USEPA. 2010. Memorandum Request for Authorization of Conduct a CERCLA Non-Time-Critical Removal Action at the Standard Chlorine Chemical Corporation Site, Town of Kearny, Hudson County, New Jersey. December 29, 2010.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2

DATE: DEC 29 2010

SUBJECT: Request for Authorization to Conduct a CERCLA Non-Time-Critical Removal Action at the Standard Chlorine Chemical Corporation Site, Town of Kearny, Hudson County, New Jersey

FROM: for Angela Carpenter, Chief
Special Projects Branch

TO: Walter E. Mugdan, Director
Emergency and Remedial Response Division

I. PURPOSE

The purpose of this Action Memorandum is to request authorization to conduct a non-time-critical removal action at the Standard Chlorine Chemical Company Superfund Site (Site), Town of Kearny, Hudson County, New Jersey pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675 (CERCLA). Appendix A contains a map of the site location (Figure 1-1 of the May 2009 EE/CA Report prepared by Key Environmental for the PRG) and a map depicting the major activity areas for this non-time-critical removal action (Figure 2-3 of May 2009 EE/CA report prepared by Key Environmental for the PRG).

The main contaminants at the Site are chlorinated benzene compounds such as para-dichlorobenzene, naphthalene, chromium including hexavalent chromium, polychlorinated biphenyls (PCBs), lead, and furans and dioxins, including 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD). The Site poses a threat to public health, welfare and the environment due to the potential for human and ecological receptors to be exposed to contaminants in surface soils, in surface water and in groundwater at the Site. In addition, contaminants at the Site could migrate into the adjacent Hackensack River via overland runoff of surface water or ground water discharge into the river.

Although the Site poses a threat, the U.S. Environmental Protection Agency (EPA) has determined that a sufficient planning period exists before site activities for this action need to be initiated. Accordingly, this response is being conducted as a non-time-critical removal action by Standard Chlorine Chemical Company, Inc. (SCCC), Tierra Solutions, Inc. (Tierra) and Beazer East, Inc. (Beazer), collectively known as the Peninsula Restoration Group (PRG), under the direction of the New Jersey Department of Environmental Protection (NJDEP). The non-time-critical removal action is designed to remove or contain contaminants at the Site in order to

reduce or eliminate any threats of exposure posed by surface soils and to minimize the potential for migration of contaminants from the Site.

In May 2009, a final Engineering Evaluation/Cost Analysis (EE/CA) was prepared by the PRG in support of the non-time-critical removal action for the Site. The EE/CA was made available for public comment from April 7 through May 7, 2010.

Conditions at the Site meet the criteria for a non-time-critical removal action under CERCLA and Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Site is also on the National Priorities List (NPL), so that further investigation and a feasibility study will be carried out independent of the EE/CA to determine whether additional response actions are needed to complete remediation of the Site.

II. SITE CONDITIONS AND BACKGROUD

This Action Memorandum documents the need for a non-time-critical removal action for the Site. The Comprehensive Environmental Response, Compensation, and Liability Information System ID number is NJD002175057.

A. Site Description

1. Removal Site Evaluation

The Site occupies approximately 25 acres on the Kearny Peninsula in Kearny, New Jersey. Various companies performed manufacturing operations at the Site between 1916 and 1993. These operations included the manufacturing of lead-acid storage batteries and the recovery of lead from lead oxides; the refining of naphthalene; the manufacture of products from naphthalene, naphthalene derivatives, and dichlorobenzene(s); the manufacture of dye-carriers; the formulation of drain cleaning products; and, on a limited basis during the mid-1970s, the processing of trichlorobenzene. PRG members SCCC (and its subsidiary Standard Naphthalene Products, Inc.) and Beazer (through its predecessor, Koppers Company, Inc.) owned and operated portions of the Site.

Remedial investigation activities and interim remedial measures (IRMs) have been implemented at the Site pursuant to a New Jersey Department of Environmental Protection (NJDEP) Administrative Consent Order (ACO) signed by SCCC in 1989. In addition, in 1990, Occidental Chemical Corporation (Occidental) and Chemical Land Holdings, Inc. (Tierra's corporate predecessor), entered into a separate ACO with NJDEP to address chromite ore processing residue (COPR) at 26 locations in New Jersey, including the Site. The remedial investigation activities and IRMs are described in the October 2008 Interim Response Action Workplan (IRAW) that the PRG prepared jointly for the Site and the adjacent Diamond Shamrock Site, the March 2009 IRAW Addendum, and the April 2010 Demolition Remedial Action Workplan (DRAWP), which were submitted pursuant to NJDEP's authority and oversight, as well as the May 2009 EE/CA, which was submitted to EPA under CERCLA.

The Site is located between two other contaminated properties on the Kearny Peninsula, the Diamond Shamrock Site and the Koppers Seaboard Site. Tierra owns the Diamond Shamrock Site. Prior to Tierra, the property was owned by Diamond Shamrock Chemicals Company, Occidental's corporate predecessor. All three contaminated sites are Brownfields Redevelopment sites under the NJDEP Site Remediation Program. The barrier wall and hydraulic control components of the non-time-critical removal action have been designed to contain the full extent of the organic and inorganic impacts of the Diamond Shamrock Site as well as the Standard Chlorine Chemical Company Site, and as such encompass both properties as well as a portion of the Koppers Seaboard Site to the south.

2. Physical Location

The Site is bounded by the Hackensack River to the northeast, by the Koppers Seaboard Site to the southeast, by Belleville Turnpike to the southwest, and by the Diamond Shamrock Site to the north and northwest. Railroad tracks formerly ran across the southwest corner of the Site. A north-south trending railroad right-of-way, the site of a former rail spur which is currently owned by the Hudson County Improvement Authority, traverses the eastern third of the Site.

3. Site Characteristics

The Site was originally marshlands. The marshlands were filled in with a thickness of two to eight feet of material to accommodate development, thus the fill constitutes the uppermost "soil" horizon at the Site. Much of the fill material contains COPR soils, which are alkaline in nature and contain hexavalent chromium at concentrations up to 270 milligrams per kilogram (mg/kg). COPR soils underlie roughly 85% of the Site. The water table occurs in the fill material. Hexavalent chromium is water soluble and has been detected in groundwater in the western portion of the Site. Groundwater within the fill is unconfined, is subject to a downward vertical gradient (recorded during low tide), and is not tidally influenced to any significant degree. Flow in the fill material is primarily to the south-southeast toward a drainage ditch in the southern portion of the Site, except at the eastern end of the Site where this groundwater discharges directly to the Hackensack River. The groundwater flow in the fill appears to be influenced by recharge and discharge phenomena as well as man-made features including sewerage infrastructure.

Below the fill is the original marsh layer, which consists of a two to four feet thickness of silt, humus and peat referred to as the "meadow mat." The upper surface of the meadow mat is undulating rather than planar. Below the meadow mat is a continuous sand unit generally less than ten feet thick. The organic content of the underlying meadow mat promotes reduction of the hexavalent chromium. The meadow mat also acts as a semi-confining unit that reduces, but does not eliminate, the hydraulic connection between the fill materials above and the sand unit below. Groundwater in the sand unit exists under semi-confined conditions, with flow primarily to the south-southeast.

