REVISED DRAFT REPORT

Three Star Anodizing Site
Wappingers Falls, New York
Remedial Investigation of
Wappingers Creek
NYSDEC Site 314058



New York State Department of Environmental Conservation Albany, New York

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Albany, New York

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1. Introduction

1.1. Site Background

On behalf of the New York State Department of Environmental Conservation (NYSDEC), O'Brien & Gere Engineers, Inc. performed a Remedial Investigation (RI) to evaluate potential environmental contamination associated with the Three Star Anodizing Site (Three Star Site). The Three Star Site is located in the Market Street Industrial Park on the south bank of Wappingers Creek in the village of Wappingers Falls, New York (Figure 1-1). The Three Star Site is a class 2 site (Site No. 314058) on the New York State Registry of Inactive Hazardous Waste Sites. A RI report completed for the Three Star Site (Site RI Report) is to be completed in 2007 (O'Brien & Gere 2007). This report presents the results of the RI completed for Wappingers Creek (Creek RI Report).

The Three Star Site consists an 8.5-acre industrial facility on the south bank of Wappingers Creek (Figure 1-2). Several buildings, and paved parking areas and access roadways are present on the site. The site is located within the 100-year flood plain along an oxbow of Wappingers Creek. The creek discharges to the Hudson River approximately 1.5 miles downstream and it is subjected to tidal influences of the river (NYSDEC 2000). Discharges from the site to the creek occur via surface runoff. In the past, the creek also received industrial waste discharges from the Three Star Site. A former raceway collects runoff from the south portion of the site and drains to a lagoon on the southeast portion of the Three Star Site (Three Star lagoon) and then to the creek (Figure 1-2). A storm water pipe originating in the Village of Wappingers Falls also discharges to the Three Star lagoon.

Historical information for the site was obtained from a number of sources:

- Aerial photographs of the site were obtained from the Dutchess County Soil and Water Conservation District (DCSWCD) for the years 1935, 1946, 1967, 1980, and 1995 (DCSWCD 2000).
- A historic account of activities at the site was provided in *The Birth & Growth of an Old Village*, *Wappinger Falls 1707-1977* (Popper 1991).
- Memoranda obtained from files of Dutchess County Department of Health provided maps that identified tenants of the site in 1967 and 1971. The memoranda also provided a brief account of activities at the site at that time.
- Sanborn Maps dated 1945 and 1960 also provided some information on past uses of the site.
- A previous Phase I investigation completed in the 1980s provided screening level data of the site (EA 1986).

The Remedial Investigation/Feasibility Study (RI/FS) Work Plan for the site provided a review of these data sources (O'Brien & Gere 2001).



1.2. Three Star Site

The Three Star Site has been the location of industrial activities for over 150 years. Primary past uses of the site included dye operations, manufactured gas plant (MGP) operations, and metal plating (O'Brien & Gere 2001). A number of other smaller industrial activities also took place at the Three Star Site (Section 1.2.4). Dye operations, known as the Dutchess Bleachery, operated at the site between 1832 and 1955 (Section 1.2.1). The Dutchess Bleachery and Wappinger Water, Gas, and Electric Companies operated a coal fired MGP that included activities on the west portion of the subject site from the late 1800s to approximately 1913 (Section 1.2.2). Three Star and later Watson Metals Products Corporation operated a metal plating facility at the site from 1958 to approximately 1995 (Section 1.2.3). This report hereafter refers to Three Star as comprising both of these operations. Information pertaining to the other commercial operations on the Three Star Site, including those conducted since the Three Star operations closed, are presented separately (Section 1.2.4).

In addition, the operations of the buildings in the Market Street Industrial Park located on the north side of the creek included the Dutchess Bleachery among others, this area also represents a potential source of hazardous waste constituents (constituents) to the creek, as discussed in Section 1.3. Other potential source areas are discussed in Section 1.4. Most of the upland area along the creek downstream of the Market Street Industrial Park consists of residential properties and wooded land.

According to information obtained from Dutchess County Department of Health memoranda (DCDH 1967, 1971), several buildings at the Three Star Site had discharges that led to the creek in the past. The buildings on the Three Star Site had floor drains that discharged directly to the creek according to results of tests completed by the Dutchess County Department of Health. Most of the buildings had sanitary facilities that also discharged directly to the creek. In 1971, a survey conducted by Dutchess County Department of Health indicated that the Axton-Cross (bulk chemical sales) building at the Three Star Site had floor drains that discharged to the Three Star lagoon adjacent to the building (DCDH 1971).

Rinse water from plating tanks in the Three Star facility was reportedly discharged to the back of the plant and subsequently flowed to the Three Star lagoon. Paint stripping caustics were discharged to the floor drains of the plant and to the ground behind the facility. In that area, the ground slopes toward the southeast in the direction of the raceway and Three Star lagoon. Page Print Systems, which occupied one of the buildings at the east end of the site (EA 1986), also reportedly discharged rinse water from photographic development rinse sinks. According to a Dutchess County Department of Health memorandum, rinse water was discharged from a pipe to the ground adjacent to the building (DCDH 1971).

From this account of building design and industrial activities it is assumed that previous operations at the site also discharged industrial wastes to the ground, raceway/Three Star lagoon, and Wappingers Creek.

1.2.1. Dutchess Bleachery, 1832 to 1958

Dutchess Print Works, also known as the Dutchess Bleachery, operated under several ownerships. The Dutchess Bleachery was the first calico print works in America. The plant was originally located on the north bank of Wappingers Creek and later occupied land that was reportedly filled in on the south side of the creek. By the late 1800s, buildings on the north side of the creek were utilized for the manufacture of acids and chemicals associated with the dye operations and the remainder of the operations were performed in buildings located on the south bank (Popper 1991).

Operations consisted of dyeing and finishing of rough cotton cloth from mills in New England and the south. Aniline dye was also made at the facility during World War I (Popper 1991). Cloth was bleached



and dyed at the Bleachery and wastewater was reportedly discharged into a raceway that emptied into Wappingers Creek (EA 1986). Mercuric chloride and arsenic pentoxide may have been used to dye cloth at the facility (NYSDEC 2000).

For powering the facility, the Bleachery used several operations. For a period of time, coal fired steam boilers were used for powering equipment to process cloth (Popper 1991). The MGP also burned coal to produce gas to operate boilers for the facility and the nearby community (Section 1.2.2). After operation of the MGP ceased, boilers were operated by coal until approximately the 1940s when a switch to fuel oil was made (Popper 1991). Several fuel oil tanks were located at the Bleachery (Popper 1991). From historic aerial photographs, it appears that three tanks were located on the north bank of the Bleachery and one tank may have been present as early as 1935 (O'Brien & Gere 2001), suggesting earlier use than the historical account by Popper (1991). Later, a hydroelectric facility was constructed and operated at the upstream portion of the site.

1.2.2. Manufactured Gas Plant Operations, circa 1875 to 1913

The main portion of the MGP reportedly operated on the south bank of Wappingers Creek at the subject site (Popper 1991). During operation of the MGP, coal was reportedly barged up the creek from the D&H Canal, and stored in large coal sheds located on the north and south banks of the creek as early as the 1870s (EA 1986, Popper 1991, DCHS 2000). NYSDEC files indicate that approximately 16 acres, beyond the Three Star Site boundary, were filled with coal cinders (NYSDEC 2000). Most of these areas are either paved or developed. In a historical account of the area, Popper (1991) indicated that coal cinders were used to fill behind the retaining wall built on the south bank of the creek at the Three Star Site and an area downstream in the vicinity of Creek Road. Historic maps indicate topographic changes have occurred in those areas as well as the southwest portion of the former Bleachery property on the north bank.

1.2.3. Three Star Metal Plating Operations, 1958 to 1995

The Three Star facility (including Watson Metals Products Corporation) anodized aluminum from 1958 to when the facility closed, around 1995. Beginning in 1972, the facility also reconditioned electronic equipment which involved a water rinse of gold components (NYSDEC 2000). Operations also included paint stripping using caustics (DCDH 1971). Three Star plating processes included the use of mild nonetching alkali cleaners, a proprietary mix of sodium dichromate or chromic acid, sulfuric acid with the addition of soda ash to adjust the pH to 5 or 6, and a dying process which required ferric ammonium oxide and synthetic dyes. The paint stripping operation reportedly used chlorinated solvent with fluoride, caustic soda, and kerosene.

The waste from Three Star was reportedly discharged to the Three Star lagoon (DCDH 1967). The sanitary facilities in the Three Star buildings failed a dye test performed in 1971. At that time, wastewater was found to discharge via floor drains to the Three Star lagoon and the creek. Rinse water from plating tanks reportedly discharged to the back of plant, which subsequently drained into the Three Star lagoon (DCDH 1971). The Phase I site investigation was completed in the mid-1980s to evaluate these issues (EA 1986). The Phase I investigation found that the waste stream from the Three Star operations at the site contained sulfuric and phosphoric acids, caustic dyes, soaps, and various trace metals including copper, nickel, chromium, aluminum, and zinc. Processes also included rinsing of gold components. From the mid-1950s to 1980, waste was reportedly discharged to Wappingers Creek at a rate of 20,000 to 60,000 gallons per day (EA 1986).

The Dutchess County Department of Health documented wastewater discharge from Three Star to a drainage raceway and subsequently to Wappingers Creek as early as 1967. The practice of discharging a diluted waste stream directly to the Creek reportedly continued for many years. In 1962, the Three Star



lagoon was constructed in the lower portion of the raceway. In 1975, the facility was required to obtain a State Pollution Discharge Elimination System (SPDES) permit to continue discharging via the raceway. In following years (1977 - 1979), NYSDEC documented that Three Star occasionally exceeded SPDES effluent limitations for nickel and copper. Analyses of Three Star effluent, provided by the New York State Department of Health (NYSDOH) Division of Laboratories and Research, indicated that metal concentrations were occasionally high with respect the screening values of the United States Environmental Protection Agency (USEPA) for surface water.

Subsequently in 1979, NYSDEC issued a consent order charging Three Star with these SPDES violations. It is not known how wastewater was handled after that time. However, it appears that the materials were managed on site, since the facility is not connected to the village sewerage system (Kolb 2003). The Village of Wappingers Falls continues to discharge storm drainage via a pipe that drains to the south portion of the Three Star Site. Additional piping that is no longer connected once provided a pathway for the discharge of storm water to the lower portion of the raceway and the Three Star lagoon.

From November 1978 to the summer of 1983, trailers containing powdered raw product in 55-gal drums were stored on site. The powdered product contained in the 55-gal drums included aluminum, oxide, nickel, and cadmium. Reportedly, these materials were from Marathon Battery, formerly of Cold Spring, New York. The trailers were removed under supervision of NYSDEC and the Dutchess County Department of Health in 1983 (NYSDEC 2000).

An inspection of the facility by USEPA in 1993 indicated that it was not in compliance with applicable metal finishing pretreatment standards. The discharge of zinc from the facility was 4.1 mg/l compared to a discharge limit of 2.6 mg/l. A leaking PVC pipe that conveyed wastewater was also identified. The storage of metal waste sludge in concrete holding tanks at the facility was also noted in the report (USEPA 1993).

1.2.4. Other Commercial Uses of the Three Star Site

According to historic information, industrial activities at the Three Star Site also included plastic mold injection, felt hat manufacturing, and ammunition production.

Currently, the Three Star Site is one of the properties that compose the Market Street Industrial Park. The majority of the Three Star Site is reportedly owned by realty corporations which lease space to the various tenants. Several buildings are vacant or used as warehouse space.

Recent tenants of the Market Street Industrial Park consist of the following (O'Brien & Gere 2001):

- Riverview Transmission.
- Axton-Cross Company occupied the building located next to the Three Star lagoon in the 1960s. The company manufactured and distributed chemical products (Popper 1991).
- Fabricare Products occupied the building located next to the Three Star lagoon in the 1970s.
- Cresthill Industries, Inc.
- Lighting and Electronics, Inc.
- Sears mail order was located in one of the main buildings at the site.



Page Print Systems occupied a building next to the creek, at the east end of the site.

The main current tenant of the Three Star Site consists of a floor tile distributor located in the former Axton-Cross Building. Other tenants include a wood shop in the small building next to the old bridge (east bridge) and tractor trailer parking; both located in the Building 12 Area. During RI field activities, an automobile was being restored near Building 17. In May 2004, fire destroyed several buildings (15,16,21,22) on the Three Star Site.

1.2.5. Findings from the Three Star Site RI

The findings of the Three Star Site RI are summarized below.

- There is a widespread presence of fill material throughout the site containing inorganic constituents and PAHs. This fill extends to at least 10 ft below grade.
- The two primary sources of contaminated soil that were identified do not appear to be extensive. The two sources consist of the former raceway that exhibits inorganic constituents and naphthalene, and the former drum storage area in the vicinity of the Axton-Cross Building which exhibits chlorinated VOCs.
- In addition to the two primary sources identified above, shallow ground water exhibited chlorinated VOCs, PAHs, and inorganic constituents. Although the chemical signatures suggest different sources, no significant concentrations were identified to suggest that a concentrated source area is present.
- Deep ground water also contains inorganic constituents at elevated levels. Although the source of these constituents may be the concentrated material detected in the former raceway, the mechanism for vertical migration of inorganic constituents to deep ground water is not known. Furthermore, transport of inorganic constituents to deep ground water may not be currently active.
- The presence of elevated concentrations of inorganic constituents in deep ground water adjacent to the creek suggests that the creek channel may provide a migration pathway with the potential for ground water to emerge into Wappingers Creek or the Hudson River downgradient of the Site. The volume of ground water seepage to the creek or river may be small in comparison to creek and river flows reducing the ability to observe these interactions.
- On the MGP portion of the Three Star site, three distinct PAH mixtures were observed in soils:
 - A. A PAH composition containing approximately 40% low molecular weight (2-ring) PAHs was observed at MW-4 (14 to 16 ft).
 - B. A PAH composition comprising primarily mid-range molecular weight (3 and 4 ring) PAHs was also observed at MW-4 (12 to 14 ft), MW-5, and one of the former gas holders (SB-4-01).
 - C. A PAH composition dominated by higher molecular weight (4+ ring) PAHs was observed at two locations: MW-4 (18 to 20 ft), cinders at TP-4.

PAH compositions of mixtures B and C may be "weathered" forms of the PAH composition of mixture A. Over time, the lower molecular weight PAHs may be more readily removed resulting in a shift in composition to the higher molecular weight PAHs that may be more resistant to degradation. The



proximal relationship between these three PAH compositions in subsurface soils of MW-4 indicates that the three different PAH compositions can associated with a single area of the Three Star Site.

1.3. Market Street Industrial Park - North Parcel

The portion of the Market Street Industrial Park located on the north bank of the creek opposite the Three Star Site is comprises approximately 5 acres and features old factory buildings, a large storage tank, an abandoned smoke stack, a personal storage building, and paved parking areas (NYSDEC 2000). Similar to the Three Star facility, this facility has been the site of industrial activities for over 150 years. Previous operations on the north bank included Dutchess Bleachery, Hanover Print Works, Olah Associates, Kemp & Beatley, and IBM. What is known about those operations is summarized below.

- During operation of the Dutchess Bleachery, a 1945 Sanborn map identifies one of the buildings on the north side of the creek as the "Chem. Drug Bldg" leading to the inference that textile colors for the Bleachery operations may have been mixed at that location. Another building on the north side of the creek was labeled "Bleach Ho." presumably indicating the location of the bleach house where bleaching operations occurred. As previously cited, the disposal practices of the Dutchess Bleachery were not documented (Section 1.2.1).
- Olah Associates occupied a building on the north side of the creek and reportedly performed plating and stripping operations and discharged rinse water from plating tanks directly to Wappingers Creek.
- Hanover Print Works was located on the north bank of the creek in a building of the west portion of that parcel, according to Dutchess County Department of Heath records. In 1967, Hanover Print Works reportedly discharged approximately 3 quarts of paint per day to a lagoon (north lagoon) located next to the building (DCDH 1967).

The north lagoon covers approximately 0.2 acres on the north parcel of the Market Street Industrial Park. The construction of the north lagoon is not known. In the late 1960s, during operation of Hanover Print Works, the north lagoon reportedly received paint discharges (as discussed above). It is not known when the north lagoon was constructed. It was not visible on historic photographs until 1995 after what appears to have been vegetation removal from around the area. During field activities of the Creek RI, water was observed flowing from a stream into the north lagoon, and from the north lagoon to the tidal creek.

This parcel may have also received fill material containing cinders, as cited previously (Section 1.2.2). Three above ground fuel storage tanks were also present on this parcel during the 1960s. It is not known exactly when the tanks were installed or removed. They are visible on a 1967 aerial photograph, but were not visible on 1946 and 1980 aerial photographs. However, the quality of those photographs prevents conclusive confirmation of the presence or absence of these features.

A realty corporation reportedly now owns the property. According to NYSDEC spill files, a complaint was logged in 1999 by a citizen who reported that a 5,000-gal oil tank may be buried on the site. The citizen complained of oil observed in the creek (O'Brien & Gere 2001).

1.4. Other Potential Sources of Constituents to the Tidal Creek

Three additional potential sources of constituents to the tidal creek were identified:

• The village of Wappingers Falls is located upstream (east) of the Market Street Industrial Park including a residential area adjacent to the Three Star Site to the south. The village of Wappingers



Falls includes a small business district adjacent to the creek. Wappingers Lake also borders the village. Most of the upland area of the creek located downstream of the Three Star Site consists of residential properties and wooded land.

- A public works garage for the village is located on the east bank of Wappingers Creek, approximately 1,000 ft downstream of the Three Star Site (Figure 1-2).
- The railroad located near the confluence of Wappingers Creek with the Hudson River may contribute constituents associated with the operation of trains or maintenance of the railroad.
- From review of spill files by O'Brien & Gere in 2001, an active leaking underground storage tank (UST) for gasoline was located within one mile of the subject property. It is unknown if this spill has affected Wappingers Creek (O'Brien & Gere 2001).

1.6. Physical Features of the Three Star Site

The Three Star Site is located along an oxbow of Wappingers Creek below Wappingers Falls (Figure 1-2). The creek borders the Three Star Site to the north and flows toward the west. A former raceway and residences border the Three Star Site to the south. A steep embankment is located next to the raceway (Figure 1-2).

Stone retaining walls located along the creek bordering the north and south portions of the Market Street Industrial Park are approximately 10 feet (ft) high (Popper 1991). Based on historic information, the site contains fill material from MGP activities that was placed behind the retaining walls (Section 1.2.2). During site excavation in the 1960s for construction of the building formerly occupied by Axton-Cross, coal wastes up to 9 ft deep were reported (EA 1986). The brick remains of two former gas holders are visible on the west portion of the Three Star Site (Figure 1-2). The approximate locations of coal sheds and a boiler house were identified on a sketch of the site dated approximately 1867 (DCHS 2000). According to the historic sketch, the coal shed was located in the vicinity of Building 16 and the boiler house was located in the vicinity of former Building 11 (Figure 1-3).

The raceway located on the Three Star Site was reportedly constructed in the early 1900s by Dutchess Bleachery to allow barge access and hydropower operations (EA 1986). The Dutchess Bleachery and later Three Star also reportedly discharged waste water to the raceway during their operations at the site (EA 1986). As discussed in Section 1.2.3, according to village records, the facility is not connected to the village sewage system (Kolb 2003). In a 1967 aerial photograph (DCSWCD 2000), what appears to be drainage ditches from buildings were observed due north of the Three Star lagoon and raceway. In the past, the village of Wappingers Falls discharged storm water drainage through the raceway and Three Star lagoon (Section 1.2.3). In the 1986 Phase I Investigation, it was reported that a pipe discharged to a puddle near the south corner of the plating facility, behind Building 17. The standing water in the puddle was sampled and found to contain metals and solvents (EA 1986).

1.6.1. Geology and Hydrogeology

Regional reports indicated that, except for a small area, the Three Star Site is directly underlain by glacial outwash/alluvial sand and gravel deposits which are present along both sides of Wappingers Creek. These deposits average about 2,000 ft in width adjacent to, and south of the Three Star Site, and increase to more than 6,000 ft in width northeast of the Three Star Site. The area of exception is located generally beneath Wappingers Creek in the west portion of the Three Star Site, and is reportedly comprises exposed bedrock and/or less than 3 ft of glacial till overlying bedrock.



Approximately 3,000 ft north-northeast of the Three Star Site, a similar sand and gravel deposit is reportedly 108 ft thick at the Village of Wappingers Falls well field (Well DU-760) located in the vicinity of Route 9D. This sand and gravel deposit is bounded to the east by deposits consisting of at least 3 ft of glacial till overlying bedrock, and to the west across Wappingers Creek by deposits consisting of less than 3 ft of glacial till and/or exposed bedrock (NYSDEC 2000).

The unconsolidated sand and gravel sediment is underlain by a thrust sheet of bedrock that predominately comprises autochthonous graywacke and shale of the Ordovician Age Austin Glen Formation. Just west of the site, bedrock consists of limestone and dolostone of the Cambro-Ordovician Age Wappinger Group (NYSDEC 2000).

Based upon the available information, the shallow unconsolidated aquifer of glacial/alluvial origin on either side of Wappingers Creek is designated as the aquifer of concern with regard to the Three Star Site. In general, under natural conditions, the ground water in the aquifer beneath the site will discharge to Wappingers Creek which flows southwest to the Hudson River. The ground water table is approximately equal to the level of the creek. Deep ground water may be expected to migrate along the bedrock located beneath the creek channel before emerging downgradient.

The only wells reportedly completed in the glacial/alluvial aquifer of concern are those of the Wappingers Falls well field located approximately 3,000 ft upgradient and north-northeast of the Three Star Site. There are no known current uses of ground water downgradient of the Three Star Site for private and public water supply (DCDH 2003). The aquifer in the area is bounded to the east and south by a thrust fault, and to the west where the bedrock type changes from graywacke/shale to limestone/dolomite west of Wappingers Creek. According to the EA report, wells used for private and public water supply from this aquifer were used in the past (EA 1986). Information from wells in the area indicate that the bedrock below the aquifer ranges from 14 ft below grade at Well DU-369 to 40 ft below grade at Well DU-343 (EA 1986).

1.6.2. Three Star Lagoon

The Three Star lagoon is reportedly unlined and covers approximately 0.5 acres of the Three Star Site. The Three Star lagoon separates the Main site and MGP site. Village storm water formerly drained to the Three Star lagoon via a pipe located along the former raceway bordering the Three Star Site to the south (Section 1.2.3). The Three Star lagoon reportedly received industrial wastes during operation of Three Star (Section 1.2.3). Prior to that, when the raceway was operational, it may also have received waste from operation of the Dutchess Bleachery and other industrial activities that took place on the Three Star Site (Sections 1.2.1 and 1.2.4). Other industrial wastes may have also drained in the direction of the raceway and Three Star lagoon.

The Three Star lagoon does not discharge to the creek during periods of low flows. However, the bank separating the lagoon from the creek rises only minimally above the creek water level at high tide. It is likely that storm discharges, high tide, or high creek flows cause the lagoon to occasionally fill with creek water and/or drain to the creek.

1.7. Physical Description and Hydrodynamics of Wappingers Creek

Wappingers Creek can be divided into the following three distinct areas (Figure 1-2):

• The *upper creek* consists of the portion of Wappingers Creek that is upstream of Wappingers Falls and Wappingers Lake. Discussion of the hydrology of the upper creek is provided in Section 1.7 below.



- Wappingers Lake is a water body that receives water from the upper creek and discharges it to the tidal creek via a pipe to a hydrofacility located downstream or over the dam of the lake and Wappingers Falls. Further discussion of Wappingers Lake is provided in Section 1.7.2 below.
- The *tidal creek* is the portion of the creek that extends from downstream of Wappingers Falls to the confluence of Wappingers Creek with the Hudson River. This portion of the stream is so named for the tidal influences it experiences from the lower Hudson River. The tidal creek begins at the hydroelectric facility discharge and the upstream portion of the Market Street Industrial Park. The tidal creek is approximately 2 miles in length and discharges into the Lower Hudson River. Water levels fluctuate approximately 4 ft in the tidal creek during the tidal cycle of the Hudson River. The tidal creek area comprises the section of the creek in the vicinity of the Three Star Site (site area), a shoal area, an embayment and the Downstream section as discussed in Sections 1.7.3 through 1.7.6, respectively below.

The Market Street Industrial Park, including the Three Star Site, is located in the upper portion of the tidal creek below Wappingers Lake and Wappingers Falls (Figure 1-2).

1.7.1. Upper Creek

The daily mean flow of the upper creek, which is measured upstream of Wappingers Lake by the United States Geological Survey (USGS), is approximately 84 cfs and ranges from 6.1 to 1,060 cfs based on 71 years of record (USGS 2000). Flood stage occurs at a stage height of approximately 8.0 ft (USGS 2000) which represents a flow of approximately 3,200 cfs. Recorded peak flows for that period are summarized below:

Peak flows recorded for Wappingers Creek

Date	Flow (cfs)	Stage height (ft)
1955, August 19	18,600	19.6
1938, September 22	15,900	18.02
1973, June 30	10,400	14.12
1949, January 1	7,730	12.52
1955, October 16	8,170	12.47

Note: Discrepancy between flow and stage height readings for the last two entries indicates gauging problems or data adjustments.

Reference: USGS 2000.

Source: O'Brien & Gere Engineers, Inc.

The highest recorded mean daily flow during the past decade occurred on January 20, 1996. On that day, mean daily flow recorded by the USGS was 5,600 cfs (USGS 2000). Flow data for the upper creek is available from the USGS web site (USGS 2002).

1.7.2. Wappingers Lake

Lake levels are controlled at the dam. The lake bed contains extensive silt deposits. At the outlet of Wappingers Lake is Wappingers Falls which forms a narrow segment of Wappingers Creek. In that section of the creek, some of the water from the lake is diverted through a pipe to an active hydroelectric facility located on the north bank opposite the upstream portion of the Three Star Site (Figure 1-2). Generally, upper creek flow is similar to the flow downstream of the dam and in the tidal creek. The lake level is maintained to fluctuate between the lake crest and approximately 1½ ft below the dam most of the time. The hydroelectric facility turbines operate between approximately 8 and 320 cfs, maximum.



During storm events, creek flow above approximately 320 cfs builds up water behind the dam and may overflow it (Turbish 2002).

1.7.3. Site Area

The *site area* consists an approximately 2,700 lineal ft section of the tidal creek directly adjacent to the Market Street Industrial Park, generally beginning at the foot of Wappingers Falls and ending at the shoal area (Figure 1-2).

In the vicinity of the Market Street Industrial Park, the creek is narrow, approximately 90 ft wide, relative to downstream sections and is bounded on each shore by retaining walls bordering both sides of the creek. Two bridges (referred to as the east and west bridges) span the tidal creek connecting the Three Star Site to the north parcel of the Market Street Industrial Park. The retaining walls end at the west bridge. The location of pipes observed along the retaining walls that border the Market Street Industrial Park were recorded in field logs (Appendix A). Downstream of the retaining walls along this section of the creek, the land on the north side of the tidal creek is undeveloped, containing a steep bank with exposed bedrock.

Generally the creek profile is shallowest on the south side of the creek nearest the Three Star Site with water depths less than approximately 5.5 ft. As the creek cross-section progresses to the opposing shore, water depth increases to approximately 12 ft indicating that the majority of creek flow passes along the north portion of the creek. Additionally, the relative narrowness may cause water velocities through this section to be greater than those observed in wider sections in the tidal creek located downstream. The creek bed is composed primarily of rocks and cobble in this portion of the creek; little sediment accumulation was observed.

Following industrial development of the Market Street Industrial Park, the area has been inundated by flood water at least twice. From a historical account and a photograph of the Market Street Industrial Park, approximately 5 ft of water covered the area during the flood of 1902 (Popper 1991). The area was also flooded in 1938 (Popper 1991). From these historic accounts, it is anticipated that flooding of the area would occur when stage heights exceed approximately 13 ft. Therefore, based on information in the preceding table (Section 1.7.1), it is speculated that some flooding of the Market Street Industrial Park may have also occurred in 1955 and 1973.

1.7.4. Shoal Area

As the tidal creek passes the MGP Site that is associated with the Three Star Site, it bends toward the south. At approximately 1,000 ft downstream of the west bridge, the creek widens to approximately 250 ft and meanders. Along the inside bend, is a shoal that is comprised primarily of rocks and cobbles overlain by silt and sand (Figure 1-2). Downstream of the Three Star Site, the southeast shore contained a sediment deposit in the vicinity of WP16 and downstream. During an ebb tide, seeps were observed along the bottom of the creek bank between WP16 and WP25.

