2008
Periodic Review Report
Davis-Howland Oil Corporation Site
NYSDEC Site No. 8-28-088
City of Rochester
Monroe County, New York

August 2009

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
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Albany, New York 12233-7013

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List of Abbreviations and Acronyms

AGC	annual guideline concentrations
AS	air sparging
bgs	below ground surface
BTEX	benzene, toluene, ethyl benzene, and xylene
CAS	Columbia Analytical Services, Inc.
CATOX	catalytic oxidation
CHI	Clean Harbors Inc. or Clean Harbors of Kingston
COCs	chemicals of concern
cVOCs	chlorinated volatile organic compounds
DER	(NYSDEC) Division of Environmental Remediation
DGC	Dunn Geosciences Corporation
DHOC	Davis-Howland Oil Corporation
EEEPC	Ecology and Environment Engineering, P.C.
ENSR	ENSR Engineering New York
EPA	(United States) Environmental Protection Agency
FS	Feasibility Study
gpm	gallons per minute
IC/EC	institutional controls and engineering controls
IGP	Internal Guidance Procedures
Lu Engineering	Joseph C. Lu Engineering and Land Surveyors, P.C.
µg/L	micrograms per liter
LMS & GL	Lawler, Matusky & Skelly LLP and Galson/Lozier Engineers
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NEDI	Niagara Environmental Dynamics, Inc.
O&M	operations and maintenance
OM&M	operations, maintenance, and monitoring
OU	Operable Unit

List of Abbreviations and Acronyms (cont.)

PAHs	Polycyclic Aromatic Hydrocarbons
ppbv	parts per billion volume
PCBs	polychlorinated biphenyls
PCE	perchloroethylene or tetrachloroethene
PRR	Periodic Review Report
Popli	Popli Consulting Engineers and Surveyors, P.C.
PVC	polyvinyl chloride
RI	Remedial Investigation
ROD	Record of Decision
SGC	short-term guideline concentrations
SMP	Site Management Plan
SVE	soil vapor extraction
SVOCs	semi-volatile organic compounds
TCE	trichloroethylene
Tyree	The Tyree Corporation, Ltd.
VOCs	volatile organic compounds

Site Certification Form (Enclosure 1) Davis-Howland Oil Company Site NYSDEC Site Number 8-28-088

Enclosure 1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details Box 1

Site No. 828088

Site Name Davis-Howland Oil Corporation

Site Address: 200 ANDERSON AVENUE Zip Code: 14607

City/Town: Rochester

County: Monroe

Current Use: Structure

Intended Use:

Verification of Site Details Box 2

	YES	NO
1. Are the Site Details above, correct?	☒	☐
If NO, are changes handwritten above or included on a separate sheet?	☐ NA	
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
4. Has a change-of-use occurred since the initial/last certification?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment for offsite contamination are no longer valid ?	☐	☐ NA
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years) ?	☐	☐ NA
If NO, are changes in the assessment included with this certification?	☐	

SITE NO. 828088

Box 3

Description of Institutional Control	Control Certification YES	NO
DAVIS-HOWLAND OIL CORP 0192-200 Anderson Avenue Deed Restriction S_B_L Image: 106.840-0001-006.000 Ground Water Use Restriction	☒	☐

Box 4

Description of Engineering Control	Control Certification YES	NO

Attach documentation if IC/ECs cannot be certified or why IC/ECs are no longer applicable.
(Also see instructions)

Control Description for Site No. 828088

Control Certification Statement

For each Institutional or Engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(d) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control.

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

IC/EC CERTIFICATIONS
SITE NO. 828088

Box 5

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ (print name) at New York State Department of Environmental Conservation 625 Broadway, Albany, New York 12233 (print business address),

am certifying as _____ (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

_____ _____
Signature of Owner or Remedial Party Rendering Certification Date

Box 6

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in Box 4 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Gerald A. Strobel (print name) at Ecology and Environment Engineering, P.C. 368 Pleasant View Drive, Lancaster, NY 14086 (print business address),

am certifying as a Qualified Environmental Professional for the Davis-Howland Oil Company Site

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

_____ _____ _____
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification Stamp (if Required) Date

1 Introduction

Pursuant to Work Assignment No. D004442-DC14, accepted on June 29, 2007 (EEEPC 2007), and in accordance with the Work Plan accepted on June 29, 2007 (EEEPC 2007), Ecology and Environment Engineering, P.C. (EEEPC) is submitting this Periodic Review Report (PRR) to the New York State Department of Environmental Conservation (NYSDEC). This report covers the 2008 operating year (January-December 2008) of the 2007 through 2011 Long-term Operations, Maintenance, and Monitoring (OM&M) Work Assignment Program for the Davis-Howland Oil Corporation (DHOC) site in the city of Rochester, Monroe County, New York.

The 2008 PRR was prepared for the DHOC remedial treatment system (NYSDEC Site No. 8-28-088), located at 200 Anderson Avenue in the city of Rochester, Monroe County, New York. In addition, information is provided on the groundwater monitoring network, which includes documentation on the cleanup and movement of groundwater upgradient and downgradient from the DHOC site.

1.1 Purpose

The purpose of this PRR is to annually review and report on the performance of the remedial treatment remedies that collectively make up the site. This report also provides an examination of operating records of each remedial operating unit, including the Site Management Plan (SMP), to evaluate whether the remedial equipment is performing within the manufacturers' operating guidelines and whether the remedial monitoring program is protective of the public health and the environment.

Section 1 of this PRR provides supportive background and historical information for each of the remedial treatment units and the surrounding groundwater monitoring network. In addition, site-specific regulatory compliance information is provided as baseline information. Section 2 evaluates the overall compliance with the decision documents, including the Record of Decision (ROD), associated remedial closure documentation, regulatory compliance, and the SMP for the operating year. Section 3 describes the institutional and engineering controls and provides some recommendations for continuing or modifying those controls. Section 4 describes the uptime operations and cleanup efficiencies of each of the remedial treatment operations and provides general recommendations on equipment replacement and repairs to improve the remedial action and the SMP for future op-

erating years. Section 5 assesses the current condition of the remedial equipment and the oversight activities during the past reporting period. Section 6 provides support actions or decisions that justify closing or modifying any of the collective remedial processes that would end site management or reclassify the operations section at the site. Section 7 reports all costs that have been expended for the individual remedial operating units for the collective remedial action. Section 8 provides an appraisal of any relevant information generated locally regarding the site as well as information that should be disseminated to the public based on past public reporting. Section 9 provides references for the documents used in the development of the 2008 PRR for the DHOC site activities.

This PRR also provides sufficient details to document compliance with the SMP requirements associated with the following:

1. **OM&M Plan:** to document the status of the OM&M of the remedy;

2. **Monitoring Plan:** to document the status of the monitoring of the remedy; and

3. **Institutional Controls and Engineering Controls (IC/EC) Plan:** to certify the IC/ECs, if applicable.

This PRR provides documentation of problems and describes changes necessary for the site to be in compliance with the SMP, including:

- The removal of IC/ECs that are no longer applicable;
- The addition of IC/ECs that are now necessary;
- Modifications in OM&M requirements;
- Installation and decommissioning of site monitoring wells, as necessary; and
- Modifications to the Corrective Action Work Plan and schedule, as necessary.

1.2 Site Background and History

1.2.1 Site Location and Description

The DHOC site encompasses adjacent parcels described as 190 through 220 Anderson Avenue and the portion of 176 Anderson Avenue immediately north and west of 190 through 220 Anderson Avenue. The site is bounded on the south by Anderson Avenue, on the west by light industrial/commercial/retail buildings, and on the north and east by a CSX Transportation right-of-way with active tracks. Figure 1-1 indicates the general location of the site.

The approximately 1-acre site is located in an area that combines residential, commercial, and industrial facilities. No significant surface water is located in the immediate vicinity of the site. Figure 1-2 presents the site layout, and additional building information is provided in Appendix A.

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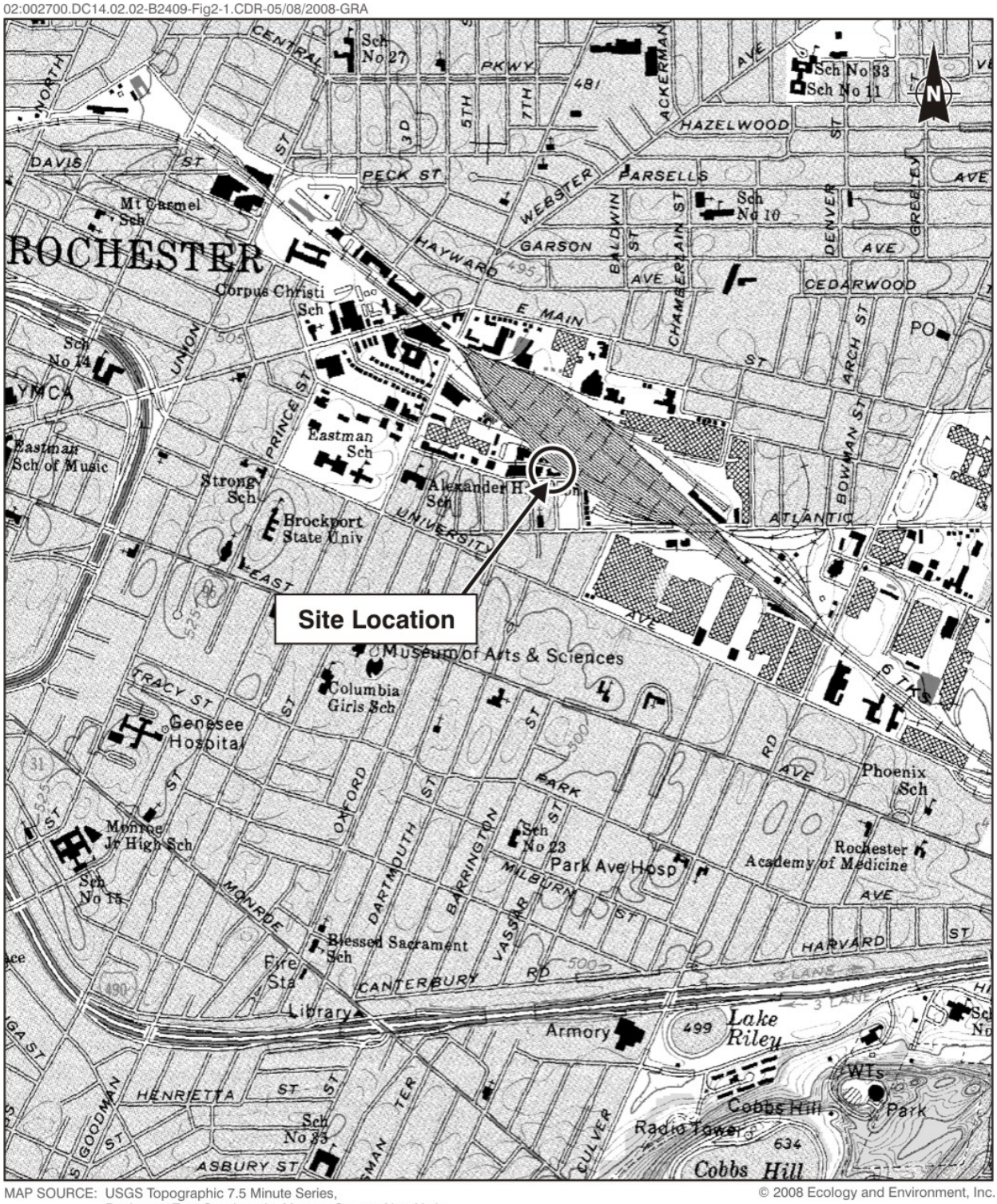


MAP SOURCE: USGS Topographic 7.5 Minute Series, Rochester East Quadrangle, Monroe County, New York

Figure 1-1 General Site Location Map, Davis-Howland Oil Corporation Site, Rochester, New York

1.2.2 Site History

The DHOC site was used from 1942 to 1972 by H & W Chemicals, and from 1972 to 1994 the site was jointly operated by H & W Chemical Cleaning Corporation and DHOC.

H & W Chemicals began operations at the site in 1942 and sold a full line of industrial chemicals, including acids, alkalis, alcohols, ketones, plating chemicals, and chlorinated and petroleum solvents. These products were formerly stored in many large tanks and drums throughout the site.

In 1972, H & W Chemicals became affiliated with DHOC through common ownership, and that same year DHOC moved its operations to the Anderson Avenue site. DHOC previously specialized in custom blending, compounding, and repackaging of various types of lubricating products, including motor oils, hydraulic oils, cutting oils, and a variety of specialty petroleum products. DHOC closed in 1994, and all manufacturing and product-processing operations ceased.

Between 1974 and the early 1990s, many releases of materials (e.g., waste oil, mineral oil, hydrochloric acid, sulfuric acid) at the site were reported to NYSDEC. NYSDEC inspected the site in June 1991 following a report of an oil spill. However, no single spill could account for the majority of contamination found at the site. NYSDEC's inspection of the site identified several hundred drums of oils, solvents, and other materials, some of which were structurally unsound and leaking. Several areas with stained surficial soil were also identified during the inspection.

1.3 Prior Investigations

1.3.1 1991 NYSDEC Study

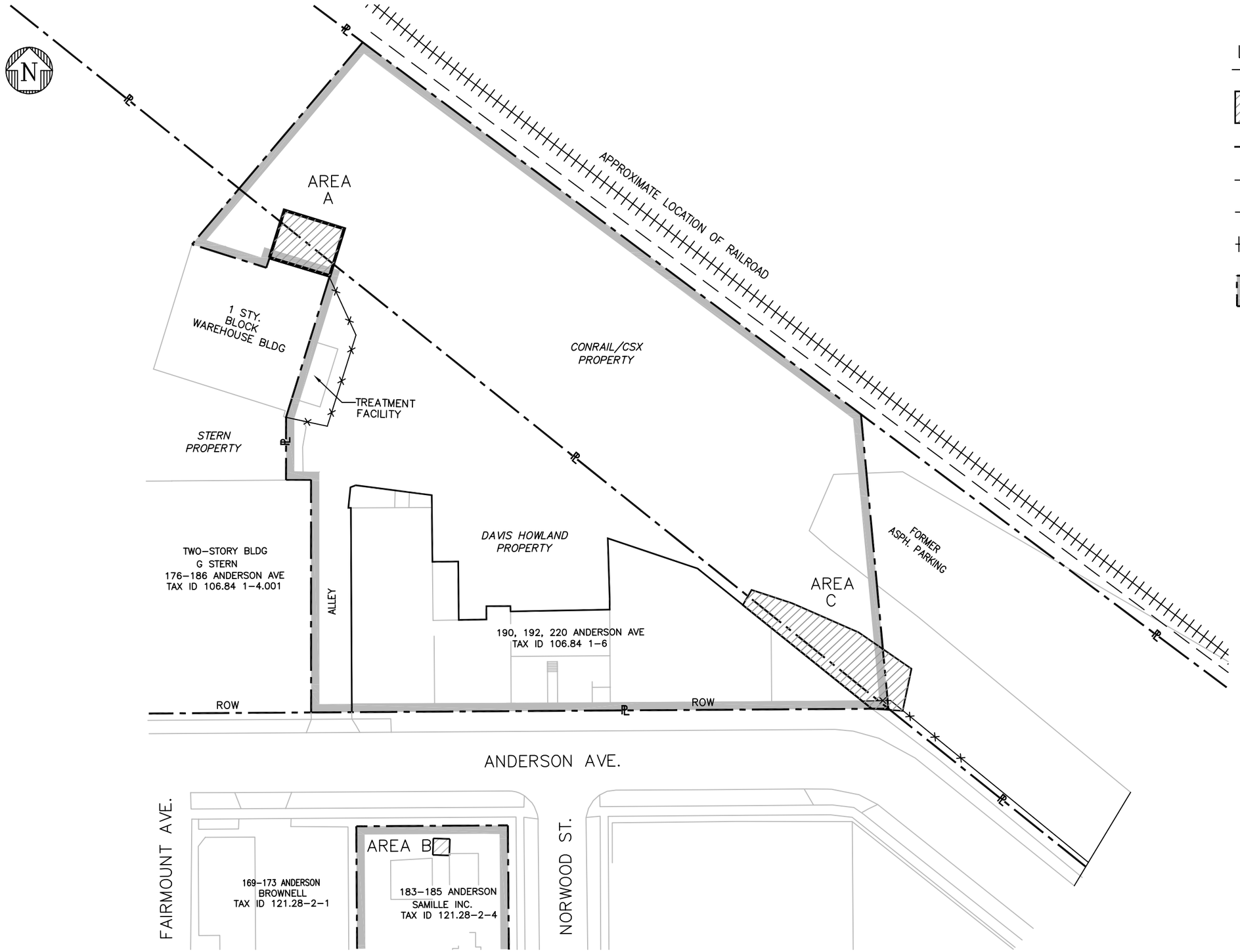
NYSDEC performed a soil investigation at the site in 1991. This investigation included soil sampling, waste inventorying and characterization, and over-packing and containerizing several hundred leaking drums. The analytical results of the soil sampling showed that the surficial soils were contaminated with petroleum products and solvents.

1.3.2 DGC Remedial Investigation

In October 1991, Dunn Geosciences Corporation (DGC) of Amherst, New York, conducted a remedial investigation (RI) for the owners of the DHOC site. The investigation included test pits, soil gas probing, and collection of groundwater samples in order to evaluate the distribution of contaminated soils behind (north of) the DHOC buildings on Anderson Avenue. The DGC RI report (DGC 1991) noted that the following were found on the site:

- Visibly stained soils extending from the surface to 6 to 7 feet below ground surface (bgs) north of the building;

- Chlorinated and nonchlorinated solvents extending from the surface to 6 to 7 feet bgs that exceeded the NYSDEC Class GA groundwater standards; and



LEGEND

- EXCAVATION AREAS
- PROPERTY LINE OR RIGHT-OF-WAY (ROW)
- FENCING
- GUARD RAIL
- RAILROAD TRACKS
- AS/SVE TREATMENT ZONE

0 60 120

SCALE IN FEET

FIGURE 1-2

SITE LAYOUT MAP
FORMER DAVIS-HOWLAND
CORPORATION SITE

- Lead levels exceeding the NYS Class GA groundwater standard to depths of 3 to 3.5 feet bgs.

DGC's 1991 RI report recommended that all drummed liquid wastes and the uppermost 1 to 2 feet of visibly contaminated soils be removed before beginning the remediation of deeper soils.

1.3.3 Preliminary Site Investigation

In 1992, Clean Harbors of Kingston, Inc. (CHI), of Glenmont, New York, performed a preliminary site investigation by sampling soils and installing and sampling six shallow groundwater monitoring wells. In September 1992, DHOC submitted the preliminary site investigation report (CHI 1992a) to NYSDEC. The analytical results indicated that the groundwater was contaminated with chlorinated and nonchlorinated solvents and metals.

In conjunction with the preliminary site investigation, CHI also removed drummed waste and excavated and removed surficial soils at the site. NYSDEC's inspection during the CHI cleanup determined that visibly contaminated soils remained after the surficial soils had been excavated. However, further removal would have been impractical at that time, and the contamination would be addressed in later investigations (NYSDEC 1992). The preliminary site investigation report (CHI 1992b) was deemed "inadequate" by NYSDEC and rejected because no field monitoring or soil sampling had been conducted to confirm that the surficial soil removal was adequate.