Beneath the sand unit is a varved or laminated clay unit of very low permeability ($2.5x10^{-8}$ cm/second), which is continuous across the Kearny Peninsula and at least 40 feet thick under the Site. Below the varved clay is a glacial till unit and then Triassic-age bedrock. The depth to bedrock has not been ascertained at the Site but is believed to be comparable to that recorded in the western section of the adjacent Koppers Seaboard property (i.e., 70 feet).

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant, or Contaminant

The main contaminants at the Site are chlorinated benzene compounds such as para-dichlorobenzene, naphthalene, chromium including hexavalent chromium, PCBs, lead, and furans and dioxins, including TCDD.

Twelve different areas of concern were identified at the Site. Based on a review of the Site history and available chemical data, at least seven of the 12 are considered main potential source areas. These include the following:

- Lagoon Solids (AOC1) - The lagoon area contains water soluble chemical constituents such as chlorinated benzenes and naphthalene, which are subject to leaching and transport in the groundwater.
- Western Area Soils (AOC2) - Much of the Western Area Soils contain COPR, which contain hexavalent chromium. The hexavalent chromium also has been detected in groundwater from the area. In addition, surface soils in this area contain chlorinated benzenes and naphthalene.
- Eastern Area Soils (AOC3) - The Eastern Area Soils include COPR fill material. Sampling of the surface materials in the northern portion of the Eastern Area AOC also indicates the presence of chlorinated benzenes and dioxin/furans.
- Dense Non-Aqueous Phase Liquids (AOC7) - The DNAPL results indicated the presence of 1, 2, 4-trichlorbenzene, naphthalene and dichlorobenzene isomers. DNAPL is present in the shallow fill unit above the meadow mat in the area near the lagoons and adjacent to Building 4, but it is more widely distributed in the deeper sand unit.
- Drainage Ditch Sediments (AOC10) - Chromium, lead, naphthalene and dioxin/furans have been detected in the drainage ditch sediments.
- Hackensack River near-shore sediments (AOC11) - Hackensack River near-shore sediments sample results indicated the presence of total chromium, chlorinated aromatics, naphthalene and dioxins/furans.
- Transformer Area Soil (AOC12) - Soil samples collected in the transformer area indicated the presence of PCBs.

Chlorobenzene, dichlorobenzene isomers, naphthalene, 1,2,4 trichlorobenzene, lead and hexavalent chromium in the groundwater in the shallow fill unit exceed NJDEP Groundwater Quality Standards (GQWS) for a Class IIA (potable water supply) aquifer. In addition, chlorobenzene, benzene isomers and naphthalene were detected in the deeper sand unit groundwater at concentrations that exceed the Class IIA GWQS. Chlorinated volatile organic

Total chromium, but not hexavalent chromium, has been detected in the deeper sand unit at concentrations exceeding the Class IIA GWQS.

5. NPL Status

This Site was listed on the NPL in September 2007. The EE/CA was prepared in May 2009. The EE/CA report identifies Site conditions that meet the criteria for a removal action under Section 40 C.F.R. 300.415(b)(2) of the NCP.

6. Maps, Pictures and Other Graphic Representation

Appendix A contains a map of the site location (Figure 1-1 of the May 2009 EE/CA Report prepared by Key Environmental for the PRG) and a map depicting the major activity areas for this non-time-critical removal action (Figure 2-3 of May 2009 EE/CA report prepared by Key Environmental for the PRG).

B. Other Actions to Date

1. Previous Actions

IRMs were completed by SCCC during the early 1990s. These measures were completed under NJDEP authority and oversight and in accordance with NJDEP-approved work plans and included the following:

- Installation of security fencing surrounding the former production area and lagoons to prevent unauthorized access;
- Addition of soil to the lagoon berm to increase its height and the available freeboard to prevent potential overflows;
- Placement of geotextile and riprap along the Hackensack River shoreline in the vicinity of the lagoon;
- Removal, packaging, and secure placement of the contents of five aboveground storage tanks; and
- Packaging and secure placement of asbestos-containing materials associated with the IRMs.

In addition, in February 1991, IRMs to address chromium contamination were implemented in the western and central sections of the Site. These included:

- Installation of an asphalt pavement overlay on existing asphalt-paved traffic areas;
- Asphalt paving of traffic areas with geotextile fabric over existing soils, overlain by 4 inches of dense graded aggregate, overlain by 4 inches of asphalt;
- Construction of an interim surface cover in non-traffic areas west of the railroad right-of-way with geotextile/geomembrane liner overlain with 4 inches of dense graded

aggregate; and

- Installation of a dust fence barrier along the railroad right-of-way and north fence line to isolate the impacted surface soil in the former process area.

2. Current Actions

The Site is being addressed through a combination of Federal, State and potentially responsible party actions. In 2008, EPA initiated the process for a comprehensive site assessment for long-term cleanup options. Under the Superfund program, further investigation and a feasibility study will be carried out independent of the EE/CA to determine whether additional remedial actions are warranted. The State of New Jersey will serve as the support agency, in a consultation capacity to EPA.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

State actions are described in previous sections.

2. Potential for Continued State/Local Response

EPA anticipates that the State will remain involved at the Site. The EE/CA, prepared by the PRG, supports the performance of a non-time-critical removal action, as detailed in the IRAW that the PRG submitted to the NJDEP. EPA reviewed and commented on the IRAW. Implementation of the IRAW will be overseen by NJDEP pursuant to State authority. NDJEP will also serve as the support agency for EPA Superfund response activities.

III. THREATS TO PUBLIC HEALTH, OR WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The presence of hazardous substances, pollutants and contaminants at the Site presents an unacceptable potential risk to public health, welfare, or the environment. EPA has identified conditions in sediments and other Site media that correspond to factors identified in Section 300.415 (b)(2) of the NCP, which indicate that a removal action is necessary. Site conditions that provide a basis for a removal action under Section 300.415 (b)(2) of the NCP include:

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

Potential human exposures to chemical contaminants include receptors such as anglers and recreational users of the Hackensack River. Receptor routes include direct contact with contaminated soils or water, inhalation (from atmospheric emissions), and ingestion of contaminated soils, water or fish. A public health assessment completed by the Agency for Toxic

Substances and Disease Registry identified anglers and recreational river users, as well as people working on-site as potential receptors. The Hackensack River is used by boaters, jet skiers, canoeists and kayakers for recreational purposes. Fishing and crabbing reportedly take place in the Hackensack River from boats. There are also reportedly two popular fishing areas located within 0.5 miles of the Site. Due to the presence of PCB and dioxin contamination, Fish Consumption Advisories exist for the Hackensack River for certain fish and blue crab.

