

## DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

### RCRA Corrective Action Environmental Indicator (EI) RCRAInfo code (CA725) Current Human Exposures Under Control

**Facility Name:** INDUSTRIAL OIL TANK SERVICE CORPORATION FACILITY  
**Facility Address:** Route 31, Verona, NY  
**Facility EPA ID #:** NYD 095577342

#### **Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EIs) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EIs developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

#### **Definition of "Current Human Exposures Under Control" EI**

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

#### **Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, (GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

#### **Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

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1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

If yes - check here and continue with #2 below.

If no - re-evaluate existing data, or

If data are not available skip to #6 and enter "IN" (more information needed) status code.

**Background**

Industrial Oil Tank Service Corporation (IOTSC) operated a petroleum recovery facility in the Town of Verona in Oneida County, New York from the mid- 1970's through 1996. The site continues to be owned by IOTSC, but operations no longer occur at the site. The facility has 2.1 acres within the fenced limits and is located on the south side of State Route 31 (Bridge St), approximately 0.6 miles west of the intersection of Route 31 and State Route 365. The site is bordered by the CSX railroad to the east, a tributary to Stony Creek and wetlands to the west, Route 31 to the north and wetlands to the south. Groundwater migration is generally to the west-northwest and discharges to an adjacent stream that leads to a wetland. The nearest residences in that direction are located approximately 2000 feet in the west-northwest direction, on the other side of the wetland. The wetland provides a hydraulic barrier for overburden groundwater.

IOTSC accepted petroleum and water mixtures for physical separation and recovery and recycling of the petroleum constituents. The facility also accepted and stored used solvents on-site, prior to shipment to off-site disposal facilities. The materials were stored in aboveground tanks, encircled by an earthen berm for spill containment. Hazardous waste was stored in two tanks at the northern end of the berm; the other tanks contained petroleum waste. Drums were also stored at the site on concrete pads. An oil-water separator, shop/storage building area and a processing building containing additional tanks were also used to manage the waste streams received at the facility.

In March 1992, IOTSC received a consent order due to management of hazardous wastes (chlorinated solvents and contaminated petroleum products) without the required permit. IOTSC was required to close the units used to process and store hazardous waste and stop all hazardous waste management activities. In September 1992, IOTSC found petroleum-contaminated soil during excavation work at the site. Test pits established the extent of the contamination, and it was removed. As the excavations progressed, remnants of a buried maintenance garage were unearthed and removed. Petroleum-contaminated groundwater was also found, which required installation of a recovery well. Removal of the petroleum-contaminated soil, garage remnants and contaminated groundwater were completed as an interim corrective measure. By September 1993, 3000 gallons of petroleum-contaminated groundwater and 130 cubic yards (CY) or 200 tons of petroleum-contaminated soil had been removed from the site.

In April 1994, a revised consent order was signed and closure activities were performed by IOTSC. The tanks, including those that once held hazardous waste, were emptied and removed from site. Between 1997 and 2000, no further work was performed at the site. Corrective action for the rest of the site resumed in 2001.



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In December 2001, approximately 300 CY (450 tons) of petroleum-contaminated soil were excavated near the process pad area, primarily based on visual criteria, and removed from the site. An additional 10 CY (15 tons) of contaminated soil were generated during removal of a pipeline in the former hazardous waste area, and were shipped off-site as hazardous waste. Samples taken at the conclusion of this fieldwork showed that low levels of semi-volatile organic compounds (SVOCs) remained in isolated areas on site.

After the December 2001 field work, IOTSC developed a plan to investigate a newly found drainline, and perform sampling of soil, groundwater and sediment from an adjacent stream. The Sampling and Analysis Plan was submitted to NYSDEC in October 2002 and approved in July 2003. The fieldwork was completed from September 2003 through December 2004. During this time, approximately 880 CY (1320 tons) of petroleum-contaminated soil were identified and removed from site. Results from this work, the Closure/Interim Corrective Action Program Report, were submitted to NYSDEC in June 2005.