1.3.4 NYSDEC's Additional Site Sampling

In December 1994, NYSDEC sampled the site's groundwater monitoring wells, and the analytical data were used to assist in the development of the Remedial Investigation/Feasibility Study (RI/FS) Work Plan (NYSDEC 1994). The sampling report was finalized in April 1995 (NYSDEC 1995), and its results were consistent with those presented in the CHI Groundwater Report of September 1992 (CHI 1992a).

Based on the April 1995 Sampling Report results, NYSDEC concluded the following:

- All monitoring well analytical results from the site exceeded the NYSDEC Class GA groundwater standards for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals.

- Additional deep bedrock and shallow monitoring wells were needed to characterize the site.

- The designated groundwater chemicals of concern (COCs) included VOCs (especially chlorinated VOCs [cVOCs]), SVOCs, pesticides/polychlorinated biphenyls (PCBs), and metals.

In April 1995, based on the review of previous technical studies, the site was listed on the New York State Registry of Inactive Hazardous Waste Sites (Site No. 8-28-088), indicating that it posed a significant threat to human health and the environment.

1.3.5 Remedial Investigation/Feasibility Study

The first of a two-phase RI/FS work assignment was completed in October 1996 by Lawler, Matusky, Skelly Engineers, LLP, and Galson/Lozier Engineers (LMS & GL). The Phase I RI (LMS & GL 1996) and FS (LMS & GL 1997a) focused on Operable Unit 1 (OU-1), which encompasses the shallow groundwater, surficial soil, and subsurface soil on the site. Eight shallow and 15 bedrock monitoring wells were installed for the Phase I RI.

The Phase II RI report was completed by LMS & GL in October 1997 (LMS & GL 1997b). The Phase II RI focused on further defining the nature and extent of soil and deep groundwater impacts on the site. Additional soil samples were collected at the surface and near-surface to confirm the results of LMS & GL's Phase I RI. In addition, bedrock monitoring wells were installed and sampled. Finally, air sparging (AS) and soil vapor extraction (SVE) pilot tests were performed to evaluate remedial technologies for potential use at the site.

1.4 Record of Decision

Based upon the results of the Phase I RI/FS prepared for the DHOC Inactive Hazardous Waste Site OU-1 (upper aquifer and soils) and the criteria identified for the evaluation of alternatives in the FS report, NYSDEC selected Alternative 3 (air sparging, vapor extraction, and soil excavation and removal) as the site remedy in the ROD. The ROD for the selected remedial alternative for OU-1 was signed in March 1997 (NYSDEC 1997).

Based upon the results of the Phase II RI for the DHOC Inactive Hazardous Waste Site OU-2 (the bedrock aquifer) and the criteria identified for the evaluation of alternatives in that document, NYSDEC selected No Further Action as the site remedy. The ROD for the selected remedial alternative for OU-2 was signed in March 1998 (NYSDEC 1998).

Upon selection of the remedial technology to be used at the site under the RODs, LMS & GL performed a Pre-remedial Design Investigation in September and October 1998. The results of the Pre-remedial Design Investigation provided the initial basis for designing the remedial process, equipment selection, and sizing the through-put remedial operations to reach the goals outlined by the RODs.

1.5 Remedial Design

The contract documents for remedial construction at the site were prepared by ENSR Engineering New York (ENSR), of Rochester, New York (ENSR 2000). The contract documents were issued at 65% completion to NYSDEC in September 2000. Because ENSR's NYSDEC standby contract was not renewed, EEEPC

was assigned the project under its standby contract in October 2000. The status of the contract drawings were reviewed by EEEPC in November 2000, and changes were requested to bring the documents to 100% completion.

NYSDEC advertised the notice for bidders for remedial construction at the site in December 2000. Public bidding was performed in January 2001, with bids received in February 2001. Upon acceptance of the lowest qualified bid in March 2001, the Intent to Award the project was issued to The Tyree Corporation Limited (Tyree), of Latham, New York. Project submittals and shop drawings were submitted by Tyree and reviewed for conformance with the Contract Documents by EEEPC. A Notice to Proceed was issued by NYSDEC on June 7, 2001.

1.6 Remedial Construction

Construction of the remedial treatment system began on June 7, 2001; all outstanding incomplete work items were finalized on August 8, 2003; and the project proceeded to final closeout. As stipulated in Section VI of the Contract Documents, the construction project to be performed by the contractor was divided into the following three portions of work.

1.6.1 Part A: Remedial Construction

EEEPC provided construction oversight and monitored installation of the remedial treatment systems and infrastructure. Mobilization, site preparation, selective demolition, utility installation, blasted bedrock trench installation, groundwater extraction/recovery well installation, treatment equipment procurement and shop fabrication, cleanup, preparation of operations and maintenance (O&M) plans, and demobilization of temporary services and facilities comprised the first part of the project performed by Tyree. The following major construction items actions were performed by Tyree as part of remedial construction:

- Installation of 47 positive-pressure AS points and associated discharge lines and valve control manholes;
- Installation of eight interior SVE points and 1,300 feet of horizontal SVE collection lines;
- Installation of three groundwater extraction wells and associated discharge lines and six observation piezometers;
- Decommissioning of eight monitoring wells;
- Installation of two blasted-bedrock trench recovery wells;
- Excavation and off-site disposal of an underground storage tank (UST);
- Excavation and off-site disposal of contaminated soils in Areas A, B, and C (see Figure 1-2);

- Installation of a 1-acre asphalt cap located north of the Anderson Avenue buildings and south of the CSX railroad tracks;

- Fabrication and installation of a trailer-mounted remediation system consisting of an AS system, an SVE system, a low-profile air stripper, and a catalytic oxidation unit; and

- Tying in a new treated-discharge line to the existing County of Monroe combined sanitary sewer.

1.6.2 Part B: Start-up Operations

Start-up activities included installing the treatment equipment, initiating start-up of the treatment system, sampling and analysis of the treatment system discharge, and preparation of the final draft of the O&M plan. As part of the start-up, Tyree also tested the remediation system for 30 days.

1.6.3 Part C: Substantial Completion/Continuous Operations

This portion of the project encompassed operating the remedial treatment system, monitoring and maintaining the treatment systems, and preparing and submitting the final O&M plan. The contractor operated, monitored, and maintained the remedial treatment system for 155 days following successful completion of the start-up period in September 2002. Tyree completed operations and monitoring of the system per the contract requirements in March 2003.

In November 2006, EEEPC submitted the *Final Closure and Certification Report* (EEEPC 2006a) for the remedial construction oversight and monitoring performed at the DHOC site. The closure report provided information on the following:

- Remedial construction activities,

- Sampling and analysis,

- Contractor operation and maintenance of the remedial equipment, and

- Issues encountered during the remedial construction and resulting changes to the contract.

The report provided information on numerous construction issues, including maintenance activities and construction delays encountered by Tyree.

1.7 Operations, Maintenance, and Monitoring

EEEPC has been providing OM&M services and compliance reporting on the remedial treatment system and support equipment since May 2003. Initially, OM&M work was subcontracted for three one-year periods (ending in May 2004, May 2005, and October 2006) to Niagara Environmental Dynamics, Inc. (NEDI), of Amherst, New York. Joseph C. Lu Engineering and Land Surveying, P.C. (Lu

Engineering), of Penfield, New York, provided limited oversight of the OM&M services for EEEPC during that same period. From October 2006 to September 2007, the OM&M services were performed by Lu Engineering.

OM&M services are currently being performed under the EEEPC standby contract. The OM&M work through April 2011 has been competitively bid and awarded to Popli Consulting Engineers and Surveyors, P.C. (Popli), of Penfield, New York.

Monthly compliance reports for the DHOC site include influent/effluent groundwater flows, analytical results for treated air and groundwater, weekly OM&M reports from EEEPC's subcontractor, and utility costs. These OM&M reports are submitted no later than 10th of the following reporting month to the permitting agencies (i.e., the County of Monroe – Division of Pure Waters, and NYSDEC) in accordance with the requirements of the operating permits for the site (EEEPC 2003-2008).

1.8 Groundwater Monitoring Well Network

As part of the Preliminary Site Investigation conducted by CHI in 1992, a number of shallow groundwater wells were installed to allow groundwater to be sampled in order to determine the levels of on-site and off-site contamination. During the RI conducted by LMS & GL for NYSDEC in 1996, a number of shallow and bedrock wells were installed to determine the levels of groundwater contamination at the shallow and bedrock interfaces. Based on the results of these RIs, the horizontal and vertical extents of the contamination were determined to consist of VOCs, SVOCs, and metals exceeding the NYSDEC Groundwater Standards. Pesticides above the Class GA Groundwater Standards were found in one isolated instance in monitoring well CHI-6. No other pesticides or PCBs were detected above the method detection limit in groundwater samples from the overburden wells at the site.

The following is a current list of the 17 active groundwater monitoring wells in and around the DHOC site:

- One groundwater monitoring well installed by Clean Harbors, Inc. (CHI-6) during the initial RI performed by the property owners of the DHOC site; and

- 16 shallow and bedrock groundwater monitoring wells installed by the standby consultant LMS & GL for the Phase I RI: MW-1S, MW-2S, MW-3S, MW-9S, MW-12S, MW-13S, MW-14S, and bedrock wells MW-2R, MW-3R, MW-5R, MW-8R, MW-10R, MW-12R, MW-14R, MW-15R, and MW-16R.

The next round of long-term groundwater well sampling at the DHOC site is scheduled for spring 2009 and spring 2011. The 2004 Long-term Groundwater Sampling and Data Summary Report (EEEPC 2004) was issued to NYSDEC in August 2004. The 2007 *Long-term Groundwater Sampling and Data Summary Report* (EEEPC 2008a) was issued to NYSDEC in January 2008. An overall

evaluation of the groundwater monitoring well system is provided in Section 5 of this PRR.

1.9 Review of Site-Specific Regulatory Information

1.9.1 Groundwater Discharge Permit

Effluent criteria for the discharge of treated groundwater at the site were initially established under a Pre-treatment Discharge Permit from the County of Monroe, Division of Pure Waters, during the design phase of the Contract Documents in 2000. A copy of the current discharge permit (Sewer Use Permit No. 864) for 2007 to May 2010 is provided as Appendix B. The influent and effluent from the remedial treatment system have been sampled since start-up operations occurred in September 2002.

In September 2006, EEEPC and NYSDEC presented a petition to the County of Monroe, Division of Pure Waters, to eliminate the sampling and analysis for pesticides and PCBs under the current Sewer Use Permit. In October 2006, the petition was accepted by the County of Monroe with the exception that pesticide analysis would be required on a semi-annual basis.

1.9.2 Air Emissions Equivalency Permit

Tyree prepared and submitted an application for an air emissions equivalency permit to discharge air emissions from the catalytic oxidation (CATOX) unit at the DHOC site. Upon review of the permit application and supportive calculations, the permit was approved by the NYSDEC Air Technology Section on May 28, 2002. A copy of the accepted air equivalency permit is provided as Appendix C. Air emissions from the CATOX influent and effluent have been sampled since start-up operations in September 2002.

In November 2006, an air quality analysis was performed by EEEPC (EEEPC 2006b) to evaluate potential ambient air impacts that would result from operation of the air stripper and SVE systems without the CATOX unit. The study concluded that, if a new and higher stack was installed, the short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) would not be exceeded if the CATOX unit were shutdown. In February 2007, the study's finding was accepted by NYSDEC. The CATOX unit was decommissioned, and a new stack was procured and installed by EEEPC in September 2008.

1.9.3 Periodic Review Report

This PRR was developed in accordance with NYSDEC's Internal Guidance Procedure (IGP) No. 8 (NYSDEC 2007a) for documenting site management activities. The 2007 PRR for the DHOC site was issued to NYSDEC on June 18, 2008 (EEEPC 2008b) as part of the management review of on-site remedial activities at the site.

2 Remedial Treatment Systems Compliance

2.1 General Regulatory Compliance

In 2008, remedial operating units associated with the DHOC site were in compliance with the operating or permit requirements for remedial treatment. Information regarding compliance of the individual remedial operating units is presented in the following subsections.

2.1.1 Groundwater Treatment

The initial site effluent discharge criteria were established by the County of Monroe in the discharge permit issued in 2001. Once the system became operational in 2002, the influent and effluent from the remedial treatment system were sampled and analyzed, and the results were reported on a monthly basis as part of the compliance monitoring program. Based on 40 months of analytical compliance data, in September 2006 EEEPC and NYSDEC presented a petition to the County of Monroe, Division of Pure Waters, to eliminate the sampling and analysis for pesticides and PCBs under the current Sewer Use Permit. In October 2006, the petition was accepted by the County of Monroe with the exception that pesticide analysis would be required on a semi-annual basis. Table 2-1 presents the permit criteria currently used for the discharge of treated groundwater at the DHOC site.

In 2008, all treatment and effluent discharge operations were in compliance with permit criteria. The entire remedial treatment system was shutdown on March 11, 2008, to perform decommissioning of the CATOX unit. A new vertical emissions stack was then installed to discharge cVOCs removed by the air stripper and SVE systems. The remedial treatment system was restarted on September 18, 2008.

2.1.2 Air Emissions Treatment – CATOX

The original air discharge equivalency permit application was prepared by ENSR during the initial design phase of the Contract Documents in 2000. During construction, an additional submittal was prepared by a New York State-licensed professional engineer for Tyree as a requirement of the Contract Documents Tyree (Tyree 2002). Based upon review and acceptance of that submittal by NYSDEC in May 2002, the site's air emissions discharge criteria were established by an equivalency permit (see Appendix C). All analyses of the influent and effluent air were required to be performed using U.S. Environmental Protection Agency (EPA) Method TO-14A or an equivalent method.

Table 2-2 presents the maximum SGCs accepted by NYSDEC for the CATOX unit.

In November 2006, EEEPC prepared and submitted an air quality analysis report that evaluated the potential ambient air quality impacts that could result from operation of the DHOC site remedial treatment system without the CATOX unit (EEEPC 2006b). The results of the air modeling study demonstrated that operation of the CATOX was unnecessary as long as a replacement stack 5 feet taller than the existing CATOX stack was built. The results were subsequently evaluated and accepted by NYSDEC in February 2007 (NYSDEC 2007b).

The CATOX unit was decommission in March 2008. A new emissions stack was procured by EEEPC in June 2008, and installation of the stack was completed on September 18, 2008. Compliance reporting of the CATOX emissions ended in March 2008 and will not be required in the future.

Table 2-1 Effluent Discharge Criteria, DHOC Site

Parameter	Analytical Methods	Permit Limits
Flow (average discharge); based on effluent meter	–	Not to exceed 28 gpm
pH (SU)	MCAWW 150.1	5.0-12.0
PCBs (bdl)	40 CFR 136 – 608	bdl (0.3 ppb)
Total petroleum hydrocarbons	NYSDOH 75 310-13	100 ppm
Purgeable halocarbons	40 CFR 136 – 601	The analytical summation of this group of contaminates shall not exceed 2.13 ppm in the effluent discharge.
Purgeable aromatics	40 CFR 136 – 602	
Acid extractables	40 CFR 136 – 625	
Base neutrals		
Pesticides	40 CFR 136 – 608	
Total Monthly Discharge	–	NA

Key:

bdl = below detection limit.
CFR = Code of Federal Regulations.
gpm = gallons per minute.
MCAWW = (EPA) Methods for Chemical Analysis of Water and Wastes.
NA = Not applicable.
NYSDOH = New York State Department of Health.
ppm = parts per million.
SU = standard units.
= PCBs removed from the permit analyte list on October 28, 2006.
= Pesticide analysis performed on a semi-annual basis.

Table 2-2 Maximum SGCs for the DHOC Site CATOX Effluent

Analyte	CATOX Stack Emissions Rate (lbs/hr)
Volatile Organic Compounds	
1,1,1-Trichloroethane	0.0014106
1,1-Dichloroethane	0.0008853
1,1-Dichloroethene	0.0001651
Acetone	0.0003301
Benzene	0.0000063
Chloroform	0.0000006
cis-1,2 Dichloroethene	0.0034515
1,2-Dichloroethene (total)	0.0081035
Ethylbenzene	0.0002851
Methylene chloride	0.0005252
Tetrachloroethene	0.0001305
Toluene	0.0000960
trans 1,2-Dichloroethene	0.0000005
Trichloroethane	0.0003902
Trichloroethene	0.0004352
Vinyl chloride	0.0005102
Xylene (total)	0.0005552
Totals	**0.0172811**

3 Evaluation of Institutional and Engineering Controls

3.1 Institutional Controls

A permanent easement that provides access to the CSX Transportation property was obtained in November 2000, and an additional easement was obtained in February 2001 to facilitate operation of the DHOC site remedial treatment system. In addition, access to the 200 Anderson Avenue property (buildings and area north of the buildings and the property on the south side of Anderson Avenue) has been obtained under a Consent Order with the owner (Mr. R. Klepper), which will facilitate the continued operation of the remedial treatment system and underground equipment. The existing permanent easement for the CSX property is adequate at this time, but if additional wells are installed as part of improvements to the groundwater monitoring well system, additional permanent easements may be required. Information on the permanent CSX easements for the DHOC site remedial treatment system is provided in Appendix L of the SMP (EEEPC 2008c).

There are 17 monitoring wells in the groundwater monitoring well network around the DHOC site: 15 wells are located on private property, and two are located in the rights-of-way of city streets. Of the 15 monitoring wells located on private property, three are located on the DHOC property (MW-1S, MW-5R, and MW-9R), and seven are located on the CSX property easement (CHI-6, MW-2S, MW-2R, MW-7S, MW-7R, MW-8R, and MW-13S). Regarding the seven remaining monitoring wells (MW-3S, MW-3R, MW-12S, MW-12R, MW-14S, MW-14R, and MW-16R), it is unknown whether access agreements were previously obtained under the RI/FS studies for the future maintenance and monitoring of these wells. The locations of these monitoring wells are identified in the *2007 Long-term Groundwater Sampling and Data Summary Report* (EEEPC 2008a).

3.2 Engineering Controls

The engineering controls to support remedial operations at the site are consistent operation and maintenance of the site. The only change since the last PRR is the decommissioning of the CATOX unit and its replacement with a single emissions stack. The OM&M performance parameters for the site have been revised for the 2008 PRR and are identified in Appendix G.

4 Evaluation of Remedial Treatment Operations

4.1 General Evaluation of Remedial Treatment Operations

The remedial treatment and conveyance systems at the DHOC site have been operational since September 2002. From September 2002 until March 2003, OM&M was performed under contract by Tyree with EEEPC's oversight. Following Tyree's completion of the 5 months of OM&M services required by the construction contract, the system's OM&M services were performed by EEEPC under a work assignment with NYSDEC.

The DHOC site remedial treatment system was designed to operate continuously, 24 hours per day, 365 days per year. The treatment system, including the operating elements of the treatment equipment are, by subcontract, inspected and maintained on a weekly basis. The treatment system's waste streams (air and water) are monitored through monthly sampling and analysis to evaluate the system's efficiencies and the waste streams' compliance with discharge permit criteria

During the PRR reporting period from January to December 2008, OM&M services were performed by Popli Consulting Engineers and Surveyors, of Penfield, New York, and analytical services were performed by Columbia Analytical Services, Inc. (CAS), of Rochester, New York.

In 2008, the operations uptime was reduced as a result of decommissioning the CATOX unit. In anticipation of the decommissioning, the system was shut down, and no treatment was performed until the CATOX unit was electrically disconnected from the rest of the treatment system and the new emissions stack was installed.

