

Five-Year Review Report

for

Nascolite Corporation Superfund Site

Cities of Millville and Vineland

Cumberland County, New Jersey

2008

PREPARED BY:

**U.S. Environmental Protection Agency
Region II
New York, New York**

Five-Year Review Report

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EXECUTIVE SUMMARY

A five-year review for the Nascolite Corporation Superfund site, located in the cities of Millville and Vineland, Cumberland County, New Jersey, was completed in August 2008. The remedy selected in the Records of Decision for the site included on-site treatment of contaminated soils, provision of an alternate water supply for potentially affected residents, and remediation of ground water contamination. The alternate water supply, which provides public water to residences on Doris Avenue, was constructed in 1989. As a result of information obtained during the remedial design for the soil portion of the remedy, EPA issued an Explanation of Significant Differences which modified the remedy for the contaminated soils from on-site treatment to off-site treatment and disposal. The site achieved construction completion status in 2003. This five-year review was conducted as a matter of EPA policy. The triggering action for this policy review was the signing of the Preliminary Close Out Report on September 30, 2003.

Based upon a review of the Records of Decision, the Explanation of Significant Differences, the Preliminary Close Out Report, a number of reports prepared by a contractor and inspections of the site, it has been concluded that the remedies at the site function as intended by the Records of Decision as modified by the Explanation of Significant Differences and protect human health and the environment. Potential impacts of contaminated soil were addressed through removal of the contaminated soil. The ground water contamination is being addressed through an on-site remediation system. To date, more than 750 million gallons of ground water have been treated at the site. Operation of the ground water remediation system is ongoing.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): NASCOLITE CORPORATION		
EPA ID (from WasteLAN): NJD002362705		
Region: 2	State: NJ	City/County: Cities of Millville and Vineland/Cumberland County
SITE STATUS		
NPL status: <input checked="" type="checkbox"/> Final <input type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Constructed <input checked="" type="checkbox"/> Operating		
Multiple OUs?* <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Construction completion date: 9/30/03	
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A		
REVIEW STATUS		
Lead agency: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency		
Author name: Lawrence A. Granite		
Author title: Remedial Project Manager	Author affiliation: EPA	
Review period:** September 2003 to August 2008		
Date(s) of site inspection: 11/7/07		
Type of review: <input checked="" type="checkbox"/> Post-SARA <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Regional Discretion		
Review number: <input checked="" type="checkbox"/> 1 (first) <input type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: <input type="checkbox"/> Actual RA Onsite Construction at OU #1 <input type="checkbox"/> Actual RA Start at OU# 1 <input checked="" type="checkbox"/> Construction Completion <input type="checkbox"/> Previous Five-Year Review Report <input type="checkbox"/> Other (specify)		
Triggering action date (from WasteLAN): 09/30/03		
Does the report include recommendation(s) and follow-up action(s)? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		
Is the remedy protective of the environment? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> not yet determined		

* ["OU" refers to operable unit.]

** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form (continued)

Issues, Recommendations, and Follow-Up Actions

To rule out vapor intrusion for existing residents, a round of ground water samples from the sidegradient monitoring wells (5S, 6S and 10S) should be collected. Likewise, obtaining data from ground water monitoring well 7S would be helpful in verifying that ground water extraction well EW-1 is capturing any shallow contamination and preventing it from migrating downgradient. Information obtained from these shallow monitoring wells would also be helpful in evaluating the potential for vapor intrusion if development occurs on portions of the property.

Protectiveness Statement

The ground water remedy at OU I currently protects human health and the environment because operation of the ground water remediation system at the site is ongoing and there is no known exposure pathway. However, in order for the OU I remedy to be protective in the long-term, the following actions need to be taken to ensure long-term protectiveness:

- Address the above-mentioned issues and implement the associated recommendations; and
- Continue implementation of the OU I remedy.

The soil remedy at OU II currently protects human health and the environment because the remedy has been completed and there is no known exposure pathway. However, in order for the remedy to be protective in the long-term, the following action needs to be taken to ensure long-term protectiveness:

- File a deed notice for the contamination on the Conrail property.

Because the implemented remedy for both OUs is protective in the short-term, the site is considered protective in the short-term.

**Nascolite Corporation Superfund Site
Cities of Millville and Vineland, New Jersey
First Five-Year Review**

I. Introduction

This first five-year review for the Nascolite Corporation site, located in the cities of Millville and Vineland, Cumberland County, New Jersey, was conducted by the United States Environmental Protection Agency's (EPA's) Remedial Project Manager (RPM), Lawrence Granite. The five-year review was conducted pursuant to policy and in accordance with the Comprehensive Five-Year Review Guidance, OSWER Directive 9355.7-03B-P (June 2001). The purpose of five-year reviews is to ensure that implemented remedies are protective of human health and the environment and that they function as intended by the decision documents. This document will become part of the site file.