After this effort, isolated areas of contaminated soil, slightly above the applicable commercial use soil cleanup objectives, remained on-site. One groundwater sample contained 1,2 cis-dichloroethene at 7 parts per billion (ppb), just above the 5ppb standard for principal organic contaminants found in the NYS Ambient Water Quality Standards and Guidance Values.

A final site-wide remedy has been selected to protect human health and the environment from the low levels of petroleum hydrocarbons that remain in the soil and from the low level of chlorinated solvent found in groundwater in one location. The remedy includes removal of contaminated soil and groundwater (which was already completed), and establishes a Demarcation Zone of approximately 6400 square feet over the localized soil contamination. The excavated areas within this zone will be filled and graded. Then the entire Demarcation Zone will be covered with a geotextile and 12 inches of crushed stone cover. This protective cover system is intended to prevent the soil from being disturbed, while allowing the remaining petroleum hydrocarbons to degrade naturally. Deed restrictions and a site management plan will be put in place to prevent disturbance of the protective cover without prior NYSDEC approval, and to ensure that groundwater at the site is not used for drinking or agricultural purposes. Future development at the site will also be limited. The remedy is expected to be implemented in 2009.

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "**contaminated**"<sup>1</sup> above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	YES	NO	?	Rationale/Key Contaminants
Groundwater		X		
Air (indoors) <sup>2</sup>		X		
Surface Soil (e.g., < (less than) 2 ft)	X			Petroleum Hydrocarbons: Benzo(a)pyrene & Dibenzo(a,h)anthracene
Surface Water		X		
Sediment		X		
Subsurface Soil (e.g., > (greater than) 2 ft deep)		X		
Air (outdoors)		X		

\_\_\_\_\_ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

  **X**   If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

\_\_\_\_\_ If unknown (for any media) - skip to #6 and enter "IN" status code.

**Rationale and Reference(s):**

Air (indoors): The site is no longer used. There are no occupied buildings at the site so there are no vapor intrusion concerns associated with this facility.

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<sup>1</sup>"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

<sup>2</sup>Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.



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Surface soils, less than 2 feet deep: An extensive soil sampling program took place in 2004. Results for approximately 45 samples are found in Tables 1-6 of the June 2005 Closure/Interim Corrective Action Program Report. Results were compared to the commercial use soil clean-up objectives (SCOs) found in 6 NYCRR 375. Two contaminants (benzo(a)pyrene and dibenzo(a,h)anthracene) were found at concentrations slightly higher than the clean-up objectives. The SCO for benzo(a)pyrene is 1.0 parts per million (ppm) and the SCO for dibenzo(a,h)anthracene is 0.56 ppm. The highest values found in soil were 3.7 ppm for benzo(a)pyrene and 1.1 ppm for dibenzo(a,h)anthracene. Seven samples had exceedances of one or both of these parameters.

Surface Water: Water samples in the adjacent stream were not analyzed. However, based on the sediment sample results, which were clean, it is likely that surface water samples would not have had any site-related detectable parameters.

Sediment: Sediment samples were taken upgradient and downgradient of the site during 2004. No elevated parameters were noted. (Table 10 of 6/2005 Closure/Interim Corrective Action Program Report)

Subsurface soils more than 2 feet below surface: The November 2004 subsurface samples taken at depths exceeding 2 feet did not show any site-related parameters above the commercial soil cleanup objective. (Table 7A,7B and 8 of the June 2005 Closure/Interim Corrective Action Program Report)

Groundwater: During 2004, a round of samples was collected from four shallow wells and one deep well. One shallow well (MW-2) contained 1,2 cis-dichloroethene at 7 parts per billion (ppb), just above the NYS Ambient Water Quality Standards and Guidance Value of 5 ppb. (Table 9 of the June 2005 Closure/Interim Corrective Action Program Report). No other chlorinated compounds were found in this well, the adjacent bedrock well, or other wells on-site, or in downstream sediment samples of the adjacent stream.