The treated groundwater discharges to the County of Monroe's trunk sewer were down about 62% in 2008 compared to the treated groundwater discharges in 2007. During the reporting period, approximately 99.96% of target contaminants were removed from the influent groundwater prior to its being discharged to the County's sewers. Additional discussion of groundwater treatment is provided in Section 4.2.

With regard to cleanup of the off gases from the air stripper and the SVE system, a cleanup efficiency of over 71.6% was achieved from January to March 2008. The reduction in treatment efficiency of approximately 30% was attributed to the

need to replace the catalyst after 60 months of operation. The manufacturer estimates the useful life of the catalyst, which is the major treatment component in the CATOX unit, to be about 60 months.

Details regarding the operations and treatment efficiencies of the individual components of the treatment system are presented in the following sections.

4.2 Groundwater Treatment

As shown in the original contract documents prepared by ENSR (2000), the groundwater remedial treatment system consists of five groundwater pumping wells, a treatment system, and conveyance appurtenances, which were constructed by Tyree for the DHOC site. The groundwater pumping wells (two bedrock and three shallow groundwater wells) pump contaminated groundwater from specific areas and depths around the DHOC site, which is then conveyed through underground piping to the treatment system trailer located in a paved area north of the buildings at 200 Anderson Avenue. For the shallow pumping wells, the level of the groundwater is monitored by six piezometers (PZ 1 through 6) located in the capped area north of the buildings at 200 Anderson Avenue. A minimum groundwater level of 4 feet bgs must be maintained to allow the AS/SVE system to function as designed. Water level measurements are taken weekly to evaluate the current groundwater level and determine whether the water level will have any effect on the AS/SVE system. When groundwater depths are less than 4 feet bgs, corrective actions are evaluated and implemented. These corrective actions are described in the operations and maintenance manuals (Appendix D) of the DHOC Site Management Plan (SMP).

Groundwater is metered and pumped to a common equalization tank in the processing area located in the rear of the treatment trailer. Groundwater in the equalization tank is then fed continuously to the air stripping tower for processing. After the air stripping process, treated water is collected in a 20-gallon sump below the air stripping unit. The treated groundwater is then discharged via gravity through 110 linear feet of polyvinyl chloride (PVC) pipe to the Monroe County sanitary sewer located in the right-of-way of Anderson Avenue.

The effluent from the remedial treatment system met the discharge permit requirements for each month of 2008. Table 4-1 presents a summary of the monthly analytical results for the treated effluent and compares them to the Monroe County discharge permit limits.

4.2.1 Groundwater Treatment System Operational Uptime in 2008

The uptime operations percentages are calculated based on actual monthly hours of treatment system operations in the reporting period divided by the total potential hours of operation in the reporting period. The basis of all on-site uptime treatment operations is the CATOX unit. If the CATOX unit fails to operate, all other on-site treatment systems are shut down by the established process logic controls. This stops the capture and treatment of contaminants and the discharge

from the groundwater and air treatment equipment until resolution of the alarm code is made by EEEPC or its OM&M subcontractor.

Table 4-1 2008 Monthly Compliance Results for Treated Groundwater Effluent, DHOC Site

Month	Average Effluent (gpm)	pH (s.u.)	Total Petroleum Hydrocarbons (ppm)	Purgeable Halocarbons, Purgeable Aromatics, Acid Extractables, Base Neutrals, and Pesticides (ppm)	Permit Compliance
Discharge Permit Limits	**28**	**5.0-12.0**	**100**	**2.13**	**--**
January	1.67	8.44	ND	ND	**Yes**
February	1.70	8.31	ND	ND	**Yes**
March[1]	2.04	8.58	ND	ND	**Yes**
April[1]	NA	NA	NA	NA	**NA**
May[1]	NA	NA	NA	NA	**NA**
June[1]	NA	NA	NA	NA	**NA**
July[1]	NA	NA	NA	NA	**NA**
August[1]	NA	NA	NA	NA	**NA**
September[1]	0.84	8.46	ND	0.000000	**Yes**
October	1.63	8.34	ND	0.000012	**Yes**
November	1.518	8.48	ND	0.0000017	**Yes**
December	1.53	8.39	ND	0.0000026	**Yes**

Note:
[1] From March 11 to September 18, 2008, the treatment system was shut down to decommission the CATOX unit. No remedial treatment operations were performed during that period.

Key:
gpm = Gallons per minute.
NA = not applicable
ND = Not detected.
ppm = Parts per million.
s.u. = Standard units.

Local power outages or equipment failure affect operations of the remedial treatment system. To minimize these downtimes, the system has an auto-dialer that sends an alarm to the OM&M subcontractor and EEEPC if an equipment failure is encountered. In addition, the treatment facility can be called at any time unless the phone service is down to check on the status of the various operating equipment in the building. The updated alarm codes provided with the system are provided in Appendix D.

In 2008, the remedial treatment system operated for 3,853.8 hours out of a possible 9,124 hours, for an operational uptime of approximately 42.24%. The reduction in operating hours over 2007 is attributed to the shutdown of the remedial treatment unit from March 11 to September 18, 2008, for CATOX decommissioning and new emission stack installation. Table 4-2 presents a summary of the uptime of the DHOC site remedial treatment system for the 12 months from December 28, 2007, to January 6, 2009.

Table 4-2 DHOC Site Remedial Treatment System Uptime in 2008

Reporting Period	Reporting Hours/ Maximum Hours	Operational Uptime (%)
December 28, 2007, through January 31, 2008	697/820	85.1%
January 31, 2008, through March 3, 2008	625.5/768	81.4%
March 3, 2008, through April 3, 2008[1]	187.3/720	26.0%
April 3, 2008, through May 3, 2008[1]	0/744	0%
May 3, 2008, through June 3, 2008[1]	0/744	0%
June 3, 2008, through July 3, 2008[1]	0/744	0%
July 3, 2008, through August 3, 2008[1]	0/768	0%
August 3, 2008, through September 3, 2008[1]	0/792	0%
September 3, 2008, through October 2, 2008[1]	360/696	51.7%
October 2, 2008, through November 12, 2008	664/1008	65.9%
November 12, 2008, through December 3, 2008	504/504	100%
December 3, 2008, through January 6, 2009	816/816	100%
Total Hours of Operation in 2008	**3853.8/9,124**	
Average Percentage of Operational Uptime in 2008		**42.24%**

Note:
[1] The treatment system was shutdown on March 11, 2008, for decommissioning of the CATOX unit. The system was re-started on September 18, 2008.

4.2.2 Groundwater Processed and Discharged through the Remedial Treatment System in 2008

The amount of groundwater processed and discharged is directly read from the effluent discharge meter located after the air-stripper unit. Readings are taken at the master discharge meter weekly and then calculated for each monthly reporting period.

Based on information obtained from the weekly monitoring reports from the OM&M subcontractor, the remedial treatment system processed and discharged 359,800 gallons of treated groundwater to the Monroe County sanitary sewer system during the period from December 28, 2007, to January 6, 2009 (see Table 4-3). The reduction in discharge flow compared to 2007 is attributed to the shutdown of the remedial treatment unit from March 11 to September 18, 2008, for CATOX decommissioning and new emissions stack installation.

Table 4-3 Groundwater Processed and Discharged by the Remedial Treatment System in 2008

Month	Actual Period	Gallons Treated
January 2008	12/28/07 to 1/31/08	69,900
February 2008	1/31/08 to 3/3/08	64,000
March 2008[1]	3/3/08 to 4/3/08	23,000
April 2008[1]	4/3/08 to 5/3/08	NA
May 2008[1]	5/3/08 to 6/3/08	NA
June 2008[1]	6/3/08 to 7/3/08	NA
July 2008[1]	7/3/08 to 8/3/08	NA
August 2008[1]	8/3/08 to 9/3/08	NA

Table 4-3 Groundwater Processed and Discharged by the Remedial Treatment System in 2008

Month	Actual Period	Gallons Treated
September 2008[1]	9/3/08 to 10/2/08	17,000
October 2008	10/2/08 to 11/12/08	65,000
November 2008	11/12/08 to 12/3/08	45,900
December 2008	12/3/08 to 1/6/09	75,000
Total Gallons Treated in 2008		**359,800**

Note:
[1] The treatment system was shut down on March 11, 2008, for decommissioning of the CATOX unit. The system was restarted on September 18, 2008.

4.2.3 Chlorinated Volatile Organic Compounds (cVOCs) Removed from Groundwater in 2008 (Air Stripping Operations)

The amount of cVOCs removed from the groundwater is estimated based on the influent and effluent analytical results and the total metered flow of processed groundwater. In 2008, the entire treatment system was shutdown from March 11 to September 18. Based on calculations prepared by EEEPC on the limited operation of the remedial treatment unit from January to March 2008 and September to December 2008, approximately 2.144 pounds of cVOCs were removed from the groundwater by the remedial treatment system in 2008 (see Table 4-4).

Table 4-4 cVOCs Removed from Groundwater by the DHOC Site Remedial Treatment System in 2008

Month	Actual Period	Influent cVOCs (µg/L)	Effluent cVOCs (µg/L)	Removal Efficiency (%)	cVOCs Removed (lbs)
January 2008	12/28/07 to 1/31/08	743.50	0.00	100.00	0.359
February 2008	1/31/08 to 3/3/08	1,820.60	0.00	100.00	0.948
March 2008[1]	3/3/08 to 4/3/08	517.00	0.00	100.00	0.099
April 2008[1]	4/3/08 to 5/3/08	NA	NA	NA	NA
May 2008[1]	5/3/08 to 6/3/08	NA	NA	NA	NA
June 2008[1]	6/3/08 to 7/3/08	NA	NA	NA	NA
July 2008[1]	7/3/08 to 8/3/08	NA	NA	NA	NA
August 2008[1]	8/3/08 to 9/3/08	NA	NA	NA	NA
September 2008[1]	9/3/08 to 10/2/08	324.60	0.00	100.00	0.043
October 2008	10/2/08 to 11/12/08	440.60	12.00	97.28	0.239
November 2008	11/12/08 to 12/3/08	310.90	1.70	99.45	0.119
December 2008	12/3/08 to 1/6/09	605.00	2.60	99.57	0.337
Total		**4762.2**	**210.23**	**99.96**	
Total amount of cVOCs removed from groundwater in 2008					**2.144**

Notes:
[1] The treatment system was shut down on March 11, 2008, for decommissioning of the CATOX unit. The system was restarted on September 18, 2008.

Key:
cVOCs = Chlorinated volatile organic compounds.
µg/L = Micrograms per liter.
lbs = pounds.

4.3 Air Treatment

4.3.1 cVOCs Destroyed by CATOX Operations

The amount of cVOCs removed from the air is estimated based on the influent and effluent analytical results and the total flow processed. The cVOC-laden air is generated by the air stripping process and the SVE system. In 2008, the CATOX was shutdown permanently for decommissioning on March 11, 2008. Based on calculations prepared by EEEPC on the limited operation of the unit from January to March 2008, approximately 7.18 pounds of cVOCs were destroyed by the CATOX treatment system (see Table 4-5).

Table 4-5 cVOCs Destroyed by the DHOC Site CATOX Treatment System in 2008

Month	Actual Period	Influent cVOCs (ppbv)	Effluent cVOCs (ppbv)	Removal Efficiency (%)	cVOCs Removed (lbs)
January 2008	12/28/07 to 1/31/08	743.50	193.3	73.92	3.30
February 2008	1/31/08 to 3/3/08	992.20	298.28	69.94	3.39
March 2008[1]	3/3/08 to 4/3/08	411.00	118.03	71.28	0.49
April 2008[1]	4/3/08 to 5/3/08	NA	NA	NA	NA
May 2008[1]	5/3/08 to 6/3/08	NA	NA	NA	NA
June 2008[1]	6/3/08 to 7/3/08	NA	NA	NA	NA
July 2008[1]	7/3/08 to 8/3/08	NA	NA	NA	NA
August 2008[1]	8/3/08 to 9/3/08	NA	NA	NA	NA
September 2008[1]	9/3/08 to 10/2/08	NA	NA	NA	NA
October 2008[1]	10/2/08 to 11/12/08	NA	NA	NA	NA
November 2008[1]	11/12/08 to 12/3/08	NA	NA	NA	NA
December 2008[1]	12/3/08 to 1/6/09	NA	NA	NA	NA
	Total	**2,146.7**	**609.61**	**71.70**	
	Total pounds of cVOCs removed from air in 2008				**7.18**

Note:
[1] The treatment system was shut down on March 11, 2008, for decommissioning of the CATOX unit. No further treatment operations were performed after March 11, 2008.

Key:
cVOCs = Chlorinated volatile organic compounds.
ppbv = Parts per billion volume.

The total effluent from the CATOX unit met the discharge equivalency permit for each month of 2008 that it was in operation. Table 4-6 presents a summary of the monthly analytical results for the treated effluent and compares them to the original air equivalency permit prepared by Tyree and accepted by NYSDEC.

4.4 Equipment Replacement Program

The remedial treatment system equipment at the DHOC site is inspected on a weekly basis. At this time, an equipment replacement program based on regular time intervals cannot be established due to the lack of sufficient operational time and the apparent reliability of the equipment. However, based on the limited data available, it appears that an occasional adjustment to the system's operation or an occasional replacement of equipment will be required.

Specifically, the groundwater pumps and transducers have an anticipated life expectancy of approximately two to three years based on the harsh groundwater conditions in the area from naturally occurring iron and calcium. Replacement pumps and replacement transducers should, therefore, be kept on hand for quick replacement after failure, or pre-emptive replacement may be appropriate. The compressors and vacuum pumps on the AS/SVE system have been very reliable due to weekly inspections and required maintenance performed. The individual valves and pressure gauges at the interior AS and SVE collection points are evaluated weekly, and these items are repaired as needed with limited spare parts available on site. Valves and gauges on the exterior AS points are evaluated annually and replaced as needed.

The CATOX unit has also been very reliable due to the performance of annual factory preventative maintenance. After 5 years of remedial treatment operations and over 90% uptime operation, the catalyst has come to the end of its usefulness. The CATOX unit was decommissioned in 2008 and replaced with a taller stack to handle the VOC emissions from the air stripping and SVE operations. Future use of the CATOX unit at the DHOC site or another NYSDEC site should include replacing the catalyst before active treatment operations are performed.

The need for any additional adjustments to the system or equipment replacement will require evaluation on a case-by-case basis. Information regarding equipment replacement in 2008 and equipment recommendations are provided in Section 5.

Table 4-6 2008 Monthly Compliance Results for CATOX Effluent Air Emissions, DHOC Site

Permit Contaminants (VOCs)	Maximum SGCs[1] (lbs/hr)	(lbs/hr)											
		01/08[2]	02/08[2]	03/08[2]	04/08	05/08	06/08	07/08	08/08	09/08	10/08	11/08	12/08
1,1,1-Trichloroethane	0.0014106	***0.0000693***	***0.0000787***	***0.0000674***	*CATOX Unit Decommissioned*								
1,1-Dichloroethane	0.0008853	***0.0000187***	***0.0000450***	***0.0000079***									
1,1-Dichloroethene	0.0001651	***0.0000525***	***0.0000656***	***0.0000450***									
Acetone[3]	0.0003301	***0.0000137***	***0.0000225***	***0.0000318***									
Benzene	0.0000063	***0.0000030***	0.0000069	***0.0000032***									
Chloroform	0.0000006	0.0000045	0.0000105	0.0000051									
cis-1,2 Dichloroethene	0.0034515	***0.0003372***	***0.0007868***	***0.0001705***									
Ethylbenzene	0.0002851	***0.0000079***	***0.0000187***	***0.0000084***									
Methylene chloride	0.0005252	***0.0000032***	***0.0001592***	***0.0000052***									
Tetrachloroethene	0.0001305	0.0005058	0.0003185	0.0004309									
Toluene	0.000096	***0.0000034***	***0.0000081***	***0.0000037***									
trans 1,2-Dichloroethene	0.0000005	0.0000206	0.0000097	0.0000081									
Trichloroethane[3]	0.0003902	***0.0000075***	***0.0000116***	0.0012278									
Trichloroethene	0.0004352	0.0004871	***0.0004121***	***0.0003934***									
Vinyl chloride	0.0005102	***0.0001461***	***0.0003185***	***0.0000167***									
Xylene (total)[4]	0.0005552	***0.0001087***	***0.0000562***	***0.0000253***									
Total Emissions	**0.017281**	**0.0017891**	**0.0023286**	**0.0024504**									

Notes:

[1] Based on Equivalency Air Emissions Permit prepared by Tyree and accepted by NYSDEC, May 2002.

[2] Analysis performed by CASI-Rochester using EPA Method TO-15 in 2008.

[3] As 1, 1, 2 Trichloroethane.

[4] Includes o, m, & p xylene.

Key:

CATOX = catalytic oxidation.
lbs/hour = pounds per hour.
SGCs = short-term guideline concentrations.
VOCs = volatile organic compounds.
= Below Analytical Detection Limits
Bold Italics = In compliance

5 Remedial Treatment Equipment Condition and Oversight Activities

5.1 General Status of Treatment Equipment and Oversight

In 2008, OM&M of the DHOC site remedial treatment system was performed on a weekly basis by EEEPC's OM&M subcontractors, Popli. In the event of a major component malfunction at the site, an auto-dialer primary contact alarm alerts the OM&M subcontractor(s) of the problem and a secondary alarm alerts EEEPC. A list of site alarms is provided in Appendix D. The current and updated site contact list, including the names, addresses, phone numbers, and e-mail addresses, are provided in Appendix E.

Monthly reporting on the OM&M work performed on the remedial treatment system is performed by EEEPC. When equipment repairs are required, the OM&M subcontractor reports them to EEEPC, and EEEPC reports them to NYSDEC. Information regarding repairs performed on the remedial treatment system components is provided in the weekly OM&M report submitted to EEEPC and in a monthly report submitted to NYSDEC.

When equipment issues are encountered, they are handled on a case-by-case basis. Major equipment issues are discussed with the NYSDEC project manager, and a corrective action approach is developed. Upon acceptance, the corrective action is initiated. Minor equipment and electronic maintenance, repair, and replacement costs are funded through the contingency task established when the project was initiated.

Analytical support services for groundwater and air analyses for all site and unit requirements are provided by CAS. The analytical frequency matrix is provided in Table 5-1.

Table 5-1 Analytical Frequency Matrix, DHOC Site

	Groundwater	Air	Schedule
Treatment System – Groundwater	X		Monthly
Treatment System (CATOX) – Air		X	Monthly[1]
Groundwater Monitoring Wells Network	X		Two years

Note:
[1] Air monitoring of CATOX emissions has not been performed since the CATOX unit was decommissioned on March 11, 2008, and it is not expected that future monitoring will be performed.

5.2 Remedial Treatment System Equipment

The expected duration of remedial treatment operations at the DHOC site was not established by the FS prepared by LMS & GL in November 1996 or the ROD issued in March 1997. The condition of the operating treatment equipment has been good since startup operations began in September 2002. Major components, including the AS/SVE system, groundwater pumping system, equalization tank, bag filters, blowers, air-stripping unit, and effluent meters, continue to operate at a high rate of efficiency as a result of the weekly monitoring and maintenance program.

The CATOX and groundwater treatment systems have had the most significant maintenance requirements over the last few years. These two active components have been in operation for over five years and are subject to harsh operating and environmental conditions.

The groundwater pumping system, as previously mentioned, consists of two bedrock pumping locations and three shallow groundwater located upgradient and downgradient around the DHOC site. Pump replacement is required when, over time, iron and calcium accumulate on the pump's housing and impeller or in the conveyance lines such that the units can no longer pump. Either the motor bearings fail or the pump impeller is no longer operable. Groundwater pumping operations can be monitored on a weekly and monthly basis from the influent meters located in the DHOC site treatment trailer.

