditions beneath the building in the source area. In addition, the set of nested monitoring wells to be installed on the edge of the source area will assist in defining the vertical and horizontal extent of contamination in both soil and groundwater in this area. Further, temporary monitoring wells to be installed in the southern portion of the property will help identify additional source areas, if any.

VI. RISK ASSESSMENT

6.1 Indoor Air Sampling

NYSDEC requested that indoor air samples be collected from inside the building (number and location would have to be determined based on building HVAC system) and analyzed for TCA, TCE, PCE and their breakdown products. The results should be compared to typical background levels and if levels are detected above background they should be evaluated to determine whether or not they present a potential health concern

CooperVision will meet with the NYS Department of Health (NYSDOH) to select a means of assessing air samples in the building. One method will be that discussed above, taking into account the operation of the building's HVAC system and resulting air flow patterns. The other possible method would be the use of flux samplers placed over cracks, if any, in the floor slab of the building near the Compressor Room. A discussion of the relative merits of the two methods will take place with the NYSDOH, and the method jointly agreed-to will be implemented following written confirmation with NYSDOH.

NYSDEC requested that future risk assessments evaluate potential for contaminated ground water and soil gas to migrate off-site and enter sumps and basements of the homes. This evaluation also needs to include homes under construction.

Future risk assessments may evaluate the potential for contaminated groundwater or soil gas to migrate off-site and enter sumps and basements. Discussion with the NYSDEC of the appropriate approach to take will occur after CooperVision finishes a complete round of sampling and analysis of all groundwater wells on the site, including the new ones discussed in this Work Plan. An analysis of groundwater flow and VOC plume conditions after collection of this data will allow for the assessment of the potential for off-site VOC migration and will also help identify responsibility for the identified onsite plume. At that time, determination will be made with NYSDEC as to the extent to which off-site risk assessment needs to be made.

6.2 Future Risk Assessment

NYSDEC requested that if private wells are identified, exposure to the well water be included in future assessments.

No private wells have been identified in the area. As indicated above, after public sources are checked for private wells, off-site risk assessment issues will be discussed with NYSDEC.

VII. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

In addition to the field samples described above, samples will be collected for QA/QC purposes. These may include trip blanks, matrix spikes, matrix spike duplicates, etc., which will be performed at a rate of 10% of each Sample Delivery Group population. Lab QA/QC will be maintained by use of a NYS ELAP-approved and ASP-qualified laboratory.

VIII. FIELD DOCUMENTATION

Documentation of all field activities will be performed. This documentation will include field notebooks, geologic logs, well-construction reports, and chain-of-custody forms.

IX. REPORTING

CooperVision intends to submit reports related to Work Plan activities to the NYSDEC. These reports will consist of monthly progress reports and a final investigation report.

Each monthly progress report will identify progress made in the previous month toward completing the tasks set for in this Work Plan. The monthly report will summarize results of sampling, and tests conducted during the previous month. Any other reports or deliverables submitted in that month will also be identified. These reports will be submitted to parties identified in the VCA by the 10th day of the month following the month for which reporting is performed.

The monthly report will also evaluate adherence to the schedule. The percentage completion of the project will be assessed, and actual or anticipated delays that could have an impact on future scheduling will be described. Plans to mitigate these delays will also be discussed. The monthly report will also identify proposed modifications to the Work Plan, and summarize actions scheduled for the next month.

CooperVision will submit a final investigation report to the NYSDEC. This report will contain the following:

- Pertinent data and information generated or obtained during the investigation;
- Assessments and evaluations specified in the Work Plan;
- A list of additional data needs;
- A statement by the party having primary responsibility for daily supervision of the investigation that activities were carried out in accordance with the approved Work Plan and NYSDEC-approved modifications thereof.

If the NYSDEC disapproves of any report, then CooperVision will submit a revised report, as required by the VCA. This revised report will be submitted within 30 days after CooperVision receives written notice of disapproval of the first report from the NYSDEC. The revised report will attempt to resolve NYSDEC concerns about items in the first report.

Reports will be submitted to individuals within the NYSDEC as identified in the VCA.

X. NOTIFICATIONS

NYSDEC will be notified 5 calendar days in advance of field activities.

In the event that difficulties are encountered in the implementation of any obligations of the Work Plan or any NYSDEC-approved modification, CooperVision will notify the NYSDEC and obtain its approval before making Work Plan modifications.

CooperVision will, within 30 days of the effective date of the VCA, file a Notice of Agreement (Exhibit "C" in the VCA) with the Monroe County Clerk to all parties who may acquire interest in the site. CooperVision will provide the NYSDEC with evidence of this filing.

XI. SCHEDULE

The initial field activities will consist of conducting site surveys, obtaining information regarding surrounding land use, and tracing utilities, all requiring approximately 2 weeks. Drilling, installing, and developing wells will require approximately 7-10 days. Following completion of drilling activities, and groundwater water level monitoring, a complete round of samples will be collected. The nested wells will require approximately two weeks to stabilize following installation. Thus, groundwater monitoring and sampling will require approximately 2.5 weeks. Samples will be submitted to a laboratory for analysis, with an expected turn around time of 3 weeks. After receiving the results of all analyses, CooperVision will require about six weeks to evaluate the data and prepare a draft report for NYSDEC approval. Throughout the project, a monthly status letter report will be submitted to the NYSDEC as required.

A Gantt chart detailing the scheduling of this project is provided as Figure 3.

XII. HEALTH AND SAFETY

A Health and Safety plan for the work described herein is contained in Appendix C.

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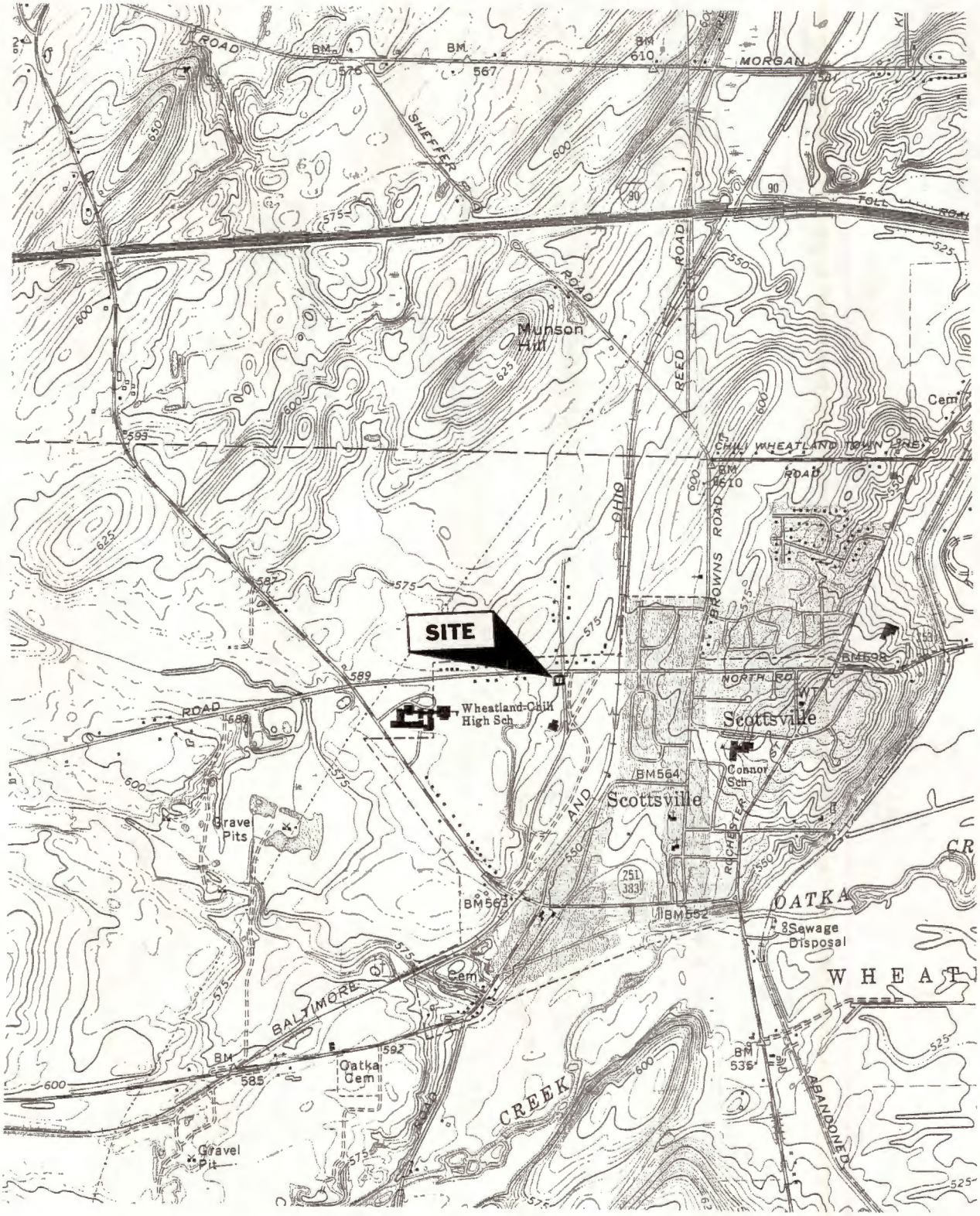
TABLE 1
COOPERVISION, INC.
SCOTTSVILLE, NEW YORK
WORK PLAN INVESTIGATION BORING, SAMPLING AND ANALYTICAL SUMMARY

Privileged & Confidential
Prepared at Request of Counsel

LOCATION	PROPOSED EXPLORATIONS	ESTIMATED NUMBER OF SOIL SAMPLES	SOIL SAMPLE ANALYSIS PARAMETERS	ESTIMATED NUMBER OF GW/SURFACE WATER SAMPLES	GW/SURFACE WATER SAMPLE LAB ANALYSIS METHOD
SOURCE AREA Compressor room in building	Install boring using outside rig angled through compressor room doors (Figure 2). Core through floor slab. Take 2" split-spoon samples. Go to total depth of 6 feet below ground surface.	3	Field screening PID Lab analysis 8260	--	8260
SOURCE AREA South edge of source area	Install multilevel nested wells in two boreholes (29' and 33' deep) (Figure 2). Develop wells. Collect groundwater samples from each well.	8	Field screening PID Lab analysis 8260	6	8260
POSSIBLE DOWNGRADIENT AREA East part of parking lot	Install multilevel nested wells in two boreholes (26' and 33' deep) (Figure 2). Develop wells. Collect groundwater samples from each well.	8	Field screening PID Lab analysis 8260	4	8260
SOUTH PART OF PROPERTY South part of parking lot, three locations	Install 3 temporary wells with 14' deep boreholes (Figure 2). Collect groundwater that enters into each well for analysis.	3	Field screening PID Lab analysis 8260	3	8260

TABLE 1 (Continued)
COOPERVISION, INC.
SCOTTSVILLE, NEW YORK
WORK PLAN INVESTIGATION BORING, SAMPLING AND ANALYTICAL SUMMARY

LOCATION	PROPOSED EXPLORATIONS	ESTIMATED NUMBER OF SOIL SAMPLES	SOIL SAMPLE ANALYSIS PARAMETERS	ESTIMATED NUMBER OF GW/SURFACE WATER SAMPLES	GW/SURFACE WATER SAMPLE LAB ANALYSIS METHOD
DITCH AREA Onsite, along Briarwood Lane	Collect sediment and surface-water samples at two locations, as shown in Figure 2.	2 (Sediment)	Field screening PID Lab analysis 8260	2	8260
MW-201, MW-1, MW-202 Upgradient, source, downgradient	Collect TCL groundwater samples.	--	--	3	TCL



QUADRANGLE LOCATION: CLIFTON, N.Y.

