

Basis for Human Exposures Controlled Determination
RCRIS Code CA725
at
Northland Environmental Facility
EPA ID No. RID040098352
252-275 Allens Ave., Providence, RI

The purpose of this report is to provide the basis for determining that the Northland Environmental Facility can be recorded with the status code of **YE** under the RCRIS Event Code of CA725--Human Exposures Controlled.

Based on the information available/reviewed, and subject to the limitations and assumptions cited below, there is no current unacceptable exposure/risk to humans due to releases of contaminants subject to RCRA Corrective Action at this Facility. This determination is based on the conclusions described in item 1, groundwater data in item 2, conditions, limitations and assumptions in item 3 and the references in item 4, below.

1. CONCLUSIONS AND NEXT STEPS

- **Conclusions:** There is no unacceptable human exposure to any contaminant concentration above action levels that has been detected or is reasonably suspected based on **current** contaminant concentrations and **current** site conditions. Although contamination may remain at the facility that may require further remediation, physical barriers, access control and current site conditions are such that unacceptable threats to human health from actual exposure to any remaining contamination are not plausible based on **current** uses of the site.
- **Next Steps:** In order to reach a final remedy decision the limitations and assumptions associated with the groundwater data need to be further examined. The analytical data is adequate for the purposes of this evaluation at this point in time, but a prudent strategy for achieving a final remedy decision would be to obtain analytical data using SW-846 analytical methods, more frequent groundwater sampling/analysis and to follow standard QA/QC requirements for sampling and analysis. At least semi-annual sampling and analysis for metals and volatile organic compounds (VOAs) would be required and a risk assessment conducted. If the risk assessment suggests no further action, then monitoring may continue at a reduced frequency for a specified time. This is due to the nature of the current and historical operations

conducted at the facility. It is possible that contamination exists below the surface that has not yet been detected in the wells due to the low mobility of the contaminants. Therefore, limited monitoring would be appropriate. In addition, a sampling and analysis Standard Operating Procedures (SOP) manual should be developed and followed. If a risk assessment indicates that arsenic levels are too high (may need harbor sediment analysis along facility border to determine environmental risk) then the source of the arsenic contamination would need to be determined.

2. RELEASE SUMMARY DATA

- No observed or documented releases from AOCs 1-36 (Figure 2) resulted in large amounts of materials (100 gallons or more) released to soils. Most releases were either contained and collected or in the case of acids/caustics, neutralized. **(See Reference B)**
- **Groundwater:** Contaminants of potential concern are VOCs and metals. Historically, VOCs were detected at a total concentration of less than 50 ppb in some wells at the facility. VOC concentrations in the 4 down gradient wells were generally above those in the up gradient well, although the most recent data (June 1996) does not detect the presence of VOCs in any well at the method detection limits. The method detection limits range from 2 to 10 ppb with the large majority being 2 ppb. Ground water is about 6 feet below grade. All wells were installed to a depth of 21.5 feet below grade with a 15 foot, 2 inch diameter PVC screen.
- Metals have been detected at a concentration no greater than 10 ppm in any well. Historically, metals were detected in the 4 down gradient wells at concentrations generally above those in the up gradient well. Except for Arsenic in MW-5, down gradient metals concentrations are well within one order of magnitude of the up gradient well. Arsenic concentrations in MW-5 range from 9.5 to 4.5 ppm from 1994 to 1996 and appear to be trending down. **(See Reference A)**
- When comparing the 1996 background well concentrations of VOCs and metals to the other 4 wells, all concentrations are comparable except for Arsenic. **(See Reference A)**
- **Soils:** Contaminants of potential concern are VOCs and metals. This is based on materials that are handled at the facility and not on soil data. Soils have not been sampled due to the facility being fully paved and no

knowledge of releases to soils having occurred. All past releases were to paved areas and were cleaned up at the time of release. All information does not show an indication that there is a problem. (See Reference B)