The groundwater pumping system remains in good condition. Annual inspection of each groundwater pumping well and all required repairs were performed by the OM&M subcontractors. If, based on historical data, a well was not pumping at a reasonable rate, the pump was extracted from the well and inspected. Based on the results of the inspection, either the pump was replaced, the transducer was replaced, or the conveyance lines were rodded and cleaned. When a groundwater well is determined to be no longer functional as a result of clogged screens or the well running dry, a decision regarding the well will be made after thoroughly discussing the options with the NYSDEC project manager.

In 2008, the following system operational issues resulted in treatment system downtime:

- January 2008 (123 hours downtime). Shutdown of system due to high-level alarms from the float switches in the equalization tank. New float switches procured and installed by subcontractor.

- February 2008 (143 hours downtime). Due to a problematically high temperature in the CATOX, the unit shut down on multiple occasions. The thermal couples were inspected and cleaned and the unit was returned to service.

In 2008, the following repair and replacement work was performed on the DHOC site remedial treatment system:

- March 11 to September 18, 2008 (4,471 hours downtime). CATOX unit shut down for decommissioning and new emissions stack installation.
- September 2008: cleaning of air stripper unit and piping to maintain groundwater treatment performance once the treatment system was re-energized.
- October 2008: replacement of the high- and low-level float switches on the air stripping unit.
- December 2008: repair to the sequestering agent pulse pump.

5.2.1 Groundwater Monitoring Well Network

During the last long-term groundwater sampling performed in August 2007, EEEPC conducted an inspection of all shallow and bedrock groundwater monitoring wells. The purpose of these inspections was to determine and document the physical condition of the wells and to identify maintenance actions required to keep the groundwater monitoring well network operational. Based on the last inspection in 2007, it was determined that the groundwater monitoring wells were in good condition, but some of the shallow wells were dry (see Table 5-2). The results of the field inspections are documented in Appendix F in the format presented in Table 3-2 of the SMP. Monitoring well maintenance issues will be addressed by the OM&M subcontractor on a case-by-case basis.

5.2.2 Site Security Issue

A break-in at the treatment compound was discovered by Popli on May 15, 2008. Based on visual inspection, vandals gained access to the compound by forcibly rotating the latch mechanism at the fence enclosure entry gate. A police report was filed with the City of Rochester Police Department.

Attempts to gain access to the interior of the treatment enclosure were unsuccessful; however, there was minor damage to the operations room door handle, an exterior telephone line, and the fresh air inlet housing for the air stripper blower, and one of the exhaust fans and an exterior louver were extensively damaged.

During the downtime when the CATOX unit was being decommissioned, all items were repaired and improved security was provided (i.e., a heavier latch on the entry gate).

Table 5-2 Summary of August 2007 Well Inspection, DHOC Site

Well No.	Date Inspected	PVC Well Casing ID (inches)	Inspection Observations
CHI-1	8/13/07	2	Dry, soft bottom
CHI-6	8/13/07	2	Dry, soft bottom
MW-1S	8/13/07	2	– –

Table 5-2 Summary of August 2007 Well Inspection, DHOC Site

Well No.	Date Inspected	PVC Well Casing ID (inches)	Inspection Observations
MW-2S	8/13/07	2	Soft bottom
MW-3S	8/13/07	2	Soft bottom
MW-4S	8/13/07	2	Decommissioned
MW-7S	8/13/07	2	Decommissioned
MW-9S	8/13/07	2	Soft bottom
MW-11S	8/13/07	2	Decommissioned
MW-12S	8/13/07	2	– –
MW-13S	8/13/07	2	Soft bottom
MW-14S	8/13/07	2	Soft bottom
MW-1R	8/13/07	4	Decommissioned
MW-2R	8/13/07	4	Dry, soft bottom
MW-3R	8/13/07	2	Soft bottom
MW-4R	8/13/07	4	Decommissioned
MW-5R	8/13/07	4	– –
MW-7R	8/13/07	4	Decommissioned
MW-8R	8/13/07	4	Soft bottom
MW-10R	8/13/07	4	Soft bottom
MW-11R	8/13/07	4	Decommissioned
MW-12R	8/13/07	4	Soft bottom
MW-14R	8/13/07	4	Soft bottom
MW-15R	8/13/07	4	– –
MW-16R	8/13/07	4	Soft bottom

Key:
ID = Inner diameter.
MW = Monitoring well.
PVC = Polyvinyl chloride.

6 Actions to Support Eventual Site Closure

6.1 Overall Project Goals

The overall project goals are to reduce the concentrations of cVOCs in the soils beneath the capped or paved area north of the DHOC buildings on Anderson Avenue and reduce the concentrations of cVOCs in the contaminated groundwater plume to below the groundwater standards established by NYSDEC. Attaining these goals will allow for the eventual closure of the bedrock groundwater recovery system and overall remedial treatment system. Suggested future actions or modifications that would improve individual operations and shorten the time required to attain the target cVOC concentrations are presented below.

6.2 Suggested DHOC Treatment System Modifications to Support Site Closure

While in operation in 2008, the groundwater treatment system operated efficiently. Based on a review of the reported analytical data for the long-term groundwater monitoring program from January 1997, September 1998, May 2004, and August 2007, cVOC concentrations have decreased with time. The next evaluation of the site groundwater will occur in May 2009.

More specifically, polycyclic aromatic hydrocarbons (PAHs) are no longer present at concentrations exceeding NYSDEC's groundwater standards. BTEX (benzene, toluene, ethyl benzene, and xylene) concentrations have declined significantly and are no longer detected in some wells where they were previously present. Only benzene (in MW-5R) and ethylbenzene (in MW-8R) were present at concentrations above groundwater standards.

In 2007, the following seven cVOCs were detected in overburden groundwater samples at levels that exceed the NYSDEC Class GA groundwater standards: TCA, 1,1-DCA, 1,4-DCB, cis-1,2-DCE, PCE, TCE, and VC. Similarly, the following seven cVOCs were detected in bedrock groundwater samples at levels that exceed the NYSDEC Class GA groundwater standards: TCA, 1,1-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, TCE, and VC. The highest concentrations of cVOCs and BTEX continue to be detected in the bedrock groundwater.

Based on the observed changes in the distribution of the VOC contamination beneath the site, the groundwater treatment system, in conjunction with natural processes, appears to be effective at reducing overall contaminant concentrations.

The results of the long-term monitoring program indicate that the contaminant plume is migrating to the northeast of the DHOC site, toward the CSX Transportation property. While contaminant capture continues at existing individual groundwater pumping locations, adding or relocating some groundwater pumping locations to maximize the capture of higher-concentration contaminants should be considered.

7 Annual Remedial Action Costs

The approximate 2008 costs of OM&M of the remedial treatment system at the DHOC site, including equipment in the treatment trailer, the groundwater pumping system, long-term groundwater monitoring network, EEEPC oversight, subcontracted services, replacement equipment, and utilities are presented in Table 7-1.

The total 2008 cost for operating the remedial treatment program at the DHOC site was $167,200.27.

Table 7-1 2008 Remedial Action Costs, DHOC Site

Description	WA DC14
Sub – OM&M Services	$62,938.77
Sub – Analytical Services	$2,760.00
Utilities – Electric	$4,961.77
Utilities – Gas	$2,539.07
Utilities – Telephone	$334.35
Replacement Equipment	$2,100.00
Long-term Monitoring Program	$1,525.00
EEEPC Admin, Management, and Reporting	$90,041.31
2008 Grand Total	**$167,200.27**

8 Department or Local Public Reporting

8.1 NYSDEC Fact Sheet

The most recent NYSDEC Fact Sheet was issued by NYSDEC in June 2003. A copy of the fact sheet is provided as Appendix H.

8.2 Local Public Reporting

No local public reporting of the site or remedial site operations was noted in 2008. The local reporting newspaper in the city of Rochester, New York, is the *Democrat and Chronicle*.

9 References

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Ecology and Environment Engineering, P.C. (EEEPC). 2003-2008. Monthly Operational, Maintenance, and Monitoring (OM&M) Reports for the Davis-Howland Oil Corporation Site.

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_____. 2007a. Division of Environmental Remediation. Internal Guidance Procedure: Period Review of Site Management Activities – IGP-8. August 2007.

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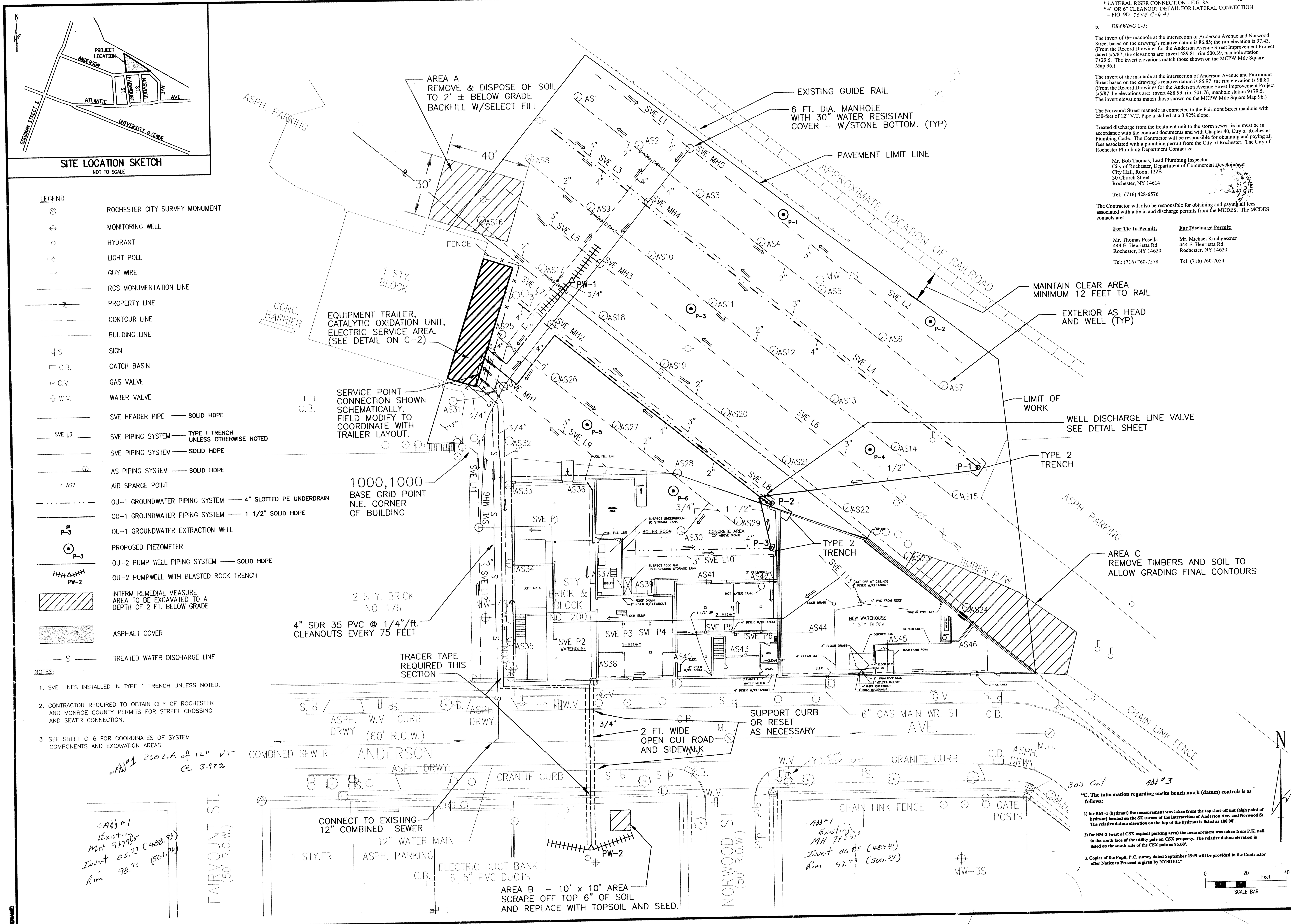
The Tyree Corporation, Ltd. (Tyree). 2002. Davis Howland Oil Corporation Site, Construction Contract No. D004181, CATOX Air Emissions Analysis and Permit Application. May 2002.

A AS/SVE Site Plan



* LATERAL RISER CONNECTION – FIG. 8A *Add #1*
* 4" OR 6" CLEANOUT DETAIL FOR LATERAL CONNECTION – FIG. 9D *(SEE C-6A)*

b. *DRAWING C-1*:

The invert of the manhole at the intersection of Anderson Avenue and Norwood Street based on the drawing's relative datum is 86.85; the rim elevation is 97.43. (From the Record Drawings for the Anderson Avenue Street Improvement Project dated 5/5/87, the elevations are: invert 489.81, rim 500.39, manhole station 7+29.5. The invert elevations match those shown on the MCPW Mile Square Map 96.)

The invert of the manhole at the intersection of Anderson Avenue and Fairmount Street based on the drawing's relative datum is 85.97; the rim elevation is 98.80. (From the Record Drawings for the Anderson Avenue Street Improvement Project 5/5/87 the elevations are: invert 488.93, rim 501.76, manhole station 9+79.5. The invert elevations match those shown on the MCPW Mile Square Map 96.)

The Norwood Street manhole is connected to the Fairmont Street manhole with 250-feet of 12" V.T. Pipe installed at a 3.92% slope.

Treated discharge from the treatment unit to the storm sewer tie in must be in accordance with the contract documents and with Chapter 40, City of Rochester Plumbing Code. The Contractor will be responsible for obtaining and paying all fees associated with a plumbing permit from the City of Rochester. The City of Rochester Plumbing Department Contact is:

Mr. Bob Thomas, Lead Plumbing Inspector
City of Rochester, Department of Commercial Development
City Hall, Room 122B
30 Church Street
Rochester, NY 14614

Tel: (716) 428-6576

The Contractor will also be responsible for obtaining and paying all fees associated with a tie in and discharge permits from the MCDES. The MCDES contacts are:

For Tie-In Permit:	For Discharge Permit:
Mr. Thomas Posella 444 E. Henrietta Rd. Rochester, NY 14620 Tel: (716) 760-7578	Mr. Michael Kirchgessner 444 E. Henrietta Rd. Rochester, NY 14620 Tel: (716) 760-7054

303 Con't *Add #3*

"C. The information regarding onsite bench mark (datum) controls is as follows:

1) for BM -1 (hydrant) the measurement was taken from the top shut-off nut (high point of hydrant) located on the SE corner of the intersection of Anderson Ave. and Norwood St. The relative datum elevation on the top of the hydrant is listed as 100.00'.

2) for BM-2 (west of CSX asphalt parking area) the measurement was taken from P.K. nail in the south face of the utility pole on CSX property. The relative datum elevation is listed on the south side of the CSX pole as 95.60'.

3. Copies of the Popli, P.C. survey dated September 1999 will be provided to the Contractor after Notice to Proceed is given by NYSDEC."

REVISIONS			
NO:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: DCA
DRAWN BY: DSS
CHECKED BY:
APPROVED BY:

© 2000
ENSR
CONSULTING • ENGINEERING • REMEDIATION
ENGINEERING NEW YORK
360 LINDEN OAKS ROCHESTER, NEW YORK 14625
PHONE: (716) 381-22[illegible] FAX: (716) 381-5392
[illegible] STATE DEPARTMENT [illegible] ENVIRONMENTAL CONSERVATION
[illegible]28-088 CONTRACT NO. D004181

AS / SVE SITE PLAN
DAVIS-HOWLAND OIL CORP.
REMEDIATION PROJECT
200 ANDERSON AVENUE
ROCHESTER, NEW YORK

SCALE: 1" = 20'
DATE: 8/2000
PROJECT NUMBER:

DRAWING NUMBER: C-1

SHEET NUMBER: 986265C1.DWG

B County of Monroe Discharge Permit 2007-2010

COUNTY OF MONROE
SEWER USE PERMIT RENEWAL

Check # 124524

Environmental Remediation

Firm Name: NYSDEC Div. of ~~Remedial Const.~~
200 Anderson Avenue

Permit Number: 864
Fee: $ 75.00
Expires: 5-31-2010

Mailing Addr: 625 Broadway, 12th Floor
Albany, NY 12233-7013

W/C Expire: 1-1-2008
District No: 8520

Business Type: Groundwater Remediation

Has there been any revision to the plant sewer system or any change in industrial wastes discharged to the public sewer in the past twelve months

Yes: __ No: X If yes, please explain in a separate letter.

Average monthly consumption for the past twelve (12) months:

Water Account No.(s) NONE (cu ft/gal) —

In consideration of the granting of this renewal permit the undersigned agrees to comply with all the requirements in the Initial Permit as listed under II.

Name of person to be contacted for inspection & sampling purposes:

Type or Print: MICHAEL STEFFAN Phone No: (716) 684-8060

YOUR PERMIT MUST BE SIGNED AS FOLLOWS:

1. For a corporation: by a responsible corporate officer. A corporate officer means:
   (a) A president, secretary, treasurer or vice - president of the corporation in charge of a principal business function, or any other person who performs similar policy - or decision - making functions for the corporation: or
   (b) The manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second - quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. By a duly authorized representative of the individual designated in items (1) or (2) above if:

   (a) The authorization is made in writing by the individual described in items (1) or (2);
   (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the Industrial Discharge originates such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; (A duly authorized representative may thus be either a named individual or any individual occupying named position); and
   (c) The written authorization is submitted to this Department.

Print or Type: WILLIAM B. WELLING Phone No: (518) 402-9638

Signature: William B. Welling Date: 4/12/07

Title: Engineering Geologist 2 NYSDEC

Renewal Approved: John E Graham PE Date: 5/21/2007
(Director of Pure Waters)

COUNTY OF MONROE
SEWER USE PERMIT ENCLOSURE

NYSDEC Division of Environmental Remediation
Davis Howland Oil Co. Site (Rochester ,NY)
625 Broadway, 12th Floor
Albany, NY 12233-7013

PERMIT NUMBER: 864
DISTRICT NUMBER: 8520

TYPE OF BUSINESS: Groundwater Remediation
SIC CODE: N/A
SAMPLE POINT: Sample Port – air stripper

REQUIRED MONITORING & EFFLUENT LIMITS

SELF-MONITORING FREQUENCY: **Monthly**

SAMPLING PROTOCOL: Sampling and analysis shall be performed in accordance with the techniques prescribed in 40CFR part 136 and amendments thereto. In the absence of 40 CFR Part 136 testing methodology, a New York State Department of Health, approved method is acceptable. A grab sample, collected from the above noted sample point shall be analyzed for the following:

Parameter	**Limit**
pH	5.0-12.0
acetone	action level (monitor only)
Total Petroleum Hydrocarbons	100 ppm

---

*The analytical summation of this group shall not exceed 2.13 ppm.
purgeable halocarbons
purgeable aromatics
acid extractables
base neutrals

REQUIRED MONITORING & EFFLUENT LIMITS

SELF-MONITORING FREQUENCY: **Semi-Annual**

SAMPLING PROTOCOL: Sampling and analysis shall be performed in accordance with the techniques prescribed in 40CFR part 136 and amendments thereto. In the absence of 40 CFR Part 136 testing methodology, a New York State Department of Health, approved method is acceptable. A grab sample, collected from the above noted sample point shall be analyzed for the following:

Parameter	**Limit**
Pesticides	2.13ppm

---

*The analytical summation of this group shall not exceed 2.13 ppm. This includes all or a portion of this list for any one monitoring period.

purgeable halocarbons
purgeable aromatics
acid extractables
base neutrals
pesticides

SPECIAL CONDITIONS:

1. All groundwater must be treated regardless of the influent concentrations.
2. Monthly flow summaries shall be submitted for billing purposes. It is imperative these summaries are submitted in a timely manner.
3. Action Levels are levels at which Monroe County re-evaluates discharge parameters.