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

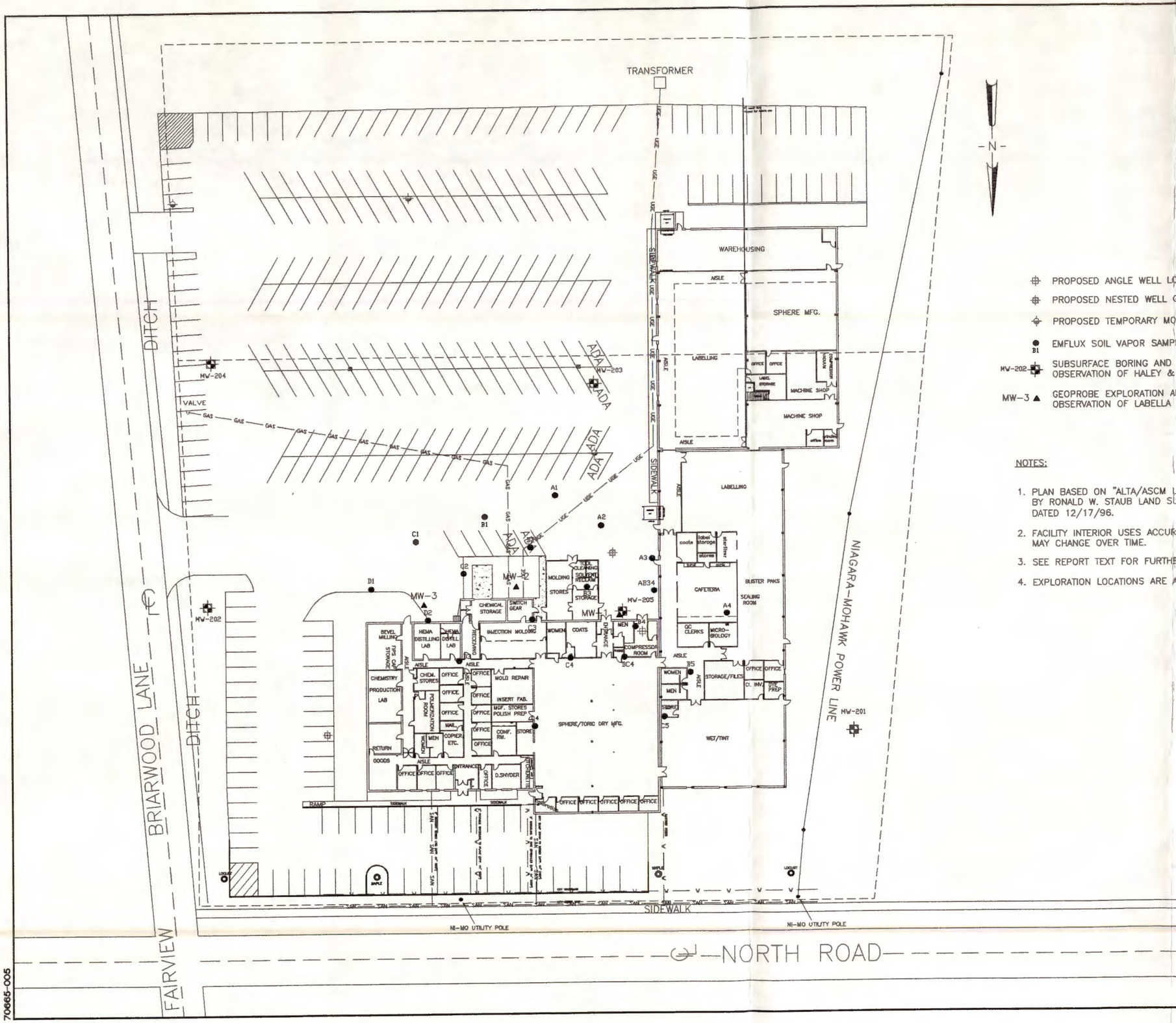
COOPERVISION FACILITY INVESTIGATION
711 NORTH ROAD
SCOTTSVILLE, NEW YORK

PROJECT LOCUS

SCALE: 1" = 2000'

MAY 1998

70665-003



- PROPOSED ANGLE WELL LOCATION
- PROPOSED NESTED WELL GROUND WATER MONITORING LOCATION
- PROPOSED TEMPORARY MONITORING WELL LOCATION
- B1 EMFLUX SOIL VAPOR SAMPLING LOCATION
- MW-202 SUBSURFACE BORING AND WELL INSTALLED UNDER THE OBSERVATION OF HALEY & ALDRICH OF NEW YORK.
- MW-3 GEOPROBE EXPLORATION AND WELL INSTALLED UNDER THE OBSERVATION OF LABELLA ASSOCIATES.

NOTES:

1. PLAN BASED ON "ALTA/ASCM LAND TITLE SURVEY MAY" PREPARED BY RONALD W. STAUB LAND SURVEYORS, ROCHESTER, NEW YORK, DATED 12/17/96.
2. FACILITY INTERIOR USES ACCURATE AS TO DATE OF SURVEY, BUT MAY CHANGE OVER TIME.
3. SEE REPORT TEXT FOR FURTHER INFORMATION.
4. EXPLORATION LOCATIONS ARE APPROXIMATE.

0 30 60 120
SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

COOPERVISION FACILITY INVESTIGATION
711 NORTH ROAD
SCOTTSVILLE, NEW YORK

PROPOSED EXPLORATION LOCATIONS AND SITE PLAN

SCALE: AS SHOWN

AUGUST 1998

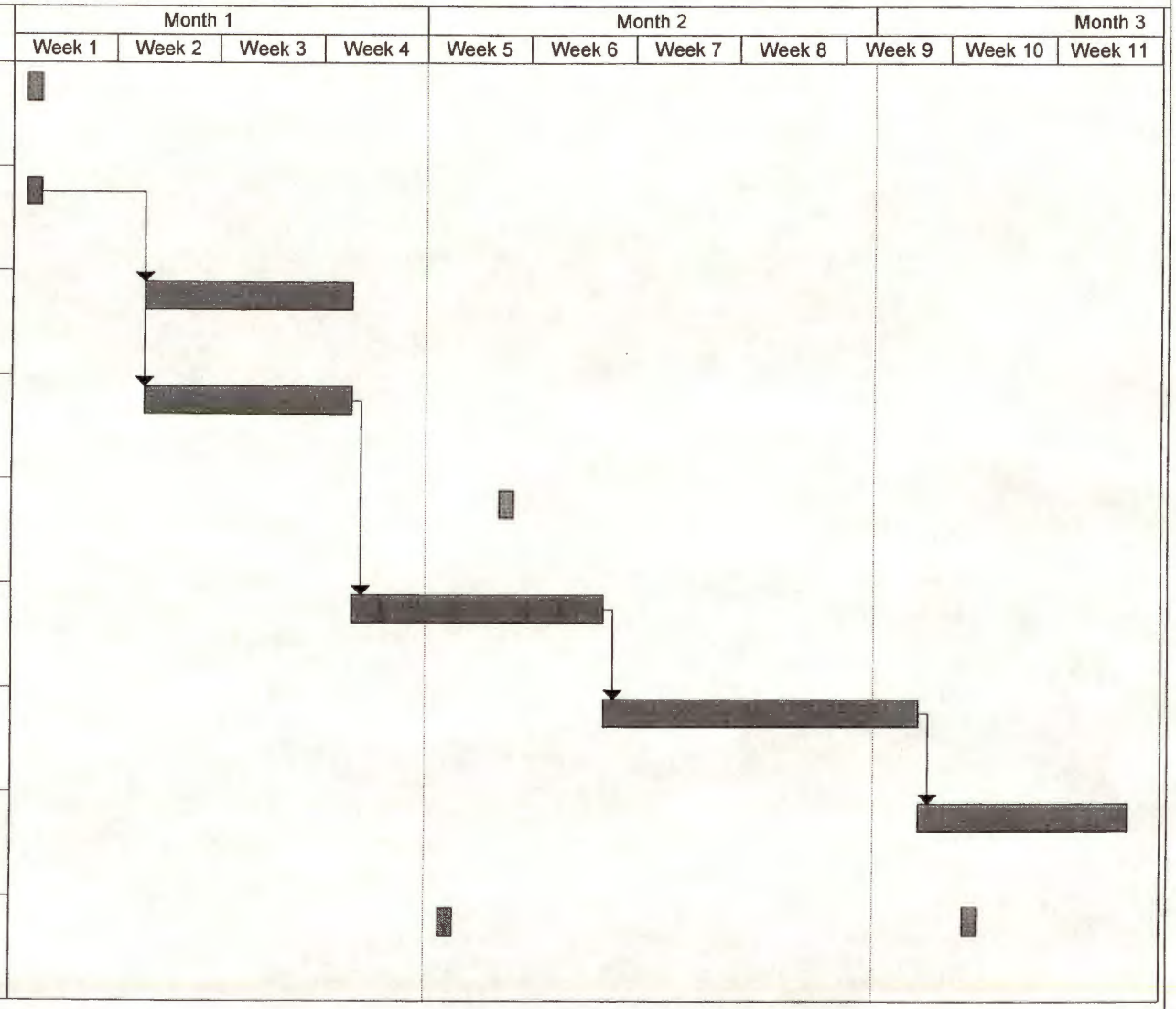
FILENAME: PSAMLOC.DWG

FIGURE 2

70665-005

Figure 3. CooperVision Scottsville Facility Work Plan Schedule

ID	Task Name
1	NYSDEC--Approve/Sign VCA
2	Advise NYSDEC of Field Activity (Drilling)
3	Site & Surrounding Use Info/Utilities Tracing
4	Drilling/Well Installation/Well Development
5	Advise NYSDEC of Field Activity (Sampling)
6	Monitoring/Sampling
7	Lab Analyses
8	Data Evaluation/Report Development (Draft Submittal)
9	Monthly Status Letter to NYSDEC



* The last monthly report will be submitted only if report development is delayed.

APPENDIX A
Results of Previous Investigations

HALEY & ALDRICH

TABLE 2
HYDRAULIC CONDUCTIVITY and GROUNDWATER VELOCITIES

WELL	Hydraulic Conductivity (cm/sec)	Hydraulic Conductivity (ft/day)
MW-1	2.3E-06	6.52E-03
MW-2	7.9E-06	2.24E-02
MW-201	7.4E-05	2.10E-01
MW-202	2.7E-05	7.66E-02
MW-203	6.4E-05	1.82E-01
MW-204	9.9E-06	2.81E-02
MW-205	4.6E-07	1.30E-03
	Kgeomean =	0.029

	ft/day
Kmax =	2.10E-01
Kmin =	1.30E-03
Kavg =	2.86E-02

Velocity = V = KI/Ne , where Ne (effect. porosity) is assumed 20%
Gradient = I = 10.81/240 = 0.045

Vmax = (Kmax*I)/Ne
= 0.21*0.045/0.2
= 0.047 ft/day

Vmin = (Kmin*I)/Ne
= 0.0013*0.045/0.2
= 0.00029 ft/day

Vavg = (Kavg*I)/Ne
= 0.029 * 0.045/0.2
= 0.0065 ft/day

Distance = Velocity/Time
D=V/T or T=D/V

Tmax = D/Vmin
= 240/0.00029
= 827590 days
= 2270 yr

Tmin = D/Vmax
= 240/0.047
= 5106 days
= 14 yr

Tavg = D/Vavg
= 240/0.0065
= 36923 days
= 101 yrs

NOTES:
1. Gradient based on groundwater measurements taken by Haley & Aldrich on 16 July 1997 and distance between MW-202 and MW-205 (240 ft).
2. See Appendix F for Rising Head Test Summary sheets for conductivity data above.

COOPERVISION
SCOTTSVILLE, NEW YORK

TABLE 3
CHEMICAL TESTING RESULTS

GROUNDWATER ANALYTICAL RESULTS

ANALYTE	SAMPLE LOCATION								
	Sample No.:	MW-1 *	MW-2 *	MW-3 *	MW-201	MW-202	MW-203	MW-204	MW-205	T.O.G.S.
	Groundsurface El.									1.1.1 Criteria
VOCs-8240										
1,1-Dichloroethane		35.823	0.3716	2.0309	ND	0.0084	ND	ND	153.107	0.005
1,1-Dichloroethene		12.366	0.1817	0.6297	ND	0.0179	ND	ND	ND	0.005
Tetrachloroethene		ND	0.0057	ND	ND	ND	ND	ND	ND	0.005
1,1,1-Trichloroethane		370.242	0.5193	3.2629	ND	0.0613	0.0033	0.0027	420.812	0.005
Trichloroethene		ND	0.0385	ND	ND	0.008	ND	ND	ND	0.005
Acetone		ND	ND	ND	ND	0.0265	0.118	0.0145	ND	0.05
Total Chlorinated VOCs		418.431	1.1168	5.9235	ND	0.0956	0.0033	0.0027	573.919	

NOTES:

1. Water results expressed in milligrams per liter (ppm).
2. "ND" indicates analyte not present at or above detection limit.
3. Only compound detects are listed. All other analytes were "ND".
4. Wells sampled by Haley & Aldrich on 10 July 1997. Samples analyzed by Paradigm Environmental Services, Inc. of Rochester, New York.
5. Comparison criteria taken from NYSDEC T.O.G.S. 1.1.1.
6. " * " - indicates wells installed by LaBella Associates on 11 April 1997, and sampled on 16 April 1997.

P:\70665\002\gwtabl.wb2

APPENDIX B
Surface Water Sampling in Ditch

HALEY & ALDRICH

UNDERGROUND
ENGINEERING &
ENVIRONMENTAL
SOLUTIONS

Haley & Aldrich of New York
189 North Water Street
Rochester, NY 14604-1151
Tel: 716.232.7386
Fax: 716.232.6768
Email: ROC@HaleyAldrich.com

HALEY & ALDRICH

1 September 1998
File No. 70665-003

Frank Sowers, Environmental Engineer I
NYSDEC - Region 8
6274 E. Avon-Lima Rd.
Avon, New York 14414

Subject: Ditch Sampling Protocol
CooperVision Inc.
Scottsville, NY

Dear Frank:

This letter is follow-up to our request to allow sampling of the drainage ditch that parallels the easterly boundary of the CooperVision site. Proposed sample locations and protocol are described below. We would like to complete the sampling the week of September 7th and therefore request NYSDEC review and approval at your earliest convenience.

Locations - Proposed sampling is to be at the two locations shown on the attached site plan. The locations are in the vicinity of the two entrance driveways to the parking lot. Specific locations will be selected in the field based on presence of apparent discharged groundwater to the surface. A sediment and water sample will be collected at each location (see below).