All known sources of contamination have been removed. No further operations are taking place at this site, so there are no known sources of contamination. Based on these considerations, the one contaminated groundwater sample described above is viewed as an isolated incident, rather than an indicator of a systemic groundwater problem.

Air (outdoors): There are low levels of benzo(a)pyrene and dibenzo(a,h)anthracene in the soil in isolated areas at the site. Since these are semi-volatile compounds, and are in very low concentrations, they are not likely to become airborne.

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3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

<b>"Contaminated" Media</b>	<b>Potential Human Receptors (Under Current Conditions)</b>						
	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Groundwater	No	No	No	No	No	—	No
Air (indoors) —	No	No	No	—	—	—	—
Soil (surface, e.g., <2 ft)	No	No	No	Yes	Yes	No	No
Surface Water	No	No	—	—	No	No	No
Sediment	No	No	—	—	No	No	No
Soil (subsurface e.g., >2 ft) —	—	—	—	No	—	—	No
Air (outdoors) —	No	No	No	No	No	—	—

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("\_ \_ \_"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

\_\_\_\_\_ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

X If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

\_\_\_\_\_ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)



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**Rationale and Reference(s):**

Construction at the site could potentially result in worker exposures to contaminated subsurface soil. However, construction at the site is not currently taking place, and NYSDEC will oversee construction of the proposed remedy. A site management plan has been developed which includes controls on future construction at the site. Also, the final remedy includes deed restrictions that require notification of NYSDEC before disturbance of any contaminated soils. The site is securely fenced to discourage trespassers, and the subsurface soil contamination is in isolated spots, rather than all in one location. This minimizes the likelihood of trespassers will encounter subsurface contamination.

The groundwater is shallow at the site. There is no current use of groundwater at the site, based on the site being vacant. Construction or trespassing at the site could potentially result in exposure to groundwater. However, as noted in item 2, groundwater at the site is no longer believed to be contaminated. The site is securely fenced to discourage trespassers, the contaminated groundwater was found in one location only and when the groundwater is exposed at the surface, the muddy condition it creates is a further deterrent to trespassers.

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be "**significant**"<sup>4</sup> (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

  X   If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

\_\_\_\_\_ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

\_\_\_\_\_ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

**Rationale and Reference(s):**

Based on the very low levels of contamination, exposures from any of the complete pathways would not be significant.

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<sup>4</sup> If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

\_\_\_\_\_ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

\_\_\_\_\_ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

\_\_\_\_\_ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

**Rationale and Reference(s):** N/A per item 4.

6. Check the appropriate RCRA Info status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

  X   YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the **INDUSTRIAL OIL TANK SERVICE CORPORATION FACILITY, VERONA, NEW YORK EPA I.D. NO.: NYD 095577342** under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

\_\_\_\_\_ NO - "Current Human Exposures" are NOT "Under Control."

\_\_\_\_\_ IN - More information is needed to make a determination.

Completed by:   Ruth Curley   Date:   6/4/09    
Name: Ruth Curley

Title: Environmental Engineer 1  
Hazardous Waste Engineering Eastern Section

Supervisor:   Daniel Evans   Date:   6/4/09    
Name: Daniel Evans

Title: Section Chief - Hazardous Waste Engineering Eastern Section

Director:   Robert J. Phaneuf   Date:   6/5/09    
Robert J. Phaneuf, P.E. - Acting Director

Bureau of Hazardous Waste and Radiation Management  
Division of Solid and Hazardous Materials



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**Locations where References may be found:**