Compared to the tidal creek in the vicinity of the Market Street Industrial Park, water flow velocity decreases as the tidal creek widens and the cross sectional area increases, facilitating sediment accumulation in low flow velocity areas. The sediment shoal (WP29/WP29A/WP-DOT) continues along the eastern bank past the public works garage (located in the vicinity of WP-DOT) and an unnamed tributary that drains into the creek (WP-CKOUT) located approximately 1500 ft downstream of the site. The shoal area becomes increasingly comprised of silt and sand, with fewer observations of pebble and gravel. In this section of the creek, the main flow is located along the opposite shore.



1.7.5. Embayment

A shallow embayment (WP-PL) is located along the northern shore of the tidal creek approximately 0.75 mi. downstream of the site following a bend directing the tidal creek generally southwesterly. This surface water feature measures approximately 240,000 square ft (approximately 800 ft by 300 ft). The bottom of the embayment contains a bed comprising silt and organic matter and the area supports aquatic plant growth throughout. The main flow of the tidal creek bypasses the embayment as the mouth of this water feature runs generally with the west shore of the tidal creek. The embayment experiences minimal water flow velocity and can generally be described as quiescent.

1.7.6. Downstream Section

Downstream of the embayment, the tidal creek widens generally to approximately 600 ft, however widths of up to approximately 800 ft also occur. The bottom materials in this section of the creek primarily comprise silt and sand, with rock and cobble content increasing with sediment depth. Generally, the main flow in this section of the tidal creek occurs along the approximate centerline and water depths are up to approximately 15 ft. Shallow areas occur along both the northern and the southern shores throughout this section; approximately half of the area in this section of the tidal creek occurs at depths of less than 5 ft. An exception to this occurs along the southern shore approximately 1,000 ft upstream and downstream of the County Route 28 bridge where the profile of the creek quickly deepens. An island is located in the vicinity of the transect WP-T2 in the western half of the creek. A depositional area is located west of the island (WP-OD2).

Upstream of the confluence of the tidal creek with the Lower Hudson River, two bridges create narrows. A bridge carrying County Route 28 (CR 28) and a railroad bridge constrict the lower section of the creek to approximately 140 ft wide and approximately 250 ft wide, respectively. The railroad bridge constriction occurs approximately at the confluence of the tidal creek and the river, and the CR 28 Bridge constriction occurs approximately 1,200 ft upstream of the river. The tidal creek reaches its greatest depth of approximately 25 ft beneath the CR 28 bridge. The tidal creek widens to approximately 800 ft between bridges and silt and sand overlaying rock and cobble continue in this area.

1.8. Development of Conceptual Site Model of Wappingers Creek

The conceptual site model of the Wappingers Creek provided below identifies potential sources of constituents and migration pathways that were evaluated during the Site RI (O'Brien & Gere 2005) and Creek RI.

1.8.1. Potential Sources

Several potential sources of constituents to the creek have been identified:

- Background concentrations of inorganic constituents and PAHs can be present from both natural and anthropogenic sources in the watershed. Background concentrations of VOCs, pesticides, PCBs, and inorganic constituents may also occur due to anthropogenic sources. Levels of constituents in Wappingers Lake were used as representative of background levels. In addition, runoff from the village is discharged to the Three Star lagoon and then to Wappingers Creek.
- The Market Street Industrial Park included several operations in the past that could have contributed to the levels of constituents detected in the creek surface water and sediment (Table 1-1). On the south portion of the Market Street Industrial Park, the Three Star Site was found to contain VOCs, SVOCs (primarily PAHs), and inorganic constituents associated with past activities (O'Brien & Gere 2005). Operations similar to those of the Three Star Site also took place on the north parcel of the Market Street Industrial Park (Section 1.3).



- The public works garage may have been the location of storage and operation vehicles. Activities associated with these uses may have included the storage of fuels or wastes associated with the maintenance of vehicles. These activities may have VOCs and PAHs associated with them.
- The tributary located along the south shore of the tidal creek in the vicinity of the shoal area could also transport constituents present from the watershed to the tidal creek.
- Fill material containing cinders is present on the Three Star Site, and potentially present on the north parcel of the Market Street Industrial Park and under Creek Road in the vicinity of the shoal area. Cinders would be expected to contain PAHs and inorganic constituents
- The railroad located at the downstream terminus of the tidal creek may have PAHs associated with the operation of trains or the railroad ties preserved with creosote.

The properties of the chemicals discharged from the potential sources to the creek and physical attributes of the creek contribute to the fate and transport of the chemicals once exposed to the environment (Table 1-1).

From review of site topography, industrial wastes discharged from Three Star Site buildings to surface soils would primarily drain to the south and west toward the raceway and Three Star lagoon and then to the creek (Figure 1-2). Contamination of surface and subsurface soils, ground water and surface water and sediment of the Three Star lagoon were investigated and reported separately (O'Brien & Gere 2003). In addition to suspected discharges to the creek, historic records indicate that the site was flooded at least three times since 1900. Flooding can mobilize contaminants from the site to the creek.

The Creek RI evaluated the environmental media in the creek for constituents potentially related to past site activities. Sampling and analysis was completed in the Creek RI to screen for such constituents.

1.8.2. Factors Affecting Bioavailability of Constituents in Sediment

Bioavailability controls the potential exposures of chemical constituents in soil and sediment to humans and wildlife (NRC 2003, USPEA 2002). Consistent with recent guidance for management of sediment sites (NRC 2001, USEPA 2002, 2005, USN 2002), several mitigating factors ultimately control potential exposures rather than total concentrations of the constituents. A conceptual model of processes within an aquatic system that affect constituent availability is provided in Figure 1-4.

Physiochemical interactions between constituents and sediment particles can reduce the availability of some constituents to cause harm to humans and ecological populations. Aging of the contaminated soil and sediment can accentuate this process (NRC 2003). Several factors participate in this phenomenon:

- Constituents reside as bound form (particulate matter including soil, sediment, and organic matter), released form (dissolved in a liquid or gas phase), or associated with a living organism (NRC 2003).
 Constituents in released form are generally orders of magnitude lower in concentration than in sediment (Schwarzenbach et al. 1993).
- Transport of constituents in an aquatic system can result from hydrodynamic processes. Physiochemical transformations such as speciation shifts due to oxidation-reduction reactions, hydrolysis, acid-base reactions, and photolysis can also transport constituents (NRC 2003).



- Binding of constituents to solid matrices (e.g. sediment) can occur by adsorption onto the solids or natural organic matter, or by change in form as by bonding shifts or precipitation (NRC 2003). Absorption within the solid matrix can also occur. Sediment types also affect the extent of constituent associations with sediment.
- Compartmentalization can isolate constituents in sediment from receptor populations reducing the potential for exposures. In addition to binding of constituents discussed above, burial can also remove constituents from potential contact with receptor populations. For burial to be effective, the sediment needs to be stable.

The outcome may be sequestration of a constituent over time by the incorporation of the constituent into more stable solid phase materials (NRC 2003). However, the nonsequestered fraction may remain available for uptake by organisms. Actual uptake is driven by duration and rate of exposure.

1.9. Wappingers Creek RI objectives

The objectives of the Creek RI are presented below:

- Observe current conditions of the Wappingers Creek and evaluate potential migration pathways of constituents.
- Perform screening level assessment of potential site impacts to fish and wildlife in a FWIA through Step IIC.
- Complete a pathway analysis for qualitative evaluation of potential human exposures.
- Evaluate surface water in Wappingers Creek for potential impacts to water quality due to migration of contaminants via surface runoff or ground water seepage from the Three Star Site.
- Evaluate sediment of Wappingers Creek for potential impacts from Three Star Site activities and other potential sources.
- Identify spatial patterns of constituents in sediment.
- Evaluate composition of PAHs in sediment compared to Three Star Site sources.
- Following a thorough delineation of the Creek, a feasibility study (FS) will be completed, if necessary and appropriate.

The investigation of Wappingers Creek was completed according to State Superfund guidance and the RI/FS Work Plan and Addendum (O'Brien & Gere 2001, 2002).

1.10. Approach

Surface water and sediment samples collected for the RI were analyzed for SVOCs including tentatively identifiable compounds (TICs) of the Target Compound List (TCL) and inorganic constituents of the Target Analyte List (TAL). Additional analyses consisted of the following:



- A portion of the samples were analyzed for TCL VOCs, pesticides and polychlorinated biphenyls (PCBs).
- Sediment samples included analysis of hexavalent chromium and total organic carbon (TOC). Amenable cyanide (considered to be the biological available fraction of cyanide) was also analyzed in sediment samples where total cyanide was detected. Three sediment samples were also analyzed for grain size distribution.
- Surface water field analyses included pH, conductivity, temperature, turbidity and salinity. Surface water laboratory analyses also included total suspended solids (TSS), dissolved organic carbon (DOC), hardness, and alkalinity.

O'Brien & Gere Laboratories in Syracuse, New York analyzed the samples, except for samples collected for analysis TOC, sediment and physical parameters, and hexavalent chromium analyses completed in 2001. Columbia Analytical Services (Columbia) in Rochester, New York analyzed sediment samples collected in 2001 for hexavalent chromium. TOC samples were analyzed by Columbia, or Ecology & Environment, Inc. in Lancaster, New York. Physical parameters in sediment were analyzed by PW Labs in Syracuse, New York.



2. Methods

The field activities for the Creek RI were conducted from April to July 2001, May 2002, and May 2003 according to the Work Plan and Work Plan addendum (O'Brien & Gere 2001 and 2002, respectively). Field activities consisting of a creek reconnaissance and investigating surface water and sediment are presented separately (Sections 2.1 through 2.3, respectively). A summary of sample quantities collected in Wappingers Creek is presented in Table 2-1. A discussion of data interpretation methods is also presented (Section 2.4) followed by a summary of health and safety procedures that were maintained during field activities (Section 2.5).

2.1. Creek Reconnaissance

Creek reconnaissance activities were completed to identify overall creek bed characteristics. Specifically, of interest were the distribution of sediment depositional areas, identification of pipes and tributaries, and observations of bed materials (*e.g.* silt, sand, gravel, rocks, cobbles). A bathymetric map obtained from NYSDEC was referenced during site reconnaissance activities (Exhibit A). Bathymetry data of the tidal creek bed at the Market Street Industrial Park bridges collected for the Creek RI are presented in Appendix A.

The first reconnaissance of the tidal creek was completed from the site to the downstream embayment on May 8 and 9, 2001. The lower portion of the tidal creek was observed during a second reconnaissance, completed in May 2002, extending from the embayment to the confluence of the tidal creek with the Hudson River, approximately two miles downstream of the Three Star Site.

An initial reconnaissance was conducted during installation of marker stakes along the shore. Then, sediment depths were investigated by probing with a steel rod to observe and evaluate differences in sediment type. In areas where rock and cobble were present as the primary creek bed material, probing was not completed at set intervals. Rather, overall observations were used to judge probing needed to evaluate sediment type. Sediment probing was also observed by the NYSDEC. Logs documenting sediment reconnaissance activities are provided in Appendix B.

2.2. Surface Water Investigation

Two surface water sampling events were completed for the Creek RI consisting of low flow surface water and storm event sampling. Low flow conditions increase the contact time for surface water and sediment interactions to occur. In particular, in other creek or river systems low flow conditions during summer months have been associated with concentration increases of constituents that correspond to temperature increases within the system. In contrast to low flow events, storm events increase the volume of surface water and the potential for resuspension of sediment with subsequent downstream transport. Sampling of each of these types of events is intended to screen surface water concentrations during these two critical time periods.

The low flow event sampling was completed on July 12, 2001 from 06:10 to 11:40. The tidal portion of the creek was sampled from 08:30 to 11:40. Flows measured at the USGS gaging station located upstream of Wappingers Lake were approximately 50 cfs during the low flow event. Sampling was completed during an ebb tide. Peak tide at Poughkeepsie, located approximately 6 miles upstream on the confluence of Wappingers Creek with the Hudson River, occurred at approximately 05:55 and low tide occurred at approximately 12:26 on that day.



The storm event sampling was completed on May 14 and 15, 2002. On May 14, 2002, samples were collected from 15:30 to 16:45, with sampling of the tidal portion of the creek from 15:30 to 16:45. Sampling on that day was completed during an approximate high slack tide period. Peak tide at Poughkeepsie on May 14, 2002 occurred at approximately 15:03 and low tide occurred at approximately 21:17. On May 15, 2002, samples were collected from 07:45 to 10:30 with sampling of the tidal portion of the creek from 07:45 to 08:30. Sampling was completed during a flow tide. On May 15, 2002, low tide at Poughkeepsie occurred at approximately 02:46 and high tide occurred at approximately 10:07. Flows measured at the USGS gaging station located upstream of Wappingers Lake ranged from approximately 500 to 900 cfs during the storm event. Water was observed flowing over the Wappingers Lake dam during the storm event sampling.

2.2.1. Sample Locations

Locations sampled for low flow and storm events are identified in the table below.

Surface water	 l +:

	Sampling		
Sample ID	event	Description	Purpose
Wappingers Creek			
Rt9D	В	Wappingers Lake	Background
WP5-SW	В	East bridge	upstream boundary of site
WP10-SW	В	West bridge	adjacent to the site
WP13-SW	L	Center of creek	Downstream of Three Star lagoon
WP18-SW	L	Center of creek	Downstream of MGP site
WP35-SW	L	Center of creek	Downstream of the site
Rt. 28 Bridge	S	Center of creek	Approximately 1,000 ft upstream of the confluence of the creek with the Hudson River
Three Star Lagoon			
LG-SW	S	upstream	Evaluate constituents draining into Three Star lagoon.

Notes:

L = Low flow sample locations;

S =storm event sample locations;

B = samples collected for both sampling events

The background station identified in the Work Plan (O'Brien & Gere 2001) as the Route 9D Bridge was moved to Wappingers Lake. The Route 9D bridge was abandoned for sampling because the height from bridge to creek and shallow water with swift current at the location complicated collection of representative samples from this location.

Coordinates of sediment sampling locations that were surveyed or recorded using a global positioning system (GPS) are summarized in Appendix C.

2.2.2. Sample Collection Procedures

Surface water samples were collected as depth-integrated composites of aliquous collected from the surface, middle, and lower portions of the water column (O'Brien & Gere 2001). The samples were collected using a Kemmerer sampler. Field logs documenting surface water sampling activities are presented in Appendix B.



2.2.3. Field Analyses

Water column samples were analyzed in the field for pH, conductivity, dissolved oxygen, salinity, and temperature. Field instrumentation operating procedures were provided in the operations manual for the equipment. Water column field analytical data, consisting of instrument calibration and environmental data, were recorded in field logs (Appendix B).

2.2.4. Laboratory Analyses

Water column samples were analyzed by O'Brien & Gere Laboratories in Syracuse, New York for TCL VOCs, SVOCs, pesticides, PCBs, TAL inorganic constituents, TSS DOC, hardness, and alkalinity. TCL VOC and SVOC analyses included identification of TICs.

2.3. Sediment Investigation

The sediment investigation was performed to identify spatial patterns of constituents in the tidal creek that may be associated with the Three Star Site and other potential sources (Section 1.5). Surface sediment samples from 0 to 6 inch interval were collected to represent the zone of highest ecological significance. Sediment samples below 6 inches deep (underlying sediment) were also collected from areas where unconsolidated material was present that allowed collection by manual methods. The underlying sediment samples were collected to represent past deposition that may become accessible to aquatic organisms, if it were disturbed. Background samples from upstream of the Three Star Site were also collected for comparison to support the evaluation of potential site impacts.

The investigation of sediment in Wappingers Lake and Wappingers Creek was completed from May 8 through 10, 2001 and May 12 through 14, 2003. Field logs documenting sediment sampling activities are presented in Appendix B.

2.3.1. Sample Locations

Locations where sediment samples were collected are identified on Figure 1-2. Sediment collected from Wappingers Lake provided samples for evaluating background concentrations. Five locations were sampled along the southern portion of the lake. In addition, three sediment cores were collected as cluster core samples from the south portion of the lake near the village park. The cluster core samples were collected from an area approximately 5 ft in diameter.

Sediment from Wappingers Creek was sampled from areas in the vicinity of the site and downstream. Generally, the creek bed in the vicinity of the site, locations WP-01 through WP-18, contained large amounts of rock and cobble along with sediment. Generally, sampling at these locations was completed for surface sediment collected from the 0 to 6 inch interval. Refusal of the sediment sampling device against rocks and cobbles prevented further depth penetration and sediment recovery. Sediment deposits with deeper sediment were located downstream of the site at a shoal located at WP-29 and an embayment located at WP-PL (Figure 1-2). Subsurface sediment samples were collected from those locations.

2.3.2. Sample Collection and Processing

Sediment samples were collected and processed according to the work plan (O'Brien & Gere 2000). Samples were collected using a manual push core using polycarbonate tubing, or a soil auger modified with a polycarbonate shield. Sediment cores were processed using a core extrusion device to push the sediment out of the core tube. Surface 0 to 6 inch samples were obtained from each location. At locations where additional sediment was present, additional 6 inch sample intervals were collected. Background samples consisted of 0 to 6 inch surface samples and deeper sediment.



2.3.3. Laboratory Analyses

Sediment analyses consisted of TCL VOCs and SVOCs (including TICs), TCL pesticides and PCBs, and TAL inorganic constituents (Table 2-1b). Total cyanide was analyzed with a one-week turn around time. If total cyanide was above the screening value of 0.1 mg/Kg (Eisler 1991), amenable cyanide was also analyzed.

Sediment samples were analyzed by O'Brien & Gere Laboratories in Syracuse, New York, except for samples collected for analysis of hexavalent chromium of samples collected in 2001, and TOC. For samples collected in 2001, hexavalent chromium samples were analyzed by Columbia Analytical Services in Rochester, New York. TOC samples were analyzed by Columbia (2001) and Ecology & Environment (2001 and 2003).

2.4. Data Interpretation

Data interpretation completed for the RI consisted of a data quality review which was completed according to the QAPP (Section 2.4.1), interpretation of constituent classes (Section 2.4.2), and comparison of data to screening values for surface water and sediment (Sections 2.4.3 and 2.4.4, respectively). Then, spatial trends observed in the creek were evaluated and a human health pathway analysis was completed (Sections 2.4.5 and 2.4.6, respectively). Analytical data are provided in laboratory reports (O'Brien & Gere Laboratories 2001, 2003; Columbia 2001; Ecology & Environment 2001, 2003).

2.4.1. Data Quality Review

Review of the data quality indicated that the RI data is acceptable for the intended uses. Laboratory data quality was evaluated according to New York State requirements for data usability summary reports (DUSR). The data quality review resulted in some of the data being qualified as estimates (J). Consistent with data validation guidance, the qualification of data as estimated does not affect the end uses of the data. Results of the DUSR were incorporated into data summary tables. Copies of the DUSRs completed for the Phase I RI and Phase II RI were presented separately (Potak 2001, 2003).

From review of the DUSRs completed for this RI, the data quality is acceptable for intended uses. Minor laboratory problems resulted in some data being qualified. Data qualified as estimates (J) are acceptable for intended uses. The data quality issues identified are summarized below:

- Acetone and methylene chloride were laboratory contaminants detected in some of the VOC blank samples. Acetone was detected in samples collected in 2001 and 2003 (Potak 2001, 2003).
 Methylene chloride was detected in samples collected in 2003 (Potak 2003). The presence of laboratory contaminants complicates the interpretation of these compounds.
- Evaluation of hexavalent chromium concentrations is complicated by matrix interferences. For several samples, the recoveries of matrix spike/matrix spike duplicates for hexavalent chromium were lower than expected. However, results of laboratory control spikes indicated that the laboratory analytical performance was within acceptable ranges providing evidence that the soil matrices were responsible for these anomalies. The laboratory noted that low matrix spike/matrix spike duplicate recoveries may be due to reduction of hexavalent chromium in the soil matrix. These interferences result in a high level of uncertainty associated with undetected hexavalent chromium results. Total chromium data provide additional data to evaluate the potential levels of hexavalent chromium in the soil. It is not unusual for evaluation of soil and sediment matrices to be complicated by such factors. Both labs used for analysis of hexavalent chromium samples encountered these problems.



A complete review of data quality is provided in the DUSR (Potak 2001, 2003).

2.4.2. Interpretation of Analytical Constituent Classes

Site data was compared to screening values according to provisions of the work plan and addendum (O'Brien & Gere 2001, 2002). Interpretation of data trends was aided by generalization of analytical testing results:

- Interpretation of VOC data included calculation of total VOC and total benzene, toluene, ethylbenzene, and xylene (BTEX) concentrations and the identification of principle components. The presence of BTEX compounds can be associated with hydrocarbon sources. Chlorinated VOCs are another class of VOCs that may be indicative of industrial solvents.
- Interpretation of SVOC data included calculation of total SVOC concentration. SVOCs that are commonly associated with combustion occur as mixtures of PAHs consisting of 16 analytical compounds (Table 2-2). Total and carcinogenic PAH concentrations, and benzo(a)pyrene equivalents (BaP equivalents) were also calculated to evaluate the concentrations of PAHs in site media. The BaP equivalents were calculated according to NYSDOH methods for seven carcinogenic PAHs (Table 2-2).
- Evaluation of inorganic data focused on inorganic constituents that are not common geologic elements. Common geologic elements (consisting of beryllium, calcium, magnesium, potassium, and sodium) occur naturally in wide concentration ranges and other inorganic constituents are more suitable for evaluation of potential site impacts. As such, the common geological elements were generally not evaluated beyond tabulation of results.

Concentrations of SVOCs, in particular PAHs, and inorganic constituents are ubiquitous in the environment and comparison of site data with background data (off site) was used to evaluate potential incremental concentrations due to past site activities.

PCBs and pesticides were analyzed in samples collected during the first phase of the RI and were screened out from further evaluation. PCBs were not detected in sediment and pesticides concentrations were generally consistent observations of background levels.

2.4.3. Screening of Surface Water Data

The RI data were compared to screening values according to media-specific data quality objectives outlined in the OAPP (O'Brien & Gere 2001).

Surface water data were evaluated using screening values provided in the *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Division of Water Technical and Operational Guidance Series 1.1.1* (NYSDEC 1998). Concentrations were compared to screening values for Class C waters consistent with the water quality designation of the creek.

2.4.4. Screening of Sediment Data

Sediment data were compared to screening guidance provided in the *Technical Guidance for Screening Contaminated Sediments* (NYSDEC 1999). For organic compounds in sediment, analytical concentrations were normalized to sample TOC concentrations to adjust each constituent concentration in an adaptation of the sediment guidance, as discussed below. This approach assumes that equilibrium partitioning occurs in soil media. More recent USEPA guidance suggests that a weight of evidence approach may be more indicative of sediment quality (USEPA *et al.* 2002). Concentrations of inorganic constituents in sediment



were compared to reference values for typical background concentrations, as provided in the screening guidance.

Some of the sediment samples collected in 2003 were not analyzed for TOC. To estimate a TOC concentration for those samples, samples collected from other depth intervals at the same sample location were compared to the average TOC of 5 mg/Kg. If the TOC in the comparison sample was 5 mg/Kg or greater, a TOC concentration of 5 mg/Kg was utilized. If the TOC was less than 5 mg/Kg in the comparison sample, a TOC of 1 mg/Kg was utilized.

Evaluation of sediment data was completed as listed below:

- A statistical evaluation of background data completed according to DER-10 guidance (NYSDEC 2003) is presented in Appendix D. Outliners identified by statistical evaluation were not included as maximum value for screening. In such instances the calculated upper confidence level (UCL) was applied.
- The creek is primarily fresh water; however, occasional tidal transport of brackish water from the Hudson River has occurred during low flow periods. Sediment data collected for the Creek RI were evaluated using fresh water screening values.
- For each environmental sample of sediment analyzed for organic compounds, a screening concentration (SC) was calculated as analytical concentrations (C) normalized to organic carbon content (OC) to allow comparison of location specific results with the NYSDEC screening values. The NYSDEC screening values for organic compounds are presented as screening values normalized for a sediment containing 1% TOC. The equation used for the calculation of SC was adapted from the NYSDEC 1999 guidance, as follows:

SC = C/%TOC

where:

SC = screening concentration (ug/gOC)
C = analytical concentration reported by laboratory (mg/kg)
%TOC = percent total organic carbon (gOC/kg)

For example:

To calculate the benzo(a)pyrene SC for WP-LK1 (Table 4-2), where the C is 0.2 mg/Kg and the %TOC is 0.102 gOC/kg, the C was divided by the %TOC:

```
SC = 0.2 mg/Kg/0.102 gOC/g * 1000 ug/mg * 1kg/1000g
= 2 ug/gOC
```

This result is reported as the SC in Table 4-2. The result is greater than the NYSDEC screening value of 1.3 ug/gOC for the protection of human health. Consistent with NYSDEC guidance (1999), the SC for organic compounds were calculated for sediments with TOC concentrations in the range of 0.2% to 12%.

• Inorganic data were screened with lowest effect level (LEL) and severe effect level (SEL) screening values as defined by NYSDEC (1999). The order of magnitude above SEL screening values was also calculated to evaluate the contributions of the specific constituents to overall sediment quality.



• In the absence of New York State screening values, alternative ecologic screening values were applied as discussed in the Fish and Wildlife Impact Analysis (FWIA).

Results of these interpretive efforts are reported in subsequent sections of this report.

2.4.5. Trend Analysis of Sediment Data

Spatial trends were evaluated using box plots constructed using Analyse-it® software. The occurrences of constituents were evaluated using parametric and nonparametric tests for the background and five sections of the tidal creek. Further analysis of spatial trends of inorganic constituent and PAH composition data of sediment were completed as discussed below. For both of these evaluations, surface and subsurface sediment were considered separately.

<u>Inorganic constituents</u>

To evaluate the levels that inorganic constituents exceed NYS screening values, concentration data for each inorganic constituent was divided by the associated screening value to obtain screening value normalized data. This approach allows comparison of the results of each inorganic constituent to identify the particular constituent that exceeds its screening value by the highest amount at a particular location.

PAH composition analysis

The PAH composition of sediment in the creek was evaluated by converting concentration data for individual compounds to weight percent concentration data. This approach allows comparison of the PAH signatures of samples with different total PAH concentrations.

2.4.6. Qualitative Risk Assessment

Interpretation of screening evaluations needs to include recognition that total chemical concentrations do not necessarily represent potential exposures. As discussed in Section 1.4.2, the biovailability of a constituent is controlled by a number of physiochemical factors.

To further evaluate potential wildlife exposures, a FWIA was completed that included identification of constituents of potential ecological concern (COPEC) for representative species consisting of a mink and great blue heron.

To evaluate potential human exposures to constituents in the creek, a qualitative exposure pathway analysis was completed for the Three Star Site which included Wappingers Creek. The exposure pathway analysis was completed according to NYSDOH guidance (NYSDEC 2002).

2.5. Health and Safety

The RI field activities were conducted according to health and safety procedures provided in the site-specific health and safety plan (O'Brien & Gere 2001).



3. Surface water data

Constituents were generally below screening values for low flow and storm event sampling events. However, during the storm event, some inorganic constituents were detected in the water column. In general, the occurrence of these constituents in the water column upstream of the site at levels consistent with those of downstream suggests that their presence is not related to the Three Star Site. The source of the cyanide detected in the water column in the vicinity of the site is not clear. A discussion of the results of the investigation of surface water in Wappingers Creek provided in this section presents flow and total suspended solids data (Section 3.1), field parameters (Section 3.2) and laboratory results (Section 3.3).

3.1. Flow and Total Suspended Solids Data

During the low flow event a flow of approximately 50 cfs was measured by USGS in the upper Wappingers Creek representing the non-tidal portion of the creek (Exhibit B). The sampling of the creek for the RI was completed during an ebb tide, so flow in the tidal portion of the creek may have been slightly higher than that observed by USGS in the upper creek. During the low flow event, TSS was less than 5 mg/L at five of the six locations sampled. At the west bridge located on the Three Star Site (Site Bridge 2) the TSS was 5 mg/L and less than 5 mg/L in duplicate samples collected from that location. The detection of these levels of TSS is interpreted as similar to results obtained at other locations.

During the storm event, flows ranging from 500 to 900 cfs were measured by USGS in the upper creek and water was observed to be flowing over the dam during the storm event sampling. During the first round of sampling for the storm event, samples were collected during the approximate slack period of the high tide. TSS was 18 mg/L in both samples collected from the tidal creek representing concentrations over the length of the tidal creek from the vicinity of the Three Star Site (Site Bridge-1) to the approximate confluence with the Hudson River downstream at the Route 28 Bridge (Route 28 Bridge-1). At that time the TSS in Wappingers Lake was 13 mg/L and 8 mg/L in duplicate samples collected from that location.

