

#### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF ENVIRONMENTAL REMEDIATION VCP/BCP REMEDIAL ACTION WORK PLAN APPROVAL ROUTING SLIP



TO: Sal Ervolina, Assistant Division Director FROM: Robert Cozzy, Bureau Director

NAME	APPROVAL SIGNATURE	DATE
Project Manager: Michael Maccabe	Jack G. duers	7/5/07
Section Chief/RHWRE: Jack Aversa	Juch G. averso	7/5/07

DATE: 7/5/2007

RE:	Site Name	S.& S. X-Ray Products, Inc.	Site Code	V00582
	City	Brooklyn	County	Kings

### Attached is:

vSite Briefing Report vNYSDOH Concurrence Letter

The selected remedy is protective of human health and the environment and complies with State requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable.

# **Approvals:**

- Bureau Director Approval:
- Division Director Approval:

# A Briefing

- $\Box$  is not necessary for this project.
- $\square$  has been scheduled for
- Sal Ervolina cc: **Dale Desnoyers**

Sal Ervolina

Date

**Dale Desnoyers** 

Date

**Final Distribution:** 

**Dale Desnoyers** ec: **Regional Director** Jack Aversa **Project Attorney** DOH Project Manager Michael Maccabe

Bureau Dir

Date

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF ENVIRONMENTAL REMEDIATION Site Briefing Report					
Site Code	V00582	Site Name	S.& S. X-Ray Produ	icts, Inc.	
Classification	А	Address	1101 Linwood Stree	et	
Region	2	City	Brooklyn	<b>Zip</b> 11208-	
Latitude	40.6588825	Town	New York City	Project Manager Michael Maccabe	
Longitude	-73.874245	County	Kings	Estimated Size	
Significant Th	reat - Y	'es -	No - NA		
Intended Use:					

#### Site Description

The site is located within a commercial / industrial area. The property consists of a one-story warehouse-like industrial facility with a paved parking lot and some landscaping at the southern end. A portion of the building was converted into a two-story facility within the existing building. The current use of the property is a self-storage facility where people can drive vehicles into the building.

There are residences one block upgradient. Down gradient from the site is an undeveloped field, the Pennsylvania Avenue Landfill (224002) and the Fountain Avenue Landfill (224003) and then Jamaica Bay.

The site was formerly owned by Art-Lloyd Metal Products which manufactured various metal products. Part of the manufacturing process included spray-painting the metal parts. Liquid solvents were likely used in the process. In January 2001, two 550 gallon USTs were discovered under the floor buried in concrete. The tanks had leaked and released large quantities of xylene and ethylbenzene in to the soil and groundwater (spill # 01-07758). The tanks and approximately estimated 40 cubic yards (41.8 tons) of contaminated soil was removed from the site to an approved disposal facility.

An interim remedial measure was conducted in May 2003 when four groundwater extraction wells were installed in the area of the contaminated groundwater. About 2,150 gallons of contaminated groundwater was collected for off site disposal.

An investigation of groundwater, soil, and soil gas began in June 2003.

In the winter of 2004-05, approximately 250 cubic yards of contaminated soil was excavated from two locations and disposed of in accordance with NYS DEC regulations. NYSDEC staff requested an oxygen releasing compound (ORC) be pumped in to the excavations, but this was not done. In January 2006, the consultant pumped ORC in to the area of the outside excavations using a direct-push method to bore holes to a depth below the earlier excavations.

Due to elevated concentrations of xylene and ethelbenzene in soil gas and impacts to indoor air, a sub-slab depressurization system was installed in November 2005.

The environmental remedies conducted at the site are summarized in the Interim Remedial Measures

Work Plan, May 20, 2003; Remedial Action Work Plan, April 9, 2004; and the Additional Remedial Action Work Plan, November 2005 from Shapiro Engineering.

Materials Disposed at Site	Quantity Disposed	
	UNKNOWN	
XYLENE (MIXED)	UNKNOWN	
ETHYLBENZENE	UNKNOWN	
TOLUENE	UNKNOWN	

Analytical Data Available for :

**Applicable Standards Exceeded for:** 

#### **Assessment of Environmental Problems**

Ethylbenzene and xylene contamination remain in soil and groundwater. The soil contamination is beneath a demarcation barrier, twelve feet of clean fill, and either the sidewalk or concrete floor.

The contaminated groundwater flows south beneath the building towards the Penn and Fountain landfills and then the Jamaica Bay. RI sampling has shown that the groundwater contamination has not migrated more than 200 feet in twenty years. A monitoring well was constructed at the other end of the building. No site-related contaminants were found in the well in January 2006.