Sampling and Analyses - At each location a water sample will be collected first by submerging the opening of a 40ml sample vial below the water surface and filling until the vial can be capped with zero headspace. Two 40ml VOA vials will be filled for each of the two locations sampled and submitted to the laboratory. *Note that sampling will be timed to take place long enough after rain events so that surface runoff comprises little or no part of the water present in the ditch.*

Sediment samples will then be collected from 0 to 6 in. below ground surface along the base of the ditch, using a clean stainless steel sampling trowel or spoon dedicated for each location. Sediment will be filled into an 8 oz. sample jar with teflon-lined lid. Grass, plant debris or other vegetative organics will be removed from sediment before placing in the jar.

All samples will be analyzed for presence of volatile organic compounds (VOCs) by USEPA Method 8260.

OFFICES

Boston
Massachusetts

Cleveland
Ohio

Denver
Colorado

Hartford
Connecticut

Los Angeles
California

Manchester
New Hampshire

Newark
New Jersey

Portland
Maine

San Diego
California

San Francisco
California

Washington
District of Columbia

Notice - We will provide NYSDEC with notice of the sampling event 24 to 48 hrs. ahead of performance, but because of the nature of the water sampling, close coordination will be needed if NYSDEC wants to observe or split samples.

We trust this provides sufficient detail for the work planned. Please contact us if you have questions. Otherwise, thank you in advance for your help and timely consideration of this request.

Sincerely yours,
HALEY & ALDRICH of NEW YORK

Vincent B. Dick
Vice President

xc: Carol Kaufman
John Calcagna
Dennis Snyder
Chris Marraro

:/G:\PROJECTS\70665\003\LNYSDEC3.WPF

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (716) 226-2466 FAX: (716) 226-8696

John P. Cahill
Commissioner

September 4, 1998

Vincent B. Dick
Vice President
Haley & Aldrich of New York
189 North Water Street
Rochester, New York 14604-1151

Dear Mr. Dick:

RE: CooperVision Inc.
Scottsville, NY
Response To 1 September 1998 Ditch Sampling Protocol

I have reviewed your proposal for sampling the water and sediment in the drainage ditch as specified in your letter dated 1 September 1998 and find it to be acceptable. I also understand that the sampling is scheduled to take place at 10:00 am on Wednesday September 9, 1998 weather permitting. Please contact Kelly Cloyd from our office if there is a change in the schedule.

Please contact me or Dr. Cloyd if you have any questions.

Sincerely,

Frank L. Sowers
Environmental Engineer 1
Division of Environmental Remediation

cc: Mary Jane Peachey
Kelly Cloyd
Joe Albert
David Napier
Carol Kaufman
John Calcagna
Dennis Snyder
Chris Marraro
Jim Charles

APPENDIX C
Health and Safety Plan

HALEY & ALDRICH

ENVIRONMENTAL HEALTH & SAFETY PLAN
COOPERVISION, INC.
SCOTTSVILLE, NEW YORK

by

Haley & Aldrich of New York
Rochester, New York

for

Howery & Simon
Washington, DC

File No. 70665-005
Date: September 1998

ENVIRONMENTAL HEALTH AND SAFETY REQUIREMENTS

TABLE OF CONTENTS

* Task-specific pages are non-paginated to allow for duplication.

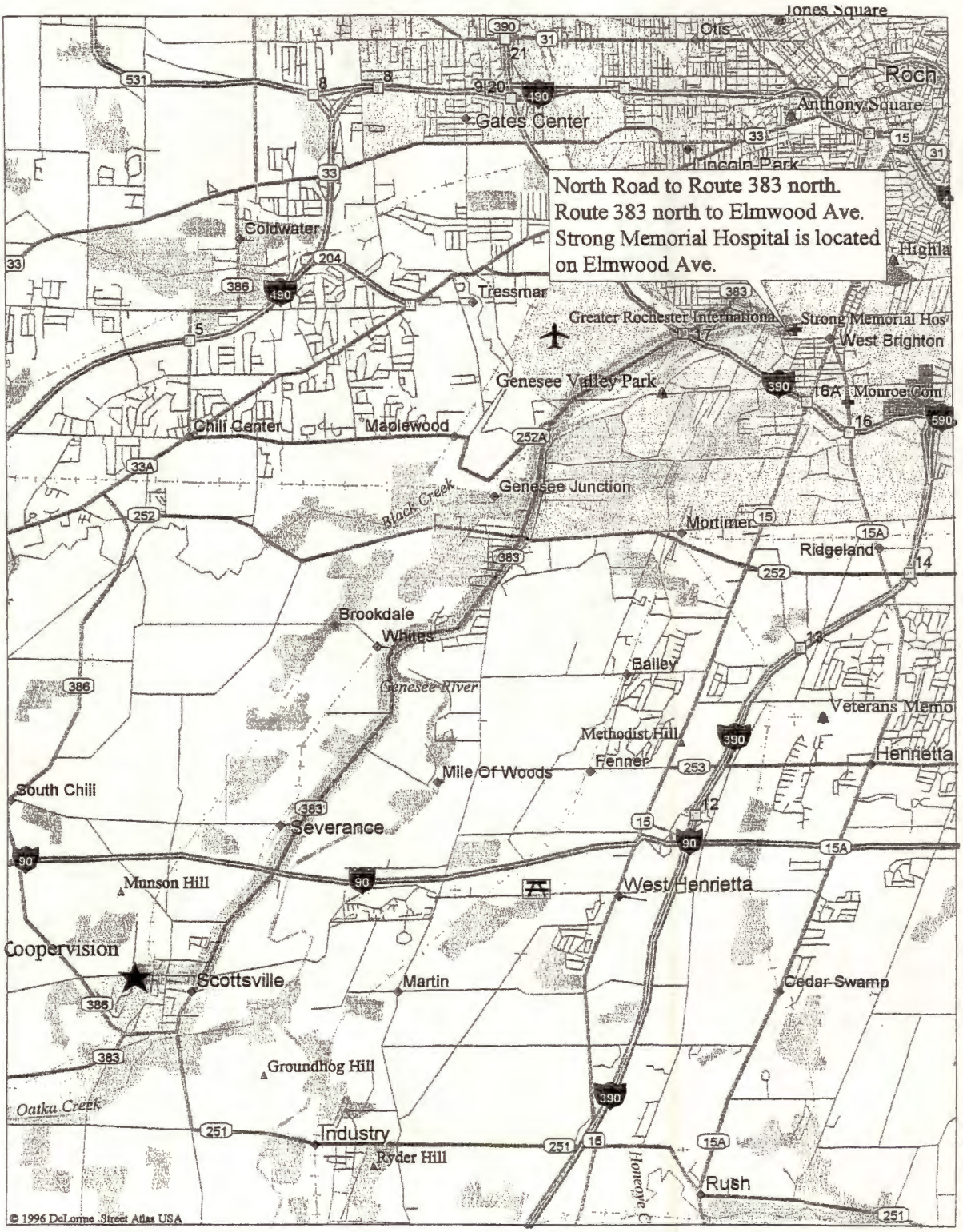
TABLE OF CONTENTS (Cont.)

TABLE OF CONTENTS (Cont.)

EMERGENCY PHONE NUMBERS

Monroe County Emergency Services	**911**
Ambulance Service	**911**
Fire Department	**911**
Police Department	**911**
Haley & Aldrich of New York Project Manager	
Vince Dick	327-5507
Haley & Aldrich of New York Health & Safety Representative	
Greg Ertel	327-5530
Site Health & Safety Representative/Project Contact	
Glen Byers	264-3204
Occupation Health Physician	275-7795
Dr. Kenneth Dodgson	
Strong Memorial Hospital	
601 Elmwood Avenue	
Rochester, New York	
CHEMTREC (CHEMICAL TRANSPORTATION EMERGENCY CENTER)	**1-800-424-9300**
Hospital	
Strong Memorial Hospital	275-4511
601 Elmwood Avenue	
Rochester, New York	
Emergency Dept. (map next page)	
Poison Control	
Strong Memorial Hospital	275-5151
New York State Department of Health	
David Napier	423-8071
Monroe County Health Department	
Richard Elliott	274-6067
New York State Department of Environmental Conservation - Region 8	226-2466

Map to Hospital
(attach below)



TASK MODIFICATIONS AND PLAN APPROVAL

LIST BELOW EACH MODIFICATION TO THIS PLAN AND DATE MODIFIED

1.

2.

THE FOLLOWING SIGNATURES CONSTITUTE APPROVAL OF THIS HEALTH & SAFETY PLAN. THIS PLAN SHOULD NOT BE DEVIATED FROM WITHOUT PRIOR WRITTEN OR VERBAL APPROVAL.

THIS PLAN APPROVED BY: **REVISIONS:**

Greg Ertel H&A BRANCH HEALTH & SAFETY MANAGER	10/6/98 DATE	INITIAL/DATE	INITIAL/DATE
Vince Dick PROJECT MANAGER	10/7/98 DATE	INITIAL/DATE	INITIAL/DATE

HEALTH AND SAFETY BRIEFING:

I HAVE READ, UNDERSTOOD AND AGREE TO FOLLOW THIS HEALTH & SAFETY PLAN.

REVISIONS:

NAME	SIGNATURE	DATE	INITIAL/DATE	INITIAL/DATE
NAME	SIGNATURE	DATE	INITIAL/DATE	INITIAL/DATE
NAME	SIGNATURE	DATE	INITIAL/DATE	INITIAL/DATE
NAME	SIGNATURE	DATE	INITIAL/DATE	INITIAL/DATE
NAME	SIGNATURE	DATE	INITIAL/DATE	INITIAL/DATE
NAME	SIGNATURE	DATE	INITIAL/DATE	INITIAL/DATE
NAME	SIGNATURE	DATE	INITIAL/DATE	INITIAL/DATE

I. INTRODUCTION

This document comprises the Environmental Health and Safety Plan to be followed by Haley & Aldrich for environmental projects to be conducted at CooperVision's Scottsville, New York facility. The scope of work covered by this Health and Safety Plan (HSP) includes installation of borings and monitoring wells onsite and sampling of groundwater from onsite wells and sediment and surface water from a ditch. Other parties performing field work shall provide a health and safety plan for their specific activities.

The provisions of this HSP are mandatory for all personnel assigned to the activities described in the work plan for this project. The Health and Safety procedures contained in this document have been developed for the activities associated with this project and will be periodically reviewed and revised as necessary to keep them current and technically correct.

The requirements set forth in this HSP are minimum health and safety protocols and duties to be adhered to and enforced during environmental investigation activities described in the following sections.

Plan Organization

Occupational Safety and Health Administration (OSHA) regulations under 29 CFR 1910.120 require that a project specific health and safety plan be developed for RCRA and CERCLA related hazardous materials/waste investigations and activities. This plan has been developed to meet these requirements and related OSHA criteria such as, but not limited to, respiratory protection, eye and hearing protection, trenching/excavation safety and confined space entry. This plan includes hazard evaluation, engineering controls, administrative controls, personal protective equipment (PPE), monitoring procedures, decontamination procedures, and emergency response provisions to meet the OSHA requirements above.

The plan is organized into two parts. The first part (Section II) contains task-specific health and safety procedures. It is intended to be updated and revised as new tasks are added to the project or new information becomes available which modifies task-specific health & safety needs. The second part (Section III) describes general health and safety procedures and information that applies to all tasks. Personal exposure limits (PELs), odor thresholds and hazardous compound physical properties appear in Table 1. Monitoring instrument action levels and appropriate level of protection responses appear in Table 2. **EMERGENCY CONTACTS AND PHONE NUMBERS ARE LISTED IMMEDIATELY FOLLOWING THE TABLE OF CONTENTS.**

II. TASK SPECIFIC HEALTH & SAFETY PROCEDURES

2.1 MASTER TASK LIST

This section describes health & safety procedures specific to individual tasks associated with the project. Additional task description sheets shall be developed and added to this section as necessary.

A master list of the tasks included in this section is provided below.

Task Name

1 installation of borings and monitoring wells

2 sampling of monitoring wells and ditch water, sediment

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

9 _____

2.2 TASK-SPECIFIC HEALTH AND SAFETY REQUIREMENTS (Task 1)

X Initial
___ Revision

Task Name(s)*:

Installation of borings, temporary wells, and monitoring wells

Task Description:

Install angle boring to total depth of 6 feet beneath floor slab of building using rig operating through doors of compressor room; install temporary wells as borings approximately 14 feet deep, emplace PVC screen, sand pack, collect groundwater sample, pull PVC, grout boring; install two sets of clustered monitoring wells, with each cluster consisting of two boreholes, with each borehole containing two to three nested 1"-diameter wells, with each well consisting of riser and a single 1 ft.-long screen sandpacked between ft.-long bentonite seals above and below.