During the second round of sampling for the storm event, samples were collected during a flow tide which tends to decrease or cancel the non-tidal flows from the upper portion of the creek. TSS in the creek was 12 mg/L at the west bridge (Site Bridge-2) and 20 mg/L in the vicinity of the approximate confluence of the creek with the Hudson River (Rt. 28 Bridge-2). At that time, TSS in Wappingers Lake was 6 mg/L. TSS was not detected in the surface water sample collected from the Three Star lagoon outlet with the concentration reported as less than 5 mg/L.

3.2. Field Parameters

Field parameters were within typical ranges with variations associated with tidal and seasonal influences (Table 3-1a and 3-1b). For the low flow sampling event completed in July 2001, average readings for conductivity, temperature, dissolved oxygen, and salinity were 0.46 usem/cm, 23 C°, 6.8 mg/L, 0.0 %, respectively and the median pH was 6.9. For the storm event sampling completed in May 2002, average readings were 0.26 usem/cm, 12 C°, 10.4 mg/L, 0.0%, respectively, and the median pH was 7.8.



3.3. Laboratory Results

For both sampling events, surface water concentrations of analytes tested were generally below screening levels with three exceptions:

- During the low flow event, the sample collected from the west bridge of the Three Star Site (WP5-SW) contained trace levels of acetone, at 3 ug/L, below the screening value (Table 3-2A). The origin of the acetone in that sample is unclear and it may be due to sample contamination (Section 2.5.1), although anthropogenic sources can not be ruled out. Nonetheless, the detection of acetone at the background station suggests that its presence is not related to the Three Star Site. VOCs were not detected during the storm event sampling (Table 3-2B).
- During the storm event sampling, aluminum, iron, and silver concentrations were detected above the screening values both in Wappingers Lake (upstream of the Three Star Site) and in the tidal creek (Table 3-3B).
- Cyanide was detected at the west Bridge and Rt. 28 sampling locations during the second round of storm event sampling (Table 3-3B). At the west bridge, cyanide was detected at 20 ug/L. which is approximately four times the screening value for free cyanide of 5 ug/L that is intended to protect fish propagation. In the vicinity of the Route 28 Bridge, cyanide was detected in the water column of the creek at approximately 10 ug/L. Cyanide was not detected during the low flow sampling event or the first storm event round of sampling (Table 3-3A).

Analytical results are presented in Appendix E. VOC and SVOC TICs identified during sample analyses are presented in Appendix F.



4. Sediment Data

Sediment at the background locations and in the tidal creek contained inorganic constituents above screening levels. In the tidal creek, the concentrations were much higher relative to background levels detected, with the highest concentrations detected in the deeper sediment of the shoal and embayment. In the sediment samples collected from the shoal of the tidal creek, PAHs and dibenzofuran were detected above screening levels. The results of the sediment investigation are presented for background data (Section 4.1) and the tidal creek (Section 4.2), separately.

Detected concentrations in sediment compared to screening values are presented in Tables 4-1 through 4-3. The constituents detected consisted primarily of inorganic constituents (Table 4-3) and PAHs (Table 4-2), although there were also occasional detections of other SVOCs (Table 4-2), and trace levels of VOCs in the vicinity of the Three Star Site (Table 4-1). Sporadic detection of pesticides were consistent with background levels (Appendix E and Table 4-4) and no further evaluation was completed. PCBs were not detected in sediment and were screened out from further evaluation (Appendix E). Tables provided in Appendix E present the complete set of sediment data collected for the RI. The discussion of sediment data below focuses on sediment samples collected from the surface, 0- to 6-inch, interval as the zone of highest ecological significance. TICs of VOCs and SVOCs that were detected are presented in Appendix F.

4.1. Background - Sediment Data

In sediment samples collected from Wappingers Lake, VOCs, pesticides, and PCBs were generally not detected at concentrations above screening values whereas PAHs and inorganic constituents were frequently present above screening values.

- VOCs were generally not detected in sediment samples, except for trace levels that were below screening values and the occasional detection of acetone and methylene chloride above screening levels (Table 4-1). The detection of acetone and methylene chloride may be attributed to the presence of laboratory contaminants (Section 2.4.1).
- Pesticides and PCBs were not detected in surface sediment (Appendix E) and deeper sediment contained sporadic detections with several pesticides above screening values (Table 4-4).
- SVOCs were present as PAHs in sediment (Table 4-2). Two of the six samples contained total PAHs slightly above the Long & Morgan screening value of 4 mg/Kg cited by NYSDEC guidance (NYSDEC 1999). In each of the background samples, individual PAH concentrations were above New York State screening values for the protection of human health (NYSDEC 1999). Benzo(a)pyrene up to 0.5 mg/Kg also slightly exceeded the ecological screening value of 0.44 mg/Kg used for screening in the FWIA (Section 5.1.1).
- Inorganic constituents consisting of zinc and lead were detected in sediment at concentrations that ranged from levels similar to LEL screening values to infrequent detections that were above SEL screening values (Tables 4-3 and 4-5). In addition, in each of the sediment samples analyzed, copper, mercury, and nickel were detected at concentrations above LEL screening values. Arsenic, cadmium, and chromium were detected at concentrations ranging from below their respective LEL screening values to slightly above them. Total cyanide was detected in one of the eight samples collected. However, the biologically available form of cyanide (amenable cyanide) was not detected. Iron and



manganese are common minerals and the detection of concentrations above the LEL screening values may be associated with local minerals (Table 4-5).

- The pH of sediment samples ranged from 7.3 to 8.1.
- TOC in background sediment samples ranged from 3.4 to 10%.

4.2. Wappingers Creek – Sediment Data

The presentation of sediment results provided in this section is focused on the evaluation of potential sources as inferred from concentrations of constituents in sediment that exceeded background levels. The results include comparisons to LEL and SEL screening values and background data used to support the evaluation of potential sources. Further discussion of the screening of data for evaluation of potential ecological considerations is provided in Section 5.1.

Sediment data for Wappingers Creek are compared to LEL and SEL screening values in Tables 4-1 through 4-3. In sediments of the tidal creek, PAHs, dibenzofuran, and inorganic constituents were detected above screening values (Table 4-6). Mercury was detected in sediment at the highest levels above screening values. Both surface and deeper sediment of the creek are affected by the presence of these constituents. Generally, the highest concentrations of these constituents were located in the shoal (WP-29, WP-29A, and WP-DOT) and the embayment (WP-PL) in sediment greater than 6 inches deep.

Discussions of sediment data below compare the creek data with screening values for sediment of freshwater systems. Physical description of sediment and results of grain size analyses are presented in Section 4.2.1. Analytical results for VOCs, SVOCs, pesticides, and inorganic constituents are presented in Sections 4.2.2 through 4.2.5, respectively. PCBs were not detected in sediment and results are presented in Appendix E.

4.2.1. Physical Parameters, including Grain Size, Total Organic Carbon, and pH Data

Physical descriptions of sediment observed during the creek bed reconnaissance and sediment sampling are presented in Table 4-7. Grain size results for four samples collected from Wappingers Creek are presented in Appendix G. Grain size measured the sediment sample collected from the embayment (SEDCORE-2) and the two samples collected from the downstream section of the tidal creek (SEDCORE-1, WP-T3A) consisted of primarily sand with approximately 30 to 45% consisting of silt and clay. At the northern portion of the shoal area (SEDCORE-4), the sediment comprised primarily gravel and sand with silt and clay composing less than 20% of the sediment.

TOC data for locations in the tidal creek are presented below:

- In the vicinity of the Site, TOC ranged from 1.2 to 7.7%.
- In the shoal area, TOC ranged from 0.7 to 11%.
- In the embayment, TOC ranged from 5.2 to 12%.
- In the downstream section of the creek, TOC ranged from 1.1 to 8.5%.

The pH of sediment samples collected from the tidal creek ranged from 7.2 to 8.4. In the vicinity of the site, the pH ranged from 8.1 to 8.4. In the shoal area the pH ranged from 7.5 to 8.4 and in the embayment the pH ranged from 7.2 to 7.7.



4.2.2. Volatile Organic Compounds

Levels of VOCs detected in the sediment of the tidal creek were consistent with background levels (Table 4-1). However, it is noteworthy that trace levels of additional VOCs, including tetrachloroethene and trichloroethene were detected in the vicinity of the Three Star lagoon outlet (LG-OUT, LG-OUT2) and not elsewhere.

4.2.3. Semivolatile Organic Compounds

SVOCs detected in sediments above screening values primarily consisted of PAHs (Table 4-2). Surface sediment and deeper sediment represent the zones of highest ecological significance and potential zone of storage from legacy inputs, respectively. These depth intervals are discussed separately below. As a screening of total PAH concentrations in sediment, the data collected from the creek were compared to the maximum background level of 5.5 mg/Kg detected in the Wappingers Lake. The PAH composition of sediment was also compared to that of sources detected on the Three Star Site.

PAHs in surface sediment

In surface sediment, total PAH concentrations ranged from 0.2 to 214 mg/Kg (Table 4-2 and Figure 4-1). The maximum concentration of total PAHs in surface sediment was detected in the vicinity of the shoal (WP-29). Twenty-three of 30 samples of surface sediment that were collected contained total PAHs above the maximum background level of 5.5 mg/Kg. Individual PAHs were detected above NYS screening values in each of the samples of surface sediment collected.

PAHs in deeper sediment

In deeper sediment, total PAH concentrations ranged from 0.9 to 1,092 mg/Kg (Table 4-2 and Figure 4-1). Similar to surface sediment, the maximum concentration of total PAHs in deeper sediment was also detected in the vicinity of the shoal (WP-DOT, 12 to 18 in.) (Figure 4-1). Eighteen of 21 locations from which deeper sediment samples were collected contained total PAH concentrations above the maximum background level of 5.5 mg/Kg. A frequency distribution of PAH detections above the maximum background level is presented below.

Frequency distribution of deeper sediment samples with total PAH concentrations above the maximum background level.

	Concentrations (mg/kg)		
Section of creek	5.5 to 10	10 to 35	35+
Site area (1)			
Shoal area (6)		1	5
Embayment (4)		3	
Downstream area (10)	3	5	1

Note: The number of samples collected from a given area are shown in parentheses, (). Source: O'Brien & Gere Engineers, Inc.

The detections of total PAHs in deeper sediment above background levels occurred downstream of the Three Star Site.

In deeper sediment, NYS screening values were exceeded by approximately three orders of magnitude by benzo(b)fluorathene, benzo(a)pyrene, and chrysene which were detected in the shoal area (WP-M2 [6 to 12 in], WP-DOT [6 to 18 in], WP-29 [6 to 12 in]). Additional individual PAH compounds in the deeper



sediment were elevated compared to background levels. The PAH concentrations in sediment from other areas of the creek were lower compared to the shoal area. However, individual PAH concentrations were above NYS screening values and background levels.

PAH composition

PAH composition data from the creek sediment were compared to PAH materials from the Three Star Site. Figures presented in Appendix H present PAH data normalized in weight percent composition.

The range of PAH mixtures detected in the sediment of the tidal creek was similar to that of PAHs detected on the Three Star Site which were discussed in Section 1.2.5. Deeper sediment collected from the shoal area (WP-29, 12 to 18 in) contained the highest total PAH concentration detected in the creek at 1,092 mg/Kg (Figure 4-1). The PAH composition of that sample was dominated by 3- and 4- ring PAHs and was similar to material from the Three Star Site described as mixture B in Section 1.2.5 (Appendix H). Surface sediments were generally dominated by PAHs with 4+ rings and more closely resembled PAH patterns of the Three Star Site described as mixture A in Section 1.2.5. Further discussion of PAH composition of sediment and potential sources, is presented in Section 6.2.1.

Other SVOCs

In addition to PAHs, 1,2-dichlorobenzene, 1,4-dichlorobenzene, phenol, and dibenzofuran were present in sediment above screening values:

- 1,2-Dichlrobenzene and 1,4-dichlorobenzene were detected in surface sediment of two locations in the shoal area (WP-MW4, WP-29A) at concentrations up to approximately twice their screening values.
- Phenol was detected above its screening value in the deeper sediment of the shoal area (WP-M3, WP-OD3) and downstream section of the tidal creek (WP-T1A, WP-T1C), and surface sediment of one sample collected form the downstream section (WP-T1C). The maximum level was detected at MW-M3 (12 to 17 in), at a level of approximately 20 times the screening value.
- Dibenzofuran was detected in deep sediment of the shoal with a maximum of 30 mg/Kg (WP-29, 12 to 18 in), which is approximately six times the ecological screening value of 5.1 mg/Kg used for the FWIA (Table 4-2). There is no New York State screening value for Dibenzofuran.

Relative to PAHs, the presence of these compounds in the sediment was minor. The levels that these compounds exceeded their respective screening values and the frequency that they were detected were much lower than those of PAHs.

4.2.4. Pesticides

Spurious occurrences of pesticides above screening levels were detected similar in magnitude of those detected in background sediment (Table 4-4). Pesticides were not detected on the Three Star Site at levels detected in sediment of the creek (O'Brien & Gere 2005).

4.2.5. Inorganic Constituents

To highlight the potential contribution of inorganic constituents originating from the Three Star Site and other potential sources downstream of Wappingers Lake (the background location) to the tidal creek, sediment data with concentrations above SEL screening values are presented in Figure 4-1. The results presented below focus on the constituents that were detected above the SEL screening values since background levels frequently exceeded LEL screening values. Surface and subsurface results are presented separately. For both of these sediment depth intervals the inorganic constituents are presented



in decreasing order of magnitude above SEL screening values. Several inorganic constituents were associated with both surface and deeper sediment. A summary of the inorganic results is also presented.

Surface sediment

Surface sediment data represent the most ecologically significant fraction of the sediment in the creek. As discussed in Section 4.1 above, background concentrations of 8 of the 12 inorganic constituents tested have concentrations above LEL screening values (Table 4-5). Inorganic constituents detected in sediment samples collected from the tidal creek are presented in Table 4-8 relative to screening values. In decreasing order of magnitude above SEL screening values, the primary inorganic constituents detected in surface sediment consisted of mercury, lead, zinc, and chromium. The maximum level of mercury detected in the shoal area (WP-29) was approximately 25 times above its SEL screening value.

Subsurface sediment

Several inorganic constituents were found at higher concentrations in subsurface sediment when compared to surface sediment (Table 4-6, Figure 4-1). Most notably, mercury concentrations in subsurface sediment of the shoal area (WP-DOT) and embayment (WP-PL) far exceeded surface sediment concentrations. The maximum concentrations of mercury at both of these two areas were detected in similar depth intervals of approximately 6- to 12-inches, and at similar concentrations of approximately 180 mg/Kg, which is approximately 140 times the SEL of 1.3 mg/Kg. In addition, 24 of the remaining 32 subsurface sediment samples also contained mercury at levels above the SEL screening value.

Several other inorganic constituents were detected in subsurface sediment at concentrations above SEL screening values. The shoal and embayment areas also contained the highest levels of zinc, total chromium, and total cyanide compared to other sections of the creek.

Summary

Constituents detected in surface or deeper sediment of the tidal creek above SEL are summarized in the matrix below in decreasing order of magnitude above SEL screening values:

Levels of constituents compared to SEL screening values for three sections of the creek (surface and deeper sediment intervals).

	Order of magnitude above SEL screening values				
Section	50+	20+ to 50	10+ to 20	1 to 10	
Shoal	mercury	zinc total chromium	total cyanide*	lead cadmium arsenic copper antimony iron	
Embayment	mercury	total chromium	total cyanide*	zinc lead arsenic copper cadmium	
Downstream		mercury		total chromium zinc lead antimony cadmium total cyanide* arsenic/copper iron/nickel	



Notes: For each range, constituents presented in order or magnitude of concentration above SEL screening values. * indicates that total cyanide concentrations were compared to background levels and may not be directly comparable to other constituents that were compared to SEL screening values.

Source: O'Brien & Gere Engineers, Inc.

Further evaluation of inorganic constituents relative to LEL screening values is presented in the discussion of ecological risk (Section 5.1.1).



5. Risk Assessment

5.1. Ecological Risk Assessment

Comparisons of sediment data to screening values as it relates to the identification of potential sources of Site constituents to the creek was discussed in Section 4.2. Section 5.1.1 presents further discussion of the detection of PAHs and inorganic constituents in the tidal creek relative to LEL screening values. Section 5.1.2 presents the results of the fish and wildlife impact analysis completed for the tidal creek.

5.1.1. Comparison of Sediment Data to Screening Values

The occurrence of PAHs and inorganic constituents are presented separately, below.

Polycyclic aromatic hydrocarbons

The comparison of sediment data to the total PAH screening value of 4 mg/kg, presented in Table 4-6, is summarized below:

- Five of eight locations sampled from the 0- to 6-inch depth interval adjacent to the Three Star Site were above the total PAH screening value of 4 mg/kg. The maximum total PAH concentration detected in this section of the tidal creek was 64 mg/kg.
- Each of the other 22 locations sampled in the tidal creek downstream of the Site Area had total PAH concentrations above 4 mg/kg. As presented in Section 4.2, the highest concentrations of total PAHs detected in the sediment, up to 1092 mg/kg at WP-29 (12- to 18-inches deep) in the Shoal Area.

Inorganic constituents

The frequency of detection above LEL screening values, presented in Table 4-6, is summarized below:

- Arsenic, copper, iron, lead, mercury, and nickel were the inorganic constituents most frequently detected above LEL screening values with 29 of 30 locations sampled exceeding the LEL screening value.
- Cadmium and zinc exceeded their LEL screening values in 27 and 28 of 30 locations sampled, respectively.
- Chromium exceeded the LEL screening value in 22 of 30 locations sampled.
- Arsenic and manganese exceeded their respective LEL screening values in 14 and 16 of 30 locations, respectively.
- Selenium, silver, thallium, and vanadium were infrequently detected above LEL screening values.
- Total cyanide was detected in 23 of 30 locations sampled above the screening value of 0.1 mg/kg.

5.1.2. Fish and Wildlife Impact Assessment

Results of the FWIA through Step IIC, toxic effects analysis, are presented in Appendix I. The creek provides aquatic/wetland habitat which was evaluated for the FWIA. The toxic effects analysis presumes that fish and wildlife resources have been identified and that the contamination of resources and complete exposure pathways exist. Performance of the toxic effects analysis requires specific toxicological and ecological information that are outlined in the work plan addendum (O'Brien & Gere 2002) and NYSDEC guidance (NYSDEC 1994). An analysis of toxic effects may look at individual organisms, populations, communities, or ecosystems. The FWIA for Wappingers Creek consisted of evaluation of



potential exposure of mink and great blue heron to maximum concentrations of constituents in surface water and surface sediment (0 to 6 inch interval) of the creek.

Consistent with the results of screening of sediment using New York State guidance values (NYSDEC 1999), results of the FWIA identified PAHs and mercury as the primary COPEC. The FWIA evaluated representative wildlife species consisting of a mink and a great blue heron based on maximum concentrations detected in the creek and the resulting hazard quotients (HQs). In addition to constituents identified by the NYS screening values, the FWIA also identified dibenzofuran, phenol, aluminum, selenium, and thallium as COPEC in sediment. Results for each of these additional constituents are summarized below.

Dibenzofuran was frequently detected in sediment of the tidal creek at concentrations that were generally below the ecological screening value. Dibenzofuran was present from the vicinity of the Three Star Site to the downstream section. However, in the shoal area, deeper sediment contained dibenzofuran at concentrations up to 30 mg/Kg, approximately six times the ecological screening value. Dibenzofuran was not detected in background samples

Phenol was detected in one surface sediment sample collected from the downstream section of the creek (WP-T1C) at 0.05 mg/Kg. It was also detected in deeper sediment of three locations at levels up to 0.1 mg/Kg.

Aluminum was not detected above background levels in the tidal creek, nor was it detected above the ecological screening value. However, the food chain model completed for the FWIA identified it as a COPEC. In general, the levels of aluminum detected in the sediment of the tidal creek do not appear to be associated with the Three Star Site.

Selenium was detected at one location at a concentration slightly above the maximum background level of 2.5 mg/Kg.

Thallium was detected in the shoal area, embayment, and downstream sections of the tidal creek with levels up to 3.3 mg/Kg detected. The detection of thallium was accompanied by blank contamination.

The addition of these constituents as COPEC does not change the overall evaluation of the constituents in the tidal creek. These constituents were detected at relatively low concentrations in comparison to other constituents.

The overall hazard quotients presented in the FWIA were generally associated with the concentrations of constituents in the sediment. However, during storm event sampling of the surface water, aluminum, iron, and silver were also identified as COPEC. These constituents were detected in background samples at similar levels to those detected in the tidal creek.

5.2. Qualitative Human Health Risk Assessment

An exposure pathway analysis was completed according to state guidance (NYSDEC 2002). The exposure pathway analysis identified potential receptor populations for the tidal creek consisting of recreational users, swimmers, or fish consumers (Appendix J).



6. Discussion

The sediment of the tidal creek contains PAHs and inorganic constituents at levels above those that can be attributed to ubiquitous sources. Mercury and chromium were the most prevalent inorganic constituents found at elevated levels relative to background concentrations. The spatial collocation of several additional inorganic constituents both vertically and horizontally in the sediment bed of the tidal creek suggests that their occurrence is linked. Therefore, the discussion below is focused on the occurrence of PAHs, mercury, and chromium. Additional constituents are also discussed for their spatial relationships with these constituents.

The spatial trends of surface and deeper zones within sediment are considered separately to highlight the potential differences in source dynamics and relative importance with regard to potential exposures (Section 6.1). Surface sediment represents the zone of highest importance with respect to ecological contact, as most aquatic organisms reside in the upper 6 inches of sediment. Surface sediment also is more closely associated with deposition of particulate matter from current sources to the water column. In contrast, deeper sediment tends to be more isolated from ecological contact. The deeper sediment may be more indicative of surface sediment that was buried over time with sediment chemistries representing historic sources to the tidal creek.

Deeper sediment that contains elevated levels of constituents from historic discharges may reflect trends in the overall ecological condition of the tidal creek. Reductions in surface concentrations of constituents appear to have occurred by burial of surface sediment over time. Aged constituents in sediment tend to be less bioavailable both by the isolation of this layer from surface contact and also by processes of sequestration of constituents within the sediment matrix that may occur over time. However, the potential for scouring of deeper sediment during storm events and reintroduction of it to the ecological zone needs to be considered in the assessment of fate and transport. In the tidal creek, deeper sediment contained the highest concentrations of several constituents.

Evaluation of spatial trends in surface and deeper sediment considered both the frequency and magnitude of occurrences above screening values:

- The frequencies of detection in surface sediment above the LEL and SEL screening values are presented in Figures 6-1 and 6-2, respectively. Background levels of several inorganic constituents were frequently above LEL screening values. Therefore, the discussion of frequencies of detection in surface sediment provided below is focused on the comparison to SEL screening values (Figure 6-2). For deeper sediment, the data for the tidal creek were compared to background levels. The sediment depth interval of 6 to 12 inches and sediment depths greater than 12 inches are presented separately, in Figures 6-3 and 6-4, respectively.
- The magnitude of PAH and inorganic constituents in sediment were evaluated separately (Figures 6-5 through 6-7). The associated figures present the median and maximum values for each depth interval considered. The PAH concentrations for the tidal sections of the creek are presented for three sediment depth intervals (Figure 6-5). Inorganic constituents normalized to SEL screening values were used to evaluate the magnitude of their concentrations in sediment (Figures 6-6 and 6-7). The magnitude of surface sediment concentrations of inorganic constituents compared to SEL screening values is presented in Figure 6-6. The same comparison for deeper sediment is presented in Figure 6-7.

Details of these evaluations are presented in the discussion of sediment concentrations in the tidal creek (Section 6.1).



The Creek RI evaluated the Three Star Site and other potential sources of these constituents by identifying activities that could explain their presence are discussed in Section 6.2. In the qualitative assessment of the potential link between the Three Star Site and the sediment of the tidal creek, the constituents found in media of the Three Star Site were compared with the constituents detected in sediment of the tidal creek. The Three Star Site was implicated as a possible source if constituents were present both on the Three Star Site and in the sediment of the tidal creek and a complete pathway existed. Maximum levels of constituents on the Three Star Site that exceeded those found in the sediment of the tidal creek, provided strong evidence of this potential relationship. However, the data for the Creek RI were not intended to represent statistical sampling and the potential relationship with the other constituents found in both places was also considered.

Erosion of surface soils from the Three Star Site (or elsewhere) with elevated levels of constituents is one possible pathway for contamination of the sediment of the tidal creek. Subsurface materials are less available for transport, but may be indicative of materials that formerly existed on the Three Star Site as surface materials displaced during past site activities. In addition, constituents detected in subsurface materials that are located adjacent to the tidal creek may be indicative of constituents present in bank materials. Scouring of such bank materials could provide a pathway for subsurface materials to enter the Creek. Tidal action could also transport subsurface materials to the tidal creek. Bank materials were not sampled as part of the Creek RI.

Other potential sources consisting of the north parcel of the Market Street Industrial Park, coal materials used for fill, the public works garage, and the railroad are also discussed. Much less is known about these potential sources compared to the Three Star Site. However, the historic uses of the north parcel were similar to those of the Three Star Site. It is anticipated that wastes similar to those of the Three Star Site were generated by activities that took place there.

The quality of the surface water of the tidal creek is discussed as a potential medium for the transport of constituents in Section 6.3. Low flow and storm conditions provide two distinctly different periods to evaluate sources. Low flow periods minimize potential dilution of sources thereby maximizing the potential for observing source inputs. Storm events represent potential periods of scour when materials could be eroded or resuspended in the water column and transported downstream.

6.1. Sediment

In general, deeper sediment contained the highest levels of constituents detected. Most of these constituents were associated with two distinct areas of the tidal creek, consisting of the shoal area and embayment. Inorganic constituents were associated with both of these areas while PAHs were primarily associated with the shoal area.

The shoal area and embayment represent the first areas of the tidal portion of the creek where the creek widens downstream of the Market Street Industrial Park. The volume of affected material is primarily associated with the shoal and embayment. Relative widening of the creek increases the volume of the creek basin which decreases water velocities, facilitating deposition of particulate matter. Much of the higher levels of constituents were detected in deeper sediment suggesting that burial of surface sediment from historic inputs has occurred.



6.1.1. Site Area

The constituents detected in sediment of the site area were generally within screening values, with a few exceptions. Trace levels of the VOCs tetrachloroethene and trichloroethene detected in the vicinity of the lagoon outlet are noteworthy, as they were not detected elsewhere in the tidal creek (Table 4-1). Lead levels were generally similar to background levels (Appendix K), except in the vicinity of the MGP Site (WP-MW4, Table 4-6) where the highest concentration of lead was detected (Figure 6-6). The frequency of inorganic constituents detected above SEL screening values increased in the site area compared to background (Figure 6-2)

The presence of VOCs in the sediment is indicative of a current source to the tidal creek, as VOCs generally do not remain in sediment over long periods. Seepage of VOCs from subsurface media of the Axton Cross area of the Three Star Site may occur. The lack of VOCs detected in the water column and sediment of other sections of the tidal creek indicates that this is a relatively minor source.

In this section of the tidal creek, the channel is narrow compared to other sections. This results in higher relative flow velocities, which facilitate particle transport in surface water. The creek bed comprises primarily rocks and cobbles with limited areas of sediment accumulation. Deeper sediment samples were not collected from the creek bed in this section of the creek due to these limitations.

6.1.2. Shoal Area

Based on comparison of the magnitude of the concentrations with SEL screening values and the frequency of detections above those values, the primary constituents detected in the surface sediment of the shoal area consist of mercury, zinc, and PAHs (Figures 6-1 through 6-7 and Appendix K). Other inorganic constituents where detected concentrations relative to upstream levels increased consisted of antimony, cadmium, chromium, lead, and cyanide. Six of the constituents - consisting of mercury, zinc, PAHs, antimony, cadmium, and cyanide - were detected in the shoal area at the highest concentrations detected in surface sediment of the tidal creek (Figures 6-5 and 6-6). In addition, deeper sediment contained much higher levels of mercury, chromium, zinc, and PAHs compared to the surface sediment (Figures 6-5 and 6-7, and Appendix K). Based on the magnitude of concentrations above the SEL screening values and the frequency of these occurrences, mercury was the primary constituent in that sediment layer (Figures 6-3, 6-4, and 6-7). Other constituents in deeper sediment included zinc, chromium, lead, and additional inorganic constituents that were present at lower levels (Figure 6-7).