5-22-2007

TERMS AND CONDITIONS

GENERAL REQUIREMENTS:

A. The permittee agrees to accept and abide by all provisions of the Sewer Use Law of Monroe County and of all pertinent rules or regulations now in force or shall be adopted in the future.

B.1 In addition to the parameters/limits outlined, the total facility discharge shall meet all other concentration values as described in Article II, Section 10e of the Monroe County Pure Waters Districts, Rules and Regulations-Sewer Use Law of the County of Monroe.

B.2 Included in Article II, Section 10e, is the definition of "Normal Sewage". "Normal Sewage" may be discharged to the sewer system in excess of the concentrations outlined in the Joint Rules and Regulations, however, the facility will be subject to the imposition of a sewer surcharge and possible self monitoring requirements as a result. Surcharging procedures are outlined in Article X of the MCSUL.

B.3. Regulatory sampling for analytes not specified under "required monitoring" shall be conducted by the Industrial Waste Section at a minimum frequency of once every three (3) years.

C. This permit is not assignable or transferable. The permit is issued to a specific user and location.

D. Per Article VIII, Section 8.11 of the MCSUL, a violation by the permittee of the permit conditions may be cause for revocation or suspension of the permit after a Hearing by the Administrative Board, or if the violation is found to be within the emergency powers of the Director under Sections 4.5 or 5.5. The revocation is immediate upon receipt of notice to the Industrial User, however a Hearing shall be held as soon as possible.

E. As provided under Article VIII, Section 8.1, the Director and his duly authorized representatives shall gain entry on to private lands by permission or duly issued warrant for the purpose of inspection, observation, measurement sampling and testing in accordance with the provisions of this law and its implementing Rules and Regulations. The Director or his representatives shall not have authority to inquire into any processes used in any industrial operation beyond that information having a direct bearing on the kind and source of discharge to the sewers or the on-site facilities for waste treatment. While performing the necessary work on private lands, referred to above, the Director or his duly authorized representative shall observe all safety rules applicable to the premises as established by the owner and/or occupant.

SPECIAL CONDITION:

A. All required monitoring shall be analyzed by a New York State Department of Health certified laboratory. All sampling and analysis must be performed in accordance with Title 40 Code of Federal Regulations Part 136.

B. The pH range for this permit is 5.0 – 12.0 su. This range is specifically permitted by the Director as allowed under Article IV, Section 4.2 of the Monroe County Sewer Use Law. PH must be analyzed immediately.

C. The summation of all Toxic Organic Compounds as defined in the Code of Federal Regulations (40 CFR part 433.11(e)) with detection levels above 10 ug/l shall not exceed 2.13 mg/l as imposed by the Director under Article IV, Section 4.3 of the Monroe County Sewer Use Law unless Federal limits are more stringent under which the Federal limits will apply.

D. Petroleum Oil and Grease shall not exceed 100 mg/l as imposed by the Director under Article IV, Section 4.3 of the Monroe County Sewer Use Law.

E. Discharges containing Phenolic compounds shall not exceed 2.13 mg/l as imposed by the Director under Article IV, Section 4.3 of the Monroe County Sewer Use Law. These limits are applicable unless Federal limits are more stringent under which Federal limits will apply.

REPORTING REQUIREMENTS:

A. Per the requirements of 40 CFR, Part 403.5, Significant Industrial Users must submit Periodic Reports on Continued Compliance to the Control Authority on a biannual (2/yr) basis. Deadline dates of submission for these reports will be August 15 and February 15, respectively.

B. Discharge monitoring reports shall be submitted to the Control Authority upon receipt from the permittee's testing laboratory.

C. Any Industrial User subject to the reporting requirements of the General Pretreatment Regulations shall maintain records of all information resulting from any monitoring activities required by 403.12 for a minimum of three (3) years. These records shall be available for inspection and copying by the Control Authority. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Industrial User or the operation of the POTW Pretreatment Program or when requested by the Director or the Regional Administrator.

NOTIFICATION REQUIREMENTS:

A. Pursuant to Article VIII, Section 8.4K, the permittee shall notify the Department within 24 hours of becoming aware that discharge monitoring is in violation of any permit limit. This notification shall be directed to the Industrial Waste Section at 585-753-7600 Option 4. The User shall also repeat sampling and analysis for the analyte in non-compliance and submit the results of the repeat analysis to Monroe County within 30 days after becoming aware of the violation.

B. Notify the Director in writing when considering a revision to the plant sewer system or any change in industrial waste discharges to the public sewers. The later encompasses either an increase or decrease in average daily volume or strength of waste or new wastes.

C. Notify the Director immediately of any accident, negligence, breakdown of pretreatment equipment or other occurrence that occasions discharge to the public sewer of any waste or process waters not covered by this permit.

SLUG CONTROL

An Industrial User shall be required to report any/all slug discharges to the Monroe County sewer system by calling 585-753-7600 option 4. For the purpose of this permit enclosure, a slug discharge shall be identified as any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge. Following a review process, the Control Authority (Monroe County) shall determine the applicability of a facility slug control plan. If the Control Authority decides that a slug control plan is needed, the plan shall contain, at a minimum, the following elements:

1. Description of discharge practices, including non-routine batch discharges.
2. Description of stored chemicals.
3. Procedures for immediately notifying the Control Authority of slug discharges, including any discharge that would violate a prohibition under 40 CFR 403.5 (b), with procedures for follow up written notification within five (5) days.
4. If necessary, procedures to prevent adverse impact from accidental spills, including, but not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents) and/or measures and equipment for emergency purposes.

SNC DEFINITION:

In accordance with 40 CFR 403.8 (f) (vii), an Industrial User is insignificant noncompliance (SNC) if its violations meet one or more of the following criteria:

A. Chronic violations of wastewater discharge limits – defined as those which 66% or more of all the measurements taken during a six-month period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter. This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus (ref. Article X – Monroe County Sewer Use Law).

B. Technical review criteria (TRC) violations – defined as those in which 33% or more of all the measurements for each pollutant parameter taken during a six month period equal or exceed the product of the daily maximum limit or the average limit times the applicable TRC. This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus (ref. Article X – Monroe County Sewer Use Law).

C. Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass-through (including endangering the health or POTW personnel or the general public).

D. Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or the environment or has resulted in the POTW's exercise of its emergency authority under paragraph (t)(1)(vi)(8) of 40 CFR part 403 to prevent such a discharge.

E. Failure to meet, within 90 days after the scheduled date, a compliance schedule milestone contained in a local control mechanism or enforcement order, for starting construction, completing construction or attaining final compliance.

F. Failure to provide, within 30 days after the due date, required reports such as BMRs, 90 day compliance reports, period reports on continued compliance.

G. Failure to accurately report noncompliance.

H. Any other violation or group of violations that the Control Authority determines will adversely affect the operation and implementation of the local Pretreatment Program.

PENALTIES

Should the facility be considered in Significant Non-Compliance (SNC), based on the above mentioned criteria, the minimum enforcement response by Monroe County will be the publication of the company name in the Gannett Rochester newspaper. The company will be published as an Industrial User in Significant Non-Compliance (SNC). Fines and criminal penalties may follow this publication (ref. Article XII – Monroe County Sewer Use Law).

Nothing in this permit shall be construed to relieve the permittees from civil/criminal penalties for noncompliance under Article XII, Section 12.1(D) of the Sewer Use Law of the County of Monroe. Article XII, Section 12.1(D) provides that any person who violates a permit condition is subject to a civil penalty not to exceed $10,000 for any one case and an additional penalty not to exceed $10,000 for each day of continued violation.

C CATOX Air Equivalency Permit and Approvals

MEMORANDUM

TO: Dave Chiusano, Construction Services

FROM: Jim Harrington, Technology Section

SUBJECT: Air Emissions from Davis Howland Oil Company site remediation

DATE: May 28, 2002

I have completed review of the revised calculations (May 24, 2002) presented by Uriel Oko for the Davis Howland site remediation. These calculations relate to the potential hydrogen chloride emissions from the catalytic oxidizer that will be installed on the exhaust from the air stripper and soil vapor extraction systems. The revised calculations have addressed my previous comments and generally demonstrate that based on the design loadings, the system will comply with the applicable air regulations. The calculations do predict a minor exceedance (119% of the AGC) of the level for HCl using a the very conservative screen one approach. It appears that this exceedance is onsite and I am confident that refined modeling would show that the predicted value is a significant overestimate. Therefore I am recommending that you approve this submission and allow the project to move forward. However, the levels of contaminants extracted from the remediation systems should be monitored closely at the beginning of operation to ensure that the design levels are not greatly exceeded. If those levels are greatly exceeded, the air impacts should be reevaluated. If there are any questions, please do not hesitate to contact me.

The Tyree Organization

AirGuide 1 Study

Davis-Howland Oil Corporation Site

Site Number 8-28-088

City of Rochester

Monroe County, New York

Presented to

Mr. J. Harrington, NYSDEC

by

Mr. P. Holloway, The Tyree Organization

and

Uriel Oko, P.E., Ph.D.

May 24, 2002

Post-it® Fax Note 7671	Date 5/24/02	# of pages ▶ 11
To Mike Stoffan	From Dave Chiusano	
Co./Dept.	Co. NYSDEC	
Phone #	Phone # (518) 402-9812	
Fax # (716) 684-0844	Fax #	

Davis Howland Oil Corporation Site
New York State Department of Conservation Site Number 8-28-088

Uriel M. Oko, Ph.D., P.E.
April 25, 2002

Stack Gas Calculations

Vacuum Blower Output, Maximum Hydrocarbon Concentration

		Constants Unsed for Calculations:					
Gas Flowrate - cfm	220				Mol wt HCl	36.5	
Pressure - inches of water	35	System Pressu	15.964641	psia	g/lb	453.59	
Temperature - Fahrenheit	68	System Temp.	592	Degrees R			

Compound (Ref. 1)	Formula Weight	Gas Concentration ug/m^3	Gas Concentration lb moles/ft^3	Into Catalytic Oxidizer g/min of Contaminant Vol*Conc	Out of Catalytic Oxidizer g/min Contaminant Exhaust	Stack lb/hr emissions Exhaust	Stack lb/yr emissions Exhaust	Hydrochloric Acid lbs/hr	Hydrochloric Acid lbs/yr
								0	0
1,1,1 Trichloroethane	133	220	9.99113E-11	0.001196844	1.19684E-05	1.5832E-06	0.0138685	0.000130343	1.141805364
1,2,4 Trimethyl Benzene	120	600	3.02005E-10	0.003264121	3.26412E-05	4.3177E-06	0.03782319	0.000393992	3.451366213
1,3,5 Trimethyl Benzene	120	240	1.20802E-10	0.001305649	1.30565E-05	1.7271E-06	0.01512928	0.000157597	1.380546485
4 Isopropyl Toluene	135	31	1.38698E-11	0.000168646	1.68646E-06	2.2308E-07	0.0019542		
Benzene	78.11	76	5.87693E-11	0.000413455	4.13455E-06	5.4691E-07	0.00479094		
c-1,2 Dichloroethene	98	130	8.01237E-11	0.000707226	7.07226E-06	9.3551E-07	0.00819502	6.96856E-05	0.610445725
Etyl Benzene	106	340	1.93739E-10	0.001849669	1.84967E-05	2.4467E-06	0.02143314		
Iso Propyl Benzene	121	65	3.24468E-11	0.000353613	3.53613E-06	4.6775E-07	0.00409751		
Methylene Chloride	50.5	10	1.19606E-11	5.4402E-05	5.4402E-07	7.1962E-08	0.00063039	5.20121E-06	0.04556259
Naphthalene	128	19	8.96576E-12	0.000103364	1.03364E-06	1.3673E-07	0.00119773		
n-Butyl Benzene	135	19	8.43837E-12	0.000103364	1.03364E-06	1.3673E-07	0.00119773		
n-Propyl Benzene	121	100	4.99181E-11	0.00054402	5.4402E-06	7.1962E-07	0.00630387		
Sec Butyl Benzene	136	42	1.86532E-11	0.000228488	2.28488E-06	3.0224E-07	0.00264762		
Tetrachloroethenen	168	970	3.48743E-10	0.005276996	5.277E-05	6.9803E-06	0.06114749	0.000606622	5.314008296
Toluene	92.13	1200	7.86727E-10	0.006528243	6.52824E-05	8.6354E-06	0.07564638		
Trichloroethene	131	30	1.38323E-11	0.000163206	1.63206E-06	2.1589E-07	0.00189116	1.80454E-05	0.158077842
Xylene	106	1300	7.40766E-10	0.007072263	7.07226E-05	9.3551E-06	0.08195025		
		5392		0.02933357	0.000293336	3.8802E-05	0.33990441	0.001381485	12.10181251
Total									

(1) Ref: ENSR Engineering Report on Contract No. D004181, September 2000, Table 7

Davis Howland Oil Corporation Site
New York State Department of Conservation Site Number 8-28-088

Average Concentration Water to Stipper then to Stack

Volume Flowrate - gpm 30
Temperature - Fahrenheit 68

Compound (Ref. 2)	Cas Number	Formula Weight	Water Concentration ug/l	Into Catalytic Oxidizer g/min of Contaminant Vol*Conc	Out of Catalytic Oxidizer - into Stack lbs/hr of Contaminant	Stack Hydrogen Chloride emissions Exhaust lbs/hr	Stack Hydrogen Chloride emissions Exhaust lbs/yr
Hydrogen Chloride	07647-01-0	36.5	0	0			
1,1,1 Trichloroethane	00079-00-5	133	1,591	0.18065805	0.000238755	0.019477929	170.63
1-1 Dichloroethane	00075-00-3	100	910	0.1033305	0.00013656	0.009878122	86.53
1-1 Dichloroethene		99	212	0.0240726	3.1814E-05	0.002324522	20.36
Acetone	00067-64-1	58	391	0.04439805	5.86758E-05		
Benzene	00071-43-2	78	27	0.00306585	4.05178E-06		
Chloroform	00067-66-3	119	4	0.0004542	6.00264E-07	5.47315E-05	0.48
cis 1,2 Dichloroethane		98	13,000	1.47615	0.001950859	0.143995941	1,261.40
1,2 Dichloroethene (Total)		99	5,998	0.6810729	0.000900096	0.065766426	576.11
cis 1,2 Dichloroethene		98	7,643	0.86786265	0.001146955	0.084658536	741.61
Ethylbenzene	00100-41-4	106	791	0.08981805	0.000118702		
Methylene Chloride	00071-55-6	51	2,000	0.2271	0.000300132	0.021284468	186.45
Tetrachloroethene	00127-18-4	166	436	0.0495078	6.54288E-05	0.005634303	49.36
Toluene	00108-88-3	92	241	0.02736555	3.61659E-05		
trans 1,2 Dichloroethene		99	3	0.00034065	4.50198E-07		
Trichloroethane		132	1,513	0.17180115	0.00022705	0.018663334	163.49
Trichloroethene		131	271	0.03077205	4.06679E-05	0.003368389	29.51
Vinyl Chloride	00075-01-4	62	1,089	0.12365595	0.000163422	0.00953321	83.51
Xylenes (total)	01330-20-7	106	1,024	0.1162752	0.000153668		
Total			37,144	4.2177012	0.005574054	0.38463991	3,369.45
Isopropyl Alcohol			280	0.031794	4.20185E-05		

(2) Ref: ENSR Engineering Report on Contract No. D004181, September 2000, Table 5

Davis Howland Oil Corporation Site
New York State Department of Conservation Site Number 8-28-088

Maximum Concentration Water to Stipper then to Stack

Volume Flowrate - gpm: 30
Temperature - Fahrenheit: 68

Compound (Ref. 2)	Cas Number	Formula Weight	Water Concentration ug/l	Into Catalytic Oxidizer g/min of Contaminant Vol*Conc	Out of Catalytic Oxidizer - Into Stack lbs/hr of Contaminant	Stack Hydrogen Chloride emissions Exhaust lbs/hr	Stack Hydrogen Chloride emissions Exhaust lbs/yr
Hydrogen Chloride	07647-01-0	36.5	0	0			
1,1,1 Trichloroethane	00079-00-5	133	9,400	1.06737	0.001410621	0.115080157	1,008.10
1-1 Dichloroethane	00075-00-3	100	5,900	0.669945	0.00088539	0.064044964	561.03
1-1 Dichloroethene		99	1,100	0.124905	0.000165073	0.012061198	105.66
Acetone	00067-64-1	58	2,200	0.24981	0.000330145		
Benzene	00071-43-2	78	42	0.0047691	6.30278E-06		
Chlorofom	00067-66-3	119	4	0.0004542	6.00264E-07	5.47315E-05	0.48
cis 1,2 Dichloroethane		98	23,000	2.61165	0.00345152	0.254762049	2,231.72
1,2 Dichloroethene (Total)		99	54,000	6.1317	0.008103568	0.592095196	5,186.75
cis 1,2 Dichloroethene		98	51,000	5.79105	0.00765337	0.564907151	4,948.59
Ethylbenzene	00100-41-4	106	1,900	0.215745	0.000285126		
Methylene Chloride	00071-55-6	51	3,500	0.397425	0.000525231	0.037247819	326.29
Tetrachloroethene	00127-18-4	168	870	0.0987885	0.000130557	0.01124276	98.49
Toluene	00108-88-3	92	640	0.072672	9.60423E-05		
trans 1,2 Dichloroethene		99	3	0.00034065	4.5019BE-07		
Trichloroethane		132	2,600	0.29523	0.000390172	0.032071823	280.95
Trichloroethene		131	2,900	0.329295	0.000435192	0.03604549	315.76
Vinyl Chloride	00075-01-4	62	3,400	0.38607	0.000510225	0.029763925	260.73
Xylenes (total)	01330-20-7	106	3,700	0.420135	0.000555244		
Total			166,159	18.86735445	0.02493483	1.749377263	15,324.54
Isopropyl Alcohol			1,500	0.170325	0.000225099		

(2) Ref: ENSR Engineering Report on Contract No. D004181, September 2000, Table 5

LOC FAC	EP	DATE	HA/hA	hs	D	T	V	Q	Dpl/D	BW/S	BL	#
				feet	feet	in.	degF	fps	acfm	feet	feet	feet	
CAS NUMBER		EMISSIONS (lb/hr)						EMISSIONS (lb/year)			Rat	%Ctrl	

TYREE 201 ANDERSON AVE.