Duration:

2 weeks

Media Affected: x air x soil ___ surface water ___ waste x groundwater

Area Within Site Where Task(s) to be performed: compressor room; parking lot

HAZARD EVALUATION (check all that apply)

CHEMICAL HAZARDS:**

CHARACTERISTICS:

___	FLAMMABLE/COMBUSTIBLE
___	CORROSIVE
___	REACTIVE
___	TOXIC
x	VOLATILE (TCE, DCE, and Acetone Noted in Soil, GW)
	EXPLOSIVE
	RADIOACTIVE
	UNKNOWN
	OTHER _____

TYPE:

	SOLID/DUST
X	LIQUID/MIST
	SLUDGE
X	GAS/VAPOR/FUMES
X	ORGANIC
	HEAVY METAL
	INORGANIC
	PESTICIDE
	PCB
	ACID
	BASE
X	CARCINOGEN
	FUEL/PETROLEUM PRODUCT
	OTHER

PHYSICAL HAZARDS:

x	ACTIVE MANUFACTURING SITE
___	CONFINED SPACE ENTRY
x	ELECTRICAL EQUIPMENT
___	EXCAVATION/TRENCHING
x	UNDERGROUND UTILITIES
X	OVERHEAD UTILITIES
	OPEN WATER
X	TEMPERATURE EXTREMES
X	NOISE
	ASBESTOS
	OTHER _____

* May include individual or related tasks for which hazards and health and safety requirements are common. Refer to General Health and Safety Procedures (Section III) as necessary).

** Verify that compounds that may be encountered are listed in Table 1.

2.2 TASK-SPECIFIC HEALTH AND SAFETY REQUIREMENTS (Task 2)

_X_ Initial
___ Revision

Task Name(s)*:

Sampling of monitoring wells and ditch water and sediment

Task Description:

Duration:

Several days to 2.5 weeks

Media Affected: _x_ air _x_ soil _x_ surface water ___ waste _x_ groundwater

Area Within Site Where Task(s) to be performed: Wells in compressor room, parking lot; two areas in ditch on east side of facility

HAZARD EVALUATION (check all that apply)

CHEMICAL HAZARDS:**

CHARACTERISTICS:

_____ FLAMMABLE/COMBUSTIBLE
_____ CORROSIVE
_____ REACTIVE
_____ TOXIC
_x_ VOLATILE
_____ EXPLOSIVE
_____ RADIOACTIVE
_____ UNKNOWN
_____ OTHER _____

TYPE:

_x_ SOLID/DUST
_x_ LIQUID/MIST
_____ SLUDGE
_x_ GAS/VAPOR/FUMES
_x_ ORGANIC
_____ HEAVY METAL
_____ INORGANIC
_____ PESTICIDE
_____ PCB
_____ ACID
_____ BASE
_x_ CARCINOGEN
_____ FUEL/PETROLEUM PRODUCT
_____ OTHER

PHYSICAL HAZARDS:

_x_ ACTIVE MANUFACTURING SITE
_____ CONFINED SPACE ENTRY
_x_ ELECTRICAL EQUIPMENT
_____ EXCAVATION/TRENCHING
_x_ UNDERGROUND UTILITIES
_x_ OVERHEAD UTILITIES
_____ OPEN WATER
_x_ TEMPERATURE EXTREMES
_x_ NOISE
_____ ASBESTOS
_____ OTHER _____

* May include individual or related tasks for which hazards and health and safety requirements are common. Refer to General Health and Safety Procedures (Section III) as necessary).

** Verify that compounds that may be encountered are listed in Table 1.

B. PROTECTIVE AND CONTROL MEASURES

ENGINEERING CONTROLS:

- X VENTILATE AREA
- ___ DISCONNECT/CLEAN OUT LINES
- ___ SLOPE EXCAVATION
- ___ SHORE EXCAVATION
- ___ ELIMINATE IGNITION SOURCES
- X TAPE OFF AREA
- X POST WORK/WARNING SIGNS
- ___ PLASTIC SHEETING IN AREA
- X DESIGNATE NO SMOKING AREA
- ___ ESCAPE LADDER
- ___ UTILITY CLEARANCES OBTAINED (DIG SAFE CONTACTED)
- X PRIVATE UTILITIES CLEARED
- LINES SHIELDED/DE-ENERGIZED
- LOCKED & TAGGED OUT
- LIFE JACKETS/BARRICADES NEAR WATER
- HEAT OR AIR CONDITIONING SOURCE FOR TEMPERATURE EXTREMES
- OTHER

PERSONAL PROTECTIVE EQUIPMENT:

- X SAFETY GLASS
- ___ EYE/FACE SHIELD
- X GLOVES (CIRCLE TYPES) INNER LATEX INNER COTTON, NEOPRENE, BUTYL, PVC SILVER SHIELD, OTHER
- ___ DUCT TAPE
- X EAR PROTECTION (CIRCLE TYPE) EAR PLUGS, EAR PHONES
- X BOOTS (CIRCLE TYPE) STEEL TOE, DISPOSABLE COVERS, LATEX, WADERS, OTHER _____
- ___ TYVEK COVERALL
- SARANEX COVERALL
- HARD HAT
- RESPIRATOR (INDICATE TYPE OF CARTRIDGE) _____
- X FIRE EXTINGUISHER
- X FIRST AID KIT
- LOUD SIGNALING DEVICE (CIRCLE TYPE) AIR HORN, WHISTLE
- FLASHLIGHT
- SAFETY SHOWER/EYE WASH
- WALKIE-TALKIE
- OTHER: _____

_____

_____

LEVEL OF PROTECTION

- MODIFIED D (HOW MODIFIED):
- LEVEL D
- MODIFIED C (HOW MODIFIED) _____
- LEVEL C
- MODIFIED B (HOW MODIFIED) _____
- LEVEL B

C. ENVIRONMENTAL MONITORING

Equipment		Action Thresholds*	Level of Protection
	HNU (CIRCLE ONE) 10.2 EV 11.7 EV		
X	PHOTOVAC MICROTIP (10.6 EV)	per Table 2	
	OVA		
	EXPLOSIMETER/02 METER		
	RADIATION METER		
	HYDROGEN CYANIDE METER		
	PHOTOVAC GC		
	DRAEGER TUBE _____		
	RESPIRABLE DUST MONITOR		
	OTHER		

Frequency

- BREATHING ZONE
- PERIMETER

* List only those differing from or in addition to Table 2.

D. DECONTAMINATION EQUIPMENT AND PROCEDURES

DECONTAMINATION EQUIPMENT:

_X_ TAP WATER
____ DISTILLED WATER
____ HEXANE
____ METHANOL
____ ACETONE
_X_ ALCONOX
_X_ BRUSHES
____ PLASTIC SHEETING
_X_ DISPOSAL BAGS
____ WASH TUBS (HOW MANY) _____
_X_ PAPER TOWELING
____ STEAM CLEANER

SITE CONTROL/DECONTAMINATION PROCEDURES:

DISTINGUISHING FEATURES WHICH DELINEATE ZONES AND APPROXIMATE DIMENSIONS IN FEET:

EXCLUSION ZONE - 10 ft. radius from wellhead

CONTAMINATION REDUCTION ZONE - Mark test area with yellow caution tape

SUPPORT ZONE -

DECONTAMINATION PROCEDURES WHICH ARE TO OCCUR IN:

EXCLUSION ZONE - Remove gross contamination & PPE in exclusion zone & dispose of based on analytical results

CONTAMINATION REDUCTION ZONE -

SUPPORT ZONE -

E. EMERGENCY RESPONSE

SEE EMERGENCY CONTACTS LISTED IMMEDIATELY FOLLOWING THE TABLE OF CONTENTS.

TABLE 1
HAZARD MONITORING
(CIRCLE SITE CONTAMINANTS OF CONCERN, WRITE ADDITIONAL CONTAMINANTS ON NEXT PAGE)

SITE OF CONTAMINANTS OF CONCERN	ROUTES OF EXPOSURE	IDLH	PEL	TLV	PID	FID	ODOR THRESHOLD	IRRITATION THRESHOLD	ODOR DESCRIPTION
Acetone	R,I,C	20000	750	750	9.69	60	13	---	Chem, sweet, pungent
Benzene	R,A,I,C	Ca	1	10	9.25	150	4.68	---	Solvent
Carbon tetrachloride	R,A,I,C	Ca	2	Skin 5	11.47	10	50	---	Sweet, pungent
Chlorobenzene	R,I,C	2400	75	75	9.07	200	0.68	---	Almond like
Chloroform	R,I,C	Ca	2	10	11.42	65	50	E4096	Sweet
Cyanides (as CN)	R,A,I,C	50 mg/m³	5 mg/m³	5 mg/m³	---	---	---	---	Faint almond odor
o-Dichlorobenzene	R,A,I,C	1700	Cv30	Cv30	9.06	50	0.3	E 20-30	Pleasant, aromatic
p-Dichlorobenzene	R,I,C	1000	75	75	8.94	---	0.18	E 80-160	Distinct, aromatic mothball-like
1,1-Dichloroethane	R,I,C	4000	100	200	---	80	200	---	Distinct
1,2-Dichloroethane	R,I,A,C	Ca	1	10	11.12	80	88	---	Chloroform
1,1-Dichloroethylene	R,I	Ca	1	5	*	40	190	---	---
1,2-Dichloroethylene	R,I,C	4000	200	200	9.65	50	0.085	---	Ether-like, acrid
Ethanol	R,A,I,C	---	1000	1000	10.48	25	10	---	Sweet
Ethylbenzene	R,I,C	2000	100	100	8.76	100	2.3	E 200	Aromatic
Ethylene Glycol vapor	R,A,I,C	---	Cv 50	Cv 50	---	---	---	---	---
Formaldehyde	I,C	Ca	3	1	10.88	---	0.83	E 0.5	Hay
Gasoline	R,I,C	---	300	300	---	---	---	---	---
Hexane, n-isomer	R,I,C	5000	50	50	10.18	70	130	E.T 1400-1500	Mild, gasoline-like
Hydrogen Cyanide (as CW)	R,A,I,C	50	10	SkCv-10	13.69	---	0.58	---	Bitter almonds
Methanol	R,I,C	25000	Sk 200	Sk 200	10.84	12	1000	---	Sweet
MEK	R,I,C	3000	200	200	9.48	80	5.4	---	Acetone-like
Methyl Chloroform (1,1,1-TCA)	R,I,C	1000	350	350	**	105	20-100	---	Chloroform-like
Methylene Chloride	R,I,C	Ca	500	50	11.35	100	25-50	E 5000	Ether-like
Methyl Mercaptan	R,C	400	Cv 0.5	0.5	9.44	---	---	---	Garlic, Rotten Cabbage
MIBK (Hexone)	R,I,C	3000	50	50	---	---	---	---	Pleasant
Naptha (coal tar)	R,I,C	10000	100	---	---	---	---	---	Aromatic
Naphthalene	R,A,I,C	500	10	10	8.14	---	0.3	E 15	Mothball-like
Octane	R,I,C	5000	300	300	9.9	80	48	---	Gasoline-like
Pentachlorophenol	R,A,I,C	150mg/m³	0.5mg/m³sk	0.5mg/m³sk	---	---	---	---	Pungent when hot

SITE OF CONTAMINANTS OF CONCERN	ROUTES OF EXPOSURE	IDLH	PEL	TLV	PID	FID	ODOR THRESHOLD	IRRITATION THRESHOLD	ODOR DESCRIPTION
Phenol	R,A,I,C	250	Sk5	Sk5	8.5	---	0.04	E.N.T 68	Medicinal
Propane	R,C	20000	1000	Asphyx.	10.95	80	16000	---	Natural gas odor
Stoddard Solvent (Mineral Sprits)	R,CI,I	5000	100	100	*	---	1	E 400	Kerosene-like
1,1,2,2-Tetrachloroethane	R,A,I,C	Ca	Sk1	1	11.1	100	1.5	---	---
Tetrachloroethylene	R,I,C	Ca	25	50	9.32	70	4.68	N.T513-690	Ether, Chloroform-like
Toluene	R,A,I,C	2000	100	100	8.82	110	2.14	E 300-400	Mothballs
Trichloroethylene	R,I,C	Ca	50	50	9.47	70	21.4	---	Solventy, chloroform-like
Turpentine	R,A,I,C	1900	100	100	---	---	200	E.N 200	Pine like
Vinyl Chloride	R	Ca	1	5	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
Asbestos	R	Ca	0.2fibr/cc	0.2fibr/cc	---	---	---	---	---
Dichlorodifluoromethane (Freon 12)	R,C	50000	1000	1000	11.97	15	---	---	---
Hydrogen peroxide	R,I,C	75	1	1	11	---	---	---	Sharp
MEK peroxide	R,I,C	---	Cv 0.7	Cv 0.2	---	---	---	---	---
PCBs-42% Chlorine	R,A,I,C	Ca	1mg/m³Sk	1mg/m³Sk	---	---	---	---	Mild, hydrocarbon
PCBs-54% Chlorine	R,A,I,C	Ca	0.5mg/m³Sk	0.5mg/m³Sk	---	---	---	---	Mild, hydrocarbon
Styrene	R,I,C	5000	50	---	8.47	85	0.047	E 200-400	Rubber, solvent
Styrene monomer	R,I,C	---	---	50	---	---	200	---	Aromatic
Aluminum - metal dust	R,I,C	---	15mg/m³	10mg/m³	---	---	---	---	---
- soluble salts	R,I,C	---	2mg/m³	2mg/m³	---	---	---	---	---
Arsenic	R,A,I,C	Ca	0.01mg/m³	0.2mg/m³	---	---	---	---	---
Barium:soluble compounds	R,I,C	250mg/m³	0.5mg/m³	0.5mg/m³	---	---	---	---	---
Berylium & compounds	R	Ca	0.002mg/m³	0.002mg/m³	---	---	---	---	---that he hasn't seen a spec for this yet
Cadmium dusts	R,I	Ca	0.2mg/m³	0.05mg/m³	---	---	---	---	---
(Proposed value)				0.01mg/m³	---	---	---	---	---
Chromium:									
Metal & insoluble salts	R,I	500mg/m³	1mg/m³	0.5mg/m³	---	---	---	---	---
Soluble salts	I,C	250mg/m³	0.5mg/m³	0.05mg/m³	---	---	---	---	---
Copper - dust & mist	R,I,C	---	1mg/m³	1mg/m³	---	---	---	---	---
Lead - arsenate	R,I,C	Ca	0.05mg/m³	0.15mg/m³	---	---	---	---	---