The presence of these levels of PAHs in this area of the creek, but not in other areas of the tidal creek, may reflect differences in the source of these two types of constituents. The PAH signature was similar to that of materials detected on the Three Star Site. However, the PAH signature also might resemble that of other sources. Therefore, the source of the PAHs can not be conclusively identified.

The shoal area is the first area downstream of the Market Street Industrial Park where the creek widens and flow velocities would tend to decrease. The shoal area is located on the southeast side of the tidal creek, away from main flow. It appears to be a depositional area. The presence of the highest concentrations in the deeper sediment suggests that the constituents from historic releases are being buried. The burial and aging of these materials further suggests that bioavailability may be reduced relative to historic levels. There are no known current or past sources of inorganic constituents in the vicinity of the shoal area that would explain the elevated concentrations detected there. It is anticipated that the source of the inorganic constituents detected in the sediment of the shoal area is related to the downstream transport or migration of contaminants from past activities of the Market Street Industrial Park.



6.1.3. Embayment

The primary constituent detected in surface sediment of the embayment was mercury (Figure 6-1 through 6-7). Deeper sediment contained higher levels of mercury, as compared to surface sediment (Figures 6-6 and 6-7). In addition, chromium, zinc, lead, and copper were also constituents in surface and deeper sediment above SEL screening values (Figures 6-6 and 6-7). Deeper sediment also contained cyanide as a constituent (Figure 6-7). Additional inorganic constituents were present at lower levels.

The embayment is located along the north shore of the tidal creek, outside of the main flow. Sediment accumulated in this area is expected to be stable. Extreme flooding could potentially scour the south portion of the embayment that is next to the main flow of the creek. Sediments containing the maximum concentrations of chromium detected there may be vulnerable to scouring during such storm events. Similar to elevated levels of inorganic constituents detected in the shoal area, in the vicinity of the embayment, there is no known past or current source of the elevated levels of constituents detected. It is possible that the source of the inorganic constituents detected in the sediment of the embayment is related to transport or migration of contaminants from past activities of the Market Street Industrial Park.

6.1.4. Downstream Section

In general the concentrations of constituents in sediment of the downstream section of the tidal creek were similar to background levels, but with spurious detections in a wider range (Figures 6-1 through 6-7, and Appendix K). Mercury was the primary constituent detected in surface and deeper sediment (Figure 6-6 and 6-7, and Appendix K). Compared to the levels detected in the shoal area and embayment, constituent concentrations in the downstream section of the tidal creek were much lower (Figures 6-6 and 6-7, and Appendix K). Zinc, lead, antimony, and chromium were also constituents and additional inorganic constituents were also present at lower levels (Figures 6-6 and 6-7).

There were no particular patterns to the spatial distribution of elevated levels of constituents in the downstream section of the tidal creek. Elevated levels of antimony and zinc were detected along the south shore downstream of the embayment (WP-TC1, Table 4-6, Figure 1-2). Elevated levels of PAHs and chromium were detected along the south shore approximately midway between the embayment and the Route 28 Bridge (WP-T2C, Table 4-6, Figure 1-2). Elevated levels of mercury, zinc, and chromium were associated with sediment collected from upstream of the Route 28 Bridge (WP-OD1, Table 4-6, Figure 1-2). The presence of elevated levels of constituents in the sediment was associated with areas containing silt and organic matter (Table 4-7). In this section of the tidal creek, no consistent trends were observed in the occurrence of constituents in vertical profiles of the sediment.

6.2. Potential Sources

The discussion of potential sources of constituents focuses on those that were identified as primary constituents. Separate sections present discussions of PAHs (Section 6.2.1), mercury (Section 6.2.2), chromium (Section 6.2.3), zinc (Section 6.2.4), and lead (Section 6.2.5). Other constituents are discussed as a group (Section 6.2.6). In general, it appears that cinders may represent the primary potential source for PAHs. The Three Star lagoon appears to be the primary source of inorganic constituents from the Three Star Site. Additional potential sources of PAHs are discussed below (Section 6.2.1). Past activities in the north parcel of the Market Street Industrial Park may also have contributed inorganic constituents and/or PAHs.

6.2.1. PAHs

PAHs are ubiquitous in the environment, arising from natural and anthropogenic sources (Appendix H). However, PAH concentrations above background levels were present in the sediment of the tidal creek. Potential sources of PAHs consist of past operation of the MGP facility, contaminants remaining on the



MGP Site, as well as cinders located on site and off site. Mixtures containing PAHs can occur as a tar or soot. Tars typically contain high concentrations of lighter PAH compounds compared to soots. Lighter PAH compounds in tar such as naphthalene may dissolve and associate with water. However, higher molecular weight PAHs predominately associate with particulate matter. Both types of PAH materials are associated with the Three Star Site (Appendix K).

The maximum level of PAHs detected in the sediment of the tidal creek, 1,092 mg/Kg in the shoal area (WP-29, 12 to 18 in), was lower than the maximum levels detected on the MGP Site. Approximately 4,100 mg/Kg of total PAHs were detected in subsurface soil adjacent to the tidal creek (MW-4, 14 to 16 ft, duplicate). The PAH signatures in the surface sediment of the tidal creek contained predominately 4+ring PAHs comparable to materials of the MGP Site (MW-4 18 to 20 ft; MW-5, 14 to 16 ft) (Appendix K). The deeper sediment of the tidal creek (WP-29, 12 to 18 in) contained predominately 3- and 4-ring PAHs resembling other materials of the MGP Site (MW-4, 12 to 14 ft; MW-5, 12 to 14 ft), including those detected in the former gas holder (SB-4-01). The maximum level of PAHs detected in the sediment of the Three Star lagoon, 88 mg/Kg, was lower than the maximum level detected in the sediment of the tidal creek. It appears that MPG Site materials may explain the levels detected in the creek. Aged materials, contain PAHs that may be lower risk to aquatic organisms compared to newer sources (Section 1.8.2).

In addition to PAH sources found on the Three Star Site, storage tanks formerly located on the north property opposite the Three Star Site may have contained materials with PAHs in them. Cinders from MGP operations were reportedly used to fill off-site areas, including the roadway along the creek in the vicinity of the shoal area. The public works garage located adjacent to the creek is a potential source of PAHs from the potential operation, maintenance, and storage of vehicles at the facility. It is not clear which of these potential sources (or which combination of sources) contributed to the elevated PAHs detected in the sediment of the tidal creek.

The railroad bridge near the confluence of Wappingers Creek with the Hudson River also represents a potential source of PAHs. However, elevated levels of PAHs were not detected in the vicinity of the railroad bridge, so potential contributions from this source area were not evident.

6.2.2. Mercury

Mercury levels in sediment were of particular interest since they were the highest relative to NYS screening values and frequently occurring throughout the tidal creek. Mercury may have been associated with dyes produced by the Dutchess Bleachery or in the paints used in the manufacturing of felt hats. The maximum of level of mercury, 186 mg/Kg, detected in sediment of the tidal creek (WP-DOT, 6 to 12 in) was higher than levels detected in surface soil of the Three Star Site or the sediment of the Three Star lagoon which represent the readily available sources there. Mercury was detected up to 54 mg/Kg in the Three Star lagoon sediment. The maximum levels in surface soil of the Three Star were detected in the former drum storage area at 31 mg/Kg. The maximum level of mercury detected in subsurface soil of the former raceway, was 41 mg/Kg. The lagoon and surface soil of the former drum storage area represent potential sources for the transport or migration of mercury to the tidal creek. Subsurface soil of the former raceway is less readily available.

Mercury above those levels detected in the sediment in the tidal creek were associated with subsurface soil of the MGP Site adjacent to the tidal creek, 249 mg/Kg (MW-4 14 to 16 ft). If concentrations of mercury on the exposed bank of the MGP site are similar to subsurface soils of the MW-4 area, erosion of bank materials could also represent a potential source. The Three Star Site appears to be a source of mercury to the tidal creek.



6.2.3. Chromium

Chromium compounds were associated with metal plating operations of the Three Star Site and may have been associated with those to the north parcel, too. It is noteworthy that the most toxic form of chromium, hexavalent chromium, was analyzed but not detected on the Three Star Site or in sediment of the tidal creek.

Chromium levels in the former raceway and Three Star lagoon were above the maximum level of 4,120 mg/Kg detected in the sediment of the tidal creek. On the Three Star Site, the highest levels of chromium were detected in surface sediment of the Three Star lagoon where up to 26,300 mg/Kg was detected. Surface soil of the lower portion of the former raceway contained chromium up to 6,260 mg/Kg and ground water under the former raceway contained 1,730 ug/L. The raceway bed may act as a preferential pathway for the migration of chromium in surface soils and ground water to the lagoon. Therefore, based on the concentrations detected, and the presence of this complete pathway, the Three Star Site is a plausible source of chromium detected in the sediment of the tidal creek.

6.2.4. Zinc

Zinc compounds were associated with metal plating operations of the Three Star Site and may have been associated with those to the north parcel, too. Zinc levels up to 6,500 mg/Kg and 1,820 mg/Kg were present in the sediment of the shoal and embayment, respectively. On the Three Star Site, zinc up to 3,710 mg/Kg was present in the Three Star lagoon sediment. In the former raceway, zinc up to 558 mg/Kg represented the highest concentrations detected in surface soil on the Three Star Site. Subsurface soil of the former raceway contained levels similar to those detected in surface soil. Surface soil of the MGP site also contained up to 2,570 mg/Kg on the west portion of the site (SS-MGP-1). Surface soil along the border of the MGP site and the creek contained zinc up to 752 mg/Kg. The Three Star lagoon may be a source of zinc to the tidal creek. However, maximum levels detected in the sediment of the tidal creek were not detected on the Three Star Site.

6.2.5. Lead

Local, ubiquitous, background levels of lead were detected at up to 187 mg/Kg above the SEL screening value of 110 mg/Kg. However, lead levels in the tidal creek were occasionally higher. Up to 1,450 mg/Kg was detected in surface sediment of the tidal creek adjacent to the MGP site (WP-MW-4). On the Three Star Site, lead was detected in surface sediment of the Three Star lagoon up to 9,650 mg/Kg. Up to 1,160 mg/Kg was detected in surface soil on the west portion of the MGP site (SS-MGP-1). In the former raceway, lead up to 1,100 mg/Kg (MW-11) was detected in surface soil. Subsurface soil next to the Axton-Cross building and the Three Star lagoon contained lead up to 2,860 mg/Kg (SS-03-02, 10 to 12 ft). The most likely source of lead on the Three Star Site is the sediment of the lagoon which could become resuspended in the water column during storm events and discharge to the tidal creek. It appears that the Three Star Site is one of several sources of lead detected in the sediment of the tidal creek. Lead could also be associated with past activities of the north parcel of the Market Street Industrial Park.

6.2.6. Other Constituents

The maximum levels of other constituents detected in the tidal creek compared to maximum levels detected on the Three Star Site are presented in the table below:



Tidal creek compared	with max	imum level	s on the Thre	ee Star Site.	
Parameter	Tidal creek	Former raceway	Three Star lagoon	Other	
Shoal area		11	l.	1	
Antimony	159	1.6/377	362		
Arsenic	162	<22/55	141	MGP site: ss	41
Cadmium	79	16/2.3	122	MGP site: ss	55
Copper	504	2140	10600	Axton Cross: sbs	653
				MGP site: ss	441
Dibenzofuran	30		0.8		
1,2-Dichlorobenzene	1.4		2.3	Axton Cross: sbs	2
1,4-Dichlorobezene	1.2		51		
Embayment					
Cyanide	42	94	69	MGP site: ss	39
Downstream section				<u>.</u>	
Phenol	0.1	<0.3	2		
Notes: ss = surface so	oil; sbs =	subsurface	e soil; < x = b	elow screening leve	el x; =

The Three Star lagoon appears to be a potential source for these constituents detected in the tidal creek, except dibenzofuran. The subsurface soil of the MGP site adjacent to the tidal creek (BMW-1) contained levels above the maximum levels of dibenzofuran detected in the tidal creek. Tidal action may also facilitate erosion of subsurface materials to the tidal creek from areas adjacent to it.

6.3. Surface Water

Surface water data did not provide evidence that there is a continuous source to the creek, as low flow sampling indicated that the water column was generally within screening values. However, storm event sampling identified elevated levels of inorganic constituents, apparently related to background sources. A comparison is provided below of surface water concentrations detected in tidal creek compared with those of the lagoon and background:

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(:omnarison	of curtace	water e	concentrations	(11/a/l)
Companion	or surrace	, water		(uu/L/.

below maximum detected in creek; x/y = ss/sbs.

Companson	or surface v	valor conco	πιταιιόπο (αί	9/∟/.	
Parameter	Lagoon	Bkgrnd	Site Br	Lagoon Outlet	Rt 28 Br
New York S	tate screen	ning			
Aluminum	[190]	[451]	[593]	[143]	[696]
Iron	[320]	[610]	[708]	281	[895]
Silver	[1.6]	[2.2]	[2.1]	[2]	[1.7]
Cyanide	10U	10U	[20]	10U	[10]
Human heal	lth screenii	ng			
Manganese	59	99	109	95	107
Vanadium	1.8	2.2	2.0	2.0	2.3
Natasi					

Notes:

Lagoon sampled on 11/18/02 compared to creek storm event data collected on May 14 and 15, 2002.

Bkgrnd = background; Site Br = Site Bridge; Rt 28 Br = Route 28 Bridge.

U = undetected; data with brackets [] indicates levels that exceeded screening values, generally for fish propagation.



During the storm event sampling, transport of constituents (aluminum, silver, manganese and vanadium) in surface water apparently from a source(s) upstream of the tidal portion of Wappingers Creek was detected. While most of the constituents appear related to background sources, cyanide and iron were detected in the surface water of the tidal creek, at levels above those of background which may be associated with the ground water levels detected at the Three Star Site.

Higher levels of iron were detected in the water column of the tidal creek adjacent to and downstream of the Three Star Site. Maximum levels of iron detected in lagoon sediment, 4.6%, were similar to maximum levels detected in the creek, 4.3%. Subsurface soil on the Three Star Site contained iron up to 10.4% next to the lagoon (SB-03-02). Ground water of the former raceway (MW-11) and deep ground adjacent to the tidal creek (BMW-3) contained 370 and 680 mg/L of iron, respectively; levels that are approximately 1,000 times those detected in Wappingers Creek. Increases in the levels of iron detected in the water column of the tidal creek may be related to ground water interaction with surface water.

The maximum cyanide levels detected in soil, 94 mg/Kg, detected in the former raceway of the Three Star Site do not appear sufficient to explain increases in surface water detected in the creek. However, the ground water below the former raceway (MW-11) contained 1,280 ug/L suggesting that higher levels of cyanide may be present in the soil there. Surface water levels of cyanide may be influenced by interaction with ground water in the vicinity of the Three Star Site.

Additional mobilization of contaminated soil and/or sediment, or ground water constituents into the water column of the tidal creek may occur during an extreme storm event.



7. Summary

A Remedial Investigation (RI) of Wappingers Creek (Creek RI) was completed by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) on behalf of the New York State Department of Environmental Conservation (NYSDEC). The Creek RI was completed as a part of the Remedial Investigation/Feasibility Study (RI/FS) for the Three Star Anodizing Site (Three Star Site, Site #314058). The RI/FS of the Three Star Site (Site RI/FS) is reported in other documents (O'Brien & Gere 2007a,b) and identified elevated levels of volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and inorganic constituents in media of the site. The Site RI identified that further investigation was required to evaluate the potential presence of hazardous waste constituents (constituents) in Wappingers Creek. This report presents the results of that investigation.

The Site RI identified historic operations on the Three Star Site which is located on the south portion of the Market Street Industrial Park on McKinley Street in the village of Wappingers Falls. The area occupied by the Market Street Industrial Park has been the site of industrial/commercial operations since the 1830s when it was originally developed as a cloth dye manufacturing facility called the Dutchess Bleachery. During the operation of the Dutchess Bleachery, the facility also manufactured ammunition, felt hats, and leather products. A portion of the Three Star Site was used for the operation of a manufactured gas plant (MGP) over the period of the 1830s to approximately 1913. The Three Star Anodizing Company also operated a metal plating facility at the Three Star Site from the late 1950s to 1995.

The Site RI identified three specific areas of the Three Star Site (the former raceway, the Three Star lagoon, and the former drum storage area) with concentrations of constituents in environmental media in excess of screening levels and those found in other areas of the Three Star Site. These areas of the Three Star Site are associated with past activities that may represent sources of constituents at off-site locations. The former raceway and Three Star lagoon contained elevated levels of inorganic constituents in surface and subsurface soil, and sediment. The Three Star lagoon also contained PAHs in sediment. The former drum storage area contained VOCs and inorganic constituents. The MGP that was located on the west portion of the Three Star Site contained PAHs. PAHs were also associated with cinder fill material on the Three Star Site. These areas on the Three Star Site were concluded to represent sources for potential transport or migration of constituents to the tidal creek, which was the focus of the Creek RI.

In addition to the Three Star Site, potential sources of constituents to Wappingers Creek consist of past activities within the north parcel of the Market Street Industrial Park, the public works garage located along Creek Road, and the railroad located near the confluence of the tidal creek with the Hudson River. None of these areas were characterized or otherwise included in the Site RI/FS or Creek RI.

Sediment sampling over the length of the tidal creek completed during the Creek RI identified two hotspot areas consisting of a "shoal area" and "embayment." In both of these areas, the highest levels of constituents were detected in the deeper sediment (greater than six inches deep) suggesting that the elevated levels occurred from historic sources to Wappingers Creek. Both areas appear to be depositional areas for sediment accumulation.

The shoal area is located along the southeast shore of the tidal creek, approximately 1,000 ft downstream of the Market Street Industrial Park. It comprises an area of approximately 117,000 ft², with a sediment volume of approximately 9,000 CY. PAHs up to 214 mg/Kg were detected in surface sediment (0 to 6 in) and up to 1,092 mg/Kg were detected in deeper sediment (> 6 in). Mercury was detected up to 32 mg/Kg in surface sediment and up to 186 mg/Kg in deeper sediment. Chromium was detected up to 267 mg/Kg in surface sediment and up to 4,120 mg/Kg in deeper sediment. Zinc was detected up to 1,980 mg/Kg in



surface sediment and up to 6,500 mg/Kg in deeper sediment. Other inorganic constituents were also present at elevated levels in the shoal area.

The embayment is located along the north shore of the tidal creek, approximately 2,000 ft downstream of the Market Street Industrial Park. It comprises an area of approximately 180,000 ft², with a sediment volume of approximately 13,200 CY. Analyses of the sediment of the embayment detected mercury up to 17 mg/Kg in surface sediment and up to 182 mg/Kg in deeper sediment. Chromium was also detected up to 544 mg/Kg in surface sediment and up to 3,760 mg/Kg in deeper sediment. The embayment also contained elevated levels of other inorganic constituents in the sediment.

The elevated levels of inorganic constituents in the tidal creek appear to have originated from past activities within the Market Street Industrial Park. In particular, the former raceway on the Three Star Site and the Three Star lagoon contained inorganic constituents from past industrial waste discharges that reportedly occurred there. Therefore, these areas are implicated as potential sources of inorganic constituents to the tidal creek. In addition, the north lagoon on the Market Street Industrial Park reportedly received wastes from past industrial activities, and represents another potential source area. The north parcel of the Market Street Industrial Park contained industrial operations similar to those of the Three Star Site. However, a RI/FS of the north parcel has not been completed to more specifically evaluate potential source areas that may be present there. Surface water sampling completed for the Creek RI did not provide evidence that the Market Street Industrial Park is a current source of constituents to Wappingers Creek, although sediment sampling had identified a minor source of VOCs in the vicinity of the Three Star Site.

There are several potential sources of elevated levels of PAHs detected in the sediment of the shoal area. The PAH signatures comprise compounds which were consistent with some of the materials detected on the MGP site. However, these PAH signatures may also be associated with other potential sources such as storage tanks formerly located on the north parcel or fill material (on the Three Star Site or elsewhere) containing PAHs. Activities at the public works garage may also have PAHs associated with them and represent a potential source to the creek.

Screening level risk assessments were completed to evaluate potential ecological and human health risks associated with constituents detected in Wappingers Creek. The ecological risk assessment identified PAHs, mercury, chromium and other inorganic constituents as constituents of potential concern (COPC). The ecological screening considered the great blue heron and mink as potential upper trophic level ecological receptors. The human health risk assessment identified recreational users and swimmers of the creek, and consumers of fish from the creek as potential human populations that may be exposed to constituents in the tidal creek. These findings will be carried into a FS for the creek.

The following is a summary of activities, observations, and conclusions of the Creek RI:

- Current conditions of the creek indicate that surface water quality is generally within water quality
 screening values and sediment contains elevated levels of contaminants consisting primarily of PAHs
 and inorganic constituents. During storm events, contaminants may enter the water column reducing
 water quality. However, the Creek RI did not identify contaminants in the creek during storm events
 that were specifically associated with the Three Star Site.
- Potential migration pathways were identified consisting of industrial facilities and site media. The
 Three Star lagoon, and the Three Star Site in the vicinity of it, appear to be a current, albeit relatively
 weak, source of constituents to the creek. The presence of trace levels of chlorinated VOCs and
 elevated levels of lead found in surface sediment at the outlet of the Three Star lagoon provide



evidence that this is a source area. Based on past uses, the north lagoon is also a potential source of constituents to the tidal creek, but analytical data has not been collected to evaluate this.

- Throughout the tidal creek and at background locations, PAHs and inorganic constituents were detected in sediment samples at concentrations above ecological screening values intended to measure lowest effect levels (LELs).
- A screening level assessment of potential impacts to fish and wildlife of the creek was completed through Step II C (NYSDEC 1994) indicating the potential for impacts to ecological receptors represented by a mink and great blue heron.
- A pathway analysis for qualitative evaluation of human exposures was completed that identified
 potential human populations that may utilize the creek consisting of recreational users, swimmers,
 and fish consumers.
- Surface water in Wappingers Creek was evaluated and potential impacts to water quality due to migration of contaminants via surface water or ground water seepage from the site were identified.
- Sediment of Wappingers Creek provided evidence of impacts from nearby activities. The constituents associated with past activities at the Three Star Site are consistent with the highest levels of constituents found in the creek. However, historical activities that took place on the north parcel of the Market Street Industrial Park were similar to those that took place at the Three Star Site and potential impacts resulting from that parcel are not known. Among uncertainties associated with potential current sources to the creek from the north parcel is the condition of the north lagoon. It reportedly received paint wastes during the 1970s. The Public Works garage and the railroad located along the creek are additional potential sources that were identified, but potential contributions from these sources could not be distinguished from other sources.
- Spatial patterns indicate that most of the highest concentrations of constituents are buried in deeper sediment suggesting that they originated from past releases. The shoal and embayment contain accumulations of constituents likely associated with past industrial releases from the Market Street Industrial Park.
- The composition of PAHs in sediment was comparable to materials found on the Three Star Site. The
 PAH composition of other potential sources such as fill material along Creek Road or contaminants
 associated with the Public Works garage has not been characterized.
- The impacts of the Three Star Site to the tidal creek have been delineated to allow a FS of the Creek to be completed. However, before a Creek FS is completed uncertainties associated with other potential sources to the creek (e.g. the north parcel of the Market Street Industrial Park) should be addressed. Control of potential upland sources is the first step toward improving conditions in the creek.



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New York State Department of Envrionmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 1-1. Potential constituent sources and characteristics

Constituent type	Potential source types	Characteristics	Potential local sources
Volatile organic compounds (VOCs)	Solvents, hydrocarbon fuels	VOCs generally dissipate to the air when exposed to the surface	Ubiquitous sources such as storm runoff containing contaminants from motor vehicles such as BTEX compounds.
		environment. However, VOCs discharged as liquids may migrate into ground water where they can be retained over a long period of time	Three Star Site: VOCs were used in solvents and petroleum products. Chlorinated VOCs and BTEX compounds have been identified in Site media.
		न	Market Street Industrial Park, north site: Chlorinated VOCs and/or BTEX compounds were likely used in solvents and petroleum products associated with past dye manufacturing operations and metal plating operations. Pipes located along creek provide potential pathway to creek. Former discharge of paint to lagoon was reported. Former storage of fuels may have leaked or spilled BTEX compounds.
		- */	Department of Public Works garage where storage and maintenance of vehicles may have occurred along with leaks or spills.
Semivolatile organic compounds (SVOCs)	MGP site uses as PAHs, ubiquitous	SVOCs tend to accumulate in sediment and soils when exposed to the	Ubiquitous sources such as vehicles and fires.
	sources of combustion, hydrocarbon fuels	n present nds called ns (PAHs). onment e PAHs in	Three Star Site, PAHs are present from tar residues of former MGP operations, and coal wastes from coal burning including cinders. The residuals remainging from the May 2004 fire at the site would be expected to contain PAHs.
		rices, soil and sediment, over sses of lighter compounds to d air commonly occurs resulting composition enriched in higher	Market Street Industrial Park, north site may contain fill material from former MGP Site. Former fuel storage tanks may have leaked or spilled.
		weighted compounds.	Cinders from former MGP Site may have been used as fill material at off-site locations including along Creek Road in the vicinity of the shoal area.
			Railroad near confluence of tidal creek and Hudson River

New York State Department of Envrionmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 1-1. Potential constituent sources and characteristics

Constituent type	Potential source types	Characteristics	Potential local sources
Elemental inorganic constituents	Metal plating operations, vehicle brakes, local geology,	Metals can be present in the environment as either ionic (dissolved) compounds or solids. In	Ubiquitous sources of inorganic constituents observed in background samples.
	mining, foundries and smelters, combustion byproducts, coal.	the dissolved form, metals are readily transported in surface water or ground water. As a solid, metals tend to be retained in sediment or soils.	transported in surface water or ground (e.g. chromium and zinc) were reportedly discharged in process water. As a solid, metals tend to be water from plating operations mixed with acid to dissolve the metals tend to be water from plating operations mixed with acid to dissolve the metals. However, on contact with environmental media, the acid solution would tend to neutralize and precipitate metals. Therefore, metals may be retained in soils or sediment. Metals may also be present due to past use of pigments in industrial processes at the site.
			Former photographic processes may be associated with silver. Past activities of the Three Star site and the north parcel included photographic printing.
			Dye manufacturing of the Dutchess Bleachery and former felt manufacturing on the Three Star site may be associated with mercury used in paint pigments. Market Street Industrial Park, north site. Former dye
			manufacturing, printing, and metal plating operations were similar to those of the Three Star Anodizing Site. Paints reportedly discharged to the north lagoon likely contained inorganic constituents as pigments.



New York State Department of Envrionmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 1-1. Potential constituent sources and characteristics

Constituent type	Potential source types Characteristics	Characteristics	Potential local sources
Cyanide	Metal finishing and chemical industries, plastic and dye manufacturing, MGP, road salt, pesticides and herbicides	Cyanide is found in a number of sources. Cyanide can be in a form that does not pose a risk to living organisms or in its bioavailable form, measured as amenable cyanide, it can be toxic to organisms. Insoluble cyanide compounds are the most likely forms to be found in the environment. Insoluble cyanide compounds may adsorb to soil and sediment and generally have the potential to bioconcentrate. Insoluble forms do not biodegrade.	Ubiquitous levels were observed in background samples from sources such as road salt, pesticides and herbicides. Three Star site former metal finishing, plastic and dye manufacturing operations. Three Star Site former MGP operations. Market Street Industrial Park, north site. Fill materials containing MGP wastes may contain cyanide.



New York State Department of Environmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 2-1A. Wappinger Creek - surface water sample quantities analyzed for the Creek RI/FS

		NYSDEC	Enviror	٦.
Description	Analysis	Analytical Method	Locations Sa	amples
Surface Water	Event 1-summer low flow			
	Volatile organic compounds	95-1+10	6	6
	Semivolatile organic compounds	95-2+20	6	6
	Pesticides	95-3	6	6
	PCBs	95-3	6	6
	Metals	200.7 CLP-M	6	6
	Mercury	245 CLP-M	6	6
	Cyanide	335.2 CLP-M	6	6
	Total suspended solids	160.2	6	6
	Hardness	130.2	6	6
	Alkalinity	310.1	6	6
	Dissolved organic carbon	415.1	6	6
Surface water	Event 2-storm flow event			
	Volatile organic compounds	95-1+10	3/1	7
	Semivolatile organic compounds	95-2+20	3/1	7
	TAL metals	200.7 CLP-M	3/1	7
	Mercury	245 CLP-M	3/1	7
	Cyanide	335.2 CLP-M	3/1	7
	Total suspended solids	160.2	3/1	7
	Hardness	130.2	3/1	7
	Alkalinity	310.1	3/1	7
Notes	Dissolved organic carbon	415.1	3/1	7

Notes:

3/1 = Three locations in the tidal creek (two rounds); one location at the Three Star lagoon outlet (one round).