Humans could also be exposed by direct contact, inhalation and ingestion due to run-off of contaminated surface water and discharge of contaminated groundwater. The main areas of contamination at the Site include contaminated soils, two lagoons on the eastern portion of the Site with an approximate surface area of 33,000 square feet and an average depth of 6 feet, and PCB- and lead-contaminated soils and concrete near Building 2 on the western side of the Site. Surface runoff from these areas may ultimately drain into the Hackensack River via three points of entry: (1) a drainage pipe along the northern boundary of the Site; (2) a drainage ditch that runs along the southern boundary of the Site; and (3) overland runoff that flows directly from the Site to the Hackensack River.

The contaminants at the Site may cause a variety of adverse human health effects. Surface materials in the eastern portion of the site, along with Hackensack near-shore sediments, indicate the presence of chlorinated benzenes and dioxins/furans. Prior study noted the potential for TCDD releases from certain buildings in the eastern portion of the Site, including one building formerly used in processing substances associated with the potential for dioxin. TCDD is a CERCLA-designated hazardous substance as defined in Section 101(14) of CERCLA, 42 U.S.C. §9601(14). EPA has classified TCDD as a probable human carcinogen. PCBs, chlorinated benzenes and chromium are also Site-related compounds of concern. PCBs are also on the CERCLA list of hazardous substances and noted as a probable human carcinogen. Some chlorinated benzenes have been determined to pose a significant potential threat to human health due to their known or suspected toxicity and potential for human exposure. The International Agency for Research on Cancer has determined that hexavalent chromium compounds are carcinogenic to humans.

The Site, although zoned for heavy industrial use, lies in the Hackensack Meadowlands which has been identified by the United States Fish and Wildlife Service as a Significant Habitat Complex of the New York Bight Watershed. Although no federally-listed threatened or endangered species have been observed at the Site, state-listed species such as the northern harrier hawk, black-crowned night heron, and yellow-crowned night heron roost at the Site. Historically, a number of state- and federally-listed threatened or endangered species such as the bald eagle, shortnose sturgeon, dwarf wedgemussel, bog turtle and Indiana bat have been observed in the Hackensack River watershed.
The Hackensack River has been designated as Essential Fish Habitat, and there are at least seven species of fish in the Hackensack River that have management plans through the National Marine Fisheries Service. Also, the Site is located at the southern end of the Hackensack Meadowlands District, which is an Atlantic flyway stopover and nesting point for migratory birds.

(ii) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

Hackensack River near-shore sediments are contaminated with total chromium, chlorinated aromatics, naphthalene and dioxins/furans. Without a removal action to remove these sediments, an extreme weather event might erode and suspend the sediments and thereby facilitate their migration to downstream portions of the Hackensack River and Newark Bay, potentially impacting human health and the environment.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

A non-time-critical removal action is proposed to mitigate, minimize, or eliminate the potential threats to human health, welfare, or the environment from site-related hazardous substances found in various media including sediments, source materials (i.e., septic sludge, containerized materials), groundwater and DNAPL. The proposed removal action is consider non-time-critical because, although there is a potential threat to public health, welfare, or the environment, there is sufficient planning time available before the removal action must be initiated.

Removal actions included in this non-time-critical removal action are the following:

- Removal of containerized materials
  - Sampling and analysis to classify waste
  - Consolidation and over-packing of materials
- Demolition of three buildings in the eastern area of the property as necessary to allow for construction of removal action components
  - Use of straightforward traditional methods to remove asbestos-containing materials, dismantle buildings, and fill and cap any underground piping
- Removal of near-shore sediments
  - Use of straightforward traditional methods to dredge or excavate contaminated materials
  - Use of methods to control releases to surface water
- Removal of south ditch sediments

    - Use of traditional methods to excavate contaminated materials
- Removal of vault contents
    - Pumping or vacuuming out of vault contents
- Removal of septic tanks and contents
    - Removal of tanks and tank contents using traditional pumping, vacuuming and excavation techniques
- Removal of transformer pads
    - Removal of the pads using conventional techniques
- Removal and containment of DNAPL
    - Construction of a fully-enclosing barrier wall
    - Use of pumps, sumps and other proven technologies to recover DNAPL
- Removal and containment of groundwater (as necessary to promote DNAPL removal and maintain hydraulic control within the containment system)
    - Construction of a fully-enclosing barrier wall
    - Pumping to control hydraulic gradients
    - Treatment of groundwater as necessary

The non-time-critical removal action will also consist of onsite consolidation and/or offsite treatment and disposal of materials generated during the removal action, many of which include the management of hazardous materials.

2. Contribution to Remedial Performance

The Site was placed on the NPL in September 2007. This removal action, which includes an interim cover for the Site, a physical barrier wall system and hydraulic control system, will assist in any long-term remediation of the Site by minimizing human exposure to hazardous substances at the Site as well as discharges of hazardous substances to the Hackensack River. The removal action will help protect public health, welfare, and the environment until a permanent remedy can be effected.

The removal action at the Site is consistent with the requirement of Section 104(a)(2) of CERCLA, 42 U.S.C. § 104(a) (2), which states that "any removal action undertaken ...should, to the extent ...practicable, contribute to the efficient performance of any long term remedial action with respect to the release or threatened release concerned." Since any remedial action undertaken at the Site would benefit from the work items in this removal action, the removal action is consistent with future remedial work.

3. Description of Alternative Technologies

Not applicable.

4. Engineering Evaluation/Cost Analysis (EE/CA)

An EE/CA was conducted based on the availability of a sufficient time period for planning and design. The EE/CA was prepared in conformance with the *Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA* (EPA/450-R-93-057, August 1993).

The EE/CA was made available to the public on April 7, 2010. A notice of availability was published in *The Observer* on April 7, 2010 and is attached as Appendix B. Comments were submitted jointly by the NY/NJ Baykeeper and Hackensack Riverkeeper. EPA prepared a response to the submitted comments and posted the response on EPA's website at http://www.epa.gov/region2/superfund/npl/standardchlorinechemical/. Copies of the comments and EPA's response to comments are attached as Appendix C.

5. Applicable or Relevant and Appropriate Requirements (ARARs)

Applicable or Relevant and Appropriate Requirements (ARARs) that are within the scope of this removal action will be complied with to the extent practicable, considering the exigencies of the situation. Because the removal action is part of the IRAW which encompasses the Diamond Shamrock Site, the PRG will obtain permits for many of the actions taken as part of the removal action.

Potential federal and state ARARs for this removal action are listed below and are described in detail in the IRAW. Additional ARARs may be identified as details of the project are developed.

Federal requirements:

- Section 10 of the Rivers and Harbors Appropriations Act;
- Section 7 of the Endangered Species Act;
- RCRA Subtitles C Hazardous Waste Program and Regulations
- RCRA Subtitles D Nonhazardous Waste Program and Regulations
- Land Disposal Restrictions (40 CFR 268);
- Section 112 of the Clean Air Act;
- Sections 304, 401 and 404 of the Clean Water Act; and
- National Historic Preservation Act.