SITE OF CONTAMINANTS OF CONCERN	ROUTES OF EXPOSURE	IDLH	PEL	TLV	PID	FID	ODOR THRESHOLD	IRRITATION THRESHOLD	ODOR DESCRIPTION
- inorg. dust & fume	R,I,C	---	0.05mg/m³	0.15mg/m³	---	---	---	---	---
- chromate	R,I,C	---	---	0.05mg/m³	---	---	---	---	---
Manganese & compounds	R,I	10000mg/m³	C-5mg/m³	5mg/m³	---	---	---	---	---
Mercury & inorg. comp.	R,A,C	28mg/m³	Cv0.1mg/m³	0.1mg/m³		---	---	---	---
- (organo) alkyl comp.	R,A,I,C	10mg/m³	0.01mg/m³	0.01mg/m³	---	---	---	---	---
Nickel - metal, insoluble	R,I,C	Ca	1mg/m³	1mg/m³	---	---	---	---	---
- soluble comp.	R,I,C	Ca	0.1mg/m³	0.1mg/m³	---	---	---	---	---
Portland cement	R,I,C	---	10mg/m³	10mg/m³	---	---	---	---	---
Selenium compounds	R,A,I,C	100mg/m³	0.2mg/m³	0.2mg/m³	---	---	---	---	---
Silver - metal	R,I,C	---	0.01mg/m³	0.1mg/m³	---	---	---	---	---
- soluble comp.	R,I,C	---	---	0.01mg/m³	---	---	---	---	---
Thallium, soluble	R,A,I,C	20mg/m³	0.1mg/m³Sk	0.1mg/m³Sk	---	---	---	---	---
Tin, metal & inorganic comp. except oxides	R,C	400mg/m³	2mg/m³	2mg/m³	---	---	---	---	---
Tin, organic compounds	R,A,I,C	200mg/m³	0.1mg/m³	0.1mg/m³Sk	---	---	---	---	---
Zinc chromates, as Cr	R,I,C	---	Cv0.1mg/m³	Cv0.1mg/m³	---	---	---	---	---
Zinc oxide dust	R,I,C	---	10mg/m³	10mg/m³	---	---	---	---	---

Notes: All units in ppm unless otherwise noted.

E = Eyes
N = Nose
T = Throat
SK = Skin
Cv = Ceiling value
Ca = Carcinogen

R = Respiratory (Ihhalation)
A = Skin Absorption
I = Ingestion
C = Skin and/r Eye Contact
* = Use 10.2 eV lamp
**= Use 11.7 eV lamp

vbd:gmc

TABLE 2

MONITORING METHOD, ACTION LEVELS AND PROTECTIVE MEASURES

INSTRUMENT	HAZARD	ACTION LEVEL[1]	ACTION RESPONSE
Respirable Dust Monitor	Contaminant Particles	> 0.05 mg/m^3	Level C Protection
OVA, HNU[2], Photovac Microtip	Organic Vapors	Background 3 ppm > background or lowest OSHA permissible exposure limit, whichever is lower, or as modified for this task (see Section C in 2.2.2) 50 ppm over background unless lower values required due to respirator protection factors	Level D Level C, site evacuation may be necessary for specific compounds (see Section C in 2.2.2) Level B[3]
Explosimeter[4]	Explosive Atmosphere	10% Scale Reading 10-15% Scale Reading > 15% Scale Reading	Proceed with work Monitor with extreme caution Evacuate site
O_2 Meter[5]	Oxygen Deficient Atmosphere	19.5% O_2 19.5% - 25% O_2 < 19.5% O_2 > 22% O_2	Monitor with caution Continue with caution Evacuate site; oxygen deficient Evacuate site; fire hazard
Radiation Meter[6]	Ionizing Radiation	0.1 Millirem/Hour ≥ 1 Millirem/Hour	If > 0.1, radiation sources may be present[7] Evacuate site; radiation hazard
Draeger Tube	Vapors/Gases	Species Dependent > 1 ppm Vinyl Chloride > 1 ppm benzene > 1 ppm 1,1-DCE	Consult manual for concentration/toxicity/detection data. Upgrade to Level C and evacuate. Upgrade to Level B if concentrations of compounds exceed thresholds shown at left.
GC	Organic Vapors	3 ppm > background or lowest OSHA permissible exposure limit, whichever is lower	On site monitoring or tedlar bag sample collection for 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 HALEY & ALDRICH OF NEW YORK HEALTH AND SAFETY STAFF IMMEDIATELY.

III. GENERAL HEALTH & SAFETY PROCEDURES

3.1 ADMINISTRATIVE CONTROLS

A. Initial Health and Safety Training

Personnel will 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. Haley & Aldrich employees, contractors, subcontractors, and consultants who have the potential to be exposed to contaminated materials or physical hazards must complete the training described in the following sections.

B. 40-Hour Health and Safety Training

This basic course provides instruction on the nature of hazardous waste work, protective measures, proper use of personal protective equipment, recognition of signs and symptoms which might indicate exposure to hazardous substances, and decontamination procedures. It is required for all personnel working on-site, such as equipment operators, general laborers, electricians, plumbers, supervisors, management, etc. who may be potentially exposed to hazardous substances, health hazards, or safety hazards consistent with 29 CFR 1910.120. The course must be conducted by a qualified instructor in accordance with 29 CFR 1910.120.

C. 8-Hour Annual Refresher Training

Personnel with 40-hour health and safety training are required to attend an annual 8-hour refresher course to remain current in their training. This course must also be conducted by a qualified instructor in accordance with 29 CFR 1910.120.

D. 8-Hour Supervisor Training

On-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must have eight additional hours of Supervisor training in accordance with 29 CFR 1910.120. This course includes, but is not limited to, elements appropriate to supervising hazardous waste related projects (e.g., accident reporting/investigation, regulatory compliance, work practice observations, auditing, emergency response procedures, etc.).

E. Additional Training for Specific Projects

Contractors will ensure their personnel have received additional training on specific instrumentation, equipment, confined space entry, construction hazards, etc., as necessary to perform their duties. This specialized training will be provided to personnel before engaging in the specific work activities.

F. Documentation of Training

The Contractor/Consultant Project Manager will be responsible for maintaining and providing to CooperVision documentation of its employees' compliance with required training. CooperVision will only allow properly trained and qualified personnel to perform work at the site.

3.2 MEDICAL SURVEILLANCE PROGRAM

A. Purpose

The Medical Surveillance Program is conducted to provide an initial baseline of the worker's health. Subsequent medical exams are used to monitor the worker's continued well being. The implementation of a medical surveillance program is the responsibility of the contractor/subcontractor employer.

B. Requirements

Medical surveillance is required by the Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120 (f): Hazardous Waste Site Operations and Emergency Response. The Contractor/Consultant's medical surveillance program must meet or exceed these regulatory requirements.

These regulatory requirements include the determination by a physician that the individual being examined is physically able to use respiratory protection and is able to perform the work defined within the specific job description. The capability of an individual to perform the specified work will be determined from examinations that may include:

- Medical and occupational history, and past gastrointestinal, hematologic, renal, cardiovascular, reproductive, immunological, and neurological problems as well as a history of respiratory disease and personal smoking habits;
- Physical examination, including blood pressure measurements;
- Pulmonary function test (FVC and FEV1);
- Chest x-ray;
- ECG (Electrocardiogram);
- Eye examination and visual acuity;
- Audiometry;
- Urinalysis; and
- Blood chemistry: Hematology, serum analyses, heavy metals toxicology.

C. Periodic Monitoring

All personnel are required to have a physical examination within the 12 months prior to the beginning of their work on-site. This period may be shortened if the Contractor/Consultant Medical Consultant deems this appropriate. The physician performing the physical will insure the requirements of 29 CFR 1910.120(f) are fulfilled. Documentation attesting to current medical monitoring compliance must be maintained on-site by the Contractor/Consultant Safety Officer.

3.3 SITE CONTROLS

A. Work Site Access Control

Access to client property is dependent upon site-specific conditions under owner permission and will be controlled by the Haley & Aldrich Project Manager. It will be the Contractor/Consultant Project Manager's responsibility to control access to a site by means of temporary barriers such as flagging tape or fencing. The barrier will be inspected daily for integrity and adequacy by the Contractor/Consultant Site Coordinator.

For sites requiring Level C to Level A PPE (personal protective equipment) the area of field operations will be subdivided into three distinct areas. The extent of these areas is task and location specific. Access to each zone will be controlled with fencing and/or plastic flagging tape. The three areas are defined as:

- <u>Exclusion Zone</u>

  The exclusion zone is the area where the highest potential for exposure by dermal or inhalation routes exists. Personal protective equipment is required and a daily log will be kept of all personnel entering this zone. The exclusion zone will be marked off with barricades or barrier tape which will be placed a minimum of 50 feet from the active work area. This 50 foot minimum may be altered in the Task-Specific Health & Safety Requirements (Section II) depending upon actual site layout. During field operations this boundary may be expanded by the Contractor/Consultant Site Coordinator based upon observations and/or monitoring measurements. Whenever possible, all field work should be performed upwind from potential contaminant sources.

- <u>Contamination Reduction Zone</u>

  The contamination reduction zone is the area immediately adjacent to the exclusion zone. The probability of dermal and inhalation exposure is lower than in the exclusion zone. Typically, contamination reduction zones include facilities for personnel or equipment decontamination. Personal protective equipment worn in the exclusion zone may not be worn outside the contamination reduction zone except during emergencies.

- Support Zone

  Support zones cover all areas outside the contamination reduction zone. Typically, the support area includes facilities for a lunch area, office spaces, and clean equipment and material storage. Protective clothing worn in the exclusion zone may not be worn in a support zone except in emergencies. Emergency contacts are listed immediately following the Table of Contents.

B. Visitors:

- Visitors and subcontractors entering the site are subject to the same requirements as contractor and consultant personnel and will only be permitted in the immediate area of active operations (i.e., exclusion zone) after receiving written approval from the Contractor/Consultant Project Manager, and supplying a written agreement to comply with this HSP.

- A visitors log will be kept by the Contractor/Consultant Site Coordinator or other designated person.

- Visitor vehicles are restricted to support zones.

C. Unauthorized Personnel

All established procedures and actions are designed to prohibit unauthorized entry to the work sites. However, if security is violated, the following actions will be taken:

- Unauthorized personnel found within any active site will be reported to the Contractor/Consultant Project Manager, Safety Officer, and Site Coordinator, Haley & Aldrich Project Manager, and Haley & Aldrich Operations Safety Representative.

- Unauthorized personnel found in the exclusion zone will be escorted through the contamination reduction zone and will be subject to all decontamination procedures established in the project-specific HSP.

- Any unauthorized personnel entering an active site will be escorted from the facility by Haley & Aldrich Security. No re-entry will be permitted.

3.4 ENGINEERING CONTROLS

Engineering controls will be the method of preference to control health and safety hazards. Examples of engineering controls are:

- The use of excavation equipment to take samples from trenches;

- The use of cover material (soil) to suppress vapor emissions;

- The use of air conditioning in heavy equipment cabs to mitigate operator heat stress; and

- The use of ventilation equipment to eliminate hazardous atmospheres from confined spaces.

Administrative controls and personal protective equipment will be used where engineering controls are not feasible or are inadequate. Administrative controls include the exclusion of unnecessary personnel from hazardous areas. It should be noted that scheduled job rotation is not an acceptable administrative control to reduce employee exposure to airborne chemicals.

The hazard control methods to be employed must be described in the task-specific health & safety requirements where they deviate from those described here. As a project progresses, changes to these methods may be necessary. All such changes will be documented as addenda to the task-specific health & safety procedures.

A. Standard Safe Work Practices

Standard safe work practices applicable to most site activities are listed below. Additional safe work practices unique to specific site tasks must be included in the task-specific health & safety requirements

1. All field personnel must inform the Contractor/Consultant Site Coordinator or designated representative before entering work areas so that their presence can be recorded.

2. Workers must utilize the "buddy system": at least two members of the field crew (including subcontractor personnel) must be in visual contact with each other on-site whenever work is to be performed. If this is not possible, two-way radios will be used.

3. Eating, drinking, chewing gum or tobacco, smoking, or any other activity that increases the probability of hand-to-mouth transfer of contaminated material will not be permitted at the work site.