The remedial action for the site was divided into two operable units (OUs): operable unit I (OU I) addresses the contaminated ground water and operable unit II (OU II) addressed other contaminated source areas, such as buildings, soil and debris.

It is the policy of EPA to conduct five-year reviews at sites where the remediation will take longer than five years. Construction of the ground water remediation system under OU I was completed in 1996 and continues to operate. The OU II remedy was completed in 2003. The trigger for this first five-year review is the Preliminary Close Out Report which was signed by EPA on September 30, 2003.

II. Site Chronology

See Table 1 for site chronology.

III. Background

Physical Characteristics

The Nascolite Corporation site is located at the western end of Doris Avenue on the municipal boundary of the cities of Millville and Vineland, Cumberland County, New Jersey (see Figure 1). The Maurice River is located approximately one mile to the southwest of the site. The river runs north to south, feeding and draining the man-made Union Lake.

Currently, much of the site is underlain by clean remediation backfill. The deepest soil excavation performed during EPA's remedial action at the site was approximately 16 feet below ground surface.

The underlying geology at the site consists of alternating layers of sand and silt of the Cohansey Formation. The permeable zones include the "Upper Zone" extending to a depth of approximately 25 feet, "Zone A" from approximately 38 to 65 feet deep, and "Zone B" from approximately 80 to 120 feet deep. These permeable zones are separated by finer-grained deposits of silt and clay that restrict, to a degree, the vertical movement of water.

Wetlands are located in the southern portion of the site.

Land and Resource Use

The Nascolite property covers an area of about 17.5 acres. Seven dilapidated structures that were formerly occupied by the Nascolite Corporation were demolished as part of EPA's remedial action at the site.

Access to a ground water remediation system at the site is limited by a fence. The remediation system includes ground water extraction wells, underground conveyance piping to a treatment plant building, tanks, and ground water injection wells. In addition, an access road and ground water monitoring wells are present.

Conrail railroad tracks lie on the site's western border. The area surrounding the site is zoned for both residential and industrial use.

History of Contamination

The Nascolite Corporation operated between 1953 and 1980 at the site. It manufactured polymethyl methacrylate (MMA) plastic sheets. During the manufacture of MMA, solid scrap acrylic, virgin MMA monomer and liquid waste MMA were used as raw materials. The scrap material was reclaimed through a depolymerization or "cracking" process, using a molten lead heat exchange furnace. Wastewaters from non-contact cooling water and other on-site sources were discharged to a ditch southwest of the plant along Conrail railroad tracks.

Initial Response

The New Jersey Department of Environmental Protection (NJDEP) issued an Administrative Order in February 1980 requiring the Nascolite Corporation to stop discharging wastewaters into the ditch. In September 1981, an Administrative Consent Order was signed, and the NJDEP's Division of Water Resources began in-depth investigations at the site. Sampling showed significant concentrations of volatile organic chemicals (VOCs) in ground water. These findings led to the site being placed on the National Priorities List (NPL) in 1983.

EPA performed a removal action at the site from November 1987 to March 1988. It included removal of drums and storage tanks containing waste material at the site. EPA's removal action also included soil sampling. Twenty cubic yards (yd³) of contaminated soil were excavated and 30 yd³ of asbestos insulation were removed from the abandoned buildings at the site. The wastes were transported off site for disposal at facilities which were acceptable to EPA. Fencing was installed at the site and a plastic tarpaulin was placed over soils contaminated with inorganic compounds.

Basis for Taking Action

Following the listing of the site on the NPL in 1983, EPA began a remedial investigation/feasibility study (RI/FS) to determine the nature and extent of contamination at the site and to develop and evaluate remedial alternatives to determine the most cost-effective and environmentally sound remedy.

IV. REMEDIAL ACTIONS

Remedy Selection

At the conclusion of the initial RI/FS, both the NJDEP and EPA determined that a remedy could be selected for the contaminated ground water at the site, but that additional data were necessary to assess remedial options for the contaminated soils. Therefore, the site was divided into two OUs: OU I addressed the contaminated ground water, and OU II addressed other contaminated source areas, such as buildings, soil and debris.

On March 31, 1988, EPA issued a Record of Decision (ROD) which embodied EPA's remedy-selection process for OU I. The ROD required the following actions:

- Provision for an alternate water supply for potentially affected residents;
- Ground water extraction with on-site treatment and reinjection; and
- Performance of additional studies to determine appropriate remedial measures for contaminated soil and on-site buildings.

A supplemental RI/FS was conducted in March 1988 to identify remedial alternatives for site soils and structures. A March 1991 Final RI/FS report indicated that the primary contaminant detected in the soils was lead. On-site structures were in a dilapidated state and portions of them were contaminated with asbestos and asbestos-contaminated materials, which were in a friable state. On June 28, 1991, EPA signed a ROD for OU II. The major components of the selected remedy for OU II were:

- Structure demolition including asbestos abatement with appropriate disposal;
- Excavation and solidification/stabilization of unsaturated and wetlands soils contaminated above cleanup standards;
- Replacement of solidified soils on the site;
- Restoration of affected wetlands; and
- Appropriate environmental monitoring to ensure the effectiveness of the remedy.