State of New Jersey requirements:

- New Jersey Water Quality Planning Act (N.J.S.A. 58:11A-1);
- New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1);
- New Jersey Freshwater Wetlands Protection Act (N.J.S.A. 13:9B);
- New Jersey Waterfront Development Law (N.J.S.A. 12:5-3);
- New Jersey Flood Hazard Control Act (N.J.S.A. 58:16A);
- New Jersey Tidelands Act (N.J.S.A. 12:3);
- New Jersey Soil Erosion and Sediment Control Act (N.J.S.A. 4:24-39);

• New Jersey Soil Remediation Standards (N.J.A.C. 7:26D);
• New Jersey Ground Water Quality Standards (N.J.A.C. 7:9-6);
• New Jersey Surface Water Quality Standards (N.J.A.C. 7:9B); and
• New Jersey Meadowlands Zoning Regulations (N.J.A.C. 19:3-1.1 et seq.).

To Be Considered Advisories, Criteria and Guidance (TBCs)

• Resource Conservation and Recovery Act Area of Contamination Policy: March 13, 1996 EPA memo, "Use of the Area of Contamination Concept During RCRA Cleanups."

The Site is currently industrial in nature and is expected to remain non-residential for the foreseeable future.

6. Project Schedule

The overall project schedule is estimated to take two years. Field construction activities are anticipated to take 350 days to complete. The PRG is currently scheduled to submit a report on the removal work by October 31, 2011.

B. Estimated Costs

The total estimated cost for the completion of these removal actions is $5,163,000. The costs assume a 2-year project life. The cost breakdown is as follows:

Capital Cost: $4,652,000
Annual Costs: $511,000
Construction Time: 2 years
Present Worth (5% discount factor): $5,163,000

In accordance with EPA cost-estimating guidance, the costs are intended to be estimates within a minus 30 to plus 50 percent range.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will mean the public health risk to persons that may access the Site will continue to be unabated. In addition, the potential exists for migration of hazardous substances into the ditch and wetlands adjacent to the Site.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

The response actions described in this Action Memorandum will be performed by the PRG. NJDEP will oversee the work acting pursuant to New Jersey statutory authority, the 1989 ACO with SCCC and the 1990 ACO with Occidental Chemical Corporation and Tierra.

IX. RECOMMENDATION

Conditions at the site meet the NCP Section 300.415 (b)(2) criteria for a removal action.

This decision document, which selects the non-time-critical removal action for the Standard Chlorine Chemical Company Site in the Township of Kearny, New Jersey, was developed in accordance with CERCLA and is not inconsistent with the NCP. The decision documented in this Action Memorandum is based on the Administrative Record for the Site.

NJDEP has reviewed and approved the IRAW that sets forth the details of the non-time-critical removal action, and has the primary oversight and enforcement role with respect to implementation of the IRAW.

Please indicate your approval for the proposed response action by signing below.

Approve: _____ **Date:** 12/30/2010

Walter E. Mugdan
Emergency and Remedial Response Division

Disapprove: _____ **Date:** _____

Walter E. Mugdan
Emergency and Remedial Response Division

cc: (after approval is obtained)

W. Mugdan, ERRD
J. LaPadula, ERRD-DD
A. Carpenter, ERRD-SPB
A. Hess, ERRD-SPB
S. Flanagan, ORC
D. Kluesner, PAD

Appendix A

Figure 1-1: Site Location Map

Figure 2-3: Major Containment/Consolidation Action Components

STANDARD CHLORINE CHEMICAL CO., INC.

DRWN: GLC	DATE: 5-09-07	KEY ENVIRONMENTAL INCORPORATED
CHKD: RJH	DATE: 5-09-07	
APPD: JSZ	DATE: 5-09-07	
SCALE: 1" = 2000'		

ENGINEERING EVALUATION/COST ANALYSIS
SCCC SITE
KEARNY, NEW JERSEY

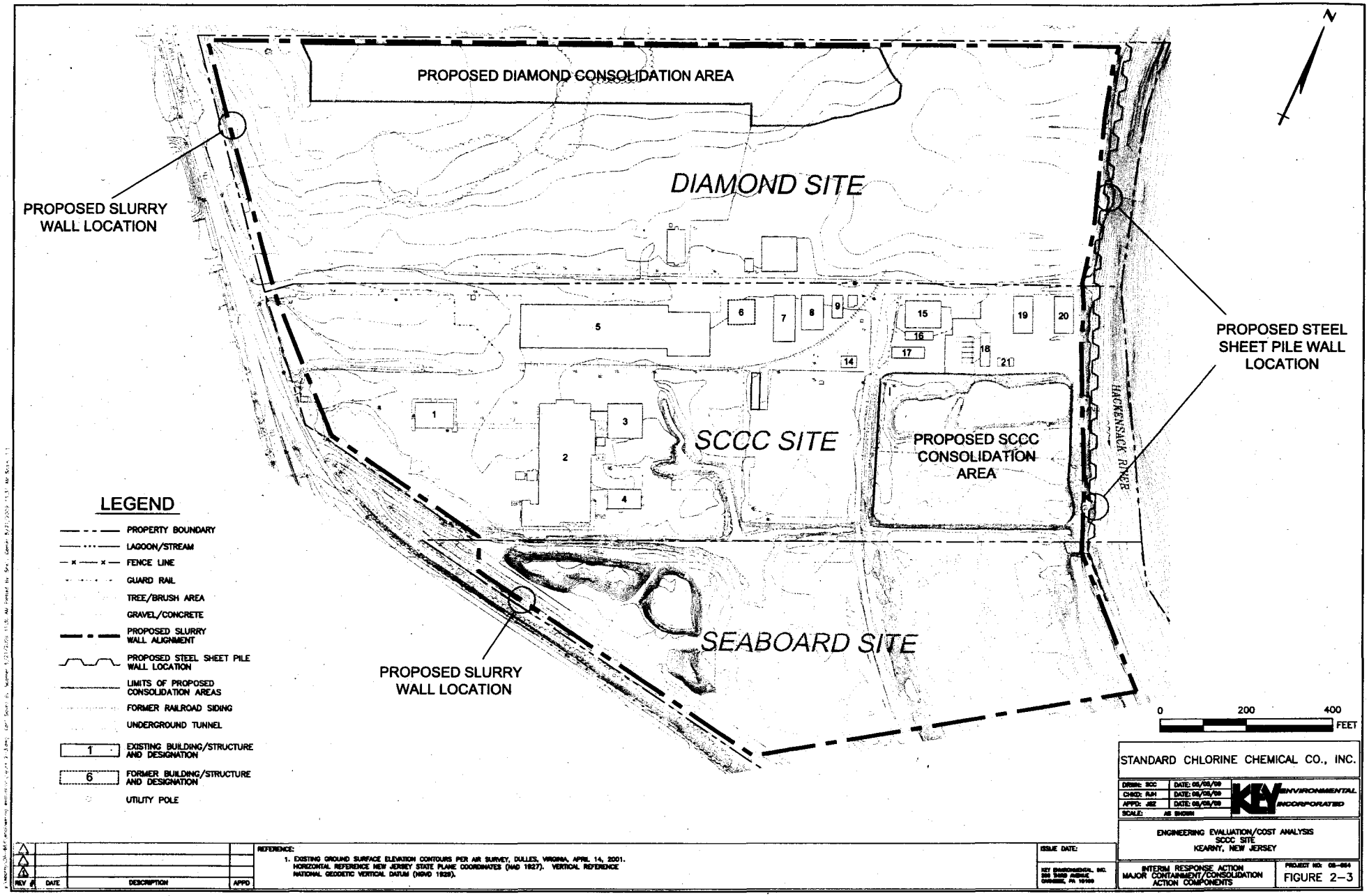
REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES OF JERSEY CITY, AND WEEHAWKEN, NEW JERSEY (1967)