3. RELEVANT SITE CONDITIONS, LIMITATIONS & ASSUMPTIONS

- There are release controls appropriate for the types of solid and liquid hazardous wastes managed (i.e., sloped concrete floors, berms, no floor drains, no cracks in floors) in all 36 AOCs. There is a low potential for release. (See Reference B)
- The facility is a Commercial Hazardous Waste Storage and Treatment Facility. The latest RI DEM inspection indicates that the facility manages the storage and treatment units in compliance with the RI DEM Rules and Regulations for Hazardous Waste Management. Based on this it is assumed that properly managed storage and treatment units have minimal potential for air release.
- The facility is currently zoned for Industrial and/or Commercial use. The surrounding property to the north and south of the facility and a sixth of a mile to the west are also zoned Industrial/Commercial. Further west of the facility is zoned Residential/Commercial. Immediately east of the site is the Providence Harbor. (See Reference B)
- Ground water flows from the west to the east and discharges into Providence Harbor. The ground water north, south and west of the facility is classified as "GB", not suitable for human consumption without treatment, by the Rhode Island Department of Environmental Management (RI DEM). Providence Harbor is immediately east of the facility. (See Reference B)
- Access to the facility is controlled by an 8 foot high chain link fence with a locked gate and an off hours guard. The site is paved with asphalt and slopes slightly to the east. Storm drains at 275 Allens Avenue collect surface water and discharge it to the city sewer system. Storm water at 252 Allens Avenue collects in a yard sump at the northeast section of the property along the banks of the harbor. This water is tested prior to release to the harbor. (See Reference B)
- There are no public water supply sources located within a 4 mile radius of the facility. The facility and the surrounding community are served by the Providence

public water supply which obtains its water from the Scituate Reservoir, 10 miles west of the facility.
(See Reference B)

- Contaminated groundwater is present only within the facility boundary. There are no public or private drinking water wells within the facility boundary or in the vicinity of the facility. The Public water supply is available on-site and in the vicinity of the site.
(See Reference B)
- The surface water pathway begins (Figure 3) with discharge to the Providence Harbor from which the water flows in a southerly direction to the Providence River. The Providence River flows south, approximately 7 miles, into the Narragansett Bay. **(See Reference B)**
- The Providence River/Harbor from Providence to Gaspee Point (5 miles south of the facility) is classified by RI DEM as "SC". This allows for secondary recreational contact, boating, industrial use, fish and wildlife habitat and good aesthetic value. **(See Reference B)**
- The facility has less than 300 feet of water front. In contrast, the Providence Harbor (Figure 1) is about 6500 feet long, 3000 feet wide and ranges from 3 feet deep (at the banks) to 35 feet deep (in the center channel). The center channel is about 1500 feet wide with about 750 feet of shallows on either side. This equals about 370 million cubic feet of water in the harbor. The dilution effect this volume of water has on the relatively insignificant amount of groundwater entering the harbor is more than enough to minimize risk to human health. **(See Reference B)**
- Contaminated ground water will discharge to the Providence Harbor at the facility boundary. Unacceptable off-site human exposures are not plausible due to the lack of public use of the harbor due to its Class "SC" rating by the RI DEM and the significant dilution of low level ground water contamination in the receiving surface water. **(See Reference B)**
- Exposure of trespassers, on-site workers or visitors to possibly contaminated soils is implausible due to access control and the asphalt paving. **(See Reference B)**
- Except for Arsenic, all other 1996 metals concentrations in groundwater are either at or below the Federal Drinking Water standards or the Federal Ambient Water Quality Criteria - Acute Marine levels

(for Antimony, Cadmium, Lead, Selenium and Thallium).
(See Reference A,C & D)

- Limitations on the data include the following: 1) the data has not been validated, 2) the analytical methods used are older NPDES methods that may not yield results as accurate as the newer SW-846 methods nor do they analyze for all the same constituents, 3) the well logs are not available, 4) well purging procedures are not stated, 5) sample handling, holding times, preservation and QA/QC blanks and/or spikes are not included. In general, a sampling and analytical Standard Operating Procedures (SOP) manual and QA/QC documentation are not available for review and the analytical methods are not the standard RCRA methods.