EPA issued an Explanation of Significant Differences (ESD) in September 2004 to explain a change to the remedy selected in the 1991 ROD. This change was related to that portion of the remedy which addressed the treatment of soil and was the result of information obtained subsequent to the 1991 ROD. The other components of the remedy selected in the 1991 ROD did not change.

The 1991 ROD called for excavation and solidification/stabilization of unsaturated and wetlands soils contaminated above cleanup standards, with replacement of solidified soils on the site. The ROD anticipated that the majority of site soils would meet regulatory levels after treatment. However, the ROD

also anticipated that there would be a volume of wetlands soils that would not be amenable to solidification/stabilization. The ROD stated that this volume would be determined during field activities and that it would be transported for appropriate off-site treatment and disposal. The ROD further stated that localized areas of soil contaminated with organic compounds may be excavated and disposed of off site at an appropriate facility if they were determined to interfere with or be unaffected by the solidification/stabilization process. The ROD indicated that for cost estimation purposes, it was estimated that 10 percent of the contaminated soils would not be amenable to solidification/stabilization treatment, and would have to be disposed of off site.

The ROD estimated that there were approximately 8,000 yd³ of contaminated soil at the site. The remedial design did not alter the aforementioned estimate. However, sampling performed in November and December 2000 and in July 2002, in anticipation of the remedial action, indicated that the volume of contaminated soil at the site was approximately 21,000 yd³ and that it was somewhat more widely distributed. In addition, the sampling indicated that soils were significantly contaminated with MMA, which was not anticipated. EPA also determined that it would be less economical to incur the costs associated with mobilizing and demobilizing a solidification/stabilization unit at the site than treating soil off site, and that off-site disposal would be more protective, since no solidified material would be left on site. With no solidified material remaining on site, operation and maintenance costs would not be required and there would be no need for institutional controls. For these reasons, EPA decided to address the contaminated soil by taking it off site for disposal with treatment as necessary, rather than treating and disposing of the soil on site.

EPA also re-examined the cleanup goals which were established in the 1991 ROD. EPA determined that the 500 parts per million (ppm) cleanup concentration for lead was no longer consistent with the EPA and NJDEP residential cleanup goal of 400 ppm. The goal for lead was changed to 400 ppm. As per the ROD, the cleanup goal for MMA was 5 ppm, and remained unchanged. With regard to other compounds, the action levels selected were the New Jersey Soil Cleanup Criteria (NJSCC) dated May 12, 1999.

Remedy Implementation

The alternate water supply, which provides potable water to residences on Doris Avenue, was constructed in 1989 by two Potentially Responsible Parties (PRPs) under an Administrative Order on Consent with EPA.

The design of the ground water remediation system was initially undertaken and funded by EPA. The design was subsequently completed by the PRPs under a Unilateral Administrative Order with EPA oversight. The design of the ground water remediation system was completed in June 1995. The PRPs began construction of the ground water remediation system in September 1995 and completed the construction in August 1996. The system includes extraction with on-site treatment and reinjection of the treated effluent. The on-site treatment includes equalization, filtration, chemical precipitation and air stripping. Operation of the ground water remediation system is being performed by the PRPs and is ongoing. To date, more than 750 million gallons of ground water have been treated at the site.

EPA did not have evidence linking the PRPs with lead, the contaminant identified in the OU II ROD as driving the OU II remedy. Therefore, the remedial design and remedial action for OU II, soils and dilapidated structures, were funded by EPA. The remedial design was completed in February 1995. Remedial action funds became available in September 1998.

Under an Interagency Agreement (IAG) with the U.S. Army Corps of Engineers (USACE), a contract for the demolition of the dilapidated structures was awarded to CATI Inc. in October 1999. The demolition contractor mobilized to the site in November 1999. Seven dilapidated structures were demolished. This generated approximately 1,256 tons of material which were transported off site for disposal at facilities acceptable to EPA. The work also included asbestos abatement. The final inspection held in May 2000 determined that the work had been successfully completed.

Under the above-mentioned IAG, USACE also awarded a contract to TN & Associates, Inc. in August 2002 for the remediation of the soil. In the second phase of the OU II remedial action, contaminated soil was excavated and sent off site for treatment and/or disposal. Construction activities began in December 2002 and were completed in September 2003. Despite the supplementary sampling performed in 2000 and 2002, additional quantities of

contaminated soil were discovered during construction. A total of approximately 42,000 yd³ of contaminated soil were excavated and transported off site for treatment and/or disposal at facilities which were acceptable to EPA. The off-site facilities included Clean Earth of North Jersey, Inc. in South Kearny, New Jersey; G.R.O.W.S. Landfill in Morrisville, Pennsylvania; and Taylor County Landfill in Mauk, Georgia. Treatment technologies employed by the off-site facilities prior to landfilling included stabilization and chemical oxidation. Restoration activities were also completed.