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

SITE LOCATION MAP

PROJECT NO: 08-664
FIGURE 1-1


PROPOSED DIAMOND CONSOLIDATION AREA
DIAMOND SITE
PROPOSED SLURRY WALL LOCATION
PROPOSED STEEL SHEET PILE WALL LOCATION
SCCC SITE
PROPOSED SCCC CONSOLIDATION AREA
HACKENSACK RIVER
SEABOARD SITE
PROPOSED SLURRY WALL LOCATION
N
0
200
400
FEET
LEGEND
PROPERTY BOUNDARY
LAGOON/STREAM
FENCE LINE
GUARD RAIL
TREE/BRUSH AREA
GRAVEL/CONCRETE
PROPOSED SLURRY WALL ALIGNMENT
PROPOSED STEEL SHEET PILE WALL LOCATION
LIMITS OF PROPOSED CONSOLIDATION AREAS
FORMER RAILROAD SIDING
UNDERGROUND TUNNEL
EXISTING BUILDING/STRUCTURE AND DESIGNATION
FORMER BUILDING/STRUCTURE AND DESIGNATION
UTILITY POLE
REFERENCE:
1. EXISTING GROUND SURFACE ELEVATION CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
ISSUE DATE:
STANDARD CHLORINE CHEMICAL CO., INC.
ENGINEERING EVALUATION/COST ANALYSIS
SCCC SITE
KEARNY, NEW JERSEY
INTERIM RESPONSE ACTION
MAJOR CONTAINMENT/CONSOLIDATION ACTION COMPONENTS
FIGURE 2-3

Appendix B

Notice of Availability Published in *The Observer* on April 7, 2010

Lyndhurst Health Department programs continue

The Lyndhurst Health Department announces its programs designed to encourage healthy living and public health protection.

Child health conferences:

Child clinics will be held once a month on the following dates: April 13, May 11, and June 8 from 9 to 11 a.m. Appointments can be scheduled by calling Alison Roa, public health nurse, at 201-804-2505. This clinic is for Lyndhurst children who need immunizations but do not have health insurance.

Health insurance for children:

NJ FamilyCare representatives will be present from 9 to 11 a.m. on April 13, May 11, and June 8 from 9 to 11 a.m. to help parents complete their applications. They will also assist currently enrolled NJ FamilyCare members if they have questions. Appointments are not required. Residents from surrounding towns are welcome.

Personal health consultations:

Held the third Thursday of every month, the next two clinics are scheduled for April 15, May 20, and June 17 from 9 to 11 a.m. Residents are offered the opportunity to meet one-on-one with our nurse for a confidential health assessment. The consult includes a review of your health history, along with measurements of BP, height, and weight. If these times are not convenient, call Alison Roa, RN, at 201-804-2505 to schedule an appointment. This program is open to Lyndhurst residents only.

Police and health safety:

The department's new health education series, Police and Health Safety is in partnership with the Lyndhurst Police Department. Detectives Michael Lemanowicz and Vincent Auteri conduct these interactive classes, which meet from 10 to 11 a.m. The last class, "Be Safe: Personal Safety Tips," meets on May 5. To make an appointment, call 201-804-2500.

Chiropractic screening:

Dr. Robert Haley and Dr. Mario Cervino have volunteered their services to offer free chiropractic examinations once a month. These clinics will be held the third Tuesday of every month, with residents being granted one free examination per year. These clinics will be held on April 20, May 18, June 22, and July 20 from 9 to 11 a.m. No appointments are required.

Men's health clinic:

The Lyndhurst Health Department, in partnership with Clara Maass Medical Center, will hold their annual men's health clinic on Thursday April 29. This clinic is for Lyndhurst men over the age of 40. Screenings will include an exam and a blood test to assess the prostate. Appointments are required. Call 201-804-2500 to schedule an appointment.

Call the Health Department at 201-804-2500 with any questions or to make an appointment. Further information is available at lyndhursthealth.org.

How to prevent clothes-dryer fires

Nutley Public Safety Director Alphonse Petracco reports an uptick in fires related to residential clothes dryers and reminds users that gas-fired and electric clothes dryers must be installed according to manufacturer's specifications not only to maintain the warranty but to prevent fire or carbon monoxide poisoning. A plumber, electrician or other professional installer should handle most installations.

The Nutley Fire Department recommends the following guidelines for clothes dryer safety:

1. Use rigid or corrugated exhaust vent pipe, never white plastic or foil flexible hoses. Maximum length, 20 feet.
2. Exhaust all dryers to the exterior and above snow loads
3. Clean lint trap before every use.
4. Once a year, clean lint out of all vent pipes.
5. Check exterior vent for proper air flow when machine is running.
6. Change any brass-colored gas flex lines (they leak).
7. When using any fabric softener sheets or dryer bars, follow use instructions on packaging and check with machine manufacturer for approvals.
8. Anytime you use dryer sheets, do a "water test" on the lint screen. Hold screen under water tap and see that water flows through it; if not, clean with soft brush and repeat test. If water doesn't flow easily, heat will back up into dryer causing a longer drying cycle and possibly a fire. Replace lint screen if damaged.
9. Clothes with oils, grease, paint thinners or other combustible contamination should be washed twice and then line dried, if possible, or tumbled with low heat.
10. Be sure all child-safety features are operational.
11. Do not put rubber, plastic or other synthetic materials into dryer.
12. Never run dryer if you are not at home and do not use an extension cord for power.
13. Install a smoke detector and carbon monoxide alarm near laundry room.
14. Discontinue using machine if clothes are not drying properly, if there are strange noises or smells, or if machine is recalled for safety reasons. Always mail in or register online your product warranty.

"We shouldn't be afraid of our dryers," says Fire Lt. David Wilson. "Just follow some good common sense rules for installation and use."

EPA Invites Public to Review Proposal for Containment of Contamination at the Standard Chlorine Superfund Site in Kearny, NJ

The proposal involves the installation of a hydraulic barrier around the perimeter of both the Standard Chlorine and the Diamond properties on the Kearny peninsula in order to prevent contaminated ground water and surface water runoff from entering the Hackensack River. Contaminated water will be pumped to an on-site treatment facility that will be constructed as part of the proposal. The proposal also includes limited dredging activities, including along the Hackensack River adjacent to the Standard Chlorine and Diamond properties, where a bulkhead will also be installed parallel to the hydraulic barrier. The proposed work is estimated to cost approximately $4.6 million. EPA's preferred proposal is described in more detail in the Engineering Evaluation/Cost Analysis (EE/CA) report, available as described below.