4. REFERENCES

- A. Groundwater Sampling and Analysis Report, December 1996, by Award Environmental, Inc. and all previous Groundwater Sampling Reports beginning in 1993 - for Northland Environmental Inc.
- B. Preliminary Assessment-Plus Final Report, September 1992, by TRC Environmental Corporation - for EPA.
- C. US EPA, Ambient Water Quality Criteria, 1992.
- D. US EPA, Drinking Water Regulations and Health Advisories, October 1996.

4. SIGN OFF

Prepared by Frank Battaglia Date 4/29/97
Frank Battaglia, RFM

Approved by Matthew Hoagland Date 6/9/97
Matthew R. Hoagland, Chief
Corrective Action Section



BASE MAP IS A PORTION OF THE FOLLOWING 7.5' x 15' U.S.G.S. QUADRANGLE:
PROVIDENCE, RHODE ISLAND—MASSACHUSETTS



QUADRANGLE LOCATION

LOCATION MAP

STABLEX (RI), INC.
(NORTHLAND ENVIRONMENTAL, INC.)
PROVIDENCE, RHODE ISLAND

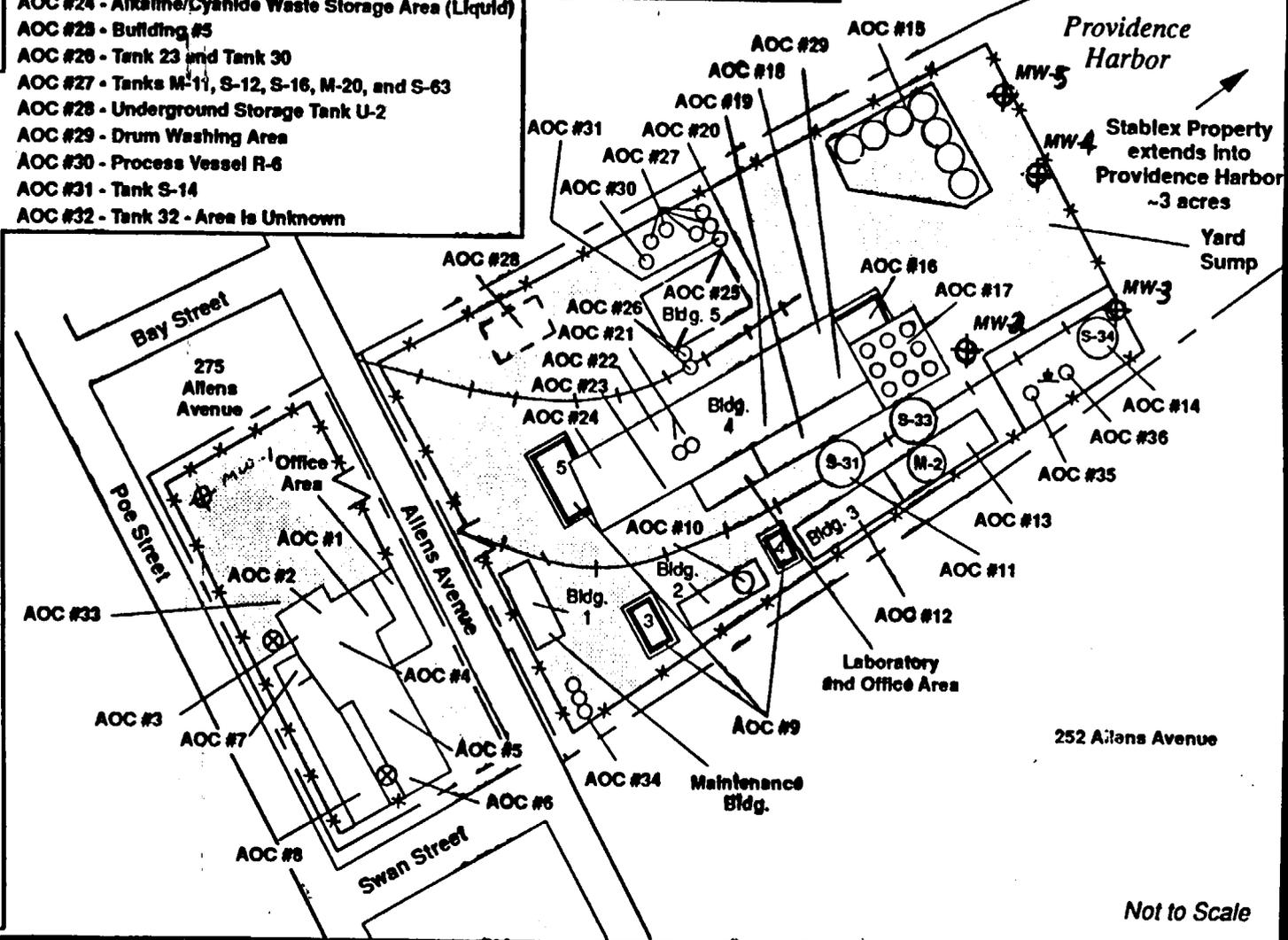
TRC Companies, Inc.