New York State Department of Environmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 2-1B. Wappinger Creek - sediment sample quantities analyzed for the Creek RI/FS

	nger Creek - sediment sample quantiti		nalytical	Envi	ron.
Description	Analysis		/lethod	Locations	Samples
.			-		
Sediment	Volatile organic compounds	NYSDEC	95-1+10	3	9
Background	Semivolatile organic compounds	NYSDEÇ	95-2+20	8	14
(Wappingers Lake)		NYSDEC	95-3	3	9
	PCBs	NYSDEC	95-3	3	9
	TAL Metals	NYSDEC	200.7 CLP-M	8	14
	Hexavalent chromium S	NYSDEC	7196A	8	14
	Mercury	NYSDEC	245 CLP-M	8	14
	Cyanide	NYSDEC	335.2 CLP-M	8	14
	Amenable cyanide *	NYSDEC	9010B/9014	1	1
	Percent solids	ASTM	D2540-6	8	14
	Total organic carbon S	USEPA	Lloyd Kahn	8	14
Sediment - cores	Volatile organic compounds	NYSDEC	95-1+10	11	15
tidal creek	Semivolatile organic compounds	NYSDEC	95-2+20	30	62
	Pesticides	NYSDEC	95-3	9	12
	PCBs	NYSDEC	95-3	9	12
	TAL Metals	NYSDEC	200.7 CLP-M	30	62
	Hexavalent chromium S	NYSDEC	7196A	30	62
	Mercury	NYSDEC	245 CLP-M	30	62
	Cyanide	NYSDEC	335.2 CLP-M	30	62
	Amenable cyanide *	NYSDEC	9010B/9014	12	19
i	Percent solids	ASTM	D2540-6	30	62
	Total organic carbon S	USEPA	Lloyd Kahn	24	49
	Particle size analysis	ASTM	ASTM-D422/		10
	. ,		ASTM-D1140	3	3
SUMMARY	V-1-4!		· · · · · · · · · · · · · · · · · · ·	· · ·	
SUMIMART	Volatile organic compounds	NYSDEC	95-1+10	14	24
	Semi-volatile organic compounds	NYSDEC	95-2+20	38	76
	Pesticides	NYSDEC	95-3	12	21
	PCBs	NYSDEC	95-3	12	21
	TAL Metals	NYSDEC	200.7 CLP-M	38	76
	Hexavalent chromium S	NYSDEC	7196A	38	76
i	Mercury	NYSDEC	245 CLP-M	38	76
	Cyanide	NYSDEC	335.2 CLP-M	38	76
	Amenable cyanide *	NYSDEC	9010B/9014	13	20
ļ	Percent solids	ASTM	D2540-6	38	76
	Total organic carbon S	USEPA	Lloyd Kahn	32	63
	Particle size analysis	ASTM	ASTM-D422/		
			ASTM-D1140	3	3

Notes:

Samples analyzed by O'Brien & Gere Laboratories, Inc., except as noted by "S" indicating subcontracted analysis.



^{*} Amendable cyanide analyses performed based on results of total cyanide analyses.

DRAFT Table 2-2 Three Star Anodizing Site Wappingers Falls, New York Component evaluation of PAH data

Compound	Carcinogenic	BaP Equivalent
1 Acenaphythene		
2 Acenaphythylene		
3 Anthracene		
4 Benzo(a)anthracene	Χ	0.1
5 Benzo(a)pyrene	X	1
6 Benzo(b)fluoroanthene	X	0.1
7 Benzo(ghi)perlyene		
8 Benzo(k)fluoranthene	X	0.01
9 Chrysene	Χ	0.01
10 Dibenzo(a,h)anthracene	X	1
11 Fluoranthene		
12 Fluroene		
13 Indeno(1,2,3-cd)pyrene	Х	0.1
14 Naphthalene		
15 Phenanthrene		
16 Pyrene		

Notes:

BaP equivalents provided by NYSDOH.

New York State Department of Environmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 3-1a. Low flow surface water sampling - results of July 12, 2001 field analyses.

		 			<u>,</u>	 	
Cample legation					Water		
Sample location			рН	Cond.	Temp.	DO	Salinity
		 -		(usem/cm)	(C deg.)	 (mg/l)	(%)
Wappingers Lake		 	6.1	0.47	23	 7.0	0.0
Upstream Site Br.	WP5-SW	 	7.1	0.45	23	 7.4	0.0
Site Bridge	WP10-SW	 	7.1	0.45	23	 6.8	0.0
Dwnstrm lagoon	WP13-SW	 	7.1	0.46	24	 7.0	0.0
Dwnstrm MGP Site	WP18-SW	 	6.7	0.47	23	 6.4	0.0
Dwnstrm pool	WP35-SW	 	6.0	0.46	23	 6.4	0.0
Average		 		0.46	23	 6.8	0.0
Median		 	6.9	0.46	23	 6.9	0.0

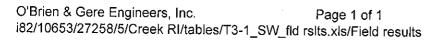
Table 3-1b. Storm event surface water sampling - results of May 14 and 15, 2002 field analyses.

Sample location	Time	Water depth	pН	Cond. (usem/cm)	Water Temp. (C deg.)	Turbidity (NTU)	DO (mg/l)	Salinity (%)
Round 1- May 14, 2002	<u> </u>				<u> </u>	7,,		
Wappingers Lake	 1800	10.5 ft	7.7	0.24	12	21	11.3	0.0
Site Bridge	 1530	10.5 ft	7.8	0.25	13	24	11.1	0.0
Route 28 Bridge	 1645	20 ft	7.8	0.27	12	26	8.5	0.0
Round 2 - May 15, 2002	 				·	-		
Wappingers Lake	 1030	9 ft	7.8	0.25	12	122	10.7	0.0
Site Bridge	 745	8.5 ft	7.6	0.24	12	44	10.8	0.0
Route 28 Bridge	 830	17.5 ft	7.8	0.25	12	37	10.1	0.0
Lagoon outlet	 930	3 in	7.6	0.31	13	6	10.5	0.0
Average				0.26	12	40	10.4	0.0
Median			7.8	0.25	12	37	10.4	0.0

Note:

Data presented for the lake and creek are the averages of three readings obtained from the upper, middle and lower depth intervals.

Data presented for the lagoon are single readings.



DRAFT Table 3-2A

Three Star Anodizing Site
Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Low Flow July 2001
Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS Data

	Sample ID Location Cross Reference Sample Date Sample Date Sample Depti		Surface Water Screening Values	Wappingers Lake Route 9D 07/12/2001	Site Bridge 1 WP5-SW 07/12/2001	Site Bridge 2 WP10-SW 07/12/2001	Site Bridge 2 DUP WP10-SW 07/12/2001	WP13-SW 07/12/2001	WP18-SW 07/12/2001
Compound								i	
Volatile Organi Acetone	Volatile Organic Compounds Acetone (ug/L)		50 G H(WS)	I	3.5	-	-	ļ	ı
Semi-Volatile (Semi-Volatile Organic Compounds (None Detected)	Detected)							
Total suspende	Total suspended solids (mg/L) (mg/L)	(1	NS	7	su	S	SU	ns.	\$U
ļ				ļ					
NOTES:	U - not detected, J - estimated of Samples analyzed by methods [] - exceeds Surface Water scre	value, NS = NY ASP 95 cening value	U-not detected, J - estimated value, NS = no screening value, —- no data, G - guidance value, H(WS) - health water source. Samples analyzed by methods NY ASP 95.1 and NY ASP 95.2. [] - exceeds Surface Water screening value. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	G - guidance value, H(WS) - healt obtained from NYSDEC (1998) 1	th water source. TOGS 1.1.1.	77.44		C 3- 1	
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DRAFT Table 3-2A

Three Star Anodizing Site
Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Low Flow July 2001
Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS Data

Compound Volatile Orgar Acetone Semi-Volatile Total suspende	Sample ID Location Cross Reference Sample Date Sample Date Sample Depth Units Compound Volatile Organic Compounds Acetone (ug/L) Semi-Volatile Organic Compounds (None Detected) Total suspended solids (mg/L) (mg/L)	Sample ID Location Cross Reference Sample Date Sample Depth Units (ug/L) Ompounds (None Detected) mg/L) (mg/L)	Surface Water Screening Values 50 G H(WS) NS	wP35-SW 07/12/2001 5 U	
NOTES:	U - not detectted, J - est Samples analyzed by rr [] - exceeds Surface W	imated value, NS = 11 rethods NY ASP 95. ater screening value,	no screening value, — - no data, G 1 and NY ASP 95.2.	U - not detected, J - estimated value, NS = no screening value, — - no data, G - guidence value, H(WS) - health water source. Samples analyzed by, methods NYA ASP 95.2 and NY ASP 95.2 and NY ASP 95.2 and NY ASP 95.3 and NY ASP 95.1 and NY ASP 95.3 and NY ASP 95.1 and NY ASP 95.3 and	

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DRAFT - Table 3-2B

Three Star Anodizing Site

Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS data Wappingers Falls, New York Wappingers Creek Surface Water Samples - Storm Event, May 2002

Lagoon (outlet) 05/15/2002 SU l of Site Bridge-2 05/15/2002 Page 17 Site Bridge-1 05/14/2002 8 Wappingers Lake WPLKSW-2 05/15/2002 Wappingers Lake DUP WPLKSW-1 DUP 05/14/2002 U - not detected. NS - no screening value. Samples analyzed by methods NY ASP 95-1 and NY ASP 95-2. Water quality screening value obtained from NYSDEC (1998) TOGS 1.1.1. There were no volatile or semivolatile organic compounds detected in these samples. Wappingers Lake WPLKSW-1 05/14/2002 13 Surface Water Screening Values Š Sample ID
Location Cross Reference
Sample Date
Sample Depth
Units Semi-Volatile Organic Compounds (None Detected) Compound Volatile Organic Compounds (None Detected) (mg/L) Total suspended solids (mg/L) NOTES:

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DRAFT - Table 3-2B

Three Star Anodizing Site Wappingers Falls, New York

Wappingers Creek Surface Water Samples - Storm Event, May 2002 Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS data

U-not detected. NS - no screening value. Samples analyzed by methods NY ASP 95-1 and NY ASP 95-2. Water quality screening value obtained from NYSDEC (1998) TOGS 1.1.1. There were no volaitle or semivolatile organic compounds detected in these samples. Rt. 28 Bridge - 2 05/15/2002 20 Rt. 28 Bridge -1 05/14/2002 38 Surface Water Screening Values SS Sample ID

Location Cross Reference
Sample Date
Sample Depth
Units Semi-Volatile Organic Compounds (None Detected) Compound Volatile Organic Compounds (None Detected) (mg/L) Total suspended solids (mg/L) NOTES:

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DRAFT Table 3-3A

Three Star Anodizing Site
Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Low Flow, July 2001
Inorganic Data Compared to Screening Values Including TSS and Hardness Data

WP35-SW	/2001	T/Sn	Hardness A(C)				1100	3.2		114		<u>*</u>	6.7				81						,	130							 		
WP3.	07/12/2001	ຄືກ	,	181	1.4 U	16.1	0.08 11	0.2 U	46500	1.7 J	0.9 U	(5)	0.7 U	12700	95	0.2 U	1.0 J	1070 J	1.8 U	0.7 U	29600	3.6 U	0.4 U	1.1.5)	5 U	170						
WP18-SW	07/12/2001	ug/L	Hardness A(C)				1100	3.0		109		77	6.3	_			77				•			123				·					pagation.
WPI	(1//20	ă		38.5	1.4.0	17.1	0.08 U	0.2 U	49600	1.9 J	0.9.0	198	0.7 U	13600	100	0.2 U	0.7 U	1150 J	1.8 U	0.7 U	31200	3.6 U) t	5.0.1 10.0 U	•	5 U	160						A(C) = fish pro
WP13-SW	07/12/2001	ug/L	Hardness A(C)				1100	3.2		114	7	-	6.7				50							051									protection of fish
WP	1//0	n		28 J	191	15 J	0.08 U	0.2 U	47500	133	0.9 U	173	0.7 U	13000	97	0.2 U	0.7 U	10901	1.8.U	0.7.0	30000	5.0	, t	10.0 T		s u	Q. T						ning Values for p
Site Bridge 2 WP10-SW	07/12/2001	ug/L	Hardness A(C)				1100	3.2	_	114	14	-	6.7				81						061	OCT									Ecological Scree = ionic.
Site F WP	1//0	7		743	1.61	16.5	0.08 U	0.2 U	45100	1.7 J	0.9 0	284	0.7 U	12400	134	0.2 U	0.7.0	1030 J	1.8 U	0.7 U	28800	0.00) - t &	10.0 U		ν.	170						consumption. from hardness, i
Site Bridge 1 WP5-SW	2/2001	ug/L	Hardness A(C)				1100	3.3		120	15		7.1				ç S						136	3					•				rce, H(FC) = fist ecific calculated
Site E WP	1//_0	<u> </u>		34 J 1 4 I I	1.6 U	15 J	0.08 U	0.2 U	44500	1.0 J	0.5.0	207	0.7 U	12300	106	0.2 U	0.7.0	10101	1.8 0	28700	3 6 71	0.410	211	10.0 U	į	180	100						WS) = water sou alue, h = site-sp
Wappingers Lake Route 9D	07/12/2001	ug/L	Hardness A(C)				1100	3.0		109	13		6.3			1	,						123)									ing Values: H(
Wapping	07/13	ä		82 J 1.4 U	1.6 U	16J	0.08 U	0.2 U	44800	1.8.1	1.9 J	278	0.7 U	12500	102	0 1 0 0	10101	1911	1.00	28800	3.6.11	0.4 C	1.3.1	10.0 U	t	160	2						ian Health Screen f = free cyanide,
Surface Water Screening				A(C)	50/150 H(WS)/d-A(C)	1000 H(WS)	3 gd-H(WS)/A(C)	5/h H(WS)/A(C)	6	(-W(C)	200/h H(WS)/A(C)	(0)	50/h H(WS)/A(C)	35000 H(WS)	300 E	100h HO3/6V/4/C)	t(wo)/w(c)) ((2)	0.5/8 od-H(WS)/A(C)		. 0	(Q)									value, E = aesthetic. Hurr ed hexavalent chromium,
Surface W Screening	Values	ug/L		100 i-A(C) 3 H(WS)	50/150	1000	3 gd-H	S/h H(S.	11 dux-A(C) 5 A(C)	200/h]	300 A(C)	50/h H	35000	300 E	1000	No.	464-4(0)	0114(0)	ž	0.5/8 9	14 A(C)	66 d-A(C)	5.2 f-A(C)	5,4	2 2	?				 	 	to screening v
Sample ID Location Cross Reference	Sample Date	Units																							(Lum)	(7,8,11)							U-not detected, J-estimated value, NS = no sereening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(EC) = fish consumption. Ecological Screening Values for protection of fish: A(C) = fish propagation. Screening value dissolved, the acissolved threat ac
			Compound	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Cyanide, total	 Total su snended solids (mall)	Hardness (mg/L)							NOTES: U-not Screeni

Scrooting value quanisers: a = aussolved, anx = aussolved hexavarient enromann, t = tree cyanise, g = guiqance value, n = site-specialic calculated from NYSDEC (1998) TOGS 1.1.1. Boryllium screening value (1100 ug/L) is based on Hardness concentrations exceeding 75 ppm.

[] - exceeds Surface Water Screening Value.

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Wappingers Falls, New York Three Star Anodizing Site DRAFT - Table 3-3B

Wappingers Creek Surface Water Samples - Storm Event, May 2002 Inorganic Data Compared to Screening Values Including TSS and Hardness Data

San	Sample ID	Surface Water	Wapping	Wappingers Lake	Wappin	Wappingers Lake	Site B	Site Bridge-1	Site B	Site Bridge-2	Lagoo	Lagoon (outlet)	Rt 28 F	Rt 28 Bridge -1
Location Cross Reference Sample Date	ss Keterence Sample Date	Screening Values	WPLK 05/14	WPLKSW-1 05/14/2002	WPU;	WPLKSW-2 05/15/2002	05/14	05/14/2002	05/1;	05/15/2002) 1/50	05/15/2002	1/50	05/14/2002
	Units	T/Sn	Вп	ug/L	ří	ng/L	ś'n	ug/L	. a	ng/L		ng/L		
Compound				Hardness A(C)		Hardness A(C)		Hardness A(C)		Hardness A(C)		Hardness	š	Hardness
Antimony		100 :-A(C) 3 H(WS)	[451] 2.0 U	_	[256] 2.0 U		[593] 2.0 U		[412] 2.0 U		[143 J] 2.0 H	5	[696]	
Arsenic Barium		50/150 H(WS)/d-A(C)	3.3 U		3.3 U		3.3 U		3.3 U		330		3.3 U	
Beryllium		3 gd-H(WS)/A(C)	0.1 U	1100	0.13	1100	19.1	1100	15 J		18.5		19 J	ļ
Cadmium		5/h H(WS)/A(C)	0.4 Ü	2.3	0.4 U	2.3	0.4 U	2.1	0.4 U	1100	0.1 0	1100 73	0.1)	1100
Calcium		NS	30100		30600		30700	_	30300	i	35300	<u></u>	30800	?
Cobalt		11 dhx-A(C)	12.0	80	1.2 U	80	1.2 U	74	1.2 U	74	1.2 U	80	1.2 U	80
Copper	-	2000 HOWSVACO	1.30	5	1.3 U	Ş	130	«	13.0		1.3 U		1.3 U	
Iron		300 A(C)	[610]	21	[386]		1.8 U [708.]); —	2.1.)	0.6	2.4 J	10	2.1 J	10
Lead		50/h H(WS)/A(C)	0.8 J	4.2	0.8 U	4.2	0.9 J	3.8	1.1 J	3.8	1.7 J	2.4	[834] 0.9]	4.2
Mangarese		35000 H(WS)	7120		7130		7250		7130		8540	!	7570	}
Mercury		1 500 E			69		109		88		95		107	
Nickel		100h HOWSVA(C)	0.10	33	0.1 U	ì	0.1 U	:	0.1 U		0.1 U		0.1 U	
Potassium		NS	1350 I	8	1320	90	1.8 U	- 52	1.8 U	52	1.8 U	56	1.8 U	56
Selenium		4.6 d-A(C)	2.9 U		2911		2971		12601		1410 J		1360 J	
Silver		0.1 i-A(C)	[2.2.1]		11.8.71		11.7 II		2.9 U		0 6.2		2.9 U	
Sodium	•	NS	21200 J		20800 J		22400 J		207001		25700 1		1.5 U	
Thallium		0.5/8 gd-H(WS)/A(C)	3.7 U		3.7 U		3.7 U		3.7 U		3711		2.7.11	
Vanadium		14 A(C)	2.2 J		1.63		2.0 J		2.0 J		2.0 J		 18.1	
Cvanide total		50 d-A(C)	4.8 J	8	6.8 J	96	7.4 J	83	6.4 3	83	6.5 J	8	7.0 J	06
		7.7 I-A(C)	10.0 0		10.0 0		10.0 U		[50]		10.0 U		10.0 U	
Total suspended solids (mg/L)		NS	13		Ý		0				;		;	
Hardness (mg/L)		NS	110		110		100		77) c 		» C	
											•) •	
						•								
												-		
NOTES: U-not detected, J-estimated va	alue, NS = no sc dissolved, dhx =	U - not detected, J - estimated value, NS = no screening value, B = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Screening value qualifiers: d = dissolved, dlx = d	nan Health Screeni f = free evanide	ing Values: H(WS) = water sour	ce, H(FC) = fish	consumption. E	cological Scree	ning Values for p	rotection of fish	A(C) = fish pro	pagation.		
Samples analyzed by methods 7 [] - exceeds Surface Water Scree	7196A/200.7/24; cring Value.	5.5/335.2/9010B/9014. Water qu	ality screening val	ues obtained fr	om NYSDEC (19	98) TOGS 1.1.1.	Beryllium scree	nonic. ening value (11	00 ug/L) is based	on Hardness co	ncentrations exc	ecding 75 ppm.		
Date Printed: 03/11/2005 09:38:46								E			Page	1 of 2		

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DBF File: QA10653 NYSDEC/27258 ThreeStarkPhasIRLdbf
FXP File: QA10653 NYSDEC/27255 ThreeStarkwpiirep.prg



DRAFT - Table 3-3B Three Star Anodizing Site Wappingers Falls, New York

Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Storm Event, May 2002
Inorganic Data Compared to Screening Values Including TSS and Hardness Data

Sample 1D	Surface Water	Rt 28 Bridge -2	- c- aobi		_							
Location Cross Remerce	Screening	731,30	2 2000									
Sample Date	values n	761760	7007/6									
Units	1/81	T/gn	T Hardness		Hardness	ñ	and a constant	Hardnes		Transfer I		
Compound			(C)		A(C)		A(C)	A(C)	-	A(C)		A(C)
Antimon	3 H(WS)	[676] 2.0 U										}
Arsenic	50/150 H(WS)/d-A(C)	3.3 U										
Berdlim	1000 H(WS)	173	,								-	
Cadmium	5 gu-fi(w5)/A(C)	0.1 J	24									
Calcium	NS	31100	į									
Chromium	11 dhx-A(C)	1.2 U	98			,						
Cobalt	5 A(C)	1.3 U										
Copper	200/h H(WS)/A(C)	2.8 J	10									
Tron	300 A(C)	[895]										
Magnesiim	350/n H(WS)/A(C)	2.0.1	4.6									
Manganese	300 F	107										
Mercury	0.0007/0.77 d-H(FC)/A(C)											
Nickel	100h HCWSI/ACC)		19		_							
Potassium	NS	1370 J	<u> </u>									
Selenium	4.6 d-A(C)	2911				•						
Silver	0.1 i-A(C)	1.7.II										
Sodium	NS	21700 J										
Thallium	0.5/8 gd-H(WS)/A(C)	3.7 U				_						
Vanadium	14 A(C)	2.3 J						-				
Zinc	66 d-A(C)	8.6 J	96	_								
Cyamuce, total	5.2 f-A(C)	[10.0]										
Total suspended solids (mg/L)	SN	20	•									
Hardness (mg/L)	SN	120						_				-
								• 11				
						<u> </u>						
			-									_
		_				10.00		••				
_												
NOTES: U-not detected, J-estimated value, NS = no. Screening value qualifiers: d = dissolved, dhx	screening value, $E = aesthetic$. Hus $t = dissolved$ hexavalent chromium	man Health Screeni	ing Values: H(W	(S) = water source, I	H(FC) = fish cons	sumption. Ecologi	ical Screening Values	s for protection of 1	fish: A(C) = fish pr	ropagation.		
Samples analyzed by methods 7196A/200.7/245.5/335.2/9010B/9014. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1. Beryllium screening value (1100 ug/L) is based on Hardness concentrations exceeding 75 ppm. [] - exceeds Surface Water Screening Value. Days 7 6 7	45.5/335.2/9010B/9014. Water qu	uality screening val	lues obtained from	m NYSDEC (1998)	TOGS 1.1.1. Be	nyllium screening	value (1100 ug/L) is	based on Hardness	s concentrations ex	ceeding 75 ppm.		-
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DBF File: Q\10653_NYSDEC2/228_ThreeStartPhasHRJ.dbf
FXP File: Q\10653_NYSDEC2/228_ThreeStartswpiirep.prg

Three Star Anodizing Site DRAFT Table 4-1

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	WP-LK01-A	WP-LK01-A	WP-LK01-A	WP-LK01-B	WP-LK01-B
	Sample Date	Sedment	05/10/2001 0 - 6 in.	05/10/2001 6 - 12 in.	05/10/2001 19 - 25 in.	05/10/2001 0 - 6 in.	05/10/2001 6 - 12 in.
Compound		ng/g OC	C SC mg/Kg ug/gOC	C SC mg/Kg ug/gOC	C SC mg/Kg ug/gOC	C SC mg/Kg ug/gOC	C SC C S
2-Butanone (MEK) Acctone Carbon dimittala		NS (W)		0.02 J 0.3	0.03 J 0.8	0.01.7 0.2	
Chloromethane			0.005				0.009 J 0.1
Methylene chloride Tetrachloroethene		0.09 (W)			0.01 J		
Toluene Trohloroethene	() 計画 ()						
Xylene (total) cis-1,2-Dichloroethene		92 92 93 93 93 93 93 93 93 93 93 94 95 95 95 95 95 95 95 95 95 95 95 95 95					
trans-1,2-Dichloroethene	· .						
Total BTEX	٠.)) v 					
Total VOCs		NS N	0.02 0.2	0.02 0.4		0.01 0.1	0.05 0.8
Total organic carbon (mg/Kg) % TOC		Total organic carbon (mg/kg)	. 99100 10	47000	33800		62000
Percent solids (%)			22	35	46	25:	32
NOTES: J - estimated value, When AS>=5%, e- Screening values as * Screening concer for %TOC outside	 estimated value, NS - no screening value, NA - not When AS>=5%, e=3% when AS>5%, e=AS TOC%. Sorrening values are ecological values except as noted Sorrening concentration (SC) calculated as concents for %FOC outside that range fnot calc.) 	J. estimated value, NS - no screening value, NA - not applicable, analyte not detected, [] - concentration ab When AS>=5%, e=5%: when AS<5%, e=AS TOC%. Samples analyzed by methods NY ASP 95-1. NYS sedim Screening values are ecological values except as noted. H = human exposure by fish consumption. W = drinking * Screening concentration (SC) calculated as concentration (C) / fraction of organic carbon (foc) in units of ug/gf for %TOC outside that rance for each.	ove screening value. e - estimat ent screening values are guidane g water source. DC. SC derived for sediment wi	c concentration using TOC data is values obtained from Technical wat 70C ranging between 0.2% at	toentration above screening value. e - estimated concentration using TOC data from another sample (AS) collected at the same location. NYS sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999). W = drinking water source. units of uggQC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated Page I of 4	at the same location. sted Sediment (NYSDEC 1998, I's Page I of 4	(66)
Date Printed: 03/11/2005 09:44:51 DBF File: Q\10653_NYSDEC\27258_ThreeStarkCrekTables.dbf	ThreeStar/CreekTables.dbf						File Number: 10653.27258

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DBF File: QA10653_NYSDEC/27258_ThreeStarkCreekTables.dbf

FXP File: QA10653_NYSDEC/27258_ThreeStarkCreekEvalTabs.prg

DRAFT Table 4-1

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Three Star Anodizing Site

	Sample ID	NYS Sediment	WP-LK01-B DUP	4De	WP-LK01-B	ω	WP-LK01-C	01-C	WP-LK01-C	C01-C	WP-LK01-C	01-C
	Sample Date	Values	05/10/2001 6 - 12 in.		05/10/2001 25 - 31 in.		05/10/2001 0 - 6 in.	.001 n.	05/10/2001 6 - 12 in.	2001 in.	05/10/2001 26 - 32 in.	2001 in.
Compound		ng/g OC	C S mg/Kg ug/	SC ug/goc	C mg/Kg u	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goc
2-Butanone (MEK) Acetone		SN SN (Company of the company of the	0.04 J	0.7	0.02 J	0.3	0.02 J	0.3	0.04 J	0.6	0.03 J	0.6
Carbon disulfide		NS	0.006 J	0.1	0.004 J	0.07		 	3 1	<u> </u>	<u> </u>	[7]
Chloromethane	45.5	N.S.		i de	0.002 J	0.04	0.004 J	20.0		1		
Methylene chionde Tetrachlomethene		Methylene chlorade 7. Franchische Chromate Villende Chromate Vill	0.006 J	0.1]	1 6.5		1	1 0000	0.003 J	0.05		1
Toluene		49			9 6 1		0.004 J	0.07	1	 -	1. 1. 1	
Trichloroctheme		2.0(H)		T.								
Xylene (total)		92				1	1	1	1	1	1	
trans-1,2-Dichloroethene		ots-t.z-t./tohloroethene.				T.	ı		ľ	1		
				10.0 10.0 10.0 10.0 10.0 10.0					1	1 9 1	1 3	
Total BTEX		NS		·	1	<u> </u>	0.004	0.07	1			1
Total Chlorinated VOCs				0.3					0.003	0.05		
Total vocanic carbon (morges)		SZ.	13	0.9	18	0.4	0.02	0.3	0.1	2	0.1	
7 TOC		Koda vigalik dilikuk juga keping mengangan pengangan pengahan keping mengangan pengangan mengangan mengangan m N TOC			5.5		5.00 5.00		55500 5.6	**************************************	38800	
Percent solids (%)		Percent solids (%)	34		48		29		36		50	
				1 800 1000 1000 1000 1000 1000								
								13 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		2018 2018 2018 2018 2018 2018 2018 2018		
						<u>- 11</u> 14 54						
				Unite Stud Stud Stud Stud Stud				- 6:47 - 6:49 - 6:40 -				
												1,000 1,000 1,000 1,000 1,000 1,000
						<u> </u>						
NOTES: J - estimated value, NS When AS>=5%, e=5%	- no sercening value, NA - not s; when AS<5%, e=AS TOC%.	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected, [] - concemnation at When ASS=3%, e=5%, when ASS=5%, e=AS TOC%. Sumples analyzed by methods NY ASP 95-1. NYS sedim	concentration above sorcening value. e - estimated concentration using TOC data from another sample (AS) collected at the same location. 5-1. NYS sediment screening values are guidance values obtained from Technical Guidance for Sercening Contaminated Sediment (NYSDEC 1998,1999).	c - estimated or re guidance v	concentration using alues obtained from	TOC data fro	m another samp	le (AS) collected ening Contamina	at the same loca	tion. YSDEC 1998,15	.666	
Screening values are ecological values e: Screening concentration (SC) calculate for %TOC outside that range (not calc.).	cological values except as noted from (SC) calculated as concentr trange (not calc.).	executing values are ecological values except as noted: H = human exposure by fish consumption; W = drinking water source. * Secreting concentration (SC) calculated as concentration (C) / fraction of organic carbon (foc) in units of ug/gOC. SC derive for %1DC outside that range (not ealt.)	n: W = drinking water source. In units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated	diment with 9	4TOC ranging betw	reen 0.2% and	112%. SC was 1	not calculated	Page	2 of 4		