The NJSCC provides three cleanup goals for compounds based on differing potential exposure pathways. Those pathways are residential direct contact, non-residential direct contact and impact to ground water. With limited exceptions, the most stringent cleanup criterion for each compound was used. The exceptions included areas in which excavation could not be performed without compromising the integrity of the Conrail railroad tracks. The limits of excavation in these areas were coordinated with Conrail.

In the northern area of the site, the soil contamination extended beneath the PRPs' shallow ground water extraction system. As a result, approximately 16 well-points were removed during the soil remediation. The PRPs were not required to reinstall the aforementioned portion of the extraction system because EPA's extensive excavation of contaminated soil removed the source of the shallow ground water contamination. However, EPA requested that the PRPs evaluate measures to improve the effectiveness of ground water remediation at the site.

A Classification Exception Area (CEA) is a reliable institutional control in accordance with the requirements of the NJDEP. It is an area that controls where and what type of ground water wells can be installed. EPA's remedy for the site does not call for a CEA. However, as per NJDEP's request, EPA requested that the PRP Group complete the forms that were necessary to establish a CEA for the entire site. EPA further requested that the CEA cover the plume, not just the physical property boundary. The PRP Group complied, and NJDEP established the CEA in December 2007.

NJDEP requested the filing of a deed notice for the contamination on the Conrail property. Conrail has agreed in principle to proceed with the requested deed notice.

System Operations/Operation and Maintenance

The objective of the soil remedy was to eliminate the threat of direct contact with contaminants and to remove a source of ground water contamination. There is no operation, maintenance or monitoring associated with this remedial action.

The ground water remedy consists of extracting the contaminant plume, treating the contaminated ground water on site, and reinjecting the treated effluent back into the aquifer. The ground water cleanup activities are conducted by the Nascolite PRP Group pursuant to the Partial Consent Decree in the matter of U.S.A. v. American Optical Corporation, et al., entered on April 21, 1997. The PRP Group employs Brown and Caldwell, an environmental engineering and consulting firm with an office in Allendale, New Jersey, to coordinate the ongoing ground water cleanup activities. Oversight of the Nascolite PRP Group is performed by EPA. The USACE provides assistance in the oversight of the ground water cleanup activities through an IAG with EPA. The cleanup activities include monitoring of the ground water extraction wells and are covered by an approved Operation and Maintenance Manual. The ground water is treated to meet federal and state discharge levels identified by the State in its March 21, 1996 New Jersey Pollutant Discharge Elimination System Discharge to Ground Water (NJPDES-DGW) Permit Equivalent for the Nascolite Corporation site. The NJPDES-DGW Permit Equivalent also requires certain ground water monitoring wells at the site to be sampled on either a quarterly or annual basis. The cost of the ground water cleanup activities is paid for by the PRP Group.

V. Five-Year Review Process

Administrative Components

The five-year review team included Lawrence Granite (EPA-RPM), Robert Alvey (EPA-Geologist), Chloe Metz (EPA-Human Health Risk Assessor) and Natalie Loney (EPA-Community Involvement Coordinator).

Community Involvement

The EPA Community Involvement Coordinator for the Nascolite Corporation site, Natalie Loney, published a notice in The Daily Journal, a local newspaper, on March 18, 2008, notifying the community of the initiation of the five-year review process. It

was also indicated that once the five-year review is completed, the results will be made available in the local site repository. In addition, the notice included the RPM's address and telephone number for public inquiries related to the five-year review process or the Nascolite Corporation site. No phone calls or letters from the public were received as a result of the above-described Public Notice.

EPA's RPM, Lawrence Granite, called representatives of the City of Millville's Engineering Department and the City of Vineland's Health Department on April 15, 2008 to inform them about the planned five-year review. Neither representative identified any concerns regarding the site. When this five-year review is completed, copies will be sent to the representatives of the aforementioned departments.

Document Review

The documents, data, and information which were reviewed in completing the five-year review are summarized in Section X at the end of this document.

Data Review

A remedial action contract was awarded in August 2002 to address the contaminated soil at the site. Construction activities began in December 2002 and were completed in September 2003. In order to assure that contaminated soil was properly addressed, samples were analyzed from the sides and bottom of excavation areas prior to backfilling, and additional excavation was performed when necessary. Detailed information regarding the excavation activities can be found in the contractor's Remedial Action Report.