The post-remedy annual report / OM&M report (2006) showed residual contamination of xylene (246 mg/Kg), ethylbenzene (29.1 mg/Kg), and toluene (0.2 mg/Kg) remaining in soil below the bottom of the excavation. The GW concentrations remain elevated in the source area at xylene (43,400 mg/Kg), ethylbenzene (6,590 mg/Kg), and toluene (38.1 mg/Kg). However, most of the source area is under the building and the impacted groundwater is migrating under the building. Two down-gradient monitoring wells showed some impacts from xylene at 3.45 mg/Kg and 14.8 mg/Kg.

The residual soil contamination is primarily 12 feet below grade under the sidewalk and the building slab. The soil concentrations exceed TAGM 4046 RSCOs. However, the xylene concentrations are below Part 375 commercial restricted use soil cleanup objective and the ethylbenzene concentrations are below the Part 375 residential restricted use SCO.

The remaining GW contamination is primarily under the building. The source area is along the east-northeast side of the building. GW flows southernly under the building. Currently, there are no GW receptors down gradient.

The site is not a significant threat to human health or the environment.

#### **Assessment of Health Problems**

Xylene and ethylbenzene have impacted subsurface soil, soil vapor and groundwater at the site. The potential for exposure to site-related contamination in subsurface soil has been minimized by the removal of accessible contaminated soil in areas impacted by the underground storage tank along with a newly poured concrete floor in the building. The potential for future exposures to contaminates in indoor air from soil vapor intrusion has been eliminated with the installation of a sub-slab depressurization system.

Exposure to contaminated groundwater

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is unlikely since area homes and businesses are connected to public water. Site groundwater migrates slowly. Subsequently, site related groundwater contamination has not migrated off-site. A deed restriction will be put in place to prevent the use of on-site groundwater for potable purposes.

# **Remedy Description and Cost**

# **Remedy Description for Operable Unit 01**

Prior to implementation of the IRM's the remediation goals for this site were to eliminate or reduce to the extent practicable:

- the release of contaminants from soil into GW that may contribute to exceedances of GW quality standards
- exposures of persons at the site to xylene, and ethylbenzene in soil, GW, and soil vapor. Further, the remediation goals for the site include attaining to the extent practicable:
- ambient GW quality standards that are 5 ppb each of the site contaminants.
- TAGM for contaminated soil;
  - ethylbenzene 5.5 ppm
  - toluene 1.5 ppm
  - xylene 1.2 ppm.

Soil and GW are contaminated with xylene, ethylbenze and low levels of toluene from two leaking USTs that were removed in 2001 along with some contaminated soil

Elevated levels of xylene and ethylbenzene were detected in soil vapor and indoor air

In May 2003, four GW extraction wells were installed near the source area. About 2,150 gallons of contaminated GW was collected for off-site disposal (OU-01A).

In the winter of 2004-05, approximately 250 cubic yards of contaminated soil was excavated from two locations and properly disposed of off-site (OU-01B). The external building wall and its foundation divided both excavations that were beneath the building and the Essex Street sidewalk. Due to the building footings, the excavations were limited to twelve feet deep.

A sub-slab depressurization system was installed in Nov. 2005. The system consists of a precast 6-foot diameter concrete ring below the slab, and an exhaust duct system with a rooftop fan.

In January 2006, the consultant pumped 252 gallons of a chemical oxidant into the area of the outside excavations using a geoprobe to bore holes to a depth below the earlier excavations.

The IRMs have accomplished the remediation goals to the extent feasible provided that the site continues to be maintained and operated in a manner consistent with the design. No further action is needed other than operation, maintenance, and monitoring and institutional and engineering controls.

One year after the chem ox injections, soil borings were collected from beneath the bottom of the 2004-05 excavation and three monitoring wells were sampled to establish post-remedy site conditions. As expected, xylene and ethylbenzene are present in the soil beneath the limit of the excavation at concentrations above TAGM 4046 SCOs. However, the xylene concentrations are below Part 375 commercial restricted use soil cleanup objective and the ethylbenzene concentrations are below the Part 375 residential restricted use SCO. Also, the residual contamination at 12 feet below the surface of either the building slab or the Essex Street sidewalk and, with the IC and EC controls in place, poses no threat to public health or the environment.

The residual GW contamination of the site-related contaminants is well above ambient GW standards in the source area (xylene 43,400ppb, ethylbenze 6590 ppb, and tolulene 38.1 ppb).