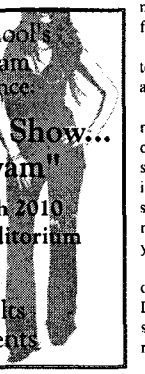
EPA is taking written comments on the Proposal through May 7, 2010. Comments should be submitted to:

Ed Als, Remedial Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
Telephone: (212) 637- 4272
Fax: (212) 637- 4439
Email: als.ed@epa.gov

The Engineering Evaluation/Cost Analysis report is available for review at:

U.S. EPA Records Center
290 Broadway, 18th Floor
New York, NY 10007-1866

Or it can be viewed on-line at http://www.epa.gov/region02/superfund/npl/standardchlorinechemical/ or by calling Dave Kluesner, EPA's community involvement coordinator, at 212-637-3653 or toll free at 800-346-5009.



Appendix C

Comments Received During Public Comment Period

- NY/NJ Baykeeper and Hackensack Riverkeeper

EPA Response to Comments

To:
Cc:
Bcc:
Subject: Fw: Standard Chlorine Chemical - Comments on EE/UA

Alison A. Hess, C.P.G.
Project Manager
USEPA Region 2
290 Broadway, 19th Floor
New York, NY 10007-1866
tel: 212 637-3959
fax: 212 637-4439

----- Forwarded by Alison Hess/R2/USEPA/US on 12/23/2010 11:22 AM -----

From: Ed Als/R2/USEPA/US
To: Alison Hess/R2/USEPA/US@EPA
Cc: Angela Carpenter/R2/USEPA/US@EPA
Date: 05/07/2010 05:38 PM
Subject: Fw: Standard Chlorine Chemical - Comments on EE/UA

----- Forwarded by Ed Als/R2/USEPA/US on 05/07/2010 05:27 PM -----

From: Richard Webster <rwebster@easternenvironmental.org>
To: Ed Als/R2/USEPA/US@EPA
Cc: Tom Mckee <redknot@comcast.net>, Christopher Len <chris@nynjbaykeeper.org>, captain@hackensackriverkeeper.org, Debbie Mans <debbie@nynjbaykeeper.org>, Chris Kanakis <Chris.Kanakis@dep.state.nj.us>, Frank.Faranca@dep.state.nj.us
Date: 05/07/2010 05:19 PM
Subject: Standard Chlorine Chemical - Comments on EE/UA

Dear Mr. Als,

On behalf of NY/NJ Baykeeper and Hackensack Riverkeeper, please find attached the comments of our consultant, Tom McKee, on the captioned document. In addition, I attach Mr. McKee's resume. If you have any questions regarding our comments, please do not hesitate to contact me.

Thank you for your consideration.

Richard Webster
Legal Director, Eastern Environmental Law Center
744 Broad Street, Suite 1525
Newark, NJ 07102

(p) 973.424.1166
(f) 973.710.4653

www.easternenvironmental.org


SCCC-TMcKee5-10-10.pdf


Resume-TomMcKee.pdf

201101

Richard Webster
Legal Director
Eastern Environmental Law Center
744 Broad Street, Suite 1525
Newark NJ, 07102

Re: Review of the Engineering Evaluation/Cost Analysis
Standard Chlorine Chemical Company Site
Kearny, New Jersey

Dear Richard:

I've reviewed the May 2009 Engineering Evaluation/Cost Analysis (EE/CA) report by Key Environmental Inc. which details the proposed interim response actions to be taken at Standard Chlorine Chemical Company (SCCC) Site in Kearny. Here are my comments on the proposal.

Currently there are ongoing releases of hazardous substances from the SCCC site to the adjacent Hackensack River via ground water and surface water discharges. The EE/CA proposes that these discharges be mitigated as part of an area wide Interim Response Action (IRA) which includes the SCCC site as well as two adjacent sites: the Diamond site and the Seaboard site (hereinafter "the Sites"). Much of the fill at the Sites is composed of chromite ore processing residue or COPR, a hexavalent chromium bearing waste originating at the Diamond site. Each of these sites has various areas of concern (AOC) which are the sources of the ongoing discharge to the Hackensack River. The following is a discussion of each of the components of the proposed Interim Response Action and their adequacy

1. Physical Barrier Wall System and Hydraulic Control System

A steel sheet metal pile wall will be installed along the perimeter adjacent to the Hackensack River to act as a retaining wall. A fully enclosing slurry wall will be installed inside the sheet metal pile wall and around the entire perimeter of the combined sites. The slurry wall and sheet metal pile wall will be rooted at least three feet into the 40 foot thick clay layer which continuously underlies the Sites at a depths ranging from about 15 to 20 feet below the surface. This barrier wall system together with the underlying clay layer will serve to isolate the two shallow groundwater-bearing units at the Sites. These units are : 1) a shallow fill unit; and 2) a deeper sand unit. They are separated by a thin layer (about 3 feet) of organic matter called a meadow mat. Once isolated contaminated groundwater in these units will be pumped by a network of ground water extraction wells. This will allow for hydraulic control of ground water at the Sites. The goal of hydraulic control is to 1) maintain a water table elevation that will preclude the potential upward migration of hexavalent chromium; 2) provide for an inward hydraulic gradient; and 3) provide for an upward or neutral hydraulic gradient between the deep sand unit and the shallow fill unit. The extracted ground water will be treated to remove contaminants prior to being discharged to the Hackensack River. In addition to contaminated ground water the shallow groundwater-bearing units also contain pools of liquid organic

chemicals which like oil and water don't mix. But unlike oil these organic chemicals are heavier than water and sink through water rather than floating on top. This type of liquid organic chemical is known as dense non-aqueous phase liquid or DNAPL. The DNAPL at the Sites is comprised primarily of 1,2,4-trichlorobenzene, naphthalene and dichlorobenzene, all chemicals processed by SCCC. Specially designed DNAPL extraction wells will be installed in sections of each the groundwater-bearing units where DNAPL has been mapped. The DNAPL will be pumped to a DNAPL recovery system for off-site disposal or recycling.

This proposed Physical Barrier Wall System and Hydraulic Control System should prove an effective Interim Remedial Action and advance the Sites towards final remediation. This assumes the design and installation are done carefully and that operation, monitoring and maintenance of these systems is conducted as proposed. The need for skillful operation and modification of this system in response to site conditions on an ongoing basis cannot be overemphasized.

2. Lagoon Waste Solids - Dewatering, Backfilling and Surface Cover.

Two waste lagoons on the SCCC site occupy three quarters of an acre and have accumulated waste solids five to six feet in thickness. This adds up to approximately 7,200 cubic yards of waste solids. These waste solids are composed primarily of naphtalene, with lesser amounts of other volatile organics (benzene, ethylbenzene, and toluene) and semi-volatile organic compounds (PHAs and phenols). The EE/AC proposes that the lagoons be dewatered and that the water be treated in a temporary treatment plant to be constructed on the site soley for this purpose. The waste solids will be left in place and the waste lagoons will be backfilled with contaminated ditch sediments, near shore dredge material and spoils from the slurry wall installation and trenching. The lagoons will thus be incorporated into the SCCC site IRA Consolidation Area. The SCCC IRA Consolidation Area is proposed for approximately 3 acres on the SCCC site (including the waste lagoons) for the storage of contaminated materials generated during the IRA implementation. After consolidating the contaminated materials the SCCC IRA Consolidation Area will be graded and covered with geotextile and course aggregate.