The PRP Group is performing the ground water remediation at the site with EPA oversight. The activities include operation of the ground water remediation system and ground water monitoring to evaluate the effectiveness of the remedy. Ground water monitoring wells are sampled in accordance with the NJPDES-DGW Permit Equivalent for the site and analyzed for organic compounds and metals. Ground water is sampled using EPA's low flow (low stress) sample collection technique except when there is an insufficient quantity of ground water in the well to allow for this technique. There have been some decreases in contaminant concentrations. In November 1982, sampling of three on-site wells indicated that benzene was present at a maximum

concentration of 340 ppb. During recent ground water sampling, the maximum concentration of benzene was 51 ppb. With respect to ethylbenzene, the maximum concentrations detected in the 1982 analysis and during a recent analysis were 7700 ppb and 3600 ppb, respectively. Lastly, the maximum concentration of toluene in the 1982 analysis was 440 ppb. For comparison, toluene was not detected at a concentration greater than the laboratory reporting limit of 0.16 ppb in monitoring wells sampled by the PRPs in 2008. EPA will evaluate the need for additional ground water monitoring wells at the site.

Operation of ground water extraction wells EW-4 and EW-3 were suspended in May 2004 and August 2006, respectively. The improved quality of the ground water extracted from EW-4 and EW-3 did not justify their continued operation. This is illustrated by Figures 2 and 3 which were prepared by the PRPs' technical representatives. EPA requested that EW-4 and EW-3 be maintained so that they could be readily returned to service if warranted by any subsequent sampling results. However, to date, subsequent sampling results have not indicated the need to return either extraction well to service. The remaining ground water extraction wells, EW-1 and EW-2, continue to operate.

One issue that has been raised by the PRP Group is the possibility of ground water contaminants, such as methyl tertiary-butyl ether, originating from off-site sources unrelated to the Nascolite Corporation site. EPA will consider this possibility in its future decision-making for the site. In addition, EPA will provide input to the PRP Group to facilitate optimization efforts related to the ongoing ground water remediation.

Site Inspection

The RPM visited the site on a regular basis during the OU II remedial action. In addition, he visited the site with an EPA Geologist and an EPA Human Health Risk Assessor on November 7, 2007. The RPM's most recent site visit was on August 13, 2008. Conditions observed indicate that the site is being properly operated and maintained. Further, the PRP Group staffs the ground water treatment plant at the site five days per week. The PRP Group also checks the treatment plant every evening, and twice per day on weekends and holidays, via a remote system.

VI. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The remedy is functioning as intended. As outlined in the 2004 ESD for OU II, the contaminated soil was excavated to residential and, in a few cases because of technical infeasibility, non-residential cleanup values. Therefore, the direct contact exposure pathway is no longer a concern. A fence is also in place to prevent on-site trespassing. Consistent with the ROD for OU I, the contaminated ground water is actively being pumped and treated. Nearby businesses and residences, including those on Doris Avenue closest to the site, receive water from a public supply. Therefore, exposure to contaminated drinking water is not taking place.

Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of the remedy selection still valid?

There are no changes in the physical conditions of the site or site uses that would affect the protectiveness of the selected remedy. The site is currently zoned industrial and the surrounding area is zoned both residential and industrial. The owner of the property has expressed interest in developing portions of the property located outside of the former Nascolite facility area for both residential and recreational purposes.

The exposure assumptions and the toxicity values that were used to estimate the potential risk and hazards to human health followed the general risk assessment practice at the time the risk assessment was performed. Although the risk assessment process has been updated since then, and specific parameters and toxicity values may have changed, the risk assessment process that was used is still consistent with current practice and the need to implement a remedial action remains valid.

Vapor intrusion was not evaluated in the original risk assessment, however. As the plume is currently delineated, nearby residents are not expected to be impacted by vapor intrusion. Several of the shallow sidegradient ground water monitoring wells and one shallow downgradient ground water monitoring well have not been sampled for many years. The NJPDES-DGW Permit Equivalent does not require sampling of the aforementioned wells. However, to rule out vapor intrusion for

existing residents, a round of ground water samples from the sidegradient monitoring wells (5S, 6S and 10S) should be collected. Likewise, collecting data from ground water monitoring well 7S would be helpful in verifying that ground water extraction well EW-1 is capturing any shallow contamination and preventing it from migrating downgradient. Information collected from these shallow monitoring wells would also be helpful in evaluating the potential for vapor intrusion if development occurs on portions of the property.

One of the main objectives of the response action was to restore ground water underlying the site to levels consistent with drinking water quality. Because MMA and 4-methylphenol do not have state or federal standards, cleanup values were developed using available toxicity information. This information has not changed since the cleanup values were established. Although the ground water has not yet been restored, continued treatment could result in levels consistent with drinking water quality in the future.