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DBF File: Q:\u0008063. NVSDEC\u00a4258. ThreeStar\u00a7CreekTables: dbf

FXP File: Q:\u00a8063. NVSDEC\u00a807258. ThreeStar\u00a80creekEvalTabs: prg

Three Star Anodizing Site DRAFT Table 4-1

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

Sample ID	NYS	LG-OUT		WP-LGOUT2	UT2	WP-16	16	WP-18	81	W.P.18	3
Sample Date	Sediment Values	05/09/2001		05/13/2003	003	05/09/2001	2001	05/09/2001	1002	1002/80/50	2001
	,	0 - 6 in.		0 - 6 in.		0 - 6 in.	in.	0 - 6 in.	in.	6 - 12 in	in.
Compound	ng/s OC	C mg/Kg	SC ug/goc	C mg/Kg	305/gu	C mg/Kg	SC ug/goc	C mg/Kg	20%/8n	C mg/Kg	SC ug/goc
2-Buranone (MEK) Acetone	NS (W)					1		0.008 J	0.3	0.007 J	0.3
Carbon disulfide	NS		1					0.005 J	0.2	0.002 J	0.08
Methylene chloride	_		İ	1		1 000	1 8				
Tetrachloroethene	17	0.02	0.4			0.002 J	[0.2]	0.004 J	[0.2]	1	1
Toluene	49		1	1	1	1					
Anotherocethene	(2) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4		0.4	0.001 J	80.0						
cis. 1,2-Dichloroethene	76	0.002 J	0.04		1 6	15	1 1		1	1	
trans-1,2-Dichloroethene	9.0		0.0	0.001 J	0.08					T I	
The Desire of the Control of the Con							53				
Total Chlorinated VOCs			0.04	13		1 8	1	1	1		1
Total VOCs	o SZ SZ	0.05	6.0	0.004	<u>ი</u> :	0.002	0.2	0.004	0.2		
Total organic carbon (mg/Kg)	NA CONTRACTOR OF THE CONTRACTO	56000		12400 J	3	8770	7.0	23400	60	24400	0.4
% TOC	NA	5.6	-	1.2 J	i g I	6'0		2.3	- - - - - -	2.4	
**Concentration (*/*): The second of the sec	NA CONTRACTOR OF THE CONTRACTO	77		75		- 79		89		2	
			- 941 - 44 - 44 - 44 - 44 - 44 - 44 - 44 -								
				5 (1) (5) (4) (4) (5) (5)							
											2/12/
					250 250 250 250 250 250 250						30 S
								510 510 510 510 510 510 510 510 510 510			
			8								
NOTES: J-estimated value, NS - no screening value	e, NA - not applicable, analyte not detected, [] - concentration al	oncentration above sereening value. c - estimated concentration using TOC data from another sample (AS) collected at the same location.	c - estimated	concentration usi	ng TOC data fr	om another samp	le (AS) collected	at the same locat	ioi.		
When AS - 2% Well AS - 2% Well AS - 2% Est Service Sec Society values are cological values exe * Screening concentration (SC) relevitand *	when Asserting Asserting the Communication of the C	-1. NVS sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999), n. W = drinking water source.	are guidance v	alues obtained fr	om Technical G	uidance for Scree	ening Contamina	sted Sediment (N	YSDEC 1998,19	99).	
Date Printed Assessment for WTOC outside that range (not calc.).	E CARTONIANO (C): MACCON OLOGANIC CAROON (104) IN MINS OLUGY SE	in units of ug/gUC. 3C derived for sediment with %1OC ranging between 0.2% and 12%. SC was not calculated	ediment with 3	6TOC ranging be	tween 0.2% an	i 12%. SC was r	not calculated	Page	3 of 4		

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FXP File: QA10653 NYSDEC/27258. ThreeStar/CreekEvalTabs.prg

DRAFT Table 4-1
Three Star Anodizing Site

Wappingers Falls, New York	Wappinger Creek Investigation - Sediment Samples	Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data
----------------------------	--	--

Comparison	Sample ID	NYS Odiment		WP-29	6	WP-29	62	WP-29	29	WP-PL	PL		=
C C C C C C C C C C	Sampl			05/09/20 0 - 6 in	001	05/09/2	:001 in	05/09/,	2001 in	05/08/2	2001 in		
0.0001 0.4 0.001 0.3	Compound	ng/g OC		C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/gOC	C C mg/Kg	SC SC SC SC SC SC	C mg/Kg	SC ug/gOC
According to Control function According to Control functin According to Control function According to Control function	2-Butanone (MEK)	SZ		0.008 J	0.4	0.03 J	2	0.08 J	0.7	0.03 J	0.3	» »	
Comparison of the comparison		0.03 (W)				0.09 J	[12]			0.063	[6.7]		
Training coloring		ON CONTRACTOR OF THE CONTRACTO				0.003 J	0.4	0.01 J	0.1	1	1 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	:
Total browdening		0.09 (W)				0.02	- 2	i L I	- 	() 			
Control Cont	oroethene	0.8 (H)							J				
West (con) Wes	Toluche	49		1		ı	1	1					
circl_2Doint/orentages	Xviene (fotal)	20 00			1	1							
Total Distribution contains 0.6 NS NS Once Total Contains The Contains	cis-1,2-Dichloroethene				 		 	10					
Total BTEX NS	trans-1,2-Dichloroethene			d - - - - - - -	-								
Total Character VOCS													
Toda (1902) Toda (1904) Toda	Total Chlorinated VOCs				1 5	6	; ;	1	i I		1000		3
1 Tour Grammis control (may Kg) NA 1 Tour Percent solids (%) Percent solids (%) Perce	Total VOCs	SN		0.008	1 6	0.1	J 4	600	1 6	80) -		
Precent solide (%) 22	Total organic carbon (mg/Kg)	NA.		21700		7330		105000			1 10 1 10 1 10 1 10 1 10 1 10 1 10 1 10		
	% 10C Percent solids (%)	AN A		2.2 56	1	0.7	1	11	1	1	1		
				X	il Il Ili		1	28					
											10 10 10 10 10 10 10 10 10 10 10 10 10 1		
							500 500 500 500 500 500						
							- 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
													\$0 \$0 1 1
DO:													
100													
The second secon	* Screening concentration (SC) calculate for %TOC outside that range (not calc.).	calculated as concentration (C) / fraction of org st calc.).	ganic carbon (foc) in units of ug/g(OC. SC derived for	r sediment with	%TOC ranging b	etween 0.2% an	rd 12%. SC was 1	not calculated	Page	4 of 4		

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DBF File: Q:\10653 NYSDEC2/7238 ThreeStar\CreekTables dbf

FXP File: Q:\10653 NYSDEC2/7288 ThreeStar\CreekEvalTabs.prg

DRAFT Table 4-2 Three Star Anodizing Site Wanningers Falls New York

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	-dM	WP-LK1	WP-LK2	,K2	WP-1K3	K3	M. W.	WP-1 K4	WP-1 K 5	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	Samula Data	Sediment	Screening								-		
	Sample Date	values	Values	05/12/20 0 - 6 in.	05/12/2003 0 - 6 in.	05/12/2003 0 - 6 in.	2003 in.	05/12/2003 0 - 6 in.	2003 in.	05/12	05/12/2003 0 - 6 in.	05/12/2003 0 - 6 in.	/2003 in.
Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC Og/gn	C mg/Kg	SC ug/goc
		12		1	!				1				
1,3-Dichlorobenzene		12					1						
			* 11 11 11 11 11 11 11 11 11 11 11 11 11	1 (1)		1	1 1 3 3	1	1 3	1	1 2	1	1
	NSN								f		j.		1
4-Methylphenot											 1		
		NS		1	. 1	: - -	1	; ; 1	.	1			
lene													
:		107	:	1	_	1	١	1	1	:	; †	1	1
Benzo(a)anthracene						1		0.3.J	4	0.2 J	5	0.3.1	1
Benzolalpyrene Benzolbifluoranthene	(H) FT		0.44(1)	0.2.3	25		1 3	0.3 J	2 (0.2 J	[2]	0.4 J	8
			3.8(1)	f#0	₹.		1 .	ر د	- - -	0.4	<u>6</u>	19.0	[13] ,
uoranthene	(H)		4.0(1)							(7) (1) (1)	* 4	021	^ (2)
			NS	1	1	1	1			1 1 1			100
				0.3 J	2	03.1	15.	0.4 J	[9]	0.3.J	10	0.43	[10]
		SZ	1	1	1		1	1 5	1	1	1	1	1
		े SM हो			Į.) 				1		
		OFS. In the comment of the second of the sec	5.1 (2)				1	6 6 11 11		1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1	1	1000
		1020	1	0.4 J	4	0.5 J	'n	0.6 J	6	0.5 J	=	0.7.1	14
									1				
Indeno(1,2,3-cd)pyrene		1.3 (H)	1 1000000	1 1	1	1	1		1	0.2 J	4	0.2 J	ত
		120			1		1		1				
Phenol	071	02.1					1			0.2 J	4	0.2 J	5 - 5,557 - 8,57 p.
Pyrene		961		0.4 J	4	0.5 J	Ŋ	0.6 J	01	0.5 J	=======================================	0.8 J	
Bis(2-ethythexy))phthalate (BEHP)	(200											
Total organic carbon (mg/Kg)				102000 J		91600.3		633003		42100.1	7 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	46100.1	
% TOC			1	10 J	1	9.2 J	1	6.3 J	1	42 J		4.6 J	
rercent solids (%)	NA CONTRACTOR OF THE CONTRACTO		1	18]	12		14		25	1	36	
Total PAHs (mg/Kg)		80 3.5	85(1)	17		1,7		2.6		3.6			
Total Carcinogenic PAHs			SS	6.0	1	0.7		1.5	<u> </u>	1.2	1	2.2	
Total SVOCs		SZ		21	1	1.7		2.6		2.5		41	
Dar Equivalents		1.3 (H)	SN	0.3	2	0.04	0.4	0.4	<u>@</u>	0,3	Ξ	0.5	Ē
100 100 100 100 100 100 100 100 100 100													
NOTES: J - estimated value, another sample (AS	NS - no screening value, NA (S) collected at the same location (S)	J. estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS<5%, e=A continuous et al., and a continu	ot detected. [] - concentration are AS<5%, e=AS TOC%. Sam	above sediment son oples analyzed by a	reening value. { }	} - concentration ex 95-2. NYS sedimer	exceeds ecologic	cal screening valuations are guidance	ic. e - estimated e values obtained	concentration using TOC data from Technical Guidance for	sing TOC data fro	om reening	
L = Long & Morga	n 1990. Ecological screening	L= Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concentre.	Effects concentrations; (2) NO.		gical values excep threshold concent	pt as noted: H = h tration (1999).	numan exposure	t as noted: H = human exposure by fish consumption; W = ation (1999).	ion; W = drinkir	ig water source j Page	sh consumption: W = drinking water source protection; Page 1 of 17		
Date Printed: 03/11/2005 09:44:56	ation (5C) carculated as cone	contanton (C) traction of organic	caroon (toc) in units of ug/goc		SC derived for sediment with %TOC ranging between 0.2% and 12%.	TOC ranging bet	ween 0.2% and	12%. SC was not	calculated for %	TOC outside th	at range (not calc	(1)	

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Three Star Anodizing Site DRAFT Table 4-2

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	SAN	Ecological	WP-LK01-A	K-10>	WP-LK01-A	C01-A	WP-LI	WP-LK01-A	WP-L3	WP-LK01-B	WP-L	WP-LK01-B
	Sample Date	Values	Screening Values	05/10/2001	72001	05/10/2001	2001	05/10/2001	,2001	05/10/2001	/2001	05/10	05/10/2001
				0 - 6 in.	Ē	6 - 12 in.		19 - 25 in.	5 in.	0 - 6 in.	in.	6 - 12 in.	
Compound		ug/g OC	mg/kg	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC CS/8n
1,2-Dichlorobenzene		12 (28) (38) (38) (37) (38)	1	15	1		-						
		12				1 1]]:	l	l				
2-Methylnaphthalene		1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、									100000000000000000000000000000000000000		1 2
4-Chloroaniline			1	1	· 1	. 1	i i						
4-Methylphenol		ξħ.											
Acenaphthene		SN	1	1	1	: 1	1		1				1
Acchaphnylene					1							T.	
Anutacene Benzo(a)anthracene		107	1]		1 3	1		-	ı			. 1
Benzolalpyrene		12(H)	0.44(3)	- 40 - 40	4 5	0.2 J	₹ :	0.1 5	4	0.4	9	0.3 J	4
Benzo(b)fluoranthene			40(1)	(CO)	<u>.</u>	0.2.)	् क् इ	0.1]	<u> </u>	(0.5.)	Ξ.	0.3 J	<u>4</u>
Benzo(ghi)perylene		NS	3.8 (1)	} }	 []	[+.]	<u> </u>	670	<u> </u>	0.8.1	[12]	0.5.J	[6]
Benzo(k)fluoranthene		13(A)	4.0	0.3.1	[3]			0.08 7	162	170	7] [2]
		NS	NS] 	. 1		1		<u> </u>) - -	<u>.</u>	7	ं ट्रि. ।
Chrysene Di a traca andreae		13(H)		0.6 J	[9]	0.3 J	[9]	0.2.3	[5]	0.6 J	[6]	0.3.1	[5]
Di-n-butyl pathalate		NS	1	1	1	1	1	1	:	1	1	11	. 1
		0.1 VI											
Dibenzofuran					1 1		1	1 1 1		1 10000000	1 1	1 :	1
cne		1020		1.0 J	2	0,4 J	0	021	ļ r] 00) ž	<
Fluorene									•		2 1	700	
cd)pyrene		1.3 (H)		1	1	ı	1	1	1	0.3 J	[4]	: : : : :	
Phenanthrene		30	1	1 :									
Phenol		0		0.4)	4 :	0.2 J	ا د د	0.1 J	4	0.5 3	7	0.3 J	4
Pyrene		961	1	13.5	<u> </u>	061	۲ ۲]]]		- - -) °-	1 0	1:
Bis(2-ethylhexyl)phthalate (BEHP)		200		THE		0.5 J		0.3.1	6	0.6.3	2 &	0.43	ە 1
Total organic carbon (mg/Kg)		The second secon		00166		47000		33800		00077	1.00 M		
% TOC		NA	1	10	1	4.7		3.4		00000 6.7		07000	
Percent solids (%)		NA CONTRACTOR OF THE CONTRACTO	The state of the s	22		35		46		25		32	
Total PAHs (mg/Kg)		40(L)	85(1)	[5.4.]		2.4		1.7		(4.5.)		4.5	
genic PAHs		SN	NS	2.7	1	1	; ; ;	0.7	1	2.8		1.6 1.6)
Total SVOCS		NS.		6.5		2.9		71		1'9		3.6	
		1.5 (ft)	ZZ	0.6	<u> </u>	0.3	<u></u>	5	<u> </u>	9.0	<u>©</u>	0.4	9
: :													
NOTE													
	NS - no sercening value, NA collected at the same location (NYSDEC 1998, 1999).	J - Sumated value, NS - no screening value, NA - not applicable, analyte not detected. [] - concentration above sediment screening value. { } - concentration and screening value. { } - concentration { }	ected. [] - concentration at \$<5%, e=AS TOC%. Samp	concentration above sediment screening value. S TOC%. Samples analyzed by method NY A.	cening value. { }	concentration exceeds ecolo 95-2. NVS sediment screening	exceeds ecologi	- concentration exceeds ecological screening value. 5-2. NVS sediment screening values are guidance v	c - estimated alues obtained	concentration using TOC data from I from Technical Guidance for Scree	oncentration using TOC data from from Technical Guidance for Screening	om. reening	
L = Long & Morgan	1990. Ecological screening	values are: (1) EPA ARCS No Effec	ts concentrations; (2) NOA	vaucs are ecolog A upper effects th	real values excep hreshold concent	r as noted: H = n ration (1999).	tuman exposure	by tish consump	as noted: H = numan exposure by fish consumption; W = drinking water source protection; uton (1999). Page 7 of	ig water source p Page	notection;		
Date Printed	fron (SC) calculated as conce	entration (C)/fraction of organic carbo	on (foc) in units of ug/gOC	. SC derived for:	SC derived for sediment with %TOC ranging between 0.2% and 12%.	TOC ranging ber	ween 0.2% and	12%. SC was no	SC was not calculated for %TOC outside that range (not calc.).	TOC outside tha	at range (not calc	Ť	

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Three Star Anodizing Site DRAFT Table 4-2

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	WP-LK01-B DUP	B DUP	WP-LK01-B	01-B	WP-LK01-C	C01-C	il-qw	WP-LK01-C	J-10X-I-M	J-102
	Sample Date	Sediment Values	Screening Values	05/10/2001	1001	05/10/2001	1002	05/10/2001	1002	05/10/2001	/2001	05/10/2001	2001
				6 - 12 in,	'n,	25 - 31 in.	'n.	0 - 6 in.	.ii	6 - 12 in.	2 in.	26 - 32 in.	2 in.
Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/goc	С mg/Kg	SC ug/goC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC
		12 		1 8	1				1				
1,4-Dichlorobenzene		12			 	i Pi		1 1					
alcne		de:			j							1 1	
4-Chloroaniline		NS	:	1		1	1	} } !	1) 1	1		
7							J.			1		1	
Aceraphinene Aceraphthylmo		SS		1		1	1		-	: 1		\$ 	
Anthracene		107											
Benzo(a)anthracene				0.3.J	18	1.60 0	16	0.4.7		1 2	1 5	1 .	1 -
Benzo[a]pyrene		1.3 (H)	0.44 (1)	0.3.5	[5]	0.09 J	2 [2]	0.4 J	E	0.2 J	1 4	0.1.J	2 E
Benzo(b)fluoranthene		(1) (H) (H) (H) (H) (H) (H) (H) (H) (H) (H	4.0 (1)	0.5 J	[6]	0.2 J	[3]	0.8 J	[14]	0.4.3		0.2 J	<u>.</u>
Berzotk)fluorantiene Serzotkoffundantiene Serzotkoffundantiene		SN CE	3.8 (1)			1	1	0.2 J	m	0.1 J	7	0.4 J	10
Carbazole		NS NS	(L) 0.4 NN	77.0	<u> </u>			0.3 J	<u>.</u>	0.1.1	[2]		1
45		(H)(F)	- 11.	0.4 J		0.1.		0.61	1.5	1.0	1	-	155
Di-n-butyi phthalate		SN			. 1		[े } े	<u> </u>	77	7 1
Drn-octy, prinalize		NS											
Dibenzo(z,u)anunacene Dibenzofuran	15 NN	15 MG		Windows Delta Control	1	13	1	1				1	
Fluoranthene		1020	(7) 1 (1 20	=) 		1:			F	
Fluorene					-	770	n []	0.9]	10	0.4 J	∞ .	0.3 J	7
	:	3 (H)		1	1		1	0.3 J	[5]	0.1 J	- 2	1.0	1 2
Naphthalene									2 (III.		Σ .
Phenol		120 	1 2 3	0.3 J	v.	0.1 J	7	0.4 J	7	0.2 J	4	0.2 J	4
Pyrene		961		071	=	1 %	ļ v	<u> </u>	[1 4	(
Bis(2-ethylhexyl)phthalate (BEHP)				0.53) ∞	02.1	, m,	0.5.1	`	0.3 J	9	0.4.]	2 4
Total organic carbon (mg/Kg)				00033				1					
%TOC		NA		5.5	 }	5.5	: :: [:]	00/8¢	1	55500		38800	
Percent solids (%)		ΝΆ		34		84		29		36	1	5. So	
Total PAHs (moffen)			2										
Total Carcinogenic PAHs		(-1) (-1) N.S.		3.		0 .		[5.4]	1	2.6		20	
			2 1	C.1		0.5 4.7		2.8	1 3	1.3	1	6.0	1
BaP Equivalents		1.3 (H)	NS	0.3	[5]	0.1	2	0.6	1 =	2, C	9	2.2	1 9
									7	: :: :::	 	9	<u>.</u>
NOTES: J - estimated value, NS	S - no screening value NA -	5 - estimated value. NS - no screening value. NA - not applied by	determined [1] concentration of										
	ollected at the same location,	another sample (AS) collected at the same learning. The ASS=8%, e=5%, when AS<8%, e=A, collaminated Sediment (AVX) CFC 1989, 1989.	detected. J - concentration at AS<5%, e=AS TOC%. Samp	bove sediment scree oles analyzed by me	ening value. { }		xceeds ecologics ent screening val	ogical screening valu g values are guidance	 e. e - estimated o values obtained 	concentration usi from Technical (ing TOC data from Guidance for Screening	m cening	
L = Long & Morgan 1	990. Ecological screening va	alues are: (1) EPA ARCS No E	normated phenois. Screening flects concentrations; (2) NOA	alues are ecologia A upper effects thi	cal values excep reshold concentr	tas noted: H=hu ration (1999).	H = human exposure by fish consumption; W 9).	y fish consumpt	ion: W = drinkin	king water source protection; Page 3 of	rotection;	۵	
Date Dentad	on (SC) calculated as concent	tration (C)/fraction of organic c	arbon (foc) in units of ug/gOC.		diment with %7	SC derived for sediment with %TOC ranging between 0.2% and 12%.	/cen 0.2% and 1.	2%. SC was not	calculated for %	TOC outside that	SC was not calculated for %TOC outside that range (not calc.)		
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Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	WP-	WP-01-A	WP-04.45-9	6-51	WP-09A	V6	WP.	WP-11A	LG-OUT	our
	Sample Date	Values	Screening	05/09/20 0 - 6 in.	05/09/2001 0 - 6 in.	05/09/2001 0 - 6 in.	001 n.	05/09/2001 0 - 6 in.	:001 n.	05/09/200 0 - 6 in.	05/09/2001 0 - 6 in.	05/09/2001 0 - 6 in.	/2001 in.
Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goc
1,2-Dichlorobenzene 1,3-Dichlorobenzene		12	-	1								0.1.1	3
1,4-Dichlorobenzene		12	1	1	1	ı	1	} {	I	;		* !	1
2-Methythaphthalene 4-Chloroanijine		34 NS					1	1					
4-Methylphenol		SS					1 1			10	1. 1. 1 3.		
Acenaphthene		NS		1	1	0.4 J	19		1		1	0.1.5	2
Acenaphthylene				1									
Anthracene Renzo(a)anthracene		107	1	1	1 .	1.9.1	86	0.1 J	27	1	i i	0.4 J	7
Benzolalbyrene		*** *** • ** • **	0.44(1)	/ I		1.9 1.9	[276]	0.3)	4 2	0.3.1	4 2	2.6	25 26 26
Benzo(b)fluoranthene				0.05 J		(8.8)	[398]	0.5	£ (5	0.4.0	<u>.</u> &	50.5 24.65	[64]
Benzo(ghi)perylene		NS	3.8(1)	}	3	1.4 J	83	0.1 J	7 2	0.2 J	2 6	1.7	30
Benzo(k)fluoranthene		1.3 (H)	4:0(1)		1	2.2	[100]	0.2.1	[2]	0.2.1	[2]	1.4	[25]
Carbazole		NS		ı	1	1.2 J	54	0.05 J	8.0	•		0.2 J	4
Chrysene		1.3 (H) (H) (H) (H) (H) (H) (H)				5.8	[262]	0.4 J	9	0.3.J	[4]	2.5	[45]
Di-n-outy punatate		SNS	1 000	1 4	1	1	1	1	1	1	1	1	2
Dibenzo(a.h)anthracene		92	1			0	5	l	1	1	1		
Dibenzofuran		SN S	5,172)			0.51		: :: []		1	1000	6.0	[16]
Fluoranthene		1020		0.05 J	۳	; =	498	9.0	10	0.5	ی ا	28	۶ (
Fluorene		8				0.4.1	[61]	0.05 J	9.0		· 4	0.17	2
Indeno(1,2,3-cd)pyrene		1.3 (H)	1	1		2.2 J	[100]	0.2 J	[2]	0.3 J	[2]	2.6	[46]
		30			l	0.4.1	17					0.1.5	2
Phenoi	120	120 0.5 (4)	1 3 4 4	1	1000000	7.5	[339]	9.0	ο .	0.2 J	2	1.5	27
Pyrene		196 196		0.05 T		6 ا	1 4	٥	1 =	خ ا) r	1 ;	1 5
Bis(2-ethythexy))phthalate (BEHP)		200		0.1.3	Š		?	0.5	7	0.17	2	190	10
Total organic carbon (mo/Ko)		V IZ		10,500	0	00100		00330		444	1		7.
% TOC		T. H		10000		22300		00000) 	7.7	•	00095	1
Percent solids (%)		NA		81	1	73		99				7.7	1 1
Total PAHs (me/Ke) The second of the second		4000	X6.(1)	0.0		rkan						Š	
Total Carcinogenic PAHs		NS	SZ SZ	500		۲ د		× -		4 c	l	[87]	
				0.2		99		9.4		3.6		29	
BaP Equivalents		1.3 (H)	SN	0.005	0.3	4.8	[380]	0.4	9	0.5	Ε	5.5	[86]
										7 1			
NOTES: J - estimated value, another sample (AS Contaminated Sedi	 estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - of an other semple (AS) collected at the same location. When AS>=5%, e=5%, e=AK, e=AK, e=AK. Contaminated Sediment (NYSDEC) 1998, 1999; t = screening value for rotal unchlorinated harms. 	applicable, — - analyte not detected. — - analyte not detected. — - analyte not detected her AS-streening value for total unchloris	cted. []-concentration ab <5%, c=AS TOC%. Sampl nated phenols. Screening.	ove sediment so les analyzed by	screening value. { } - concent y method NY ASP 95-2, NYS poical values except as noted	i S T	on exceeds ecological screening v diment screening values are guida = human expectes by feb open	al screening value ues are guidance	values obtained		using TOC data from cal Guidance for Screening	om reening	
L = Long & Morga Screening concent	L= Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concern Screening concentration (SC) calculated as concentration (OVErsetting Concentration (Academic Architecture)	s are: (1) EPA ARCS No Effection (CVfraction of operanic carbo	ations; (2) NO	AA upper effects	threshold concentration (1999)	ation (1999).	Talled exposure to		on; w - armkin	ng water source	consumption: w = arraking water source protection: Page 4 of 17		
Date Printed: 03/11/2005 09:44:56	ality (see) variations as estimated	Of (C) Havion of Organic conce		אר ממויאם ויס	oc genyed for segiment with %1 Oc. ranging between 0.2% and 1.2%.	OC ranging occu	1000 0.270 and 1		calculated for 7a	TOC outside in	at range (not care	;).	