4. All personal safety equipment and protective clothing will be worn in conformance with Section 3.7 of this HSP.

5. Disposable outer coveralls, boots and gloves will be secured at the wrists and legs, and there will be closure of the suit around the neck.

6. Individuals getting wet to the skin with chemically contaminated liquids must remove clothing and wash the affected area immediately at a location to be identified in the task-specific health & safety requirements. Clothes wet with such liquids, must be changed. Any skin contact with such liquids, whether considered safe or not, will be dealt with immediately and as completely as possible. Medical attention should be sought as necessary.

7. Hands must be washed before eating, drinking, smoking and before using toilets at the facilities provided.

8. Avoid contact with surfaces either suspected or known to be contaminated, such as puddles, mud, or other discolored surfaces. Store equipment on elevated or protected surfaces to reduce the potential of incidental contamination.

9. Only remove personal protective equipment in the contamination reduction zone per Section A of Section 3.3.

10. Place all disposable coveralls, gloves, and cartridges in appropriate receptacles at the end of every shift or sooner, as directed by the Contractor/Consultant Site Coordinator.

11. Inspect all non-disposable clothing (i.e. hard hat liner, work gloves, cotton overalls) for contamination in the contamination reduction zone. Any clothing found to be contaminated will be decontaminated or disposed of in a manner approved by the Contractor/Consultant Site Coordinator.

12. Report all injuries to the Contractor/Consultant Site Coordinator, Haley & Aldrich Project Manager . An accident report, or equivalent must be completed by the Contractor/Consultant Site Coordinator and submitted to the Haley & Aldrich Operations Safety Representative or Project Manager for appropriate follow-up.

13. The presence or consumption of alcoholic beverages or illicit drugs on Coopervision property or during the work day is strictly forbidden.

14. Spillage or splashing of contaminated materials must be prevented. Spills must be contained and follow up calls made as appropriate for the release.

15. Be alert to unsafe conditions or acts and notify the Contractor/Consultant Site Coordinator.

16. Workers need to be familiar with the work area and surroundings, including:

    - Wind direction in relation to the work area;
    - Accessibility of associates, equipment, vehicles;
    - Available communications;
    - Hot zone (areas of known or suspected contamination);
    - Site access;
    - Nearest water sources.

17. The number of personnel and equipment in the exclusion zone must be kept to a minimum.

18. Wastes generated during work activities must be disposed of in accordance with state, federal, and local, regulations.

B. Safe Work Permits/Hot Work Permits

Safe Work Permits are to be obtained from the CooperVision Operations Safety Representative before any work is done that involves:

- Entering vessels, tanks, pits, trenches, manholes, or other confined spaces.
- Exposure to toxic or infectious material or to abnormal temperatures or pressures when such exposures are outside the employee's daily routine.
- Using explosives for blasting or demolition.
- Using flammable or combustible coatings inside buildings. Application of combustible paints by brush or roller is excluded.
- Excavating and trenching.
- Working in elevated areas such as roofs.
- Using temporary heating devices.
- Working in designated safe work permit areas.

Hot Work Permits are to be obtained from the facility before any work is done that involves:

- Operating gasoline powered vehicles or equipment inside buildings.
- Cutting, welding, lead burning, tar kettles, or similar work involving open flames or very high temperatures. In explosion prone areas, this includes any potential source of ignition, such as electric hand tools.

C. Working in Confined Spaces

A confined space, as defined by OSHA, is any space having a limited means of egress which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere.

Confined spaces are also areas where occupants are rendered isolated from help in case of need. Confined spaces include, but are not limited to: Ovens, tanks, vessels, bins, boilers, ducts, sewers, pipe chases, manholes, underground utility vaults, tunnels, pipelines, excavations, and trenches.

If waste activities require entrance into a confined space, strict Health and Safety protocol must be followed. Prior to any confined space work activities, written authorization must be obtained (see Section B of Section 3.4).

1. Confined Space Entry

   - A Safe Work Permit will be issued by facility prior to entry into the confined space. This permit must be completed including the signatures of the Contractor/Consultant Safety Officer and Haley & Aldrich Operations Safety Representative.

- Only authorized, trained personnel may enter a confined space.

- Open flame devices will not be used to open frozen or otherwise shut manhole covers, hatches or doors. Hot water or steam will be used to remove ice and snow holding such openings closed.

2. Confined Space Ventilation

The confined space will be ventilated to prevent the accumulation of:

- Flammable vapors above 10% of the Lower Explosive Limit.

- Concentrations of combustible dust.

- Toxic and other contaminants in the atmosphere above one half of the TLV.

3. Safety Concerns

A standby employee will be stationed outside the entrance to the confined space to observe or communicate with the employee at all times. Communications (visual, voice, or signal line) will be maintained between all individuals present. The standby employee will be trained and equipped to initiate rescue operation.

D. Utility Clearance

Utility clearance will be obtained by the Contractor/Consultant Project Manager from CooperVision Facilities personnel and any local utilities and the appropriate Town or Village authority before the start of any drilling or excavation conducted at the site.

- Other local utility clearance can be obtained by calling the toll-free hotline Dig Up Alert at (800)962-7962 and record the "reference number" for possible future use.

- All utilities in the work area should be staked at least two weeks prior to the start of work.

- All activities must be explained in detail to the respective utility by the Contractor/Consultant Site Coordinator. For some activities, such as blasting, the utility may request to have a representative at the site to expedite emergency response.

3.5 DRILLING SAFETY

Drilling and sampling activities present several potential hazards. Minimizing these hazards requires strict adherence to safe operating procedures.

A. Drill Crews

Drillers will be responsible for the safe operation of the drill rig as well as their crew's adherence to the requirements of the project-specific HSP. The driller must ensure that all safety equipment is in proper condition and is properly used. The members of the drill crew will follow all instructions of the driller, wear all appropriate personal protective equipment, and be aware of the hazards and applicable control procedures.

B. Rig Inspection

Each day, prior to the start of work, the drill rig and associated equipment will be inspected by the driller. The following checks will be made:

- Vehicle condition: Check proper operation of brakes, lights, steering mechanism, and horn.

- Equipment storage: All equipment such as auger flights, split spoon samplers, hammers, hand tools, etc. will be properly stored in an appropriate location and will be secured before moving the rig.

- Wire rope, Cat Line: All wire rope, cable and Cat Line will be inspected for signs of wear such as broken wires, a reduction in rope diameter, abrasion, or signs of rust. Worn, frayed, or otherwise damaged wire, rope or cable will be replaced.

- Safety equipment: Each rig will have at least one fire extinguisher (Type B/C) and one First Aid Kit.

C. Rig Set-Up

Each drill rig will be properly blocked and leveled prior to raising the derrick. The rig will be moved only after the derrick has been lowered. The leveling jacks will not be raised until the derrick has been lowered.

Blocking provides a more stable drilling structure by evenly distributing the weight of the rig. Proper blocking ensures that a differential settling of the rig does not occur. Wooden blocks, at least 12 by 12 inches and four to eight inches thick, are recommended and should be placed between the jack swivels and the ground. The emergency brake will be engaged and the wheels that are on the ground chocked.

Site drilling will comply with the following rules:

- Before drilling, the Contractor/Consultant Site Coordinator will ensure an adequate safety zone around the drill rig and associated operations.

- Before drilling, the existence of underground utilities in the work area will be determined and conspicuously marked (See Section D of Section 3.4).

- If drilling is conducted in the vicinity of overhead power lines, proper distance will be maintained between the drill rig and the lines as per OSHA 29 CFR 1926, Subpart N. The proper distance or shielding technique will be stated in the project-specific HSP.

D. General Operating Procedures

The operator of the drill rig will only operate from the position of the controls. If the operator must leave this position, the transmission must be in neutral.

When working on the derrick platform, the drill crew should not guide drill rods or pipe into racks by taking hold of a moving line. Materials should not be stored or transported within the derrick. Pipe, drill rods, auger flights, hammers, and other drilling tools should be stored in racks and chained in place. During drilling, penetration hammers will be placed at a safe location on the ground.

E. Emergency Procedure for Electrical Contact

If a drill rig contacts an electrical line, it may or may not be insulated from the ground by its tires. Death or serious injury will result if a person touches the rig and the ground simultaneously.

- Under most circumstances, the operator and other personnel on the seat of the vehicle should remain seated and not leave the vehicle. Do not move or touch any part, particularly a metallic part, of the vehicle or drill rig.

- If it is determined that the rig should be vacated, all personnel should jump clear and as far as possible from the rig. Do not step off--jump off, and do not hang on the vehicle or any part of the rig when jumping clear.

- If you are on the ground, stay away from rig and do not let others get near the vehicle. Seek assistance immediately by calling the local emergency services contact. Emergency phone numbers are listed on page iii of this HSP.

3.6 EXCAVATION AND TRENCHING SAFETY

A. General Excavation and Trenching Safety

The following is a list of minimum requirements for trenching and excavating. Each excavation/trench/shoring project is different, therefore the Contractor/Consultant Project Manager is responsible for evaluating site specific conditions and making appropriate provisions in the task-specific health and safety requirements (Section II) in conformance with 29 CFR 1926 Subpart P - Excavations.

- Contact the proper utilities to obtain clearance. Prior to work, review the utilities in the area and be sure they have been staked properly (See Section D of Section 3.4). Before work begins, a Safe Work Permit must be obtained from (NA) Operations Safety Representative as per Section B of Section 3.4.

- ☐ Be aware that trenches and excavations deeper than four feet are considered confined spaces and require additional safety precautions, such as shoring. If an excavation exceeds four feet in depth, contact the Haley & Aldrich Operations Safety Representative to review the original Safe Work Permit and ensure that it is adequate.

- ☐ The walls and faces of all excavations and trenches more than four feet deep, in which an employee is exposed to danger from moving ground, will be guarded by a shoring system, sloping of the ground, or some other equivalent means. The design of shoring systems must be done by a registered Professional Engineer as per 29 CFR 1926 Subpart P.

- ☐ For excavations or trenches in which an employee may be required to enter, excavated or other material will be effectively stored and retained at least two feet or more from the edge of the excavation or trench.

- ☐ Daily inspections of excavations will be made by the Contractor/Consultant Site Coordinator. If evidence of possible cave-ins or slides is apparent, all work in the excavation will cease until the necessary precautions have been taken to safeguard employees.

- ☐ Trenches more than four feet deep will have ladders or steps located so as to require no more than 25 feet of lateral travel.

- ☐ Hard hats and other personal protective equipment will be worn at all times during any type of excavating or trenching operation.

- ☐ Determine soil composition (e.g., through soil sampling, soil maps, etc.) and other relevant site conditions, with special emphasis on conditions conducive to cave-ins.

- ☐ Monitor the atmosphere in and around trenches on a regular basis to check for explosive, toxic or otherwise dangerous gases and vapors.

- ☐ The Contractor/Consultant Project Manager will insure that all employees involved in the excavation activity have appropriate training in safe trenching practices, with emphasis on factors such as:

  - utility line identification
  - cave-in prevention measures
  - recognition of conditions which may cause cave-ins
  - means of egress from trench

- ☐ Water will not be allowed to accumulate in any excavation. Utilize ditches, dikes, pumps, or other means to keep surface water out of trenches.

- ☐ All open excavations must be well marked and barricaded.

B. Cave-In Hazards

The following conditions increase the likelihood of cave-in:

- Soil materials composed of unconsolidated, uncompacted, and/or rounded particles (See 29 CFR 1926 Subpart P - Excavation Standard). Special care must be used when trenching in areas which have previously been excavated and backfilled.
- Soils which have a high water content, or have been subjected to freeze-thaw or frost-heaving.
- Loading of trench walls by adjacent equipment, supplies, structures, "back-dirt" piles, etc.
- Vibration due to equipment operating near excavations.
- Trench walls that are steeper than the angle of repose of the material composing the walls.
- Deep trenches (i.e., high trench walls).

The following precautions should be used to prevent cave-ins in all trenches in excess of 4 ft. deep. These precautions should also be used in trenches less than 4 ft. deep whenever those site conditions just listed indicate the likelihood of a cave-in:

- Sloping: Trench walls should be sloped to the correct angle of repose.
- Shoring: Vertical trench walls (unless composed of solid rock) must be shored and braced, or restrained with movable trench boxes, to prevent cave-in. Shoring systems must be designed by a registered professional engineer and meet accepted engineering requirements.

3.7 PERSONAL PROTECTIVE EQUIPMENT

Protective clothing and respiratory protection help protect workers from chemical hazards. Although personal protective equipment is the least preferred method, it may be necessary if engineering controls and work practices are inadequate in preventing workers from coming in contact with potential hazards. Personal protective equipment (PPE) will be selected for the potential hazards anticipated and detailed in the task-specific health & safety requirements.

Personnel at the work site will have their own appropriate and properly fitted safety equipment and protective clothing. Safety equipment and protective clothing will be used as directed by the Contractor/Consultant Safety Officer. All such non-disposable equipment and clothing will be kept clean and maintained in proper condition. All PPE will be supplied by the contractors and their subcontractors. Haley & Aldrich will only provide PPE to Haley & Aldrich employees. Personnel will be trained in the use of the required protective equipment and equipment will be properly fitted.