The soil cleanup was driven by the presence of elevated lead concentrations throughout the former facility area. Confirmatory sampling indicates that the New Jersey Residential Direct Contact Soil Cleanup Criteria (RDCSCC) value of 400 ppm for lead was achieved across the site. New Jersey RDCSCCs were met for all other contaminants, except MMA. The MMA cleanup value of 5 ppm was established by EPA in the ROD for OU II and is considered protective of the residential direct contact scenario. Also, as stated earlier, because of technical infeasibility, some soil concentrations in the source area do not meet the RDCSCC. They do meet the Non-Residential Direct Contact Soil Cleanup Criteria, however. See Table 2 for a description of these areas. Because these non-residential concentrations were either very close to the railroad tracks or at depth, the remedy is considered protective. Other contaminant concentrations detected above cleanup values were detected below the water table. They were not addressed by the soil remediation and are expected to be addressed by the ground water remedy.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

Technical Assessment Summary

The soil remedy was performed in accordance with the June 1991 ROD as modified by the ESD. The ground water portion of the remedy is operational and functional.

VII. Recommendations and Follow-Up Actions

To rule out vapor intrusion for existing residents, a round of ground water samples from the sidegradient monitoring wells (5S, 6S and 10S) should be collected. Likewise, collecting data from ground water monitoring well 7S would be helpful in verifying that ground water extraction well EW-1 is capturing any shallow contamination and preventing it from migrating downgradient. Information collected from these shallow monitoring wells would also be helpful in evaluating the potential for vapor intrusion if development occurs on portions of the property. Otherwise, there are no recommendations or follow-up actions stemming from this five-year review.

VIII. Protectiveness Statement

The ground water remedy at OU I currently protects human health and the environment because operation of the ground water remediation system at the site is ongoing and there is no known exposure pathway. However, in order for the OU I remedy to be protective in the long-term, the following actions need to be taken to ensure long-term protectiveness:

- Implement the above-mentioned recommendations; and
- Continue implementation of the OU I remedy.

The soil remedy at OU II currently protects human health and the environment because the remedy has been completed and there is no known exposure pathway. However, in order for the remedy to be protective in the long-term, the following action needs to be taken to ensure long-term protectiveness:

- File a deed notice for the contamination on the Conrail property.

Because the implemented remedy for both OUs is protective in the short-term, the site is considered protective in the short-term.

IX. Next Review

The next five-year review for the Nascolite Corporation site should be completed by August 2013.

Approved:

for John S. Trisco
George Pavlou, Acting Director
Emergency and Remedial Response Division

8/28/08
Date

X. Bibliography for Nascolite Corporation Superfund Site

- Record of Decision, EPA, March 1988
- Administrative Order, Index No. II-CERCLA-00115, EPA, September 1990
- Record of Decision, EPA, June 1991
- New Jersey Pollutant Discharge Elimination System Discharge to Ground Water Permit Equivalent, NJDEP, March 1996
- Request for Approval of a Proposed Settlement in the Nascolite Corporation, Millville and Vineland, NJ Superfund Site, EPA, September 1996
- Partial Consent Decree in the matter of U.S.A. v. American Optical Corporation, et al., April 1997
- Superfund Preliminary Close Out Report for the Nascolite Corporation Site, EPA, September 2003
- Explanation of Significant Differences, EPA, September 2004
- Remedial Action Report, TN & Associates, Inc., December 2004
- Communication with Kevin Torrens, Brown and Caldwell Project Coordinator, September 2007
- Final Groundwater Classification Exception Area Submittals, HydroQual, Inc., October 2007 and December 2007
- Operational Update No. 42 of the Groundwater Extraction, Reinjection, and Treatment System, July 1, 2007 Through December 31, 2007, Nascolite Corporation Superfund Site, Millville, New Jersey, Brown and Caldwell, January 2008
- Memorandum from Chloe Metz, EPA Environmental Toxicologist, March 2008
- Communication with Anton Navarajah, NJDEP Site Manager, April 2008
- Communication with Kenneth Frazier, Bigler Associates Inc. Treatment Plant Operator, May 2008

- Communications with Robert Alvey, EPA Geologist; Francisco Barba, USACE Project Manager; and Mark Chamberlain, USACE Hydrogeologist
- Monthly Progress Reports prepared by Brown and Caldwell
- EPA guidance for conducting five-year reviews

Table 1: Chronology of Site Events	
Event	Date(s)
The Nascolite Corporation operated at the site.	1953-1980
Nascolite Corporation site listed on National Priorities List.	1983
A remedial investigation and feasibility study (RI/FS) was performed.	1984-1988
EPA performed a removal action that addressed drums and storage tanks containing waste material at the site.	1987-1988
EPA issued a ROD which embodied EPA's remedy selection process for OU I.	1988
EPA conducted a supplemental RI/FS to identify remedial alternatives for site soils, debris, and structures.	1988-1991
An alternate water supply, which provides potable water to residences on Doris Avenue, was constructed by two PRPs under an Administrative Order on Consent with EPA.	1989
EPA signed a ROD for OU II.	1991
The PRP Group constructed the ground water remediation system at the site.	1995-1996
Ground water remediation conducted by the PRP Group with EPA oversight.	1997-the present
EPA demolished and disposed of the dilapidated structures at the site.	1999-2000
Under an IAG with the USACE, a remedial action contract for the cleanup of the contaminated soil at the site was awarded.	2002
Cleanup of contaminated soils at the site was completed.	2003
EPA issued an Explanation of Significant Differences which documented changes made to the remedy for the contaminated soil.	2004