Figure 1.



- AOC #20 - De-drumming Area (Liquid)
- AOC #21 - Tank FS-2 and Tank 27
- AOC #22 - Oxidizer Storage Room
- AOC #23 - Filter Press
- AOC #24 - Alkaline/Cyanide Waste Storage Area (Liquid)
- AOC #25 - Building #5
- AOC #26 - Tank 23 and Tank 30
- AOC #27 - Tanks M-11, S-12, S-16, M-20, and S-63
- AOC #28 - Underground Storage Tank U-2
- AOC #29 - Drum Washing Area
- AOC #30 - Process Vessel R-6
- AOC #31 - Tank S-14
- AOC #32 - Tank 32 - Area is Unknown
- AOC #33 - Roll-Off #158
- AOC #34 - Tanks S-37, S-38, S-39
- AOC #35 - Tank S-31A
- AOC #36 - Tank S-35

- AOC #1 - Warm Room (Solid)
- AOC #2 - Overflow Acid Waste Storage Room (Solid)
- AOC #3 - Bulk Roll-Off Storage Area #1 (Solid)
- AOC #4 - Staging Area (Solid)
- AOC #5 - Classified Alkaline/Cyanide Waste Storage Area (Solid)
- AOC #6 - Bulk Roll-Off Storage Area #2/Classified Acid Waste Storage Area (Solid)
- AOC #7 - Unclassified Acid Waste Storage Area (Solid)
- AOC #8 - Unclassified Alkaline/Cyanide Waste Storage Area (Solid)
- AOC #9 - Bulk Roll-Off Storage Areas #3, #4, and #5 (Solid)
- AOC #10 - Building #2/Tank S-36
- AOC #11 - Tank S-31
- AOC #12 - Building #3/Raw Materials Storage Area
- AOC #13 - Building #3/Non-hazardous Waste Treatment Room
- AOC #14 - Tank S-34
- AOC #15 - Organic Tank Farm
- AOC #16 - Eastern Unloading/Loading Dock Area (Liquid)
- AOC #17 - Inorganic Tank Farm
- AOC #18 - Acid Waste Warehouse (Liquid)
- AOC #19 - Wastewater Treatment System Plant



Providence Harbor
 Stablex Property extends into Providence Harbor ~3 acres
 Yard Sump