TC: 0 SC: 0100 APP: PC UTME: 10000. UTMN: 10000. BL DIR: 180.0

100	TYRE0100	523	2	0.	20.	8.	400.	11.34	234.00	25.	250.	130.	12
07647-01-0		0.385000000000000							3370.000000000000000			0.0000	
00079-00-5		0.000510000000000							4.400000000000000			0.0000	
00075-00-3		0.004200000000000							36.450000000000000			0.0000	
00067-64-1		0.000058670000000							0.510000000000000			0.0000	
00071-43-2		0.000004050000000							0.035000000000000			0.0000	
00067-66-3		0.000054700000000							0.480000000000000			0.0000	
00100-41-4		0.000118700000000							1.040000000000000			0.0000	
00071-55-6		0.000300000000000							2.620000000000000			0.0000	
00127-18-4		0.000065400000000							0.600000000000000			0.0000	
00108-88-3		0.000036200000000							0.320000000000000			0.0000	
00075-01-4		0.000163000000000							1.420000000000000			0.0000	
01330-20-7		0.000154000000000							1.350000000000000			0.0000	

TOTAL:	0.390664720000000	3419.224999999999900	(12)

END OF FILE: Type "X" and Press Enter to EXIT :

CONTAMINANT ASSESSMENT SUMMARY OF AIRGUIDE 1 ANALYSIS 5/23/ 2
Page 1

		SHORT-TERM	CAVITY	POINT or AREA SOURCE	
CAS NUMBER	AGC ug/m3	MAXIMUM (Cav,Pt,Area) % OF SGC	ACTUAL ANNUAL % OF AGC	POTENTIAL ANNUAL % OF AGC	ACTUAL ANNUAL % OF AGC
**********	**********	**********	**********	**********	**********
00067-64-1	28000.00000000	0.0001	0.0000	0.0000	0.0000
00067-66-3	0.04300000	0.1054	0.0000	7.8952	7.9178
00071-43-2	0.13000000	0.0009	0.0000	0.1934	0.1910
00071-55-6	1000.00000000	0.0013	0.0000	0.0019	0.0019
00075-00-3	10000.00000000	0.0000	0.0000	0.0026	0.0026
00075-01-4	0.02000000	0.0003	0.0000	50.5824	50.3607
00079-00-5	0.06300000	0.0000	0.0000	50.2425	49.5388
00100-41-4	1000.00000000	0.0006	0.0000	0.0007	0.0007
00108-88-3	400.00000000	0.0003	0.0000	0.0006	0.0006
00127-18-4	1.00000000	0.0189	0.0000	0.4059	0.4256
01330-20-7	700.00000000	0.0104	0.0000	0.0014	0.0014
07647-01-0	20.00000000	742.0503	0.0000	119.4738	119.5181
SUMMARY TOTALS		742.1884	0.0000	228.8002	227.9592

END OF FILE: Type "X" and Press Enter to EXIT :

CONTAMINANT ASSESSMENT SUMMARY OF AIRGUIDE 1 ANALYSIS 5/23/ 2
Page 1

		SHORT-TERM	CAVITY	POINT or AREA SOURCE	
CAS NUMBER	AGC ug/m3	MAXIMUM (Cav,Pt,Area) % OF SGC	ACTUAL ANNUAL % OF AGC	POTENTIAL ANNUAL % OF AGC	ACTUAL ANNUAL % OF AGC
**********	**********	**********	**********	**********	**********
00067-64-1	28000.00000000	0.0001	0.0000	0.0000	0.0000
00067-66-3	0.04300000	0.1054	0.0000	7.8952	7.9178
00071-43-2	0.13000000	0.0009	0.0000	0.1934	0.1910
00071-55-6	1000.00000000	0.0013	0.0000	0.0019	0.0019
00075-00-3	10000.00000000	0.0000	0.0000	0.0026	0.0026
00075-01-4	0.02000000	0.0003	0.0000	50.5824	50.3607
00079-00-5	0.06300000	0.0000	0.0000	50.2425	49.5388
00100-41-4	1000.00000000	0.0006	0.0000	0.0007	0.0007
00108-88-3	400.00000000	0.0003	0.0000	0.0006	0.0006
00127-18-4	1.00000000	0.0189	0.0000	0.4059	0.4256
01330-20-7	700.00000000	0.0104	0.0000	0.0014	0.0014
07647-01-0	20.00000000	742.0503	0.0000	119.4738	119.5181
SUMMARY TOTALS		742.1884	0.0000	228.8002	227.9592

END OF FILE: Type "X" and Press Enter to EXIT :

CONTAMINANT IMPACT SUMMARY OF AIRGUIDE 1 ANALYSIS 5/23/ 2
Page 1

		SHORT-TERM	CAVITY	POINT or AREA SOURCE	
CAS NUMBER	AGC ug/m3	MAXIMUM (Cav,Pt,Area) ug/m3	ACTUAL ANNUAL ug/m3	POTENTIAL ANNUAL ug/m3	ACTUAL ANNUAL ug/m3
00067-64-1	28000.00000000	0.16962	0.00000	0.00364	0.00362
00067-66-3	0.04300000	0.15814	0.00000	0.00339	0.00340
00071-43-2	0.13000000	0.01171	0.00000	0.00025	0.00025
00071-55-6	1000.00000000	0.86733	0.00000	0.01862	0.01858
00075-00-3	10000.00000000	12.14264	0.00000	0.26067	0.25854
00075-01-4	0.02000000	0.47125	0.00000	0.01012	0.01007
00079-00-5	0.06300000	1.47446	0.00000	0.03165	0.03121
00100-41-4	1000.00000000	0.34317	0.00000	0.00737	0.00738
00108-88-3	400.00000000	0.10466	0.00000	0.00225	0.00227
00127-18-4	1.00000000	0.18908	0.00000	0.00406	0.00426
01330-20-7	700.00000000	0.44523	0.00000	0.00956	0.00958
07647-01-0	20.00000000	1113.07544	0.00000	23.89475	23.90362
SUMMARY TOTALS		1129.45276	0.00000	24.24633	24.25278

END OF FILE: Type "X" and Press Enter to EXIT :

CONTAMINANT IMPACT SUMMARY OF AIRGUIDE 1 ANALYSIS 5/23/ 2
Page 1

		SHORT-TERM	CAVITY	POINT or AREA SOURCE	
CAS NUMBER	AGC ug/m3	MAXIMUM (Cav,Pt,Area) ug/m3	ACTUAL ANNUAL ug/m3	POTENTIAL ANNUAL ug/m3	ACTUAL ANNUAL ug/m3
00067-64-1	28000.00000000	0.16962	0.00000	0.00364	0.00362
00067-66-3	0.04300000	0.15814	0.00000	0.00339	0.00340
00071-43-2	0.13000000	0.01171	0.00000	0.00025	0.00025
00071-55-6	1000.00000000	0.86733	0.00000	0.01862	0.01858
00075-00-3	10000.00000000	12.14264	0.00000	0.26067	0.25854
00075-01-4	0.02000000	0.47125	0.00000	0.01012	0.01007
00079-00-5	0.06300000	1.47446	0.00000	0.03165	0.03121
00100-41-4	1000.00000000	0.34317	0.00000	0.00737	0.00738
00108-88-3	400.00000000	0.10466	0.00000	0.00225	0.00227
00127-18-4	1.00000000	0.18908	0.00000	0.00406	0.00426
01330-20-7	700.00000000	0.44523	0.00000	0.00956	0.00958
07647-01-0	20.00000000	1113.07544	0.00000	23.89475	23.90362
SUMMARY TOTALS		1129.45276	0.00000	24.24633	24.25278

END OF FILE: Type "X" and Press Enter to EXIT :

CONTAMINANT IMPACT SUMMARY OF AIRGUIDE 1 ANALYSIS 5/23/ 2
Page 1

		SHORT-TERM	CAVITY	POINT or AREA SOURCE	
CAS NUMBER	AGC ug/m3	MAXIMUM (Cav,Pt,Area) ug/m3	ACTUAL ANNUAL ug/m3	POTENTIAL ANNUAL ug/m3	ACTUAL ANNUAL ug/m3
00067-64-1	28000.00000000	0.16962	0.00000	0.00364	0.00362

EMISSION POINT AND CONTAMINANT ASSESSMENT OF AIRGUIDE 1 ANALYSIS 5/23/ 2
Page 1*

		SHORT-TERM	CAVITY	POINT or AREA SOURCE	
EMISSION POINT	CAS NUMBER	MAXIMUM (Cav,Pt,Area) % OF SGC	ACTUAL ANNUAL % OF AGC	POTENTIAL ANNUAL % OF AGC	ACTUAL ANNUAL % OF AG
0100 TYRE0100	07647-01-0	742.0503	0.0000	119.4738	119.5181
SUMMARY TOTALS		742.0503	0.0000	119.4738	119.5181

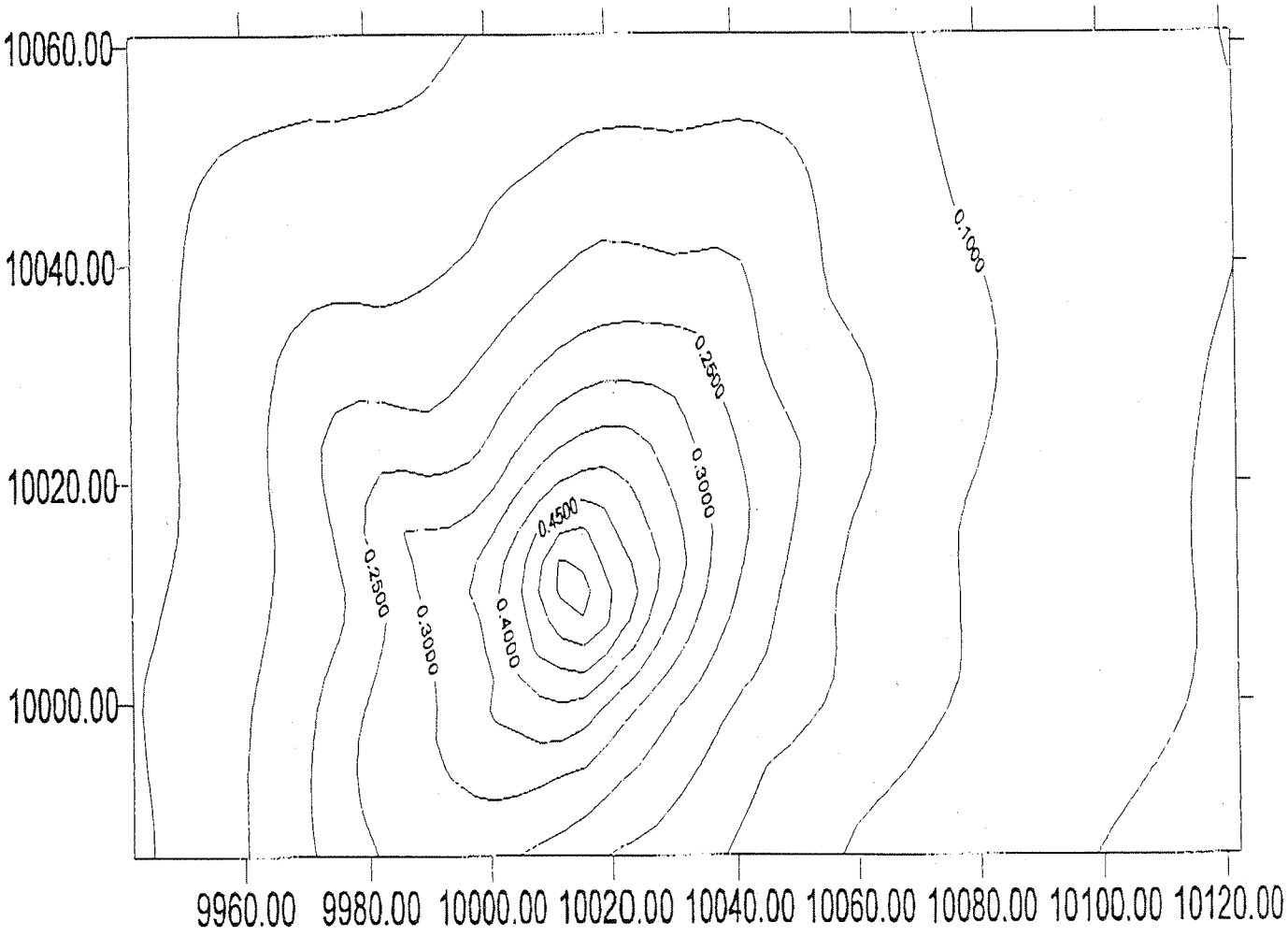
Screen 6: Display Sources that fail
AIR GUIDE -1

END OF FILE: Type "X" and Press Enter to EXIT :

Inhalation Hazard

at Vicinity of Thermal Oxidizer

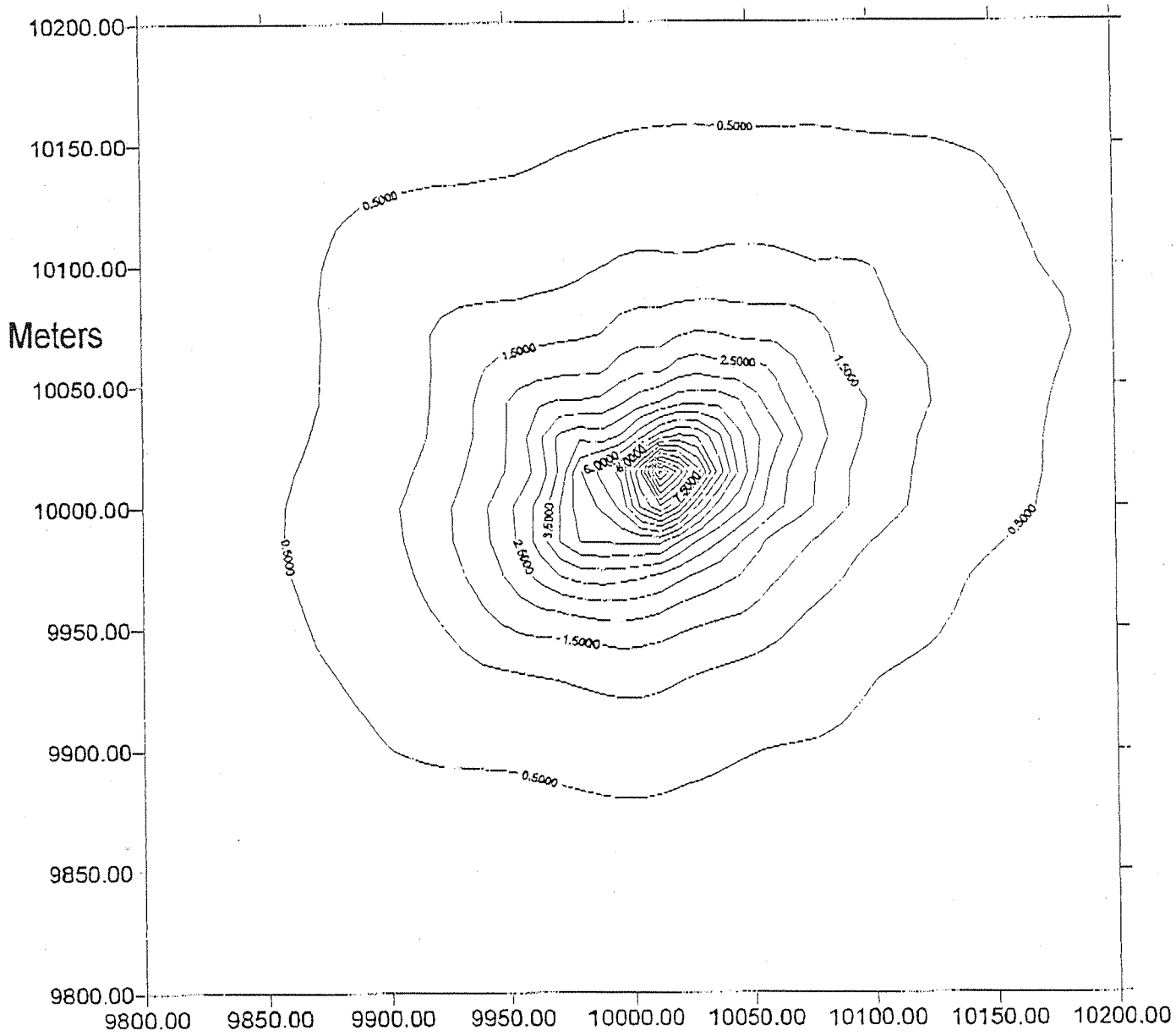
HCl at 3,300 lbs/yr



HCl Concentration - ug/m3

At Vicinity of Thermal Oxidizer

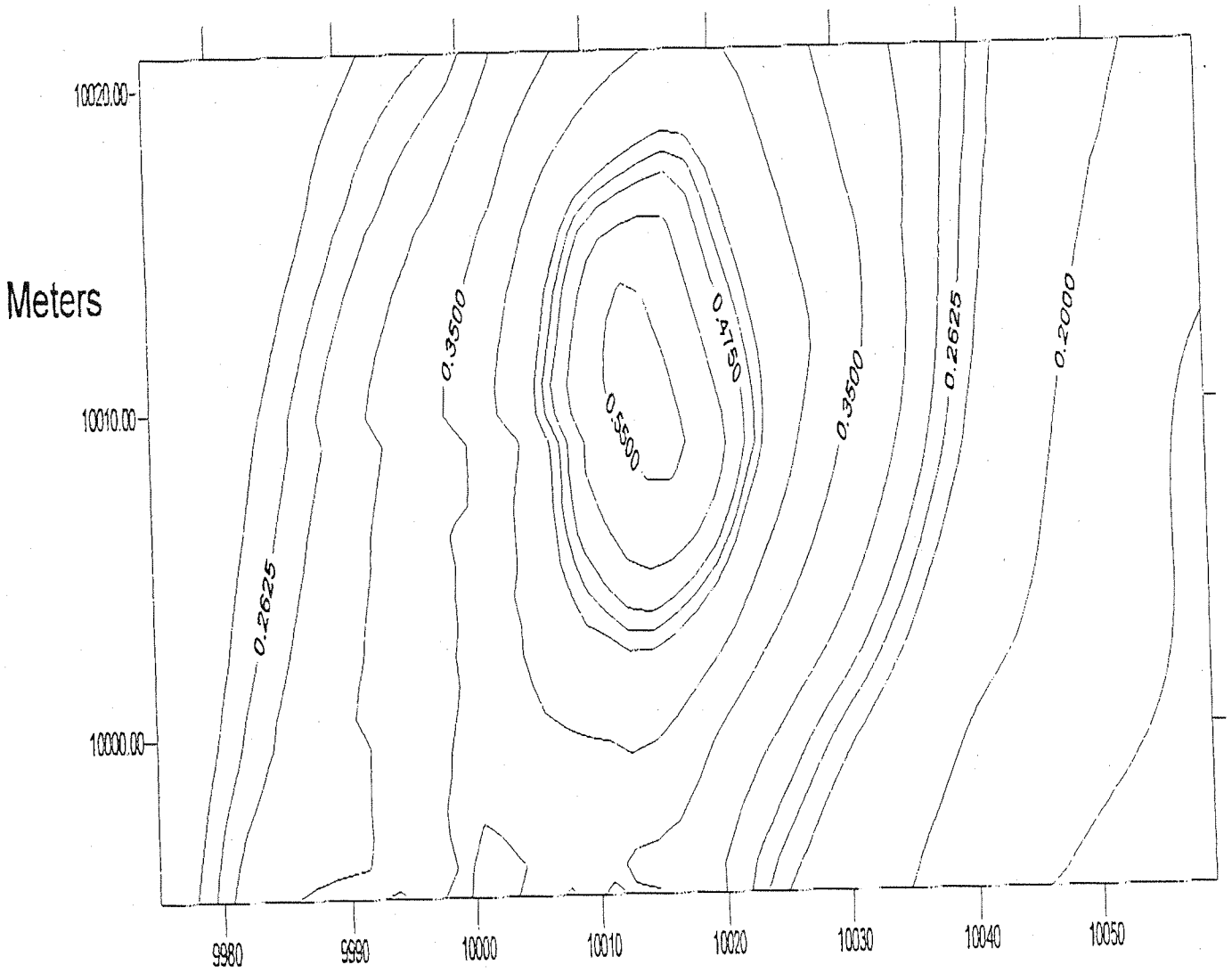
HCl at 3,300 lbs/yr



Actual Annual Concentration/AGC

at Vicinity of Thermal Oxidizer

HCl at 3,300 lbs/yr



Meters

ecology and environment engineering, p.c.

BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

Memorandum

To: Philip Holloway
The Tyree Organization, Ltd.

From: Mike Steffan ***Signed:*** Michael G. Steffan
E & E ***Dated:*** 5/28/02

Date: May 28, 2002

Subject: Davis Howland Oil Company Site, Rochester, NY
Contract #D004181, Site # 8-28-088
Submittal Review

Item Review: **Engineer's Report on Remedial Action Plan**
Air Guide 1 - Permit re-submittal - Catalytic Oxidizer (Catox)
Unit Discharge Calculations dated 5/24/02

Comments: Based on the memorandum from J. Harrington -NYSDEC-Technology Section to D. Chiusano -NYSDEC - Construction Division dated 5/28/02, the submittal of the calculations and the conditions for monitoring the discharge source is **Approved.**

Review and Approval is only for conformance with the design concept of the project and compliance with the information given in the Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to techniques of construction; and for coordination of the work of all trades.

Submittal Response:

☒ **Approved**	□ Disapproved	_____ Copies for Approval
□ Approved as Noted	□ Other (explain)	_____Copies for Distribution
□ Revise and Resubmit	□ _____	_____ Corrected Prints

CC: R. Galasso, Lu Engineers, w/o attachment
D. Chiusano, NYSDEC, Albany, w/o attachment
D. Miller, E & E, Buffalo, w/o attachment
CTF - 000699.NY2000

LOCATION | FACILITY | EMISSION POINT | I

A ADD
C CHANGE
D DELETE

READ INSTRUCTIONS CONTAINED IN FORM 76-11-12 BEFORE ANSWERING ANY QUESTION

N.Y.S. DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WHITE - ORIGINAL
GREEN - DIVISON OF AIR
WHITE - REGIONAL O.
WHITE - FIELD REP.
YELLOW - APPLICANT

PROCESS, EXHAUST OR VENTILATION SYSTEM

APPLICATION FOR PERMIT TO CONSTRUCT OR CERTIFICATE TO OPERATE

SECTION A

1. NAME OF OWNER / FIRM: New York STATE Department of Environmental Services
2. NUMBER AND STREET ADDRESS: 625 Broadway
3. CITY - TOWN - VILLAGE: Albany | 4. STATE: NY | 5. ZIP: 12233
6. OWNER CLASSIFICATON: A. ☐ COMMERCIAL B. ☐ INDUSTRIAL C. ☐ UTILITY D. ☐ FEDERAL E. ☐ STATE F. ☐ MUNICIPAL G. ☐ EDUC. INST. H. ☐ HOSPITAL I. ☐ RESIDENTIAL J. ☐ OTHER
7. NAME & TITLE OF OWNERS REPRESENTATIVE | 8. TELEPHONE
9. NAME OF AUTHORIZED AGENT: THE TYREE ORGANIZATION | 10. TELEPHONE: (518) 786-3200
11. NUMBER AND STREET ADDRESS: 4 NORTHWAY Lane
12. CITY - TOWN - VILLAGE: Latham | 13. STATE: NY | 14. ZIP: 12110
15. NAME OF P.E. OR ARCHITECT PREPARING APPLICATION: URIEL M. OKO | 16. N.Y.S. P.E. OR ARCHITECT LICENSE NO.: 072635 | 17. TELEPHONE: (518) 439-7880
18. SIGNATURE OF OWNERS REPRESENTATIVE OR AGENT WHEN APPLYING FOR A PERMIT TO CONSTRUCT
19. FACILITY NAME (IF DIFFERENT FROM OWNER / FIRM): Davis Howland Oil Corp. SITE
20. FACILITY LOCATION (NUMBER AND STREET ADDRESS): 190 -220 Anderson Ave
21. CITY - TOWN - VILLAGE: Rochester | 22. ZIP
23. BUILDING NAME OR NUMBER | 24. FLOOR NAME OR NUMBER
25. START UP DATE: MO / YR | 26. DRAWING NUMBERS OF PLANS SUBMITTED
27. PERMIT TO CONSTRUCT: A. ☑ NEW SOURCE B. ☐ MODIFICATION
28. CERTIFICATE TO OPERATE: A. ☑ NEW SOURCE B. ☐ MODIFICATION C. ☐ EXISTING SOURCE

SEC. B

29. EMISSION POINT ID.	30. GROUND ELEVATION (FT.)	31. HEIGHT ABOVE STRUCTURES (FT.)	32. STACK HEIGHT (FT.)	33. INSIDE DIMENSIONS (IN.)	34. EXIT TEMP.(°F)	35. EXIT VELOCITY (FT./SEC.)	36. EXIT FLOW RATE (ACFM)
1	20	5	5	8	400	11.34	950

37. SOURCE CODE	38. HRS / DAY	39. DAYS / YR	40. % OPERATION BY SEASON: Winter	Spring	Summer	Fall
	24	365	25	25	25	25

SEC. C

41. DESCRIBE PROCESS OR UNIT:

A catalytic oxidizer Treating air Contaminated with hydrocarbons and Chlorinated hydrocarbons from soil vents and water wells. Refer to Attached Engineer's Report for Details

SEC. D

EMISSION CONTROL EQUIPMENT I.D.	CONTROL TYPE	MANUFACTURER'S NAME AND MODEL NUMBER	DISPOSAL METHOD	DATE INSTALLED MONTH / YEAR	USEFUL LIFE
42.	43. 10	44. Global Technologies Catalytic Oxidizer (See Attached Engineer's Report For Details of Equipment)	45. 9	46. /	47. 25
48.	49.	50.	51.	52. /	53.

STATE OF NEW YORK — URIEL MICHAEL OKO — 072635 — LICENSED PROFESSIONAL ENGINEER

SECTION E

CALCULATIONS

See ATTACHED ENGINEER'S REPORT FOR CALCULATIONS

CONTAMINANT NAME	CAS NUMBER	INPUT OR PRODUCTION	UNIT	ENV. RATING	EMISSIONS ACTUAL	UNIT	HOW DET.	PERMISSIBLE	% CONTROL EFFIC'CY	HOURLY EMISSIONS (LBS/HR) ERP	HOURLY EMISSIONS (LBS/HR) ACTUAL	ANNUAL EMISSIONS (LBS/YR) ACTUAL	10^x	ANNUAL EMISSIONS (LBS/YR) PERMISSIBLE
54. Acetone	55. 00067-64-1	56. 0	57. 1	58.	59. 20.8	60. 3	61. 4	62.	63. 99	64. 20.8E-6	65. 20.8E-6	66. 2.9 0.182	67. 0	68.
69. Chlorine Gas	70. 07782-50-5	71. 0	72. 1	73.	74. 0.84	75. 3	76. 4	77.	78. 1	79. 0.84	80. 0.84	81. 7399.	82. 0	83.
84. For Emissions	85. - -	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.
99. of 26 Compounds	100. - -	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.
114. See Table 3 of	115. - -	116.	117.	118.	119.	120.	121.	122.	123.	124.	125.	126.	127.	128.
129. Attached Engineer's Report	130. -	131.	132.	133.	134.	135.	136.	137.	138.	139.	140.	141.	142.	143.

SECTION F

SECTION G

SOLID FUEL TYPE	SOLID FUEL TONS / YR	SOLID FUEL % S	LIQUID FUEL TYPE	LIQUID FUEL THOUSANDS OF GALLONS/YR	LIQUID FUEL % S	GAS TYPE	GAS THOUSANDS OF CF/YR	GAS BTU/CF
144.	145.	146.	147.	148.	149.	150.	151.	152.

APPLICABLE RULE	APPLICABLE RULE
153.	154.

Upon completion of construction sign the statement listed below and forward to the appropriate field representative

THE PROCESS, EXHAUST OR VENTILATION SYSTEM HAS BEEN CONSTRUCTED AND WILL BE OPERATED IN ACCORDANCE WITH STATED SPECIFICATIONS AND IN CONFORMANCE WITH ALL PROVISIONS OF EXISTING REGULATIONS.

155. SIGNATURE OF AUTHORIZED REPRESENTATIVE OR AGENT | DATE

AGENCY USE ONLY

156. LOCATION CODE | 157. FACILITY ID. NO. | 158. U.T.M. (E) | 159. U.T.M. (N) | 160. SIC NUMBER | 161. DATE APPL. RECEIVED | 162. DATE APPL. REVIEWED | 163. REVIEWED BY:

PERMIT TO CONSTRUCT

164. DATE ISSUED	165. EXPIRATION DATE	166. SIGNATURE OF APPROVAL	167. FEE
/ /	/ /		

168.
1. DEVIATION FROM APPROVED APPLICATION SHALL VOID THIS PERMIT
2. THIS IS NOT A CERTIFICATE TO OPERATE
3. TESTS AND/OR ADDITIONAL EMISSION CONTROL EQUIPMENT MAY BE REQUIRED PRIOR TO THE ISSUANCE OF A CERTIFICATE TO OPERATE

CERTIFICATE TO OPERATE

169. DATE ISSUED	170. EXPIRATION DATE	171. SIGNATURE OF APPROVAL	172. FEE
/ /	/ /		

173.
1. ☐ INSPECTED BY _____ DATE _____
2. ☐ INSPECTION DISCLOSED DIFFERENCES AS BUILT VS. PERMIT. CHANGES INDICATED ON FORM
3. ☐ ISSUE CERTIFICATE TO OPERATE FOR SOURCE AS BUILT
4. ☐ APPLICATION FOR C.O. DENIED _____ DATE _____ INITIALED

174. SPECIAL CONDITIONS:
1. | 2. | 3. | 4. | 5. | 6. | 7. | 8.

AGENCY USE ONLY

76 - 19 - 3 (9/81)

FI	FLOW INDICATOR
FT	FLOW TRANSMITTER
LCP	LOCAL CONTROL PANEL
LEL	LOW EXPLOSIVE LIMIT
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
LSL	LEVEL SWITCH LOW
M	MOTOR
MOV	MOTOR OPERATED VALVE
PDI	PRESSURE DIFFERENTIAL INDICATOR
PI	PRESSURE INDICATOR
PSH	PRESSURE SWITCH HIGH
PT	PRESSURE TRANSMITTER
SP	SAMPLE PORT (1)
SV	SOLENOID VALVE
TE	TEMPERATURE ELEMENT
TI	TEMPERATURE INDICATOR
FS	FLOW SWITCH
VSD	VARIABLE SPEED DRIVE

TT	TEMPERATURE TRANSMITTER
VGAC	VAPOR PHASE CARBON
VI	VACUUM INDICATOR
VT	VACUUM TRANSMITTER
(I)	INTERLOCK
	GATE VALVE
	CHECK VALVE
	BUTTERFLY VALVE
	VACUUM RELIEF VALVE
	WYE STRAINER
	BALL VALVE
	UNION
	EMERGENCY STOP
	ALARM LIGHT
	RUN LIGHT
	CONTROL LINE
	ANALOG LINE
	WATER LINE
	AIR LINE
FM	FLOW METER
FS	INLET FILTER/SILENCER
PSL	PRESSURE SWITCH LOW

NOTE:

1. SAMPLE PORTS FOR LIQUID SYSTEM SHALL BE DESIGNED FOR LOW FLOW.

100	AIR SPARGE BLOWER TEMPERATURE SWITCH HIGH
101	AIR SPARGE HEAT EXCHANGER TEMPERATURE SWITCH HIGH
102	AIR SPARGE PRESSURE SWITCH HIGH

SOIL VAPOR EXTRACTION SYSTEM

200	DIFFERENTIAL PRESSURE SWITCH HIGH
201	MOISTURE SEPARATOR INLET PRESSURE LOW
202	MOISTURE SEPARATOR HIGH HIGH LEVEL
203	SVE TEMPERATURE SWITCH HIGH
204	SVE PRESSURE SWITCH HIGH
205	NO FLOW FROM MOISTURE SEPARATOR TRANSFER PUMP

GROUND WATER TREATMENT SYSTEM

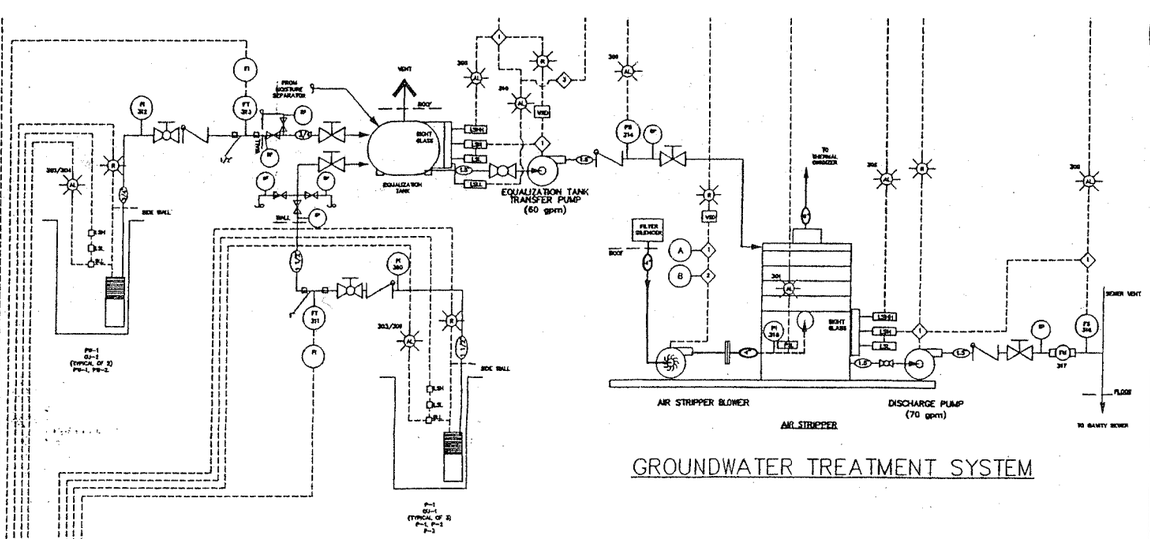
300	EQUALIZATION TANK HIGH HIGH LEVEL
301	AIR STRIPPER PRESSURE SWITCH LOW
302	AIR STRIPPER SUMP HIGH HIGH LEVEL
303	P#-1 LEVEL LOW LOW
304	P#-2 LEVEL LOW LOW
305	P-1 LEVEL LOW LOW
306	P-2 LEVEL LOW LOW
307	P-3 LEVEL LOW LOW
308	NO FLOW FROM AIR STRIPPER SUMP DISCHARGE PUMP
309	NO FLOW FROM EQUILIZATION TANK TRANSFER PUMP
310	EQ TANK L-LOW LEVEL

VAPOR PHASE TREATMENT SYSTEM

400	GENERAL VAPOR PHASE TREATMENT FAULT

MASTER CONTROL PANEL

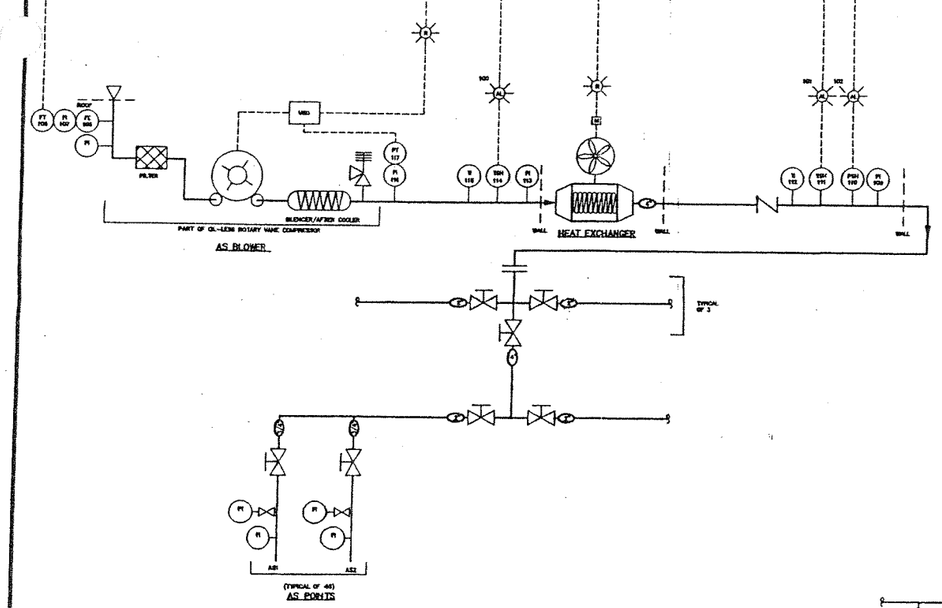
500	EMERGENCY STOP ALARM



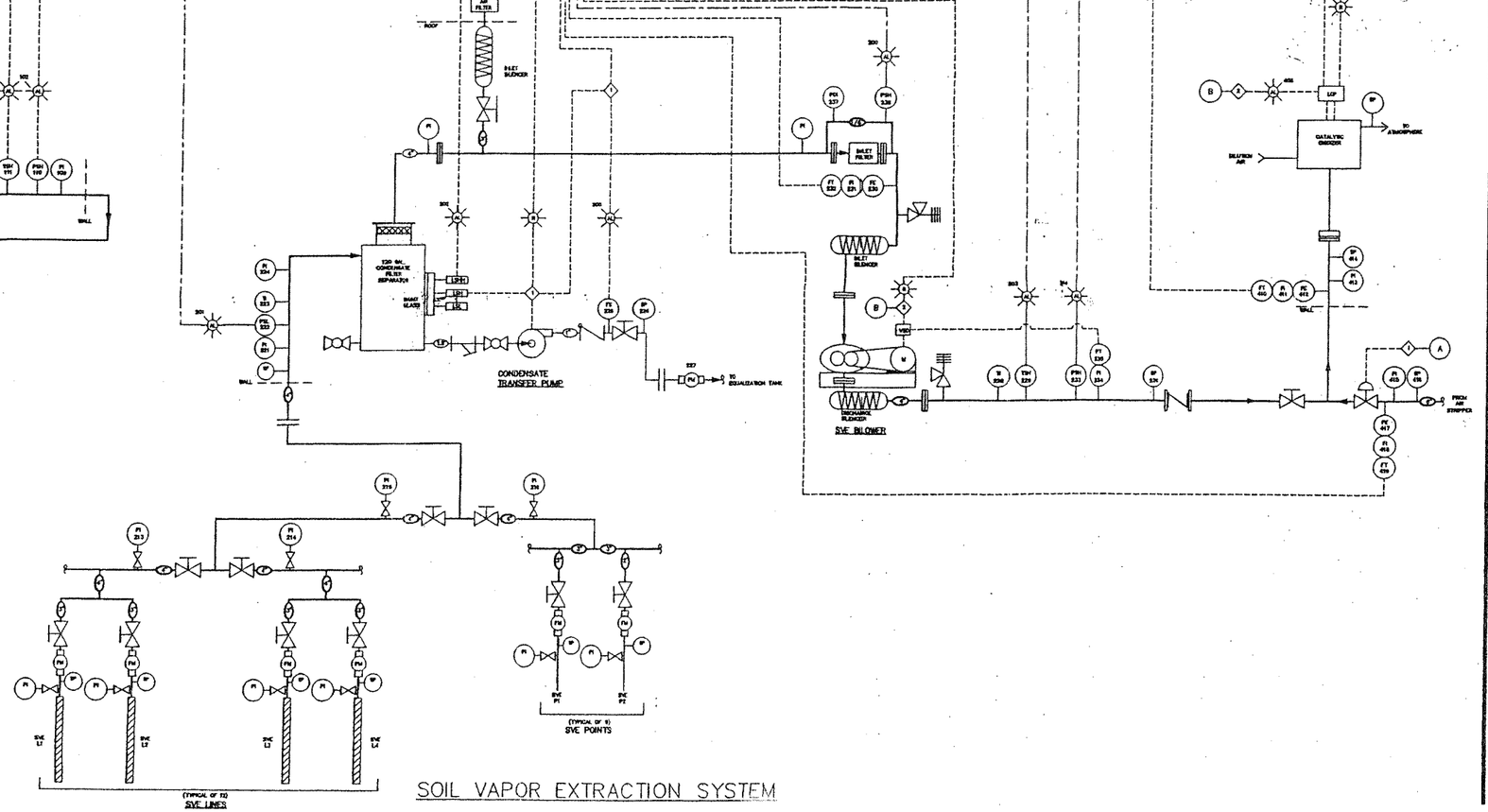
GROUNDWATER TREATMENT SYSTEM

(HAZARDOUS AREA)
EXHAUST FANS
(SPARGE ROOM)
(HAZARDOUS ROOM)
MASTER CONTROL PANEL

VAPOR PHASE TREATMENT SYSTEM



AIR SPARGE SYSTEM



SOIL VAPOR EXTRACTION SYSTEM

ENSR ENGINEERING NEW YORK
CONSULTING • ENGINEERING

PROCESS FLOW DIAGRAM
DAVIS-HOWLAND OIL CORP.