This plan for burying the highly contaminated waste solids in place with less contaminated material is contrary to the AOC policy in that the waste types being comingled are vastly dissimilar. It addition it is not consistent with one of the key objectives of IRA which is to assure that each aspect of the IRA is an effective component of the final remedy for the Site. Burying the waste will make a final remedy exceedingly more difficult. The waste solids have been shown to be an ongoing source of ground water contamination and should be removed and disposed of off-site as part of the IRA.

3. Near-Shore Sediment Management

This IRA component includes removal of sediments located within 50 feet of the Hackensack River shoreline adjacent to the SCCC and Diamond sites to a depth of up to 3 feet. The near-shore sediment management will take place after the installation of the Barrier Wall system.

Sediments will be staged and dried on SCCC site IRA Consolidation Area in the existing lagoons or in a newly constructed bermed area. The sediments will be stored in the in the SCCC site IRA Consolidation Area.

This IRA component will advance the goal of minimizing ongoing discharges to the Hackensack River. However, using the waste lagoons for sediment drying prior to removal of the lagoon waste solids is ill advised for the same reasons cited above.

4. Interim Surface Covers

To control the contamination of storm water runoff from the Sites the EE/AC proposes to install interim covers over the Diamond and SCCC IRA Consolidation Areas after they come to final grade. The covers will consist of geotextile and course aggregate. This will be done in conjunction with maintaining existing interim covers on the Diamond Site and portions of the SCCC site. The goal of the design of the new interim covers are: 1) to eliminate potential direct contact exposure to contaminated soils: 2) mitigate the potential upward migration of hexavalent chromium from the COPR soils found throughout the Sites; and 3) reduce the potential for contamination of overland runoff by sorbed and dissolved contaminants being discharged via the storm water management system to the Hackensack River.

The proposed interim covers for the Diamond and SCCC IRA Consolidation Areas should achieve their design goals. However an examination of NJDEP 2007 aerial photography of the Sites shows large portions of the existing interim cover has been largely overgrown by scrub shrub vegetation and are routinely used for motor vehicle traffic. This condition may comprise the ability of the existing interim covers to maintain their effectiveness. A full evaluation of the intergrity of the existing interim cover should be made and appropriate repair and reinstallation should be included as an IRA component.

5. Storm Water Management System

Surface runoff from the Sites enters the Hackensack River via two primary routes: 1) a storm sewer located between the Diamond Site and the SCCC site; 2) via a drainage ditch a between the SCCC site and the Seaboard site. The Agency for Toxic Substances and Disease Registry (ATSDR) issued an April 5, 2005 report entitled " Public Health Assessment for Standard Chlorine Chemical Company, Incorporated". The ATSDR found that the most significant migration pathway for contaminated groundwater is flow to the drainage ditch along the southern property boundary (between the SCCC site and the Seaboard site), and to the stormwater drainage pipe along the northern property boundary (between the Diamond Site and the SCCC), ultimately draining into the Hackensack River. The EE/AC calls for the removal of approximately 1,850cubic yards of contaminated sediments from the southern drainage ditch and the installation of a system of storm water piping and catch basins isolated from ground water to replace the drainage trench. The EE/AC reports that as a part of activities performed by Tierra Solutions, Inc., for the adjacent Diamond Site, storm sewer repairs (grouting and pipe rehabilitation) were completed in September 2008 to mitigate the potential for groundwater discharges via the storm sewer and/or surrounding backfill.

The measures proposed to upgrade the storm water management system and the repairs completed by Tierra Solution may be inadequate to prevent ongoing discharges of contaminated groundwater and surface water. A program to monitor storm water discharges during storm and non-storm events should be designed and implemented to evaluate the efficacy of the storm water management system in keeping contamination from entering the Hackensack River. In addition some explanation is needed for the storm water management plan for the portion of the Seaboard site that was added to the IRA in Key Environmental Inc.'s March 25, 2009 Interim Response Action Workplan, Addendum No. 1. Figure 4-1 of the addendum shows a proposed multi-acre storm water basin in this area with no indication of how this basin is intergrated into the storm water management system.

6. Site Preparation

This component includes the classification and removal and disposal of a number of stores of hazardous materials found around the SCCC site. This includes: 1600 gallon of drummed liquids; 95 cubic yards of containerized solids; 1100 gallons of organic liquid contained in a subsurface vault; 4000 gallons of septic tank liquids; 20 cubic yards of septic tank solids; 5 cubic yards of PCB contaminated transformer pad concrete; 2 cubic yards of PCB contaminated transformer pad soil. In addition to the preceding, sealing of certain buildings in the lagoon area will also be completed as necessary to mitigate potential release of airborne particulates. The sealing of the buildings will be conducted as a separate activity pursuant to an EPA Order.

Removal and proper disposal of these hazardous materials will make the Sites a safer place for workers and eliminate the risk of the uncontrolled release of these materials. By no means should these materials be considered for interim storage at the SCCC IRA Consolidation Area. The design of the SCCC IRA Consolidation Area is inadequate to safely store any of these materials.

If you would like to discuss these comments or need any additional information please feel free to contact me.

Sincerely,

Tom McKee
redknot@comcast.net
856-506-0625

PO BOX 6 • MAURICETOWN , NJ 08329
PHONE (856) 506-0625 • E-MAIL REDKNOT@COMCAST.NET

THOMAS MCKEE

EDUCATION

1974 - 1979 Rutgers – Cook College New Brunswick, NJ
BS Environmental Science

WORK EXPERIENCE

1980 – 2005 (retired) New Jersey Department of Environmental Protection
Water Resources, Well Head Protection, Watershed Management ,Hazardous Waste Cleanup, Geographic Information Systems
2006 – Present Independent Environmental Consulting

VOLUNTEER EXPERIENCE

Interfaith Community Organization – Advocate for Urban Environmental Issues

NJ Wildlife Volunteers – Cape May Shore Bird Project

Board of Trustees – Citizens United To Protect the Maurice River

CERTIFICATES AND TRAINING

Rutgers Center for Remote Sensing: Professional Certificate in Geomatics (Geographic Information Systems)

Microsoft Access, Excel and Word training NJ Dept. of Human Resource Certificates

HOBBIES

Photography, Bird Watching, Hiking, Guitar

Response to Comments from NY/NJ Baykeeper and Hackensack Riverkeeper
Engineering Evaluation/Cost Analysis dated May 2009
Standard Chlorine Chemical Co., Inc. Site

Comment No. 1. Physical Barrier Wall System and Hydraulic Control System

This proposed Physical Barrier Wall System and Hydraulic Control System should prove an effective Interim Remedial Action and advance the Sites towards final remediation. This assumes the design and installation are done carefully and that operation, monitoring and maintenance of these systems is conducted as proposed. The need for skillful operation and modification of this system in response to site conditions on an ongoing basis cannot be overemphasized.