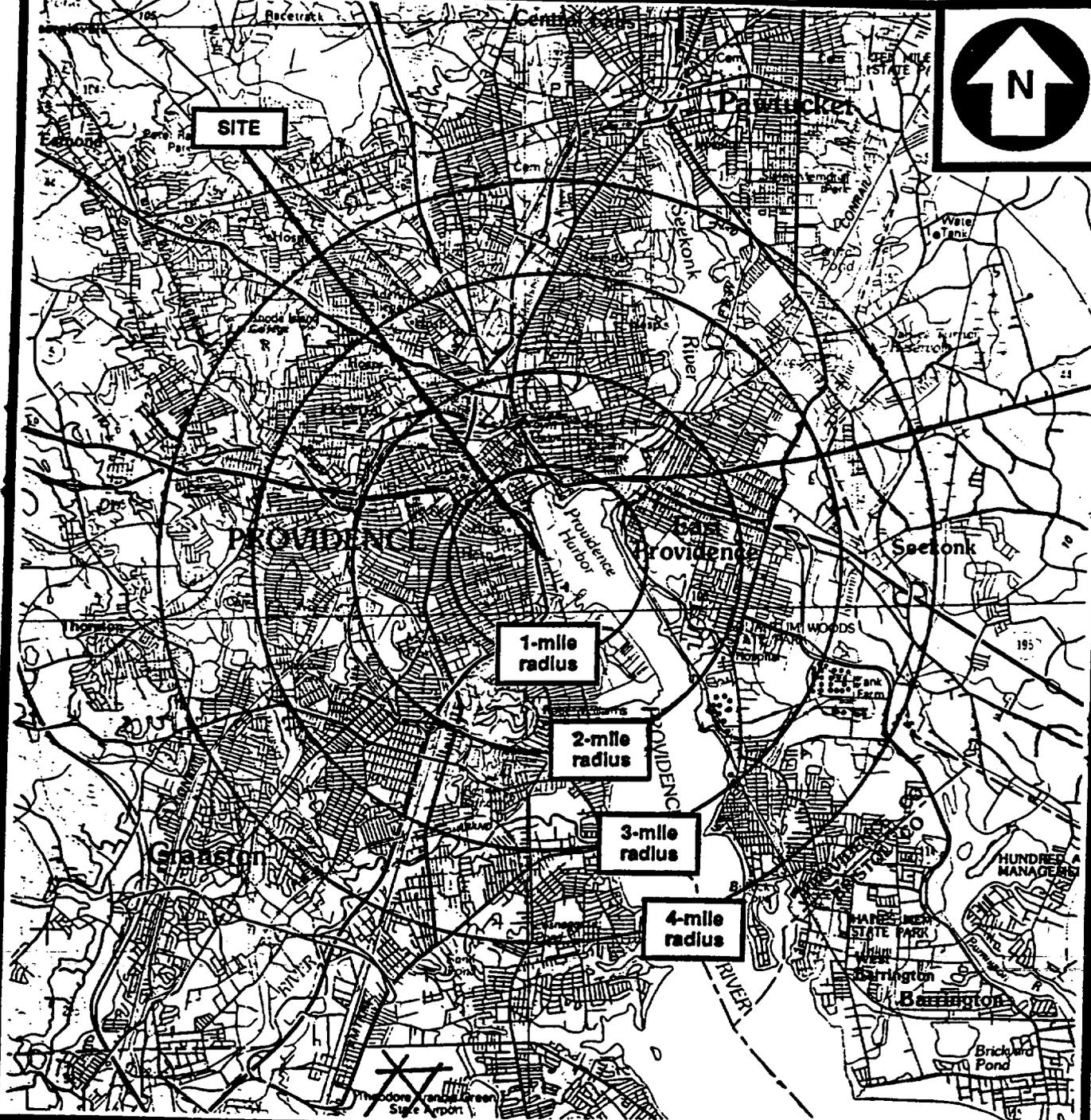
Not to Scale

- Monitoring Well
- Paved Area
- Fence
- Locking Gate
- Approx. Site Boundary
- Storm Drain
- Grass
- Area of Underground Storage Tank (UST)
- Above Ground Storage Tank (AST)
- Bermed Areas/Roll-off Storage Area Number
- Railroad Tracks
- Building Not Entered

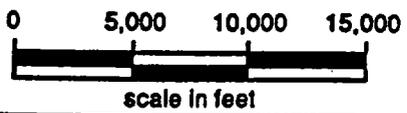
SITE SKETCH
 STABLEX (RI), INC.
 (NORTHLAND ENVIRONMENTAL, INC.)
 PROVIDENCE, RHODE ISLAND



Figure 2.



BASE MAP IS A PORTION OF THE FOLLOWING 30' x 60' U.S.G.S. QUADRANGLE:
 PROVIDENCE, RI-MA-CT, 1984



FOUR-MILE RADIUS MAP

**STABLEX (RI), INC.
 (NORHLAND ENVIRONMENTAL, INC.)
 PROVIDENCE, RHODE ISLAND**

TRC Companies, Inc.

Figure 3.