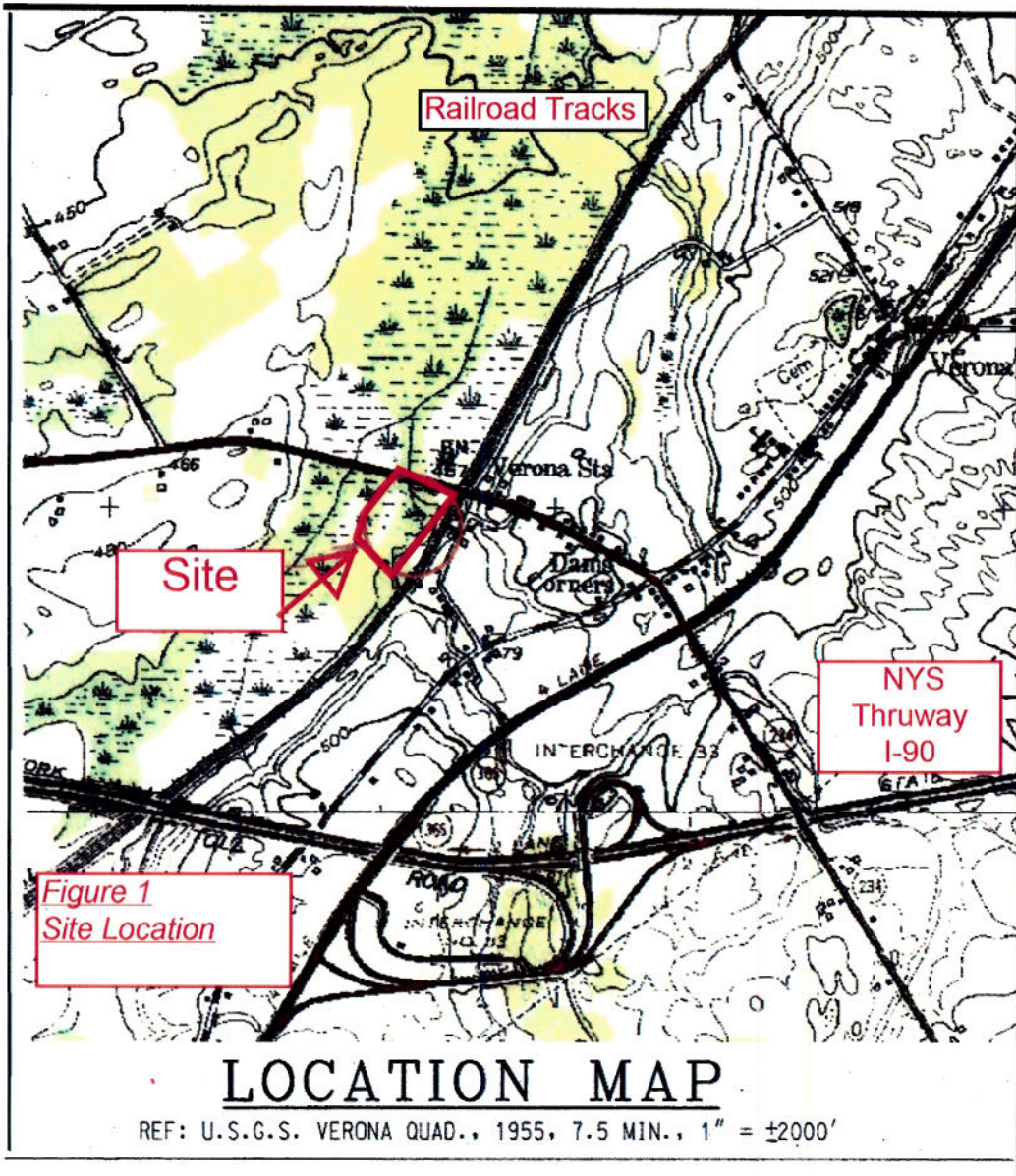
New York State Department of Environmental Conservation, Central Office  
Division of Solid and Hazardous Materials  
625 Broadway 9<sup>th</sup> Floor  
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**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**