Response to Comment #1 – Physical Barrier Wall System and Hydraulic Control System

EPA agrees that the proposed physical barrier wall system and hydraulic control system should prove an effective interim response action and advance the Standard Chlorine Chemical Co., Inc. (SCCC) Site toward a final remedial solution. Engineers and hydrogeologists contracted by the Peninsula Restoration Group (PRG) will be conducting full-time construction quality assurance oversight during construction to ensure that these systems are constructed as designed. Following construction, operation, maintenance and monitoring of these systems will be conducted as proposed. Quarterly reports detailing the system operations, maintenance and monitoring will be prepared for review by the New Jersey Department of Environmental Protection (NJDEP) and the U. S. Environmental Protection Agency (EPA).

Comment No. 2. Lagoon Waste Solids – Dewatering, Backfilling and Surface Cover

This plan for burying the highly contaminated waste solids in place with less contaminated material is contrary to the AOC policy in that the waste types being comingled are vastly dissimilar. In addition it is not consistent with one of the key objectives of IRA which is to assure that each aspect of the IRA is an effective component of the final remedy for the Site. Burying the waste will make a final remedy exceedingly more difficult. The waste solids have been shown to be an ongoing source of groundwater contamination and should be removed and disposed of off-site as part of the IRA.

Response to Comment #2 – Lagoon Solids – Dewatering Backfilling and Surface Cover

The NJDEP required the PRG to compile and evaluate all relevant data to demonstrate that their proposal to consolidate soils and sediments within the eastern portion of the SCCC Site is compliant with the EPA's Area of Contamination (AOC) policy. This demonstration is documented in the June 11, 2009 submittal to the NJDEP titled Like vs Like Demonstration for Use of the USEPA AOC Policy and the February 16, 2010 Response to NJDEP (BEERA) and EPA comments. Personnel from EPA's RCRA Programs Branch reviewed these documents and provided NJDEP with an advisory opinion on whether the PRG's proposals were consistent with

EPA's AOC Policy. EPA informed NJDEP that based upon its review of the PRG's like vs like demonstrations, the proposed consolidation of materials within the eastern section of the SCCC Site was consistent with the AOC policy. Thus, by letter dated March 24, 2010, the NJDEP expressed agreement with the application of the EPA's AOC Policy during the IRAW.

Furthermore, the PRG's IRAW proposal will not result in comingling of materials that are vastly dissimilar. The PRG's plan will maintain a distinct vertical separation of the lagoon solids and overlying consolidated materials. As such, the placement of the materials in this area does not make the implementation of a final remedy exceedingly more difficult. It is also important to note that the Consolidation Area capping system has been revised to include a geomembrane liner that will virtually eliminate infiltration of rainwater. Lastly, the PRG's proposed IRAW will be protective of off-site groundwater in that the Diamond and SCCC properties (and a small portion of the Kopper's Seaboard property as well) will be contained within a fully enclosing perimeter barrier wall system.

Comment No. 3. Near-Shore Sediment Management

This IRA component will advance the goal of minimizing ongoing discharges to the Hackensack River. However, using the waste lagoons for sediment drying prior to removal of the lagoon waste solids is ill advised for the same reasons cited above.

Response to Comment #3 - Near-Shore Sediment Management

EPA agrees that this component will advance the goal of minimizing potential discharges to the Hackensack River. As indicated in the Response to Comment #2, EPA believes that the IRAW proposal is consistent with the AOC policy, does not adversely affect the future implementation of a final remedy and is protective of groundwater.

Comment No. 4. Interim Surface Covers

The proposed interim covers for the Diamond and SCCC IRA Consolidation Area should achieve their design goals. However, an examination of NJDEP 2007 aerial photography of the Sites shows large portions of the existing interim cover has been largely overgrown by scrub shrub vegetation and are routinely used for motor vehicle traffic. This condition may compromise the ability of the existing interim covers to maintain their effectiveness.

Response to Comment #4 – Interim Surface Covers

EPA agrees that the proposed interim covers for the Diamond and SCCC IRA Consolidation Areas will achieve their design goals. Vehicular traffic on non-asphalt paved interim covers will be limited to construction-related activities. As necessary, the integrity of the existing interim cover system will be restored at the conclusion of IRA construction activities. The covers will be inspected and maintained as part of the properties' operation, maintenance and monitoring program. Repairs to the cover systems will be made as necessary.

Comment No. 5. Storm Water Management System

The measures proposed to upgrade the storm water management system and the repairs complete by Tierra Solutions, Inc. may be inadequate to prevent ongoing discharges of contaminated groundwater and surface water. A program to monitor storm water discharges during storm and non-storm events should be designed and implemented to evaluate the efficacy of the storm water management system in keeping contamination from entering the Hackensack River. In addition some explanation is needed for the storm water management plan for the portion of the Seaboard site that was added to the IRA in Key Environmental, Inc.'s March 25, 2009 Interim Response Action Workplan, Addendum No. 1. Figure 4-1 of the addendum shows a proposed multi-acre storm water basin in this area with no indication of how this basin is integrated into the storm water management system.

Response to Comment #5 – Stormwater Management System

The proposed construction of the stormwater management system improvements, in conjunction with the proposed barrier wall system, will mitigate potential future discharges of impacted groundwater to the Hackensack River. These improvements involve the installation of catch basins and culverts comprised of high density polyethylene (HDPE). All pipe connections are made by fusion welding (melting) the material together to form watertight joints that will prohibit the infiltration of potentially contaminated groundwater. Following installation of the NJDEP-approved interim surface covers, all stormwater runoff that enters the piping systems will be from non-contaminated areas. The discharge capacity of the piping system has been designed to be less than or equal to pre-development conditions. In addition, the overall Site impervious area has been reduced. Stormwater management features and controls have been designed by a New Jersey licensed professional engineer according to the NJDEP Best Management Practices and Stormwater Manuals to ensure that applicable stormwater quality requirements are achieved.

The storm water management plans for the Seaboard Site were designed and implemented independently by the parties responsible for remediation of that Site. The extension of the SCCC barrier wall system onto the Seaboard Site does not have any effect on the Seaboard Site Storm Water Management System. Stormwater from the basin on the Seaboard Site is discharged directly to the Hackensack River. There are no connections between the Seaboard and SCCC stormwater management systems.

Comment No. 6. Site Preparation

Removal and proper disposal of these hazardous materials will make the Sites a safer place for workers and eliminate the risk of the uncontrolled release of these materials. By no means should these materials be considered for interim storage at the SCCC IRA Consolidation Area. The design of the SCCC IRA Consolidation Area is inadequate to safely store any of these materials.

Response to Comment #6 – Site Preparation

Off-site disposal of the materials listed in this comment is planned. These materials will not be considered for interim storage within the SCCC IRA Consolidation Area.