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: DCA
DRAWN BY:

DRAWN

SHEET

D DHOC Treatment System Alarm Codes

Davis Howland Site
200 Anderson Ave., Rochester, NY
Site No.: 8-28-088

Appendix D

Auto-Dialer Channel Designations

Channel	Alarm
01	**Air Sparge Unit Alarm** (1) – Low SVE Vacuum; (2) – Blower Outlet High T° Alarm; (3) – Heat X-changer High T° Alarm; (4) – High Pressure Alarm.
02	**SVE Unit Alarm** (1) – High T° Alarm; (2) – Blower Motor High T° Alarm; (3) – Filter High Pressure Alarm; (4) – Moisture Separator High Level; (5) – High Pressure Alarm.
03	**Equalization Tank Alarm** (1) – Low Level Alarm; (2) – High Level Alarm.
04	**Air Stripper Alarm** (1) – Low Pressure Alarm; (2) High Sump Level; (3) – Blower Motor High T° Alarm.
05	**Decommissioned - Open**
06	**External Overflow Tank High Water Level Alarm.**
07	**Spare Channel.**
08	**Trailer Intrusion Detected.** Note: 30 second delay before alarm is Activated.

>Dial 585-241-3431 to reach the auto-dialer and hear an update.
>Press (9) to acknowledge alarm.

Call Sequence:
1. Mike Crawford – Popli Engineers– 585-388-2060
2. M. Steffan – EEEPC – 716-684-8060

E Current Site Contact List

Davis Howland Oil Corporation Site, #8-28-088
Site Contact List
Updated - June 1, 2009

Name	Company	Address	Phone	Email
Will Welling, PE	NYSDEC Project Manager Div. Of Environmental Remediation	625 Broadway Albany, New York 12233	518.402.9638 518.402-9819 fax 518.791.9603 cell	wbwellin@gw.dec.state.ny.us
Michael Steffan Project Manager	Ecology and Environment Engineering, P.C. (Project Engineer)	368 Pleasant View Drive Lancaster, NY 14086	716.684.8060	msteffan@ene.com
Mike Crawford PM	OM Popli Consulting Engineers and Surveyors (New oversight and O&M Subcontractor)	555 Penbrooke Drive Penfield, New York 14526	585.388.2060	Mcrawford@popligroup.com
OM Popli President	OM Popli Consulting Engineers and Surveyors (New oversight and O&M Subcontractor)	555 Penbrooke Drive Penfield, New York 14526	585.388.2060	Opopli@popligroup.com
Carl Beechler	Columbia Analytical Services, Inc. (Analytical Services - Water & Air)	1 Mustard Street, Suite 250, Rochester, New York 14609	585.288.5380	cbeechler@caslab.com
Harry Reiter	Monroe County Dept. of Environmental Services (Pretreatment Coordinator)	444 E. Henrietta Road Rochester, NY 14620-4630	585.760-7600	hreiter@monroecounty.gov

Davis Howland Oil Corporation Site, #8-28-088
Site Contact List
Updated - June 1, 2009

Sean Keenan	Monroe County Dept. Of Environmental Services Industrial Waste Services	444 E. Henrietta Road Rochester, NY 14620-4630	585.760-7610 x7143	skeenan@monroecounty.gov
Walter Slynko	Monroe County Dept. Of Environmental Services Facility Inspection and Compliance	444 E. Henrietta Road Rochester, NY 14620-4630	585.760-7610 x7058	wslynko@monroecounty.gov
Kate Comerford	NYSDOH	BEEI Flanigan Square, 547 River Street Troy, NY 12180-2216	585-423-8156	tsg01@health.state.ny.us
Joseph Albert	Monroe County Heath Dept.	111 Westfall Road PO Box 92832 Rochester, NY 14692	585.753-5904	jalbert@monroecounty.gov
Gary Stern	Owner of Village Gate * Adjacent Landowner (west) * Partial Site Owner (rear) *Possible SSD Installation Next Door	274 Goodman Street Rochester, NY 14607	585.442-9061	None
Wade Smythe	Building Manager Company Name - Upstate Remodeling, LLC 200 Anderson Avenue Facility -Access and Tenant issues	220 Anderson Avenue Rochester, New York 14607	585.442-8883	None

Davis Howland Oil Corporation Site, #8-28-088
Site Contact List
Updated - June 1, 2009

Amy Bush	Property Owner - Daughter of former owner of the DHOC property		585.388.2853	None
Ronald Brownell	Owner of Barrel of Dolls Adult Entertainment Establishment Across the Street (south) from 200 Anderson Yearly Indoor Air Monitoring	173 Anderson Avenue Rochester, NY 14607	585.271-5367	None
Larry Dixon	CSX Transportation (Property Access and Environmental Right of Entry Issues)	500 Water Street Jacksonville, FL 32202	904.359-1462	larrydixon@csx.com
On-site Treatment System Auto-dialer	Treatment System Status Checks and Channel Alarms	DHOC Treatment Trailer 200 Anderson Ave. Rochester, NY 14607	585.241-3431	None
City of Rochester Police	Security, Vandalism or Emergency Issues	1099 Jay St, Rochester, NY 14611	585.428-9810	http://www.ci.rochester.ny.us/publicsafety/police
Rochester Gas & Electric	Electrical power and natural gas services to the remedial treatment unit	89 East Avenue Rochester, NY 14649	Customer Service - Lisa 585.724-8167 Emergency 585.546-1111	Account# Gas & Electric - 1238620 www.rge.com

Davis Howland Oil Corporation Site, #8-28-088
Site Contact List
Updated - June 1, 2009

Frontier Communications	Communications to the treatment trailer	1225 Jefferson Rd, Rochester, NY 14623	585.777-4663	Account # 585-241-3431 www.frontieronline.com

F

2007 Well Inspection Summary

Summer 2007 Well Inspection Checklist, Davis Howland, Rochester, NY

Well Number	TOIC Current Depth (TD) (feet)	Well Paint (G/R)	Well Label (G/R)	Casing Lock (G/R)	Protective Cover (G/R)	Inner Well Cap (G/R)	Equipment in Well (B/U/H)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Concrete Pad (G/R)	Inspection Date
MW-13S	13.24	NA	G	G	G	G	B	N	N	G	8-13-07
MW-14R	33.38	NA	G	G	G	G	B	N	N	G	8-13-07
MW14S	12.44	NA	G	G	G	G	B	N	Y	G	8-13-07
MW-2S	13.50 ~~17.50~~	NA	G	G	G	G	B	N	N	G	8-13-07
MW-2R	25.72 ~~25.72~~	NA	G	G	G	F. Plug Replace	B	N	N	G	8-13-07
CHI-6	7.50 ~~7.50~~	NA	G	G	G	G	B	N	N	G	8-13-07
MW-08	36.20	NA	G	G	G	G	B	N	N	G	8-13-07
MW-4S	DEcommissioned										8-13-07
MW-4R	DEcommissioned										8-13-07
~~MW7S~~ MW-5	DEcommissioned										8-13-07
MW7R	DEcommissioned										8-13-07

Summer 2007 Well Inspection Checklist, Davis Howland, Rochester, NY

Well Number	TOIC Current Depth (TD) (feet)	Well Paint (G/R)	Well Label (G/R)	Casing Lock (G/R)	Protective Cover (G/R)	Inner Well Cap (G/R)	Equipment in Well (B/U/H)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Concrete Pad (G/R)	Inspection Date
PZ-1	11.81	NA	G	No Lock	G	No J-Plug	NONE	N	N	G	8/13/07
PZ-2	12.01	NA	G	No Lock	G	G	NONE	N	N	G	8-13-07
PZ-3	13.00	NA	G	No Lock	G	No J-Plug	NONE	N	N	G	8-13-07
PZ-4	11.03	NA	G	No Lock	G	G	NONE	N	N	G	8-13-07
PZ-5	11.52	NA	G	No Lock	G	No J-Plug	NONE	N	Y	G	8-13-07
PZ-6	11.04	NA	G	No Lock	G	No J-Plug	NONE	N	N	G	8-13-07
CHI-1	4.20	NA	G	G	G	G	NONE	N	N	G	8-13-07
MW-5R	34.37	NA	G	No Lock	G	P	B	N	N	G	8-13-07
MW11S	DECommissioned										8 13 07
MW11R	DECommissioned										8-13-07
MW-9S	15.46	NA	G	G	G	G	B	N	N	G	8-13-07
MW-12S	14.19	NA	G	F	G	G	B	N	Y	G	8-13-07

~~881856:JA17.02~~

Key at the end of table.

Summer 2007 Well Inspection Checklist, Davis Howland, Rochester, NY

Well Number	TOIC Current Depth (TD) (feet)	Well Paint (G/R)	Well Label (G/R)	Casing Lock (G/R)	Protective Cover (G/R)	Inner Well Cap (G/R)	Equipment in Well (B/U/H)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Concrete Pad (G/R)	Inspection Date
MW1OR	35.07	NA	P	G	G	G	B	N	Y	G	8-13-07
MW1S	17.50	NA	G	G	G	G	B	N	N	G	8-13-07
MW3S	16.61	NA	F	G	G	G	B	N	N	G	8-13-07
MW3R	37.61	NA	F	G	G	G	B	N	N	G	8-13-07
MW15R	29.87	NA	P	G	G	G	B	N	Y	G	8-13-07
MW16R	30.88	NA	P	G	G	G	B	N	N	P	8-13-07
MW1R	DE Commissioned										8-13-07

Key:

B = Bailer.

R = Needs Replacing.

G = Good.

H = PDB Harness.

N = No.

TOIC = Top of inner casing.

U = Bladder Pump.

Y = Yes.

G Treatment System Performance Monitoring Parameters and Minimum Frequencies

Operation Maintenance and Monitoring Program
Davis Howland Oil Company Site, NYSDEC Site #8-28-088
Compliance Sampling and Analytical Requirements
2007-2011

Purpose	Parameter	Sample Analysis	Sample Location	Sample Type	Sample Frequency	QA/QC Frequency	Required Turn around Time	Units	Level of Reporting [1]	Data Validation Required
Confirmatory air samples - Vapor Phase Treatment System (Catalytic Oxidizing Unit)	**CATOX Unit was decommissioned for the Remedial Treatment System in March 2008.** **No future sampling from CATOX unit required.**									
Confirmatory water samples - Groundwater Treatment System (Air Stripper)	Volatile Organic Compounds (VOCs)	USEPA Method 601	Influent and Effluent of the Air Stripper	Grab	· Monthly	None	21 days from sample receipt	ug/l (ppb)	Standard	None
	Total Petroleum Hydrocarbons (TPHs)	USEPA Method 625			· Monthly			ug/l (ppb)		
	Semi - Volatiles & Base Neutral Extractables	USEPA Method 602			· Monthly			ug/l (ppb)		
	Pesticides[2]	USEPA Method 608			· Semi-Annually			ug/l (ppb)		
	PH	USEPA Method 150.1			· Monthly			Standard units		

Notes:
1. Standard level of reporting shall consist of a summary of laboratory results, laboratory QA/QC results, and Chain of Custody.
2. Pesticide sampling and analysis to be only on a semi-annual basis per County of Monroe letter of approval October 2006.
3. CATOX unit to be shutdown and removed from the remedial treatment system March 2008.

H

NYSDEC Fact Sheet
Davis-Howland Oil Corporation Site

NEW YORK STATE
DEPARTMENT OF

ENVIRONMENTAL
CONSERVATION

Dear Interested Citizen:

This Fact Sheet is to inform you about the ongoing activities at the Davis Howland site. If you have any questions or would like more information, please do not hesitate to contact:

Mr. David J. Chiusano
NYSDEC Project Manager
625 Broadway, 12th Floor
Albany, N.Y. 12233-7013
(518) 402-9813

or

Lisa Silvestri
Citizen Participation Specialist
NYSDEC - Region 8 Avon
6274 East Avon-Lima Road
Avon, NY 14414-9519
(585) 226-5326

For site related health questions, please contact the following New York State Department of Health (NYSDOH) representative:

Mr. Joseph Crua
Public Health Specialist
NYSDOH
Flanigan Square, 547 River Street
Troy, NY 12180
(518) 402-7860 or
(800) 458-1158, ext. 27860

FACT SHEET

DAVIS HOWLAND OIL CORPORATION

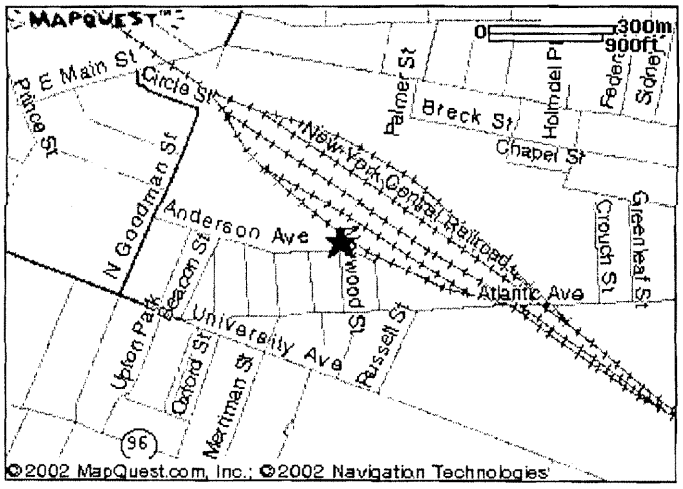
Update of Cleanup Activities at the
Davis Howland Oil Corporation Site
200 Anderson Avenue, Rochester, NY

JUNE 2003

Introduction:

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) want to update you on the cleanup at the Davis Howland Oil Corporation (Davis Howland) inactive hazardous waste disposal site. The NYSDEC is cleaning up this site as part of its State Superfund Program to investigate and remediate inactive hazardous waste disposal sites throughout New York State. The State implemented the cleanup plan using money from the 1986 Environmental Quality Bond Act.

The Davis Howland Site (site) is located at 200 Anderson Avenue in the City of Rochester (see map below). The cleanup was necessary to address groundwater and soils beneath the site that has been contaminated with chemicals known as volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). VOCs are chemicals that can evaporate easily and contain carbon, such as ingredients in paint thinners and some solvents. SVOCs are less volatile than VOCs, and include some of the chemicals found in petroleum fuels, coal products, and tar. The highest contaminant concentrations in soil and groundwater are in the immediate vicinity of the building. Although residents in the area are served with municipal water, cleanup is proceeding to prevent the potential exposure to chemicals in the soil and groundwater.



N ⇑

Davis Howland Site Location Map
200 Anderson Avenue, City of Rochester, County of Monroe

Operation and Maintenance:

As part of current activities at the site, NYSDEC representatives are operating and maintaining a combined groundwater and soil treatment system that collects and treats contaminated groundwater and soil vapors (air trapped in soil and rock fractures) below the former spill area. The treatment system consists of 47 air injection points (to inject clean air into the ground), 6 soil vapor extraction points (to collect/remove contaminated air from underground), 3 groundwater extraction wells (to collect/remove contaminated groundwater), and 2 bedrock groundwater trench recovery wells (to collect/remove contaminated groundwater).

Construction of the treatment system began in May 2001 and was completed in August 2002. It became operational in August 2002 and was monitored and maintained through February 2003 by a remedial construction contractor, the Tyree Organization (Tyree), under NYSDEC supervision. During this time, the treatment system was determined to be satisfactorily removing contamination from the groundwater and soil. In April 2003, the construction contract between the NYSDEC and Tyree was determined to be substantially complete, and the treatment system was temporarily shut down. NYSDEC then contracted the engineering services of Ecology & Environment Engineers (E&E) from Buffalo to restart and operate the treatment system. E&E subsequently subcontracted Niagara Environmental Dynamics, Inc. (NEDI), to restart the treatment system in May 2003 and perform future operation, monitoring, and maintenance responsibilities. Currently, treated water is being sampled, monitored and discharged under permit to the existing Monroe County Department of Environmental Services sewer line along Anderson Avenue. Treated air is being sampled, monitored and discharged in accordance with NYS guidelines. Operation, monitoring, and maintenance will be performed on the system until such time it is determined that continued operation would not result in further significant groundwater and soil contaminant removal.

What Happens Next:

E&E and NEDI are currently under contract to operate and maintain the treatment system until April 2004. Groundwater contaminant levels will continue to be monitored and reported to the NYSDEC and NYSDOH during that time frame. Groundwater samples will be collected periodically to determine contaminant level trends, which are anticipated to decrease over time. Once all of the data have been collected and reviewed, the NYSDEC will evaluate the feasibility to continue operating the treatment system.

For More Information:

The Rochester Public Library (Rundell Branch) has been designated as the local document repository in order to provide you with access to project information. Documents regarding past site investigations, construction, and O&M activities at the Davis Howland site are available for review at:

Rochester Public Library
Rundell Branch
115 South Avenue
Rochester, NY 14604-1896
Hours: Monday 9am-9pm
Tuesday & Wednesday 9am-6pm
Thursday 9am-9pm
Friday 9am-6pm
(585) 428-7300

and at:

NYSDEC's Region 8 Avon Office
6274 East Avon-Lima Road
Avon, NY 14414
Hours: Monday - Friday 8:30am - 4:45pm
For an appointment, contact Lisa Silvestri at
(585) 226-5326.

The NYSDEC and the NYSDOH will keep you informed throughout the remedial program. Your understanding and involvement in this project will help to ensure an effective remedial program. You are encouraged to contact the people listed on the front of this fact sheet at any time with questions, comments or concerns. Because our mailing list includes property owners of businesses and apartments, we encourage you and the building owners to share this fact sheet with your neighbors and tenants, and/or post this fact sheet in a prominent area of your building for tenants, employees, or visitors to view.