The levels of protection to be used on-site will be based on applicable OSHA and Environmental Protection Agency (EPA) regulations, CooperVision requirements, environmental sampling data, site conditions, and other factors. It will be the responsibility of the Contractor/Consultant Safety Officer to select the most effective PPE based on the anticipated hazards of the task.

A. Levels of Protection

The following is a description of the specific requirements of various levels of PPE in conformance with EPA nomenclature.

1. Level A Protection

   Level A provides the highest level of respiratory and skin protection. Based on site contaminants, historical sampling, and operational data, utilization of this level of protection is not anticipated. This level of protection is anticipated only in extreme situations beyond the scope of this document, (i.e., HazMat Response).

2. Level B Protection

   Level B should be worn when the highest level of respiratory protection, but a lesser level of skin protection is required. It is the minimum level of protection required to conduct any initial field work. Once sampling data (soil, water, or air) has been collected and analyzed, the necessity of this level of protection may be re-evaluated.

   Level B Personal Protective Equipment (not limited to the following):

   - Supplied-air respirator (MSHA/NIOSH approved):

     a) Pressure-demand, self-contained breathing apparatus

     or

     b) Pressure-demand, airline respirator with escape bottle.

   - Chemical protective clothing: Chemically resistant to anticipated contaminants, (e.g. Saranex or polyethylene coated Tyvek, Chemrel, or Chem-Tuff).

   - Gloves (outer): Chemically resistant to anticipated contaminants.

   - Gloves (inner)

   - Boots (outer): Chemically resistant to anticipated contaminants.

   - Hard hat*

- ☐ 2-Way radio communications* (intrinsically safe).

- ☐ Joints between gloves, boots, and suit must be taped to ensure an adequate seal.

  * The need for these items is dependent upon the work to be performed and will be chosen by the Contractor/Consultant Safety Officer.

3. Level C Protection

Level C protection with an air-purifying respirator should be worn routinely in an atmosphere only after the air contaminant(s) is (are) identified, concentrations measured and the criteria for wearing air-purifying respirator met. Generally, Level C provides the same level of skin protection as Level B, but a lesser degree of respiratory protection.

Level C Personal Protective Equipment:

- ☐ Air-purifying respirators, full-face, (half-face with appropriate safety glasses or goggles when potential for liquid splashes is low), canister or cartridge equipped (MSHA/NIOSH approved).

- ☐ Chemical protective clothing: Chemically resistant to anticipated contaminants, e.g. Saranex or polyethylene coated Tyvek, Chemrel, or Chem-Tuff.

- ☐ Gloves (outer): Chemically resistant to anticipated contaminants.

- ☐ Gloves (inner).

- ☐ Boots (outer): Chemically resistant to anticipated contaminants.

- ☐ Hard hat*

- ☐ 2-Way radio communications* (intrinsically safe).

- ☐ Joints between gloves, boots, and suit must be taped to ensure an adequate seal.

  * The need for these items is dependent upon the work to be performed and will be chosen by the Contractor/Consultant Safety Officer.

Criteria for Selection of Level C:

Meeting all of the following criteria permits use of Level C protection:

- ◻ Oxygen concentrations not less than 19.5% or no greater than 22% by volume.
- ◻ Personnel inhalation exposure will be reduced by the respirator below the substance's Threshold Limit Value (TLV)/Permissible Exposure Limit (PEL) or XEL, whichever is lowest and the concentration is within the service limit of the canister/cartridge.
- ◻ Atmospheric contaminant concentrations do not exceed IDLH levels, (See Table 1).
- ◻ Atmospheric contaminants, splashes, or other direct contact will not adversely affect any body area left unprotected by chemically resistant clothing.
- ◻ Job functions do not require self-contained breathing apparatus.
- ◻ Atmospheric contaminant concentrations are not in excess of Level C action criteria, (See Table 2).

4. Level D Protection

Level D is the minimum level of protection to be used during any site activities and does not provide respiratory or skin protection.

Level D Personnel Protective Equipment:

- ◻ Coveralls or work uniform.
- ◻ Gloves*
- ◻ Substantial leather chemical-resistant boots or shoes (steel toe and shank is highly recommended).
- ◻ ANSI Z87 safety glasses.

Chemical splash goggles*.

- ◻ Hard hat*.

- Disposable/reusable footwear covers*

  * The need for these items is dependent upon the work to be performed and will be chosen by the Contractor/Consultant Safety Officer.

Criteria For Selection of Level D:

Meeting any of these criteria allows use of Level D protection:

- No contaminants are present.
- Work functions preclude splashes, immersion, or potential for unexpected inhalation of any hazardous chemicals.

Level D protection is a minimum work uniform. It can be worn only in areas where the possibility of contact with contamination is minimal.

B. Personal Protective Equipment (PPE) Selection

PPE selection will be based on the task and the nature of hazards (type of contaminants, duration of exposure), engineering controls, and the work practices that are anticipated. The selected equipment will provide protection from the chemicals suspected to be present and which demonstrate the potential for skin exposure. The PPE chosen for each task will be specified in the task-specific health & safety requirements.

C. Changes in PPE

The Contractor/Consultant Safety Officer will make the decision to upgrade or downgrade the levels of protection. The decision will be primarily based on the results of the air monitoring performed during site activity.

3.8 AIR MONITORING

A. Air Monitoring Scope

The Contractor/Consultant Site Coordinator will ensure periodic air monitoring is conducted during site operations. Should any monitoring indicate concentrations in excess of established action levels, the Contractor/Consultant Site Coordinator will notify Contractor/Consultant Safety Officer and will implement appropriate action to protect project personnel, Haley & Aldrich employees, and the nearby community.

Periodic air monitoring for volatile compounds will be performed during the activities for which inhalation has been identified as a potential exposure route. These activities include, but are not limited to:

- Drilling and soil sampling.
- Excavation of contaminated soil for remediation.
- Construction activities involving excavation in areas of known or potential soil or groundwater contamination.
- Pump tests where organic vapors were detected during well installation or water samples.
- Well sampling and hand bailing.

The Contractor/Consultant Site Coordinator should make use of both real time direct reading instruments and laboratory analysis of samples obtained by either grab, filter, sorbent, or wet contaminant collection techniques to measure chemical concentrations. Specific equipment is described in Section D in Section 3.8 of these Requirements.

B. Sample Locations

1. Personal Monitoring

Personal monitoring will take place at times proposed by the Contractor/Consultant Safety Officer or Site Coordinator and specified in the task-specific health & safety requirements. In scheduling personal monitoring, consideration will be given to collecting samples at times of maximum potential exposure. Samples will be collected in the employees' breathing zone (9 inch radius hemisphere centered at the nose and forward of the shoulders) utilizing direct reading instruments, flow controlled personal sampling pump, or diffusion type dosimeters.

Scheduled personal samples utilizing sampling pump/sorbent tubes or diffusion type dosimeters should be used to collect full-shift exposure data. If the active operations do not require a full shift work schedule, the sample should be collected for the duration of the active operations. Emphasis should be placed on sampling employees in the exclusion zone, however, employees involved in decontamination procedures will be sampled as well. Additional requirements for personal sampling will be specified in the task-specific health and safety requirements.

Non-scheduled personal samples will be collected as directed by the Contractor/Consultant Safety Officer.

2. Perimeter Monitoring

Real-time air monitoring for volatile organic compounds will also be conducted on a regular basis (e.g., hourly) at the downwind site perimeter (exclusion zone as described in Section A in Section 3.3). If total organic vapor concentrations attributable to excavation, drilling or other activities conducted at the site, exceed 1 ppm, work activity must be halted and monitoring continued. If organic vapor

concentrations remain sustained at the perimeter, work activities will remain halted and air samples taken to determine the chemical species present. The air samples may be analyzed on-site with a portable GC. Work activities at the site will proceed only after the following conditions are met:

- Sustained organic vapor levels at the perimeter fall below 1 ppm, or
- The concentration of the organic compounds obtained from the air sampling are within their TLV's.

C. Sample Methods

1. Integrated Sampling

The Contractor/Consultant Safety Officer will determine if there is a project specific need for integrated sampling and include a detailed sampling plan in the task-specific health & safety requirements.

2. Real Time Sampling

Real time monitoring will be conducted with a photoionization detector equipped with an 11.7 eV lamp or a flame ionization detector as specified in the task-specific Health & Safety section (see Section C in Section 2.2). These instruments are capable of detecting the volatile organic chemical compounds identified in Table 1 to an approximate lower detection limit of 1 ppm. The OSHA TLV's for the compounds listed in Table 1 are at or above the detection limit of the proposed equipment. The rapid response of these instruments allows for quick determination of airborne concentrations and therefore, subsequent changes in the safety procedures can be implemented if needed (See Section D in Section 3.8). Refer to Section C in Section 2.2 for frequency of environmental monitoring.

D. Air Monitoring Equipment

1. Direct Reading Instruments

The instruments used for air monitoring activities may include, but are not limited to, those listed below. The Contractor/Consultant Safety Officer will make the decision as to which instruments must be on a project specific basis.

- A flame ionization detector (FID) equal or superior to Foxboro organic vapor analyzer (OVA) Model 128.
- A combustible gas indicator/oxygen meter equal or superior to MSA Model 260 or 360.

Note: During environmental activities, the potential for creating a flammable atmosphere will be monitored, (e.g., prior to confined space entry, initial operations with atmospheres having the potential to exceed IDLH.) Please refer to Table 2 of this HSP for Action Levels.

Each instrument must be intrinsically safe where warranted. Each will be calibrated and maintained in accordance with the manufacturer's recommendations. Calibration records will be maintained in a daily field logbook.

2. Integrated Sampling Equipment/Techniques

Variable flow, belt mounted personal sampling pumps may be used in conjunction with the appropriate sample media to provide exposure estimates where real time analysis is inadequate. The following equipment/techniques may be used:

- Diffusion or Permeation Type Dosimeters
- Analysis of Sorbents

3. Specialized Monitoring Equipment and Analyses

Specialized sampling instruments and analyses (e.g.,H_2S monitors, solid sorbents, sampling bags) will be used on project sites on an "as needed" basis as determined by the site conditions, sampling history at the site, and the type of work to be performed. The Contractor/Consultant Safety Officer will determine the need for specialized equipment or analyses on a project specific basis and include thorough descriptions of sampling plans/procedures and equipment operation and maintenance in the task-specific health & safety requirements.

4. Spare Monitoring Equipment

Appropriate spare monitoring equipment will be made available either on the Project Site or at a location in the project area, as determined by the Contractor/Consultant Safety Officer. The location of spare equipment will be included in the task-specific health & safety requirements. Field activities will be suspended if the properly calibrated field monitoring instrumentation is not available.

E. Record Keeping

A Field Logbook will be maintained by the Contractor/Consultant Site Coordinator. It will be updated daily. The entries will include:

- Task description and date
- Location of work site

- Personnel involved:
  - Name
  - Function
  - Level of personal protection (any change in level of protection will be recorded at the time of implementation)
- Health and Safety instrumentation calibration:
  - Instrument name (OVA, LEL, etc.)
  - Serial number
  - Calibration information (i.e. calibration gas)
  - Instrument setting (OVA span set)
  - Time of calibration
- Meteorological information
  - Type of day (sunny, cloudy, rain, etc.)
  - Wind speed and direction (estimate)
  - Temperature
- Events of the day in chronological order.
- Health and safety instrumentation readings
  - Breathing zone concentrations
  - Time
  - Sample concentration with corresponding identification number
- Any unusual occurrences, problems or observations
- Signature of writer

Field Logbook Health and Safety entries, data sheets, etc. will be reviewed by the Contractor/Consultant Safety Officer on a regular basis. Upon review, each log book will be signed to demonstrate that the data has been reviewed and approved.

F. Summary of Action Levels

Project action levels will be determined by the Contractor/Consultant Safety Officer based upon site conditions and information and will be presented in the task-specific health & safety requirements. The levels defined in Tables 1 and 2 of this HSP will serve as guidelines for project action levels.

3.9 HEAT AND COLD STRESS

A. Heat Stress

Heat stress occurs in several forms. By order of increasing severity, they are:

1. Heat Rash
2. Heat Cramps
3. Heat Exhaustion
4. Heat Stroke

The potential for a worker to develop heat stress is related to the ambient temperature, relative humidity, and the nature of the work being performed. The Contractor/Consultant Safety Officer must include project specific information on heat stress identification, care and prevention procedures in the task-specific health & safety requirements (Section 2).

B. Cold Stress

Cold stress, as well as heat stress, occurs in different forms. By order of increasing severity, they are:

1. Trench Foot
2. Frostbite
3. Hypothermia

The potential for a worker to develop cold stress is related to the ambient temperature, wind chill, protective clothing, and the nature of the work being performed. The Contractor/Consultant Safety Officer must include project specific information on cold stress identification, care and prevention procedures in the task-specific health & safety requirements (Section 2).

3.10 DECONTAMINATION

Personnel and equipment are subject to decontamination procedures when exiting the exclusion zone. No contaminated material will be removed from the exclusion zone without undergoing proper decontamination procedures.

A. Personnel Decontamination

No personal protective equipment will be removed from the exclusion zone without proper decontamination or placement in a disposal receptacle.