The impacted GW migrates south-southeasterly under the building and groundwater sampling has shown little migration of the residual contamination from the source area in the approximate twenty years since the last time that the USTs would have been filled. Xylene was detected above the groundwater standard in an on-site down gradient monitoring well at 14.8  $\mu$ g/Kg. However, there are no impacts to human health because the area is on public water and institutional controls prohibit the use of on-site groundwater. Down gradient of the site is an undeveloped field, the Pennsylvania Avenue Landfill (224002) and the Fountain Avenue Landfill (224003) and then Jamaica Bay. There is a canal about 3,000 feet down gradient that is connected to Jamaica Bay. Based on all available data and the slow migration of GW, no site related contamination will impact any surface water bodies and no environmental impacts are expected. Continued GW monitoring as described in the SMP will ensure that elevated site-related GW contamination does not migrate off site.

Soil gas impacts to indoor air are mitigated by the SSDS to prevent impacts to human health. The SMP will ensure that the system continues to provide that protection. Across the street from the site and the source area is a Verison facility where vehicles are driven inside.

An institutional control in the form of a Declaration of Covenants and Restrictions (deed restriction) has been filed with the Kings County Clerk. The deed restriction restricts use of the site to industrial/commercial functions; prohibits use of GW as a source of potable or process water without necessary water quality treatment as determined by NYSDOH; requires compliance with the approved site management plan; and requires the property owner to complete and submit a periodic certification of institutional and Engineering Controls (IC's and EC's) to the Department. The current and future owners of the property are required to implement the ECs and ICs applied to the property.

Operation, maintenance and monitoring for this site consists of the operation and maintenance of the SSDS and periodic sampling of three monitoring wells.

The site management plan (SMP) includes the following institutional and engineering controls: management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or building. Excavated soil would be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department. The SMP also includes work plans for sampling and analysis of the three GW monitoring wells and provisions for the continued proper operation and maintenance of the remedy components.

As specified in the SMP, the property owner will provide a periodic certification of ICs and ECs, prepared and submitted by a P.E. or such other expert acceptable to the Dept., until the Dept. notifies the property owner in writing that this certification is no longer needed. The certification would: (a) contain certification that the ICs and ECs put in place are still in place and are either unchanged from the previous certification or are compliant with Dept-approved modifications; (b) allow the Dept. access to the site; and (c) state that nothing has occurred that would impair the ability of the controls to protect public health or the environment, or constitute a violation or failure to comply with the SMP plan unless otherwise approved by the Dept.

Total Cost Capital Cost OM & M Cost Issues/Recommendations

# DOM STATE OF NEW YORK DEPARTMENT OF HEALTH

Flanigan Square, 547 River Street, Troy, New York 12180-2216

Antonia C. Novello, M.D., M.P.H., Dr.P.H. Commissioner Dennis P. Whalen Executive Deputy Commissioner

November 16, 2004

Mr. Dale Desnoyers, Director Division of Environmental Remediation NYS Department of Environmental Conservation 625 Broadway Albany, NY 12233-7016

JUN 1 5 2007

RE: Remedial Action Work Plan S&S X-Ray Products Inc. Site No. V005822 Brooklyn, Kings County

Dear Mr. Desnoyers,

Staff reviewed the August 2004 Remedial Action Work Plan for S&S X-Ray in Brooklyn, Kings County. Based on that review, I understand that the remedy is: excavation and removal of BTEX and MTBE contaminated soil to reduce further contamination of groundwater. Soil will be excavated from a section surrounding the previously removed underground storage tanks within the buildings interior as well as a section located outside of the building partially under the Essex Street sidewalk. Soil removal will be limited to a twelve-foot depth due to structural restrictions. Clean fill will be added to the excavation pits once proper removal and disposal of contaminated soil is completed.

I also understand that installation of a sub-slab depressurization system was agreed upon due to soil gas readings and the potential for future sub-slab vapor intrusion. The sub-slab depressurization system will be installed in accordance to the USEPA Document #EPA/625/R-92/016. The volunteer has committed to operate the sub-slab depressurization system for as long as the potential for sub-slab vapor intrusion exists. In addition the system needs to be annually certified to be correctly functioning and protective of public health.

Based on this review, I concur with the proposed *Remedial Action Workplan* and believe the proposed actions will be protective of public health. If you have any questions, please contact Mr. Geoff Laccetti at (518) 402-7880.

Sincerely.

Gary A. Litwin, Director Bureau of Environmental Exposure Investigation

cc: G. Litwin/S. Bates G. Laccetti/File Mr.K. McKinney - NYCDOH Mr. D. Walsh - NYSDEC, Reg.2

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