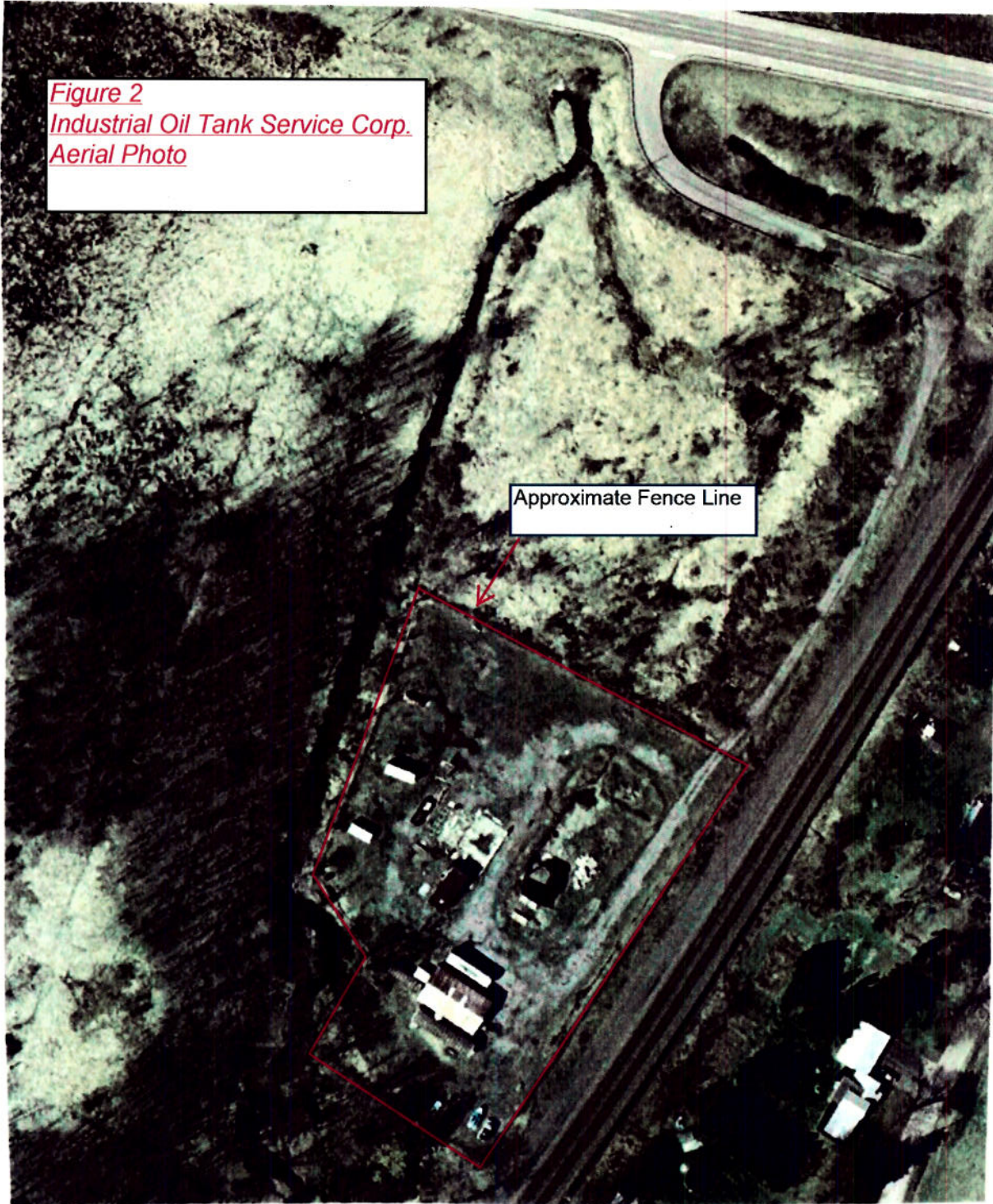
# IOTSC Verona, NY





# IOTSC Verona, NY

*Figure 2*  
*Industrial Oil Tank Service Corp.*  