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Three Star Anodizing Site Wappingers Falls, New York

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	NYS	Ecological	WP-I	WP-LGOUT2	WP-MW4	4W4	WP-W	WP-MW4 DUP	I.W.	WP-16	WF	WP-18
	Sample Date	Values	Values	05/1	05/13/2003 0 - 6 in.	05/13/2003 0 - 6 in	/2003 in	05/1:	05/13/2003 0 - 6 in	50/50	05/09/2001 0 - 6 in	05/09/20	05/09/2001
Compound		ng/s oc	mg/kg	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC	C mg/Kg	SC Ug/gOC	C mg/Kg	SC wg/goc	C mg/Kg	SC ug/goC
1,2-Dichlorobenzene		12		0.07 J	\$		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.2 J	[16]	0.05 J	\$		1
1.4-Dichlorobenzene		10		1		1		1 90 0	. •			1	
		34				0.05 J	2	0.13	12				111
4-Chloroaniline		SN		}		0.05 J	2) 		
4-Mcthylphenol		SN			1.								
Acenaphthene		SN	18	1 3	1	0.04 J	7	0.2 J	15	0.09 J	01	0.1 J	9
Acettaphulytette programme and the control of the c		SS -		5		0.5	. 19	0.4J		1 ;	1 ;	6	1:
Benzo(a)antitracene Control of the c		12		0.7	1251	3.8 D	(150)	4.7D	13881	0.8) 1 1941	1.0	14
Benzo[a]pyrene		1.3 (H)	0.44(1)	{0.7}	[23]	(3.7 D)	[146]	(4.5 D)	[372]	(0.7)	[92]	(0.7	[32]
Benzo(b)Nuoranttene		13(4)	4.0(1)	0.8	[65]	(4.5 D)	[177]	(62D)	[512]	6.0	[105]	1.0	[43]
Benzo(P) Guerylene		NS To e.	3.8 (I)	0.3 J	26	1.2	47	1.5	124	0.3 J	33	0.2 J	10
Dentack Municipal (4.0 C) Carbazole NS		LJ (H) NS	4.0 (1.) NS	7 00 0	[2]	4 T C	[55]	2.0	[165]	037	[35]	0.4 J	[15]
Consense of the second of the		13(8)		9:0	[48]	2.9	[114]	42D	[347]	` &O	161	8.0	
Di-n-butyl phthalate		SN	: : : : : :	1	. I	: : !] }	1		1			<u> </u>
Dini-octyl phthalate		NS											
Dibenzo(a,h)anthracene		15	1	0.1 3	10	9.0	[23]	0.7	[57]	0.2 J	[18]	0.1 J	'n
Entroperation and the control of the		I 020	(2)		; &	01J	.5 ?5?	033 000	21	0.06 J	7		
Fluorene	· · · · · · · · · · · · · · · · · · ·			1		0.2.1		0.3.1	123	£10	1/1		2
Indeno(1,2,3-cd)pyrene				0.4 J	[29]	1.6	[63]	1.9	[157]	0.5	[54]	0.3 J	[13]
Naphthalene				0.05 J	4	02)	ý	0.4	[36]				
rhenanthrene 120 Phomol Paris of the paris o		120 0 S.M		9.0	52	2.4	26	4.4 D	[364]	1.3	[148]	9.0	24
Pyrene		961			88	5.4 D	213	7.2 D	595	1.5	171	J 91	l %
Bis(2-ethylitiexyl)phthalate (BEHP)		200								0.3 T	29	0.2 J	
Total organic carbon (mg/Kg)		NA CONTRACTOR		12400 J		25400		12100		8770		23400	
% roc		NA		1.2 J	1	2.5	1	1.2	1100001	6.0		2.3	
Percent solids (%)		XX		75		18		79		79		89	
		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	85(1)	(6.71		[12]		(8.7.1		16.2.1		1 6 83	
Total Carcinogenic PAHs		SN	NS	3.5	: 1	6.5	. I	4.6	# 1	4.2	1	4.3	*
Total SVOCS		SX		6.9		12		9.7		9.7		0.6	
bar Equivalents	SI (H) FT STATE OF THE STATE OF	1.3 (H)	SZ	1.0	[81]	0.8	[31]	6.0	[74]	1.1	[125]	. A Walliam	[47]
		: 											
NOTES: J - estimated value, NS another sample (AS) c	S - no screening value, NA	1 - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - o another sample (AS) collected at the same location. When AS>=5% e=5% when AS<5% e=A.	t detected. [] - concentration AS<5%. e=AS TOC%. San	on above sediment	screening value. (} - concentration	exceeds ecological screening	ical screening values are smide	alue, e - estimatec	d concentration u	concentration using TOC data from	rom	
Contaminated Sedime L = Long & Morgan 1	1990. Ecological screening	Contaminated Sediment (NYSDEC 1998,1999). 1 = screening value for total unchlorinated phenols. Screening values are ecolo. L = Long & Morgan 1990. Ecological screening values are. (1) EPA ARCS No Effects concentrations; (2) NOAA upper effects	chlorinated phenols. Screenir Effects concentrations; (2) NC	ng values are eco	logical values exec	cept as noted: H = entration (1999).	human exposun	human exposure by fish consum	in consumption; W = drinking water source protection; Page 5 of 17	ing water source protection Page 5 of	protection;	7	
Screening concentration Date Printed: 03/11/2005 00:44-56	on (SC) calculated as conce	Screening concentration (SC) calculated as concentration (C)/fraction of organic carbon (foc) in	carbon (foc) in units of ug/gOC.	C. SC derived I	SC derived for sediment with %TOC ranging between 0.2% and 12%.	4TOC ranging be	tween 0.2% and	12%. SC was r	not calculated for	%TOC outside ti	hat range (not cal	c.).	2000

Date Printed: 03/11/2005 09-44-56
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FXP File: Q\10653 NYSDEC\27258 ThreeStarkCreekEvalTabs.prg

File Number: 10653.27258

Three Star Anodizing Site Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples

Values Includi		ng TOC and Percent Solids Data
Detected Semivolatile Organic Compound Concentrations Compared to Screen	Sampies	alues Includi
betected Semivolatile Organic Compound Concentrations		npared to Screening
etected Semivolatile Organic Compou	pinger crew and	ions
etected Semivolatile Orga	<u> </u>	×
Ā		nivolatile Orga

	Sample ID	NYS Sediment	Ecological	WP	WP-18	WP-M2	M2	WP-M2	M2	WP-M2	-M2	WP-M3	M3
	Sample Date	Values	Values	05/09/200 6 - 12 in.	05/09/2001 6 - 12 in.	05/14/2003 0 - 6 in.	2003 in.	05/14/2003 6 - 12 in.	2003 .in.	05/14/2003 12 - 17 in.	/2003 7 in.	05/14/2003 0 - 6 in.	2003 in.
Compound		ng/g OC	mg/kg	С тg/Кg	SC ng/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goC
1,2-Dichlorobenzene		12 12			1		18				1 1	1	
1,4-Dichlorobenzene		12			ı	1	1		1	1] 		·
alene					J		1	h					
4-Chloroaniline		SN	111	1	100	1 }	1 1	1 3 3	1 :	1.00	•	1 3 8 8 8 1	1 1
Acenaphthene		SZ Z	I I]		1 1] 1 1	124	0.04 0.04	4 %	0.1.7) -
Ų.	· 1966年, 1968年,	NS				i.		1.73	150	0.2.3	19	1.1.0	7
Anthracene		107				0.3 J	30	5.8	[513]	1.0	88	0.3 J	٠,
Benzo(a)anthracene	Benzo(a)arithracene	4		0.08 J	3	1.4.	[124]	17	[1504]	42D	[372]	13	[20]
Benzo[a]pyrene			0.44 (1)	0.07 J	[3]	(1.1.5)	[97]	(14)	[1239]	(3.6 D)	[319]	{1.2 }	[19]
Benzo(ghi)perylene		70.4 (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	3.8(1)	[-] 	<u>e</u>	2.0.5	[{ / 1 } (4 3] !	381	(44D) 12 m	[389]	18	[28]
Benzo(k)fluoranthene	Berzo(K)fluoranthene		40(1)			0.6 J	[52]	(8.9)	[602]	17.30	[150]	0.73	211
Carbazole		SN	SS	1	1		1			0.2 J	14,		; ; ;
				0.09 J	[4]	1.2 J	[106]	14	[1239]	3.7 D	[327]	1.5	[24]
Di-n-octyl phthalate				1 1	1	1 :	1	1	1 5		1 3	100000000000000000000000000000000000000	1
Dibenzo(a,h)anthracene	:		1) 		0.2.1	[30]	191	[89]	m so	[47]	120	=
Dibenzofuran		DTS SN	\$.1 (2)				<u> </u>	0.7.3		0.3 1	28	7.00 TO	•
Fluoranthene		1020		0.2 J		2.4	212	33	[2920]	8.4 D	743	2.4	38
Fiuorene						j.		1.6.1	[142]	0.5	[45]		
ष्ठ ः		- 1	1	1	1	0.7 J	[58]	5.1 J	[451]	1.4 JD	[124]	0.6 J	[10]
Napadatene Phenanthrene		120		-1 00	(1 80	1 7	12)	[106]	0.3 J	30	1:	1:
Phenol	Phenol Transfer and the profession of the profes				7	: : : : : : : : : : : : : : : : : : : :	t]		[2]	0.1	[1#7] (110)	2]	2 1
Рутепе		961		0.3 J	12	2.7 J	239	29	[2566]	7.7 D	681	2.9	45
Bis(2-ethylhexyl)phthala	Bis(2-cthylhexyl)phthalate (BEHP)	100		0.1.5	9								
Total organic carbon (mg/Kg)	g/Kg)			24400		11300 e B.I		11300 e BT		1 (300 B.T		12 00369	
% TOC		NA	1	2.4		1.1 eBJ	1	1.1 eBJ	<i>[</i>]	1.1 BJ	.	6.4 BJ	
Percent solids (%)	Percent solids (%)	NA		64		28	1	99		79	*	39	
Total PAHs (me/Ke)	· 医乳蛋子 医乳蛋白蛋白蛋白素		VL/ 58	o	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	76		1770					12 2 3 3 3
Total Carcinogenic PAHs		NS		0.4		5.7 7.2	1 1	[60] 26			l	[80] 28	 - -
Total SVOCs		SN	÷.			3.6	1	166		5.3	1	9.6	1
BaP Equivalents		1.3 (H)	SN	0.09	4	1.8	[159]	20	[1770]	5.2	[460]	0.1	[2]
													# E
NOTES: J - estimat	1 - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - another estimate AS) collected at the semial continuation When ASS=60, each of the semial continuation. When ASS=60,	A - not applicable, analyte not	concentral	concentration above sediment screening value.	ion above sediment screening value	} - concentration	exceeds ecologí	- concentration exceeds ecological screening value.	ue e-estimated	e - estimated concentration using TOC data from	sing TOC data f	mo	
Contamir	contains and provided the state of the state	it the screening value for total unching values are: (1) EPA ARCS No E	hlorinated phenols. Screening flects concentrations: (2) NO	values are ecolo	incurou in 1 Apr gical values exec threshold concer	ios analyza do y incuros 1 v. 7.5 z. 7.1 s secument sercennig values are guicanee vaues obtaines from tecinical outdance values are ecological values except as noted: H = human exposure by fish consumption: W = drinking water source protection; A import effects threehold concentration (1909)	neat sereening v human exposure	ances are guidant by fish consump	tion; W = drinki	ica from Lechnical Guidance for Screening king water source protection; Docs 6 of 17	protection;	creening 7	
Screening	g concentration (SC) calculated as con	scentration (C)/fraction of organic c	arbon (foc) in units of ug/gO(C. SC derived for	r sediment with 9	units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.)	tween 0.2% and	12%. SC was no	t calculated for 9	rage 6TOC outside th	at range (not cal	c.).	
DBF File: Q:\10653 NYSDEC	Date Printed: 03/11/2005 09:44:56 DBF File: QA10653 NYSDEC/27258 ThreeStarkCreekTables.dbf]				File Number:	10653.27258
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Wappingers Falls, New York Three Star Anodizing Site

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	NYS	Ecological	WF	WP-M3	WP-DOT	ют	WP-DOT	TOC	 WP-]	WP-DOT	WP-29A	29A
	Sample Date	Values	Values	1/50	05/14/2003	05/14/2003	,2003	05/14/2003	2003	05/14	05/14/2003	05/14	05/14/2003
					6 - 12 in.	0 - 6 in.		6 - 12 in.	; in:	12 - 18 in.		0 - 6 in.	
Compound		ug/g OC	mg/kg	mg/Kg	208/3n	∩ mg/Kg	ನಿರ ಬ್ರತ್ತಿಸಿಕೆ	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC	mg/Kg	SC ug/goC
1,2-Dichlorobenzene		12	-	1	1							1.4	[28]
1.5-Dichlorobenzene								1	9			0.2 J	7
1,4-Dichlorobenzene				1	1 3	1	1	1		1		1.3	[26]
Z-Methylnaphthalene		Ž.		1.0.1	19								
4-Chioroaniline			-	1 ;	1	: : :	1 3	1	1		1	1	1
A construction		211) <u>;</u>			1		1		I,		
Acenaphusene Acenaphtavlene		X Z	1000	2.7.1	54	10	1 8	4.9 J	366	6.6 J	493	0.3 J	5
		101		7	ļ <u>Ş</u>	1.2.1	3363		10000	;	53133	0.37	; ه
Benzo(a)antriacette				. 2	1741		[920]	7.7	[1207]	27	[5167]	3.8	77
Benzo[a]pyrene		1.3 (H)	0.44 (1)	{8.1}	[162]	{10}	[746]	(20)	[1493]	{21 }	[1567]	(3.6 DJ)	72
و		13 (H) 4.0 (I	4.0(1)	(9.5.)	[190]	(12)	[968]	(25)	[1866]	(24)	[1791]	(4.7 DJ)	[94]
Benzo(ghi)perylene		SN	3.8(1)	2.5 J	50	2.8 J	209	(8.6.1)	642	(7.0.1)	522	1.1 DJ	72
Benzo(k)fluoranthene		-	4	401	[80]	40]	[299]	(7.7.1)	[575]	(8.3.1)	[619]	1.8 DJ	[36]
Carbazole		NS	SN	1		1:	1.	1	I	1	1	ı	1
Curysone (A)		1.3 (B)		8.6	[172]	01	[746]	22	[1642]	24	[1791]	3.4	[89]
Di n con l'abitalité		- :-		1		1:	1		1	1		1	1
Diberzo(a b)conference		QN	1.		1 :	1 ;							
Divenzo (granding cene		2 2	1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1.2.)	[24]	12.5	<u></u>	3.6 J	[269]	2.8 J	[209]	0.5 DJ	6
Fluoranthene		1020	(z) (z)	1.4.1	87 /2 27 /2	- 7	1.07.17	75.J	[4552]	3.1.5 66	731	0.1.5	3
		00		191	1381	190	[77]	15 4	[4921]	0.7 1	[1691]	0.0	77 P
-cd(b		1.3 (H)	1	3.2 J	[64]	3.6 J	[269]	93.1	[694]	7.6 J	[267]	12.01	[24]
Naphthalene				2.63	[52]	0.5.3	[40]	3.10	[231]	2.6.J	[194]	0.3.J	
Phenanthrene	:		1	4	[280]	6.9	[515]	45	[3358]	80	[5970]	2.4	84
Phenol		0			1								1
Price Contraction of the contrac			1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	15	300	20	[1493]	47	[3507]	54	[4030]	6.0	120
Carra (Carra) Spinnand (Carra)		±	+		T.	i	Ĺ		1				
Total organic carbon (mg/Kg).		3,00		63800 e BJ	1	13400 BJ	1	13400 e BJ		13400 e BJ		62900 e.BJ	
% TOC				6.4 e BJ	-	1.3 8.7		1.3 e BJ	-	1.3 eBJ	- - - -	6.3 e BJ	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Percent solids (%)		NA		99	·	64		- 19		73		- 65	
Total PAHs (mg/Kg)		4.0 (L)	(1) S82	[106]		[1]4]	j	[308]		[370]		[24]	
Total Carcinogenic PAHs		NS	NS	£	. 1	54	1	115	1	115	:	7.2	
Total SVOCs		NS.		107		114		310		373		27	
BaP Equivalents		1.3 (H)	SN	12	[240]	14	[1045]	30	[2239]	30	[2239]	0.4	<u>8</u>
										N. 4 4 11 4 4 4 4	11 2 4 12 4 1		
NOTES: J - estimated value. N	NS - no screening value. NA	J - estimated value, NS - no screening value, NA - not applicable analyte not detected [1]-	not detected [1]- concentration	concentration above sediment screening value	creening value	\$ - concentration	concentration exceeds ecology	res series rest	ie e- ectimated	on acitatana	concentration using TOC data from	Total Control	
	collected at the same locati	another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS<5%, e=A Contaminated Sections (NPEC 1988 1988) is a second of the same location. When AS>=5% and the same location and	when AS<5%, e=AS TOC%. Sa	unples analyzed by	method NY ASP	95-2. NYS sedin	nent screening v	alues are guidanc	btair	d from Technical	rom Technical Guidance for Screening	creening	
L = Long & Morgan	1990. Ecological screening	g values are: (1) EPA ARCS N	unchionnated phenois. Screens Vo Effects concentrations; (2) N	> <	ogical values exce threshold concen-	pt as noted: H = 1 tration (1999).	human exposure	numan exposure by fish consumption; W = .	non; W = drink	king water source protection; Page 7 of	protection; 7 of 1;	7	
Screening concentrat	tion (SC) calculated as cond	centration (C)/fraction of organ	nic carbon (foc) in units of ug/gOC		SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.)	6TOC ranging be	tween 0.2% and	12%. SC was no	t calculated for 5	%TOC outside th	nat range (not ca	lc.).	
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FXP File: Q\10653_NYSDEC\27258_ThreeStar\CreekTables.ppg

DRAFT Table 4-2 Three Star Anodizing Site Wappingers Falls, New York

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples

	Sample ID	NYS	Ecological	WP-29A	Y6	WP-29A DUP	DUP	WP-29A	29A	I'M	WP-29	M	WP-29
···· <u></u>	Sample Date	Values	Values	05/14/2003	003	05/14/2003	2003	05/14/2003	2003	50/50	05/09/2001	02/0/	1002/60/50
				6 - 12 in.	·É	6 - 12 in.	.jį	12 - 17 in.	7 in.	0-0	0 - 6 in.	6-1	6 - 12 in.
Compound		ug/g OC	тв/кв	C mg/Kg	SC ug/gOC	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/gOC
1.3-Dichlorobenzene		12 12		1	1			1					
1,4-Dichlorobenzene		12			1		1	1					1
2-Methylnaphthalene		34		1.9 J	- - - - - - -	27.	1391		1 8	1 100	1 3	1 3	1
4-Chloroaniline			1	: 		`	् } ।			1		1.13	[150]
4-Methylphenol	4-Methylphenol	NS									* * * * * * * * * * * * * * * * * * *	1	1
Acenaphuene		SN	1	9.9	105	12 J	171	9.6 J	192	11.5	507	l 5	1241
Authracene		TOTAL STATE OF THE		0.8.1	13								
Benzo(a)anthracene		:	1	4 .	[223]	32	[456]	29	[580]	6.0 J	[276]	15	[2046]
Benzo[a]pyrene			0.44.71		[302]	33	[471]	30	[600]	201	[922]	13	[1774]
Benzo(b)fluoranthene		13(H)	1.	(16 }	2.04	(27 }	[385]	(23)	[460]	(171)	[783]	(9.3 }	[1269]
Benzo(ghi)perylene	-		3.8 (1)	(4.2.1)	[516] 67	(6.51)	136	(7.7.12	[260] -	(19.1)	[876]		[1501]
Benzo(k)fluoranthene			4.0(1)	(8.1)	[129]	(13.3)	138	(80 B)	- - - - - - - - - - - - - - - - - - -	(17°0)	786	2.6 J	355
Carbazole			NS	}	. I	. I			} }	16-01 165	[500] 240		[505]
hthalata	(H) (2)	(H)		18	[286]	31	[442]	25	15007	181	(8291		- 1950
Di-n-cony; punisiane		SN	1]	-	ı	1	: 	. 1		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	() 	
Dibenzo(a h)anthracene	Dibenzo(a hanthracene	,			Y								
Dibenzoguran		۲ <u>ا</u>		1.9 J	[30]	3.8 J	[54]	3.1 J	[62]	2.3 J	[106]	1.7 J	[232]
Fluoranthene		1020	2.1(2)	2.9 J	46	{e.o.7}	98	3.7.1	74	2.3.1	106	(5.4.3)	737
	2701	8	1	45	715	71	1013	72	[1440]	43 J	[1982]	34	[4638]
d)pyrene		:		5.3]	[84] [84]		[200]	11.7	[220]	6.2.J	[286]	8.9.1	[1214]
		30		5.5.1	[42]	187	[641]	1.7.0	180	6.9]	[318]	4.7 J	[641]
Phenanthrene		120	-	44	[700]	88	[1227]	87	12401	3.1.L 14.1	[143]	213	[286]
D. Total		0.5(0		1				; j				7.7	[05/5]
Fylcite Rist2-othylbevirlbhybbbblace (BEI			1	36	572	\$	913	- 86	[1180]	35.1	[1613]	28	[3850)
TO mercurate Commence													
Total organic carbon (mg/Kg)	Total organic carbon (mg/Kg)	NA		20000									
% TOC		NA		63.BI		70 BY	<u> </u>	62900 e BJ		21700	1	7330	
Percent solids (%)	Percent solids (%)	NA		53		.55		0.2 e.5J		2.2	1 3	0.7	1 0
Total DA He (mother)								i de la		1		70	
∵¥		4.0 (L) 85 (1)	85 (1)	[253]		[445]		[404]		[214]		1197.1	80
Total SVOCs		SN	Ŝ	88		147	1	126	1	89	1	54	
BaP Equivalents			J.V.			451	Î,	407		221		203	
				3	[300]	38	[542]	33	[099]	24	[1106]	4	[1910]
												1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 2 2
NOTES: J - estimated value	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - c another sample (AN) collected as the complete sample (AN) collected as the collected	applicable, analyte not dete	scred. [] - concentration abo	oncentration above sediment screening value	-	- concentration exceeds ecological screening value	ceeds ecologica	screening value		oncentration	e - estimated concentration neitor TOC data from		
Contaminated Se	Contaminated Sediment (NYSDEC 2011) (1981,1999); t = screening value for total unchlorinated phenols. Screening = form & Morran 1000 Englecies.	reening value for total unchlor	>>>, c=A> IOC%. Samples analyzed inated phenols. Screening values are ec	iles analyzed by meti- values are ecological	hod NY ASP 95 il values except a	NY ASP 95-2. NYS sediment screening values are guidance values obtained from Technical Guidance ues except as noted: H = human exposure by fish consumerion: W = Applying suppressions.	2. NYS sediment screening values are guidance values ob sooted: $H = human$ exposure by fish consummation: $W = d$	ics are guidance	values obtained	from Technical	ed from Technical Guidance for Screening	ecning	
	gan 1990. Ecological screening values nitration (SC) calculated as concentration	s are: (1) EPA ARCS No Effection (C)/fraction of organic carbo	ts concentrations; (2) NOA. 30 (foc) in units of 119/eOC	ations; (2) NOAA upper effects threshold concentration (1999). Page 8 of 17	shold concentral	ion (1999).		dillacina in in	out to	Page	8 of 17		
Date Printed: 03/11/2005 09:44:56			or (rea) amer or all leaves	של שבוו אמת ונה שבר	ALMCHI WILL ZA LI	AC ranging betw	een 0.2% and 12	%. SC was not	calculated for %1	FOC outside tha	t range (not calc.	á	
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FXP File: QA10653 NYSDEC/27238 ThreeStar/CreekEvalTabs.prg

File Number: 10653.27258

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	dм	WP-29	WP-C	WP-CKOUT	WP-	WP-OD3	-MA-	WP-OD3	dw	WP-PL
	Sample Date	Values	Values	05/09/200) 12 - 18 in	05/09/2001 12 - 18 in	05/14/200 0 - 6 in	05/14/2003 0 - 6 in	05/14/200	05/14/2003	05/14	05/14/2003	02/08/20	05/08/2001
Compound		ng/g OC	mg/kg	C mg/Kg	SC SC ng/goc	C C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C C mg/Kg	SC ug/goc
1,2-Dichlorobenzene			1	1									
1,4-Dichlorobenzene		12	1 1]) 	;				1		
2-MethyInaphthalene		13.								0.13	4		
4-Chloroaniline		SS		1	. !	.	1		1	0.2 J	7		.
4-Methylphenol		SZ		1 3						0.07 J	. 2		
		NS		46]	438		6	0.1 J	4	0.3 J	10	0.2 J	- : - :
		107		86	[819]	0.2 J	1 4	ر در 13	43	0 Y		12.1	7 5
Benzo(a)anthracene		12		84	[800]	6.0	[26]	4.6 DJ	[151]	11.0	[361]	4.6]	7401
Benzo[a]pyrene		13(H)	0.44 (1)	{ 64 }	[610]	{ 6.0 }	[36]	{4.0 DJ}	[131]	(9.1 DJ}	[298]	{4.5.J}	[39]
Benzo(ohi)berylene		1.3(H) NS	40(1)	(74)	[705]		[39]	(53 DJ)	[174]	{111 D1}	[361]	(5.9.1)	[51]
2		1.3 CH)	1	(15.1) (3.1)	145	(T)	, co. 2	1.5.	3]	1.91	62	1.5 J	13
		NS	Ċ.), ₇₋₁	<u> </u>	8	- I		[7]		[c]]	23	[20]
		13 (H)		7	[733]	8.0	[21]	2.8	[92]	10.D	[328]	455	1391
		SN	1	1	1	1	. 	ı	-	1			
Discourse by the state					Ī	1							
	\$1 \$1	\$1		9.8 J	[83]	0.1 J	m ()	0.3 J	=	0.8 J	[27]	0.8 J	7
į.		1020	(7)	(30.1) 180	720	20	- 35	0.07 C1.7	730	0.2.J 1.7.D	8	0.1.3	£
Fluorene		8		46.1	[438]			0.2 J	9	0.53	137	1.00	ी हैं हैं
-cd)pyrene		1.3 (H)	1	28 J	[267]	0.3.J	[6]	1.13	[36]	2.2.J	[22]	2.7 J	[23]
Naphthalene		4				0.07.1	2	0.1 J	Ŷ	8.0	25	0.3.1	72
Phenol		027 020	# · · · · · · · · · · · · · · · · · · ·	210	[2000]	0.4 J	10	3.3	108	7.1 DJ	[233]	2.2 J	16
Pyrene		4		140	[1333]	91	45	82D	269	20.08 Cr 05	[c] 989	 8 4 T	1 6
Bis(2-ethylhexyl)phthalate (BEHP)		200										0.73) 9
Total organic carbon (mg/Kg)				105000		15000		20500		30500		0004	
% TOC		NA		11	1	3.6		3.1e		2000 3.1	 	112000	
Percent solids (%)				58		70		72		89		26	
Total PAHs (mg/Kg)		4.0 (L)	85(1)	f1092 3		19.51							
genic PAHs			NS	369		5.0	ı	6.4	1	6.5	l	1 7 5) 25	
	SN			1122		9.5		13		15		46	
Bar equivalents		1.3 (H)	SN	8	[886]	13	[36]	0.5	[16]	7	[36]	6.7	[58]
NOTES: J - estimated value, N	IS - no screening value, NA -	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. []-	ected. [] - concentration al	concentration above sediment screening value.	reening value. {	- concentration	} - concentration exceeds ecological screening value.	cal screening val	c - estimated	concentration us	concentration using TOC data from	, j	
another sample (AS) Contaminated Sedim	collected at the same location ent (NYSDEC 1998,1999): 1	another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS<5%, e=A Contaminated Sediment (NYSDEC 1998, 1999): t = screening value for total unchlorinated phe	S<5%, e=AS TOC%. Samp rinated phenols. Screening	AS TOC%. Samples analyzed by method NY ASP mols. Screening values are ecological values excended.	S TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment screening values are guidance values of nots. Screening values are ecological values except as noted: H = human exposure by fish consumption; W =	95-2. NYS sedir	95-2. NYS sediment screening values are guidance values as noted: H = human exposure by fish consumption	alues are guidano	btaine drinki	77 6	from Technical Guidance for Screening	reening	
L = Long & Morgan Screening concentrati	1990. Ecological screening violation (SC) calculated as concer-	L = Long & Morgan 1990, Ecological streeming values are: (1) EPA ARGS No Effects concentrations; (2) NOAs upper effects unresibled coverantation (1999) Streening concentration (SC) calculated as concentration (CiViparian of formation for its minimal for		A upper effects t	rations (2) NOAA upper effects intribuled concentration (1999).	ration (1999).		, ,,,,,		Page	9 of 17		
Date Driving				A DU UGITALIA	Scornent with 78	IOC ranging oc	SWEET U.278 and	12%. SC was no	t calculated for 7	TOC outside the	at range (not cak	.	