Table 2: Soil Contaminant Concentrations that Exceeded
NJ RDCSCCs

Chemical	Concentration ppm	Depth	NJ RDCSCC ppm	NJ NRDCSCC ppm
Antimony	310	6 inches (within railroad right-of-way)	14	340
PCBs	0.642	6 inches (within railroad right-of-way)	0.49	2
MMA	180	8-12 feet (within railroad right-of-way)	5*	5*
	1900	12-16 feet (within railroad right-of-way)		
Bis(2-ethylhexyl) phthalate	83	8-12 feet (within railroad right-of-way)	49	210
	75	4-8 feet (east of source area)		
	110	8.5 feet (east of source area)		

* No NJ RDCSCC or NRDCSCC exist for MMA. This value was established in the ROD and is considered protective of residential direct contact.

Table 3 - Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Vapor intrusion/ Contaminant capture	To rule out vapor intrusion for existing residents, a round of ground water samples from the sidegradient monitoring wells (5S, 6S and 10S) should be collected. Likewise, collecting data from ground water monitoring well 7S would be helpful in verifying that ground water extraction well EW-1 is capturing any shallow contamination and preventing it from migrating downgradient. Information collected from these shallow monitoring wells would also be helpful in evaluating the potential for vapor intrusion if development occurs on portions of the property.	EPA/PRP Group	EPA	2008 - 2009	No	To be determined
Conrail property deed notice	NJDEP requested the filing of a deed notice for the contamination on the Conrail property. Conrail has agreed in principle to proceed with the requested deed notice.	EPA/NJDEP/ Conrail	EPA/NJDEP	It is anticipated that a deed notice will be filed in 2009 or 2010.	No	No