*Aerial Photo*



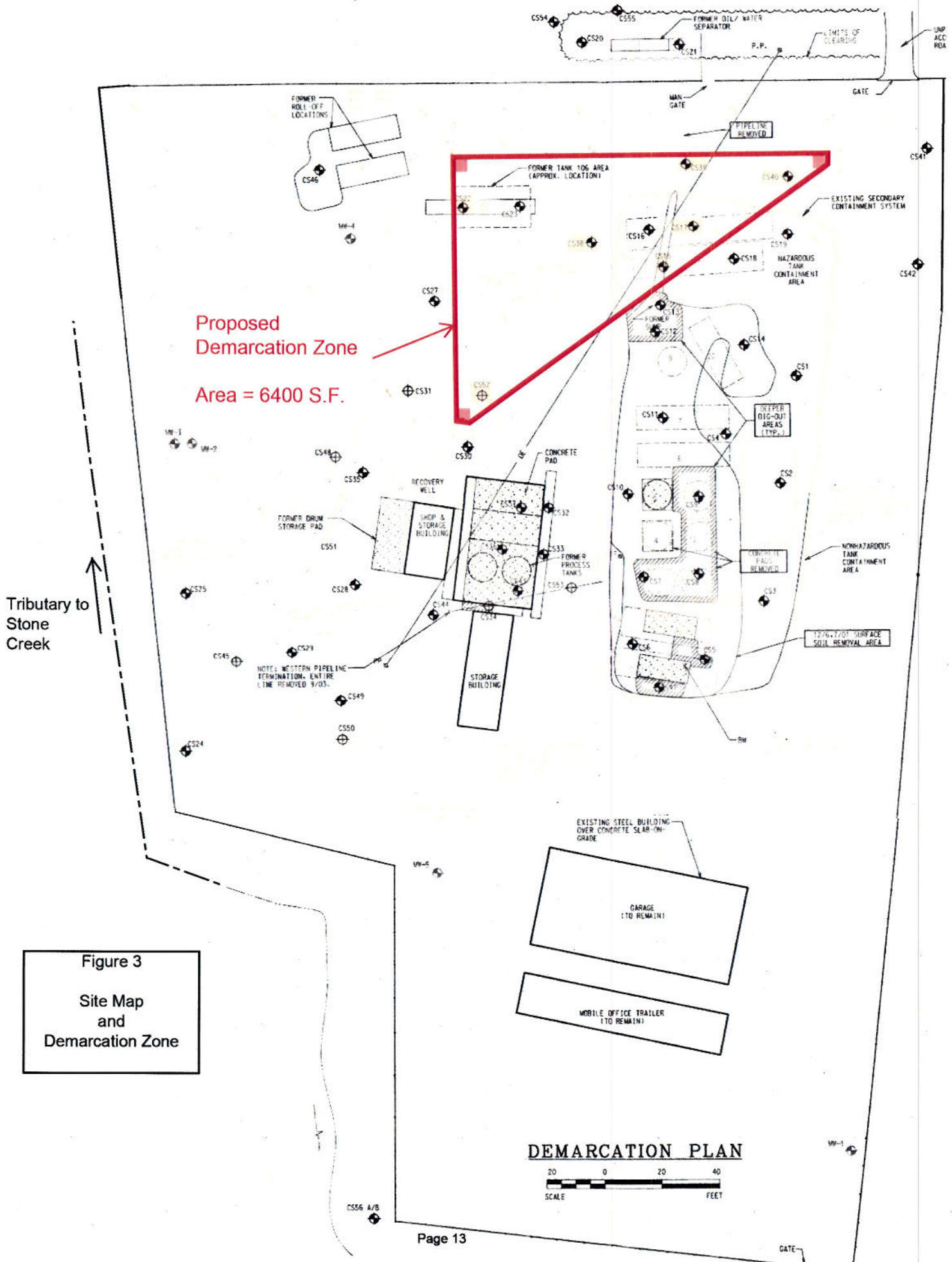


Figure 3  
 Site Map  
 and  
 Demarcation Zone