Specific personal decontamination procedures must be detailed in the task-specific health & safety requirements (Section 2). The following are guidelines for developing personnel decontamination procedures contained in the task-specific health & safety requirements (Section 2):

1. Tools, etc. will be dropped off onto a plastic sheet in the exclusion zone for subsequent re-use or decontamination.

2. The boot wash station will consist of two plastic or metal tubs, two garden sprayers, and a boot brush. One sprayer will contain a detergent water mixture, the other will contain clean water.

3. The outer layer of disposable protective clothing will be removed by removing outer boots, outer gloves, hood, tape, etc., and placed in a receptacle for disposal. Clothing will be removed by "peeling" off while turning it inside-out. This will minimize contact with possible contamination on the outer surface.

4. Respirators will be removed and cartridges placed in a receptacle for disposal.

5. Inner gloves will be removed by rolling off the hand while turning them inside-out and placed in a receptacle for disposal.

6. If highly toxic, skin-corrosive or skin-absorbable materials are known or suspected to be present, personnel must shower before exiting the site.

   NOTE: The Contractor/Consultant Site Coordinator will ensure established personnel decontamination procedures are properly implemented and enforced.

B. Equipment Decontamination

Equipment, including drill rigs, will arrive at the site free of debris and contamination. Equipment will be cleaned and decontaminated before departure from the site. Decontamination chemically contaminated equipment will be performed at a minimum of Level C protection for steam cleaning and hydro-washing.

Specific equipment decontamination procedures will be based upon the type of work being performed and anticipated levels of contamination. The following items are guidelines for the establishment of equipment decontamination procedures to be included in the task-specific health & safety requirements:

1. All equipment that has been in the exclusion zone or the contamination reduction zone will be visually inspected and/or wipe sampled to assess the extent of contamination.

2. Sensitive instrumentation should be handled in a manner which will minimize the potential of exposure to hazardous soils and liquids. This care in handling will greatly reduce the amount of decontamination required. Should the conditions in the exclusion zone present an extreme potential for contamination, instrumentation may be wrapped in plastic.

3. All hand tools, safety equipment, and heavy equipment will be decontaminated before leaving the site. (e.g. high pressure, low volume hot water washed, steam cleaned, brushed with low phosphate detergent, and water rinsed.)

4. Heavy equipment must have visible residues removed in the exclusion zone. Wheels, wheel wells and cabs of vehicles must be cleaned before equipment is removed from the exclusion zone. The equipment may then be moved to a more centrally located decontamination pad for more extensive decontamination. This move must be accomplished in a manner that will prevent the spread of

contamination along the travel path. A detailed plan for necessary equipment relocation must be included in the task-specific health & safety requirements (Section 2).

5. If warranted and required by the Project Work Plan, samples such as equipment blanks will be taken and submitted for project related analysis to confirm the decontamination procedures.

C. Location of Decontamination Areas

Decontamination areas for project equipment and personnel will be designated by the Haley & Aldrich Project Manager by the following guidelines:

- Each decontamination area will be sited to have access to water and electrical (GFCI protected) supplies as necessary for the decontamination process.
- Access to the decontamination area(s) will be limited and controlled.
- The specific decontamination area(s) for each project will be clearly defined in the task-specific health & safety requirements.

70665-010\h&s

UNDERGROUND
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HALEY & ALDRICH

18 March 1999
File No. 70665-005

New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, New York 14414

Attention: Mr. Frank Sowers, Environmental Engineer I

Subject: CooperVision, Inc.
Addendum Letter to Site Investigation Project Work Plan
Scottsville, New York

Dear Frank:

This letter is the addendum to the CooperVision, Inc. Site Investigation Work Plan dated 8 January 1999, that we discussed at our last meeting. There were three main points that NYSDEC and NYSDOH requested as addendum to the Work Plan. These are provided below; upon your acceptance they will become part of the 28 September 1998 Plan.

1. Nested Well Construction Detail - NYSDEC requested detail on the proposed nested well construction and installation. The attached figure shows the detail we discussed and is summarized below.

   The deepest well in each of the two areas will be sampled continuously to the bottom of the borehole. Proposed general well screen intervals are described in the Work Plan and are shown on the attached figure. The final well screen intervals will be determined in the field, in conjunction with Kelly Cloyd from NYSDEC, from the actual stratigraphy encountered in the field. Because actual stratigraphy can vary in the field, the depths of the screened intervals may change within a foot or two from the proposed well construction shown on the attached figure.

   NYSDEC indicated a mid-level well in the nest may not be necessary. The determination to install the mid-level well screen will be determined in the field based on actual stratigraphy encountered in the field. Whether or not the mid-level screened interval is installed will depend on the stratigraphy encountered in the field.

   Each of the boreholes will be drilled with a 6-1/4 inch inner diameter, hollow-stem auger which will produce a 10 inch borehole. One inch diameter, 0.01 inch screen slot PVC screen will be used for the well points. Each of the screened intervals will consist of a one-foot screen with 00N sandpack around the screen as well as 6 in. above and below the screen. There will also be a 6 in. layer of size 00 "choke" sandpack above and below each of the screened intervals (with the exception of the lowest screened interval) to keep bentonite from infiltrating the screen sandpack. Bentonite seals will be placed using the tremie method.

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2. HASP Community Air Monitoring - DOH requested a Community Air Monitoring Plan be incorporated into the Site Health & Safety Plan. This has been attached to the H&S Plan as Appendix A (enclosed).

3. HASP Level B Criteria - DOH requested that the criteria for Level B Protection be added to the Site H&S Plan. This has been added into the Plan as Page 15A (enclosed).

Each of the items will be applied to work conducted on the site along with the items already in the 28 September 1998 Work Plan. Assuming you find the enclosures to be consistent with our recent meeting discussions, we request your approval to proceed with Work Plan implementation upon final signing of the VCA.

Please contact us if you have any questions.

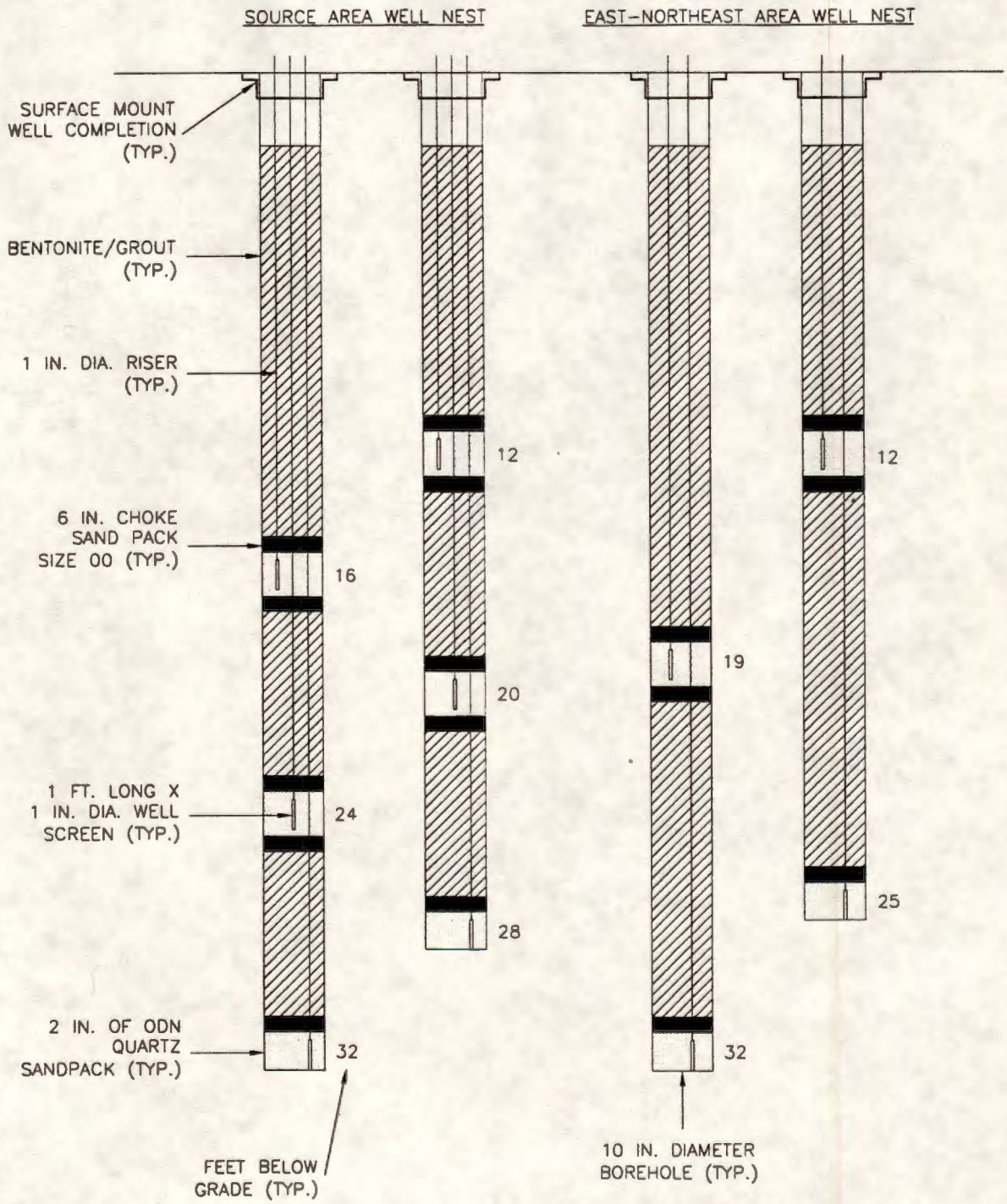
Sincerely yours,
HALEY & ALDRICH OF NEW YORK

Jeffrey E. Cory for

Vincent B. Dick
Vice President

Attachment

Site Health & Safety Plan



70665-005 WELLDIA.DWG

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

COOPERVISION
SCOTTSVILLE, NEW YORK

PROPOSED NESTED WELL DIAGRAM

SCALE: NONE

MARCH 1999

FIGURE 1

CooperVision, Inc. - Scottsville Facility

HASP Insert Page 15A

Criteria for Selection of Level B:

If one or more of following is present Level B protection must be used:

- ☐ Exceedance of thresholds for upgrade to Level B as set forth in Table 2, and summarized below.
- ☐ Organic vapors at a level of 50 ppm over background unless lower values are required due to respirator protection factors.
- ☐ Concentrations of the following compounds exceed threshold limits as determined with Draeger Tubes, air bag samples analyzed by GC, or other acceptable means:
  - 1 ppm Vinyl Chloride
  - 1 ppm benzene
  - 1 ppm 1,1-DCE
- ☐ Splashes or other direct contact will not adversely affect any body area left unprotected by chemically resistant clothing.
- ☐ Job functions will not be inhibited by use of self-contained breathing apparatus.
- ☐ An atmosphere which is oxygen deficient, unknown or Immediately Dangerous to Life or Health (IDLH), is present.
- ☐ All criteria of Community Air Monitoring Plan, if applicable, can be met.

CooperVision, Inc. - Scottsville Facility

HASP APPENDIX A

Community Air Monitoring Plan

Community Air Monitoring Plan - CooperVision, Inc. Scottsville Facility

In the event that total organic vapor levels in the breathing zone of field personnel exceeds 5 parts per million (ppm) above background, real-time air monitoring for volatile compounds at the perimeter of the Site will be required. The community air monitoring plan includes the following criteria:

If total organic vapor levels exceed 5 ppm above background at the perimeter of the Site, work activities must be halted and monitoring continued under the provisions of a Minor or Major Vapor Emission Response Plan, as detailed herein. All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review.

Minor Vapor Emissions Response Plan

If the ambient air concentration of organic vapors attributable to exploration activities exceeds 5 ppm above background at the perimeter of the Site, activities will be halted and monitoring continued. 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 site perimeter, activities can resume provided:

1) the organic vapor level 200 feet downwind of the Site or one-half the distance to the nearest downwind residential or commercial structure, whichever is less, is below 5 ppm over background; AND

2) the vinyl chloride level (as measured with a drager tube) at the perimeter of the Site is less than 0.5 ppm; AND

3) more frequent intervals of monitoring, as directed by the project safety officer, are conducted.

If the total organic vapor level is above 25 ppm, or the vinyl chloride level is over 0.5 ppm at the perimeter of the Site, activities must be stopped. Downwind monitoring will be continued to minimize the potential impact to the nearest downwind residential or 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 feet downwind of the site, 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 exploration or sampling operations at the Site shall cease 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) vinyl chloride levels greater than 0.5 ppm.

If, following cessation of work activities on the Site, efforts to abate the emission source are unsuccessful, 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 conditions *in the 20 ft. Zone* will necessitate activation of the MVERP:

- sustained organic vapor levels greater than 10 ppm over background; or
- vinyl chloride levels over 1 ppm.

Major Vapor Emissions Response Plan Activation

Upon *MVERP* activation, the following activities will be undertaken:

1. The Safety Officer will be notified; all Emergency Response Contacts listed in the Health and Safety Plan will be contacted, including the local police authorities; AND

2. 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 project employees will be briefed with regard to the details of the Minor and Major Vapor Emission Response Plans, including anticipated hazards, safety practices, emergency procedures, and communication pathways, prior to initiating Site activities.