Figure 1

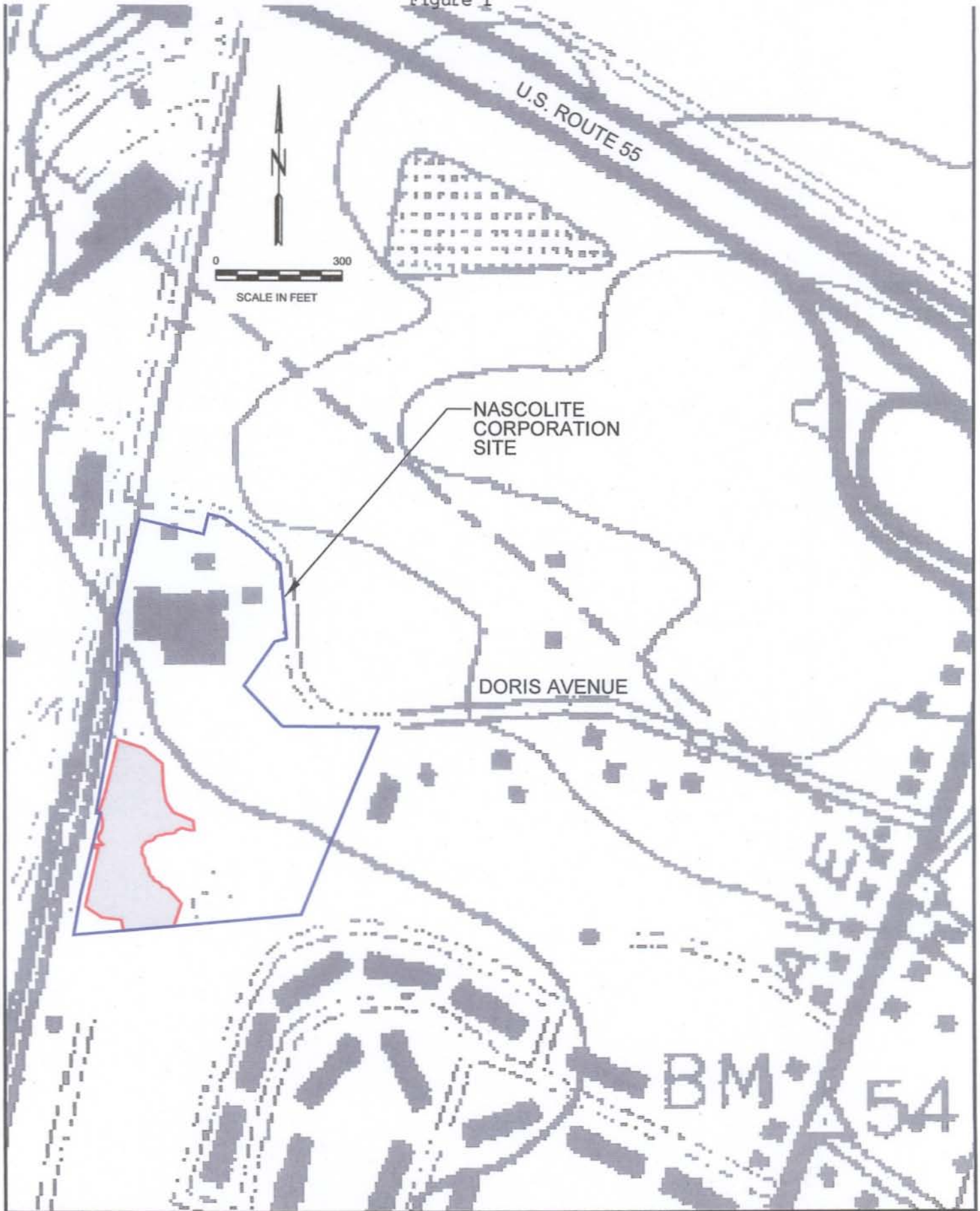


FIGURE 2
ZONE B Extraction Well EW-3

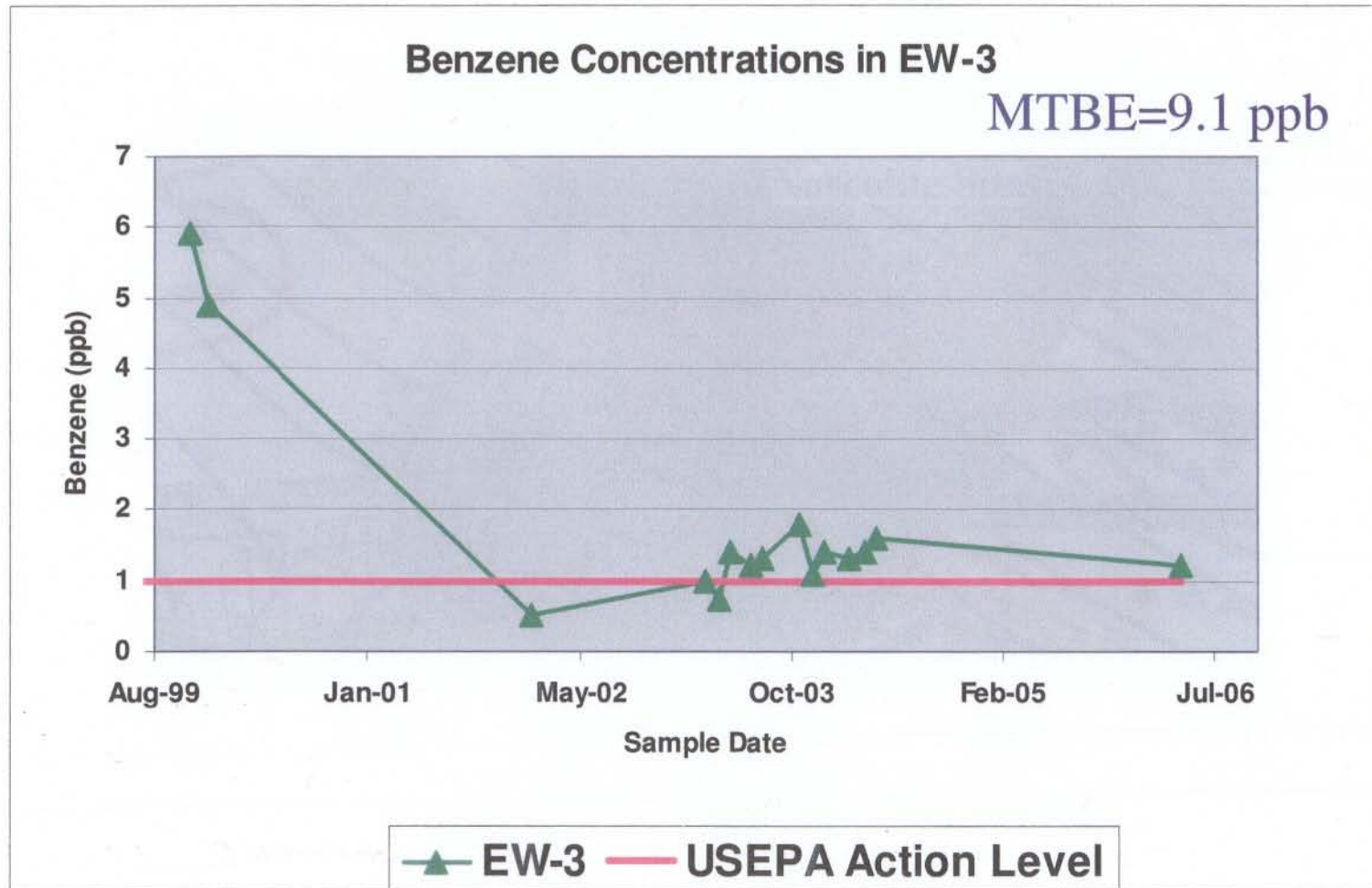


FIGURE 3
ZONE B Extraction Well EW-4