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Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	WP-I	WP-PL DUP	Td-dM	PL	WP-PLI	,rı	WP-PL.	PL1	MP-PL	5
	Sample Date	Values	Values	0/90	05/08/2001 0 - 6 in.	05/08/2001 6 - 11 in.	2001 in.	05/13/2003 0 - 6 in.	2003 in.	05/13/200 6 - 12 in.	05/13/2003 6 - 12 in.	05/13/2003 12 - 18 in.	.003 in.
Compound		ng/g OC	mg/kg	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goC	С mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC
1,2-Dichlorobenzene		12			1			-	į	1	1 0	1	
1,4-Dichlorobenzene		12) }:	Î I	1]	<u> </u>		1. 1. 1	•	1	
						0.1.1	1				l :		
		NS	1		1	1	1		1	: ; I	} } !	1	1
				I									
		SZ		0.2.1	1 5	0.13	- T	1 0	18		19		10
Anthracene		107		0.6 J	5	0.8 J	- 0	0.5 J	. 5) F. 1		
Benzo(a)anthracene				3.2.1	[28]	2.6.1	[32]	2.2 J	[20]	0.3.1	3		
Benzo[a]pyrene	*****	1.3 (H)	0.44(1)	(3.2.1)	[28]	{2.5 J}	[30]	(1.13)	[01]	0.3 J	[2]		1
Benzo(ght)perylene 3.8 (i		NS NS	3.8 (1)	[4.6.1] 1.1.1	10-1	12 I	[49] 15	2.4J 0.5.1	[22] \$	0.4 J	[5] 1		
Benzo(k)fluoranthene		1.3 (H)		1.5.3	[13]	101	[12]	123		0.2 J	. [2]		
Carbazole		NS		1	1	1	1	.)		1	-	1
Carrysene Dian-hund abthalate		1.3(H)		2.9 J	[25]	27.1	[33]	2.1 J	[6]	0.3 J	Ŧ		
	SN	SN	12. 1.	 									1 20
Dibenzo(a,h)anthracene		15	1	0.7 J	9	0.6 J	7	0.3.J	2	: : :	1		
Dibenzofuran.		NS.	5.1(2)	1		0.3 J	3						
Fluoranthene		1020	1	3.6 J	31	4.2 J	51	4.0 J	37	0.6 J	7	-	
Indeno(1.2 3-cd)myrene	state and the state of the stat	- 3 (H)		0.2.5	- F	0.3 J	٦ ک	ן ;	1 5	1;			
Naphthalene			337	0.2 J	2	033	77		 			1	
hrer		120		12.5	10	1.13	13	1.2 J	11	0.1.5	-		
											3 x		1
Pyrene 961 Bisi 2-ethylltexvillobthalate (BEHP)		961	130	5.9 J	51	5,61	88	3.5 J	32	0.6 J	7	1 0000000000000000000000000000000000000	1
				· ·				i i		L			i
Total organic carbon (mg/Kg)		NA		115000		82300		108000 J	•	80500 J	1	51700	
% 100 Percent solids (%)		۷Z V		12 25	1	8.2	1	11 J	10000	8.1 J	1	5.2	1 10000
				3		7	1	67		4 .		20	
Total PAHs (mg/Kg)		4.0(L)	85(1)	[31:]		[29]		[50]	1	2.8	1		1
Total Carcinogenic PAHS		SN	SS	18	1 3 3	2 2	1	6.6	1	1.5	1	1	
ats		1.3 (H) NS	l SS	5.0 5.0	l <u>£</u>	62 0.4	- [49]	19	- 85	2.8 0.3	5	1 1	
									**************************************				8:
NOTES: J - estimated value, N another sample (AS)	S - no screening value, NA collected at the same location	1- estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS<6%, e=A	not detected. []-concentration a when AS<5%, e=AS TOC%. Samp	bove sediment	screening value.	} - concentration exceeds ecol 95-2. NYS sediment screenin		ogical screening value sale guidance	ie. e - estimated e values obtained	concentration us	using TOC data from	om	
Contaminated Sedim L = Long & Morgan	art (NYSDEC 1998,1999). 1990. Ecological screening	Contaminated Sediment (NYSDEC 1998, 1999): 1 = screening value for total unchlorinated pher L = Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concent	unchlorinated phenols. Screening to Effects concentrations; (2) NO/	values are ecol	ogical values exce s threshold concen	except as noted: H = human exposure by fish consumption; W = necentration (1999).	numan exposure	by fish consump	ion; W = drinkir	drinking water source; Page	protection; 10 of 17	0 /	
Screening concentrati	on (SC) calculated as cono	centration (C)/fraction of organ	nic carbon (foc) in units of ug/gOC.	C. SC derived f	SC derived for sediment with %TOC ranging between 0.2% and 12%.	TOC ranging ber	ween 0.2% and		SC was not calculated for %TOC outside that range (not calc.	6TOC outside th	at range (not cal	c).	

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Three Star Anodizing Site

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	WF	WP-PL2	WP-PL2	1.2	WP-PL2	27.0	WP-PL3	F.3	WP-PL3	,L3
	Sample Date	Values	Values	05/1	05/13/2003 0 - 6 in.	05/13/2003 6 - 12 in.	2003 in.	05/13/2003 12 - 24 in.	2003 t in.	05/13/2003 0 - 6 in.	1003	05/13/2003 6 - 12 in.	2003 in-
Compound		ug/g OC	mg/kg	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goC
1,2-Dichlorobenzene		12	1	1 2000			13	1	1		1:		1
1.4-Dichlorobenzene			1 1		1 1	1. I)] 					i
2-Methylnaphthalene		34	第五章 A 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5										
4-Chloroaniline NS		NS	100000000000000000000000000000000000000	1	I	1		: : :	ı	i i	1		I
4-Methylphenol		The second secon)			1		1				
Acenaphthene		NS	1	1	1 20 20 20 20 20 20 20 20 20 20 20 20 20		1	1	1	1		1	1
Acenaphthylene		SN:	**************************************	0.2.3	.' ع	0.1.5	. 2)		1	0.1 3	
Anthracene Renzo(a)anthracene				0.7 J	12	0.3.1	5	0.2 J	. 2	0.2 J	7 0	0.2 3	2
		1.3 (H)	0.44(1)	(1.2.1)	1 [2	177 (180)	[2]	(V.O.)	7111	0.8 J	× 5	. E O E	>\ ≅
Benzo(b)fluoranthene 4.0(f		13 (H)	4.0(1)	3.61	[27]	2.2 J	[34]	113	1 5	09.1	2 &	1.8.1	[6]
Benzo(ghi)perylene		NS	3.8 (1)	0.7 J	12	0.5 J	· ∞	0.3 J	, 4	0.2.1	2	0.5 J	4
Benzo(k)fluoranthene 4.0 (f		1.3 (H)	4.0 (T)	TIL	[11]	0.8 J	[12]	0.5.1	E	0.4.1	[5]	0.6 J	[5]
Carbazole		SN	SX			1		1 3	1	1 200		0.1.3	6.0
Cutysone 1.3(H) which he had been seen to be a seen to be		13(H) 75		2.1 J	[36]	1.4.3	[22]	0.9 J	<u> </u>	0.8 J	<u></u>	13.5	Ξ
Di-n-butyl pitunalate Di-n-cutyl inhifialase		SZ Z	1	1	1	15	1	1 5	1 0	0.2 J	2	1	1 3
Dibenzo(a h)anthracene				1 C	J	0.2 T	"	1 -	,	i L	i P	7.00	 -
Dibenzofuran			5.1 (2)			7			2			0.13	- 00
		1020	1	4.5 J	77	2.2 J	34	151	19	1.4 J	15	2.5 J	21
Fluorene				0.2.3	3	1						0.13	I
ਉ		1.3 (H)	1	0.9 J	[14]	0.6 J	[6]	0.4 J	[2]	0.2 J	[2]	0.5 J	4
		٥,						0.1 J	<u>.</u>	3		02.1	7
Frienanthrene 120 To be seen the seed of t		120 n & (4)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.53	56	0.8 J	12	0.4 J	<u>۰</u>	0.5 J	9	12.5	10
Pyrene		961		43.	۲۲	24.1	7.	141	ء ا	121		73.1	j º
Bis(2-etty/thexyl)phthalare (BEKIP)		200					31		1 1) 		1 1
									Andrew Control of the				
South Organic Caroon Americas		AZ AZ	**************************************	56 PU BJ		64 RT		77 BI	1	93900 BJ	1	118000BJ	
Percent solids (%6)		NA		26		34		43.5		24	1	35	10 l
									0.00	- 1	: :		
Total Control By 17.		4.0 (L)	85 (I)	[24]	T	[14] 2.5		[8.8]		[1.7]	1	[14]	1
Total SVOCs		SZ	Q. I	17 7	1 4	14	1 1	4.7 8.8		5.0 7.3	1	6.4	1 1
BaP Equivalents		1.3 (H)	NS	2.2	[37]	1.5	[23]	1.2	[16]	0.7	E	1.5	[13]
NOTES: J - estimated value, N	NS - no screening value, NA -	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] -	ot detected. [] - concentration a	bove sediment	screening value	} - concentration	exceeds ecolosis	opical screening val	ue e-estimated	concentration usi	Isine TOC data fire	Ę	
	collected at the same location nent (NYSDEC 1998, 1999);	another sample (AS) collected at the same location. When AS=5%, e=5%, when AS=65%, e=10. Contaminate Asserting to the AS=65%, e=10. Contaminate Asserting to PASOE (1999); It is execting the AS of	an AS<5%, e-AS TOC%. Sam chlorinated phenols. Screening	ples analyzed by	y method NY ASP ogical values exce	95-2. NYS sedim pt as noted: H=H	nent screening va	alues are guidanc by fish consump	to values obtained from; W = drinkir	restrictions and the same guidance values obtained from Technical Guidance for Screening human exposure by fish consumption; W = drinking water source protection.	Suidance for Scotection,	recning	
Screening concentra	tion (SC) calculated as concerning	values are: (1) Erw ARCS ivo	errects concentrations; (2) NOA carbon (foc) in units of ug/gOC	۹.,	Page 11 of 17 St. editives to concentration (1999). SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.)	tration (1999). 6TOC ranging bet	ween 0.2% and	12%. SC was no	t calculated for %	Fage TOC outside that	[] Of]/ : range (not calc	÷	
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DRAFT Table 4-2 Three Star Anodizing Site

Wappinger Salls, New York Wappinger Creek Investigation - Sediment Samples

Values OSSI42003 O		Sample ID	NYS	Ecological	WP-T1A	LIA	WP-	WP-T1A	WP-T1A	TIA	WP-	WP-T1C	- M	WP-T1C
Comparison		Sample Date	Values	Screening Values	05/14/	2003 in.	05/14 6 - 1:	7/2003 2 in.	05/14/	/2003 4 in.	05/14	/2003 5 in.	- 9 1/\$0	4/2003 10 in.
Comparison Com	Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goc	C mg/Kg	SC SC ng/gn	C mg/Kg	SC ug/goC
Comparison Com	1,2-Dichlorobenzene		21	1	1	1		1	1	1			1	
Market	1,4-Dichlorobenzene		12	1 1	1; I	1			1		l			
NS			34		I	1	0.09 J	2	1 10 1 10		0.09		0.3.3	- 6
The control of the co	4-Chloroanilme 4-Methylphenol		SN		1	1	9	1 8	} {	1 3	1)		1 :	1
Color Colo	Acenaphthene		NS				0.7 J	4 4		× 0	0.06	7 5	0.1.1	4 :
100	Acenaphthylene		NS		Ä		0.6 J	12	0.3 J	. 4	0.09 J	; ;;	02.1	
1, 4, 6, 6, 6, 6, 6, 7, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Anthracene Benzo(a)anthracene		107		0.2 J	4	3.3 J	99	3.2 DJ	37	6.0	29	2.4	17
13 (iii) 13 (iiii) 13 (iiii) 13 (iii) 13 (iii) 13 (iii) 13 (iii) 13 (iii) 13 (iii) 13 (iii	Вепхо[а]ругепе		1.3 (H)	0.44(1)	0.7	[14]	8.6 DI	[172]	6.8 DJ	[80 [80]	2.2	[71]	4.6D	[148]
Options NS 38(1) 0.11 3 2.11 42 16 pil 22 0.75 170	Benzo(b)fluoranthene		13(8)		0.4.1	<u> </u>	{8.8 JJ} {11 DJ}	[1/6]	(7.0 DJ)	[68]	(2.1 DJ) عرابة	[68]	(3.9 DJ)	[125]
13(H) 140(H) 151	Benzo(ghi)perylene		NS	3.8 (1)	0.1 J	ີ ຕ	2.1 J	42	1.9 DJ	22	0.7 DJ	23 53	12 DJ	39
13 (4)	Carbazole		1.3 (H)	4.0(1)	0.2 J	[2]	(4.7.1)	[94]	3.4 DJ	[40]	0.9 DJ	[28]	I 9 DJ	[61]
Desire	Chrysene		S	NS	•	1 3	0.1 J	2	0.08 J	-	ł	1	0.09 J	m
Market NS	Di-n-butyl phthalate		NS NS		- Fa	<u> </u>		92]	6.6 DJ	[77]	1.6	[21]	29	[63]
15 15 15 15 15 15 15 15	Di-n-octyl phthalate		SX] 	- · · · · · · · · · · · · · · · · · · ·		- i			1 80	
NS S1(2)	Dibenzo(a,h)anthracene		15	1	1	1	0.8 J	[16]	0.9 DJ	Ξ	0.3 DJ	=	0.6 D.I	[20]
12.0	Dibenzoturan		NS	5.1(2)			0.2.J	. 4	0.3 J	3	0.1 J	5	0.4.1	12
Optimized Series 1.3 (H) — — — — — 0.51 [11] 0.65 [11] 0.65 (14 D) Optimized Series 1.3 (H) — — — — — — 0.41 7 6.1D [20] 6.6 0.85 <td></td> <td></td> <td>1020</td> <td>1 2 2 2 2</td> <td>1.2 J</td> <td>24</td> <td>15 DJ</td> <td>300</td> <td>12 DJ</td> <td>141</td> <td>3.9 D</td> <td>125</td> <td>8.2 D</td> <td>264</td>			1020	1 2 2 2 2	1.2 J	24	15 DJ	300	12 DJ	141	3.9 D	125	8.2 D	264
1,000, 1	Indeno(1,2,3-cd)pyrene		1.3 (H)		1.5	1 5	0.5 I		9.0	7	0.2.1	9 ;	0.5 J	11.1
120	Naphthalene		30			<u>Z</u>)	0.4	(40 <u>)</u>	2.2.DJ		0.8 DJ	[26]	1.4 DJ	[45]
State Stat	Phenanthrene		120		0.4 J	7	6.1 DJ	[122]	5.6 DJ	, %	2.2	3 5	48.D	5 5 5
13 15 15 15 15 15 15 15	Phenol		0.5(0)		L		0.09 J	[2]	0.09 J		0.05 J	[2]	0.08 J	[2]
### ### ##############################	Aylelle Bis/2-ethylhexylhnhthalan		961	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.3 J	56	15 DJ	300	13 DJ	152	4.1 D	132	8.8 D	283
sarbon (mgKg) NA — 8.5 eJ — 8.5 eJ — 31100ce (%) NA — 8.5 eJ — 8.5 fJ — 31100ce (%) NA — 8.5 eJ — 8.5 fJ — 31 eJ igKg) MA — 12 — 22 — 182 JJ icmic PAHs NS — 33 — 33 — 33 ics 1.3 (H) NS — 21 — 2.8 — 8.4 [98] 0.2 [6]					 	ŀ		1	1		1	T		
(%) (%) (%) (%) (%) (%) (%) (%)	Total organic carbon (mg/	Kg)	NA		85400 e J		85400 e.J	The state of the s	85400 J		31100 c		31100	
(%) (%) (%) (%) (%) (%) (%) (%) (%) (%)	% 10C		ΝΑ	1	8.5 e J	1	8.5 e J	1	8.5 J	1	3.1e	1	3.1)
temic PAHIs NS L3 (H) NS L3 (H) L3 (H) NS L3 (H)	rercent solids (%)		NA PART		34	1	43		65		70		63	
cenic PAHs NS NS 1.3 (H) NS 0.5 [10] 1.1 [22] 8.4 [98] 1.2	Total PAHs (mg/Kg)		4.0 (L)	85(1)	[5.9]	j	[20]		2.2	- # * * * * * * * * * * * * * * * * * * *	18.2.1		[7.53	
1.3 (H) NS 0.5 (In) 1.1 (22) 8.4 (98) 0.2 (6) (6)	Total Carcinogenic PAHS		SN	SZ	2.7	1	12	,	33	ı	3.8	}	2.9	1
	៊ុះ ស			I 12	0.0 v (1 5	21	1 6	5.8	1 }	8.4		8.1	
	50			241	~			<u>-</u>	8.4 4.	[86]	0.2	<u>s</u>	0.03	-
		- 17	. !!										i L V	

Contaminated Sediment (NYSDEC 1958), 1950 and 19 Date Printed: 03/11/2005 09-44.56
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File Number: 10653.27258

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	WP-OD2	002	WP-OD2)D2	WP-OD2	202	WP-T2A	2A	WP	WP-T2A
	Sample Date	Values	Values	05/14/20 0 - 6 in.	05/14/2003 0 - 6 in.	05/14/2003 6 - 12 in.	2003 in.	05/14/2003 12 - 22 in.	2003 2 in.	05/13/2003 0 - 6 in.	2003	05/13/200 6 - 12 in.	05/13/2003 6 - 12 in.
Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC
1,2-Dichlorobenzene 1,3-Dichlorobenzene	12 5 - 2 - 2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3	12 (2) (3) (4) (5)		1 31							1 1		
1,4-Dichlorobenzene		12		1	1	1	1		f 	1	1	g S I B	1
2-Methylmaphthalene 4-Chloroaniline		34 Ne				I		1					
4-Methylphenol		100			1 d	17	 						
Acenaphthene		SN		: : :	: {	0.2.1	4	0.7	17	1		0.2 J	S
Icne		SN.			1.	0.1.7	6	0.2.J	2			0.2 J	5
Benzo(a)anthracene		701 701 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 -		0.2.1	5	0.3 J	8 [20]	1.6	39	0.4 J	7	0.7	23
Benzo[a]pyrene		1.3 (H)	0.44 (1)	(0.5.1)	[22]	1.2.7}	[29]	(3.0 DJ)	S (5	1.9.J (0.9.J)	[sc] [8]	5.4 (2.8.)	[801]
Benzo(b)fluoranthene			40(1)	0.8 J	[20]	1.8.1	. 44	3.8 DJ	[62]	2.6.1	[52]	3.7D	[118]
Benzo(ghi)perylene	- 4		3.8(1)	0.2 J	4	0,4 J	٥.	1.0 DJ	24	0.6 J	12	6.0	30
Cenzo(x)Illuoranunene Carbazole		(H)(H)	4.0(1) Ne	0.5.1		6.0	[23]	1.6DJ	[66]	0.6 J		0.1	[34]
Curysene (Try) (H)		1.3(H)	2]	12.j		101	[23]	2.3	1	14	<u>ं</u> [2%]	۲,	 (xy)
Di-n-butyl phthalate		NS		: 	; ;: 1	-			<u> </u>		<u> </u>) - -	
Di-n-octyl phthalate						0.3 J	7						
prac				1	1 8	1		0.4 DJ	=	0.2 J	4	0.4.)	=
Fluoranthene		1020	(7) 1.6	101	¥		l F	0.1 J	. 2	176	1 8	0.07 3	. 2
	というとは、 の発生を対している。 を対している。 のでしてい。 のでしている。 のでしている。 のでしている。 のでしている。 のでしている。 のでし、 のでしている。 のでしてい。 のでしてい。 のでしている。 のでしている。 のでしている。 のでしている。 のでしている。 のでしてい				1			03.1	201	7.0.7	70	4.0 U	CCI
d)pyrene		1.3 (H)	-	0.2 J	[5]	0.4 J	2	1.2 DJ	[53]	0.6J	[13]	11	[35]
	0.00	30				0.09	2	0.1.7	2		, I	0.2 J	
Phenotinene		120		0.5 J	12	0.6 J	15	3.5	\$2	0.8 J	15	£.3	41
Pyrene 961		∿2∙U 961		157	۲ ۲	 22.	7	75.0	165		1: 5	۱ ;	
Bis(2-chylhexy))phthalate (BEHP)		200							707		3]	1 or	<u> </u>
Total organic carbon (mg/Kg)		NA NA		41100 e J		41100 e T		411001		40600 BT		31400 D	
% TOC		NA	-	4.1 e J	1	4.1e.J		41)		5.0 BJ	1	3.1B	
Percent solids (%)				30	i	49		63		27		63	
:	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		85(1)	[83]		[14]		1121		[16]	J	risi	
			NS	4	1	6.9	1	5.7	. 1	8.2	1	11	1
Lotal SVOCs	SN	SN.		ო I დ ი	1 5	4.		12		91		13	
	(H) (T)		2) 		0.7		0.4	[10]	17	[34]	3.6	[115]
NOTES: J - estimated value, N	S - no screening value, NA - n	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - co	ncentr		ment screening value. (- concentration	exceeds ecologic	al screening valu	re. e - estimated	1 2 ·	ng TOC data fro	Ę	
Contaminated Sedim L = Long & Morgan	concued at the same location. ant (NYSDEC 1998,1999): t= 1990. Ecological serecting v2	anoure sample (Azy) conceded at the same location. When Azy—376, F=754, When Az>278, F=754, C=Azy. Cantaminated Sediment (NYSDEC 1989, 1989); t = screening value for total unchlorinated pheno L = Long & Morgan 1999. Ecological sorgening values are (1) EPA ARCS No Effices concerning	Is. Scr.	cening values are ecology NOAA imper effects (method NY ASP 3 gical values except threshold concent	75-2. NYS sedim t as noted: H = H ration (1999)	sent screening va tuman exposure	creening values are guidance value rexposure by fish consumption; W	c values obtained tion; W = drinkir	stained from Technical Guidance	Guidance for Screening rotection;	reening	
Oate Printed: Oate 12006 00 11.00	on (SC) calculated as concent	ration (C)/fraction of organic carbo	on (foc) in units of ug/gOC	S	derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.	TOC ranging bet	ween 0.2% and 1	2%. SC was not	t calculated for %	Tage	13 OI I/ trange (not calc		

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Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

- analyte not detecte		Sample ID	NYS	Ecological	WP-	WP-T2B	WP-	WP-T2B	WP	WP-T2B	wP.	WP-T2C	.w.	WP-T2C
mg/kg		Sample Date	Values	Values	05/13	/2003	05/13	/2003	1/50	3/2003	05/13	1,2003	05/13	/2003
may/kg m					ر و					24 iii.				
Column C	Compound		ug/g OC	mg/kg	mg/Kg	ug/gOC	mg/Kg	ug/gOC	mg/Kg	SC ug/gOC	mg/Kg	os ng/goc	mg/Kg	ng/goc
	1,2-Dichlorobenzene		12		1000	1				1		1		
Control Cont	1.4-Dichlorobenzene		12			1		1		ŀ			ĺ	
Control Cont	2-Methylnaphthalene						: 	1 4 4 4	1 1 1 1 1 1	1	1 ::	1 200	1	
Continue	4-Chloroaniline					1	<u> </u>			 	l	ľ		l
1, 1, 1, 1, 1, 2, 2, 0, 1, 1, 4, 1, 1, 1, 2, 2, 0, 1, 1, 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,			SN				 							
	Acenaphthene		SN		0.1 J	m	0.06 J	7				Š I		
— 0.6.1 12.2 0.4.1 14 — 6.0.1 (3.3) 6.5.1 0.4(1) 1.8.1 13.7 (4.2) (4.3) (3.4) (15.1) (3.3) (1.0.1) (3.3) (1.0.1) (3.3) (1.0.1) (3.3) (1.0.1) (3.3) (1.0.1) (4.4) (4.4) 4.0(1) 0.5.1 (4.4) (4.4) (4.4) (4.4) (4.4) (4.4) 4.0(1) 0.5.1 (1.3) 0.0 (3.4) (3.4) (3.1) (4.4) (4.4) NS 1.6.2 (3.4) 0.0 (3.4) 0.0 (4.4) (4.4) NS 1.6.3 (3.4) 0.0 (3.4) 0.0 (4.4) (4.4) NS 0.2.1 4.4 0.1 5 0.0 1.5 1.5 1.2 1.0.1 0.2.1 4.4 0.1 4.4 1.4 1.1 1.4 1.1 1.1 1.1 1.1 1.1 1.1 1.1	Acenaphthylene	1.0	SZ		0.1 J	2	0.1.1	4					0.8 J	13
1.8	Anthracene		107	1 3	0.6 J	12	0.4 J	7	1		6.0 J	[133]	6.5 J	[011]
1.00 1.00	Benzo(a)anthracene	100	. 1.2		1,8 ,	[37]	1.2	[45]	0.1 J	5	18.3	[400]	13	[220]
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Benzo(h)fluoranthene		1.3 (H)	0.44 (1)	(1.6 J)	[33]	{0.9.J}	[34]	0.09 J	Æ	(15.3)	[333]	(11)	[186]
1.67 1.65	Benzo(ghi)perylene		NS NS	3.8(1)	22.1 0.5.1	[c 4]	1.4.1	<u> </u>	0.11	[5]	(20.1)	[444] :20	(13)	[220]
NS	Benzo(k)fluoranthene		11		1 8 O	1161	0.41	14			{r o.c.}	671	(4.4 J}	٠(در
1.6.5 1.6.	Carbazole	:	NS			, 1	3 2 1				: 	- F2	े . १९	?
1.00	Chrysene	:	13 (H)		1.6.J	[33]	6.0	[34]	0.09 J	[5]	15.3	[333]	12	[203]
5.1(2)				***************************************	1 6	1	1 3	1	1	1	;	1	1	1
5.1(2)			3		1.0	¬	<u>,</u>	•	1		1;	1 §		
	Dibenzofuran		NS	5.1 (2)		r 51	0.05 J				[7]	[rc]	f 8:T	
Colin Coli	ene		1020	1	2.4 J	49	2.0	- 92	0.2 J	~	30 J	299	25	424
— 0.5 J [11] 0.4 J [14] — 6.9 J [153] 4.9 J — 1.0 J 2.0 0.1 J 4 — 6.9 J [153] 4.9 J — 1.0 J 2.0 0.7 J 2.7 D 0.09 J 5 1.2 J 2.0 J — 49000 J — 2.3 B — 2.9 J 6.44 D 2.0 — 49000 J — 2.4 B — 2.9 J 6.44 D 2.0 — 49000 J — 2.6 J — 1.9 D — 4.5 B — 5.9 B — 49000 J — 2.6 J — 4.5 B — 5.9 B — 491 D — 2.6 J — 6.8 D — 5.9 B NS 3.4 D — 2.1 D 0.6 B — 1.15 D — 4.5 BJ — 5.0 B NS 3.1 D — 1.2 D — 0.6 B — <td>Fluorene r-done(193.4)</td> <td></td> <td>80</td> <td></td> <td>0.1 J</td> <td>3</td> <td>0.07 J</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Fluorene r-done(193.4)		80		0.1 J	3	0.07 J	3						
1.0 20 0.7 27 0.09 5 12 12 12 12 12 12 12			13(H)		0.5 J	1	0.4 J	<u>-</u>	1	1	6.9 J	[153]	4.9 }	[83]
19 19 19 19 19 19 19 19			120		O	۶ (70	4 7.0	1 00.0	ļ v	1 2	- 55	1 5	()
3.1 63 2.3 87 0.2 J 10 29 J 644 20			0.5(0)		1			;],		,	77	[,04]	;]	[147]
19100 1910	Pyrene		961	•	3.1 J	63	2.3	87	0.2 J	10	29 J	644	20 20	339
19100 1910	Dist.2-emytnexyt)pnmalan		200		J									
1.5 1.5	Total organic carbon (mg/	(Kg)	NA		49000 J		26400 J	1	19100		45000 BJ		59000 B	
4.0 (L) 85 (1) 11	% TOC		ΝĀ		4.9 J	1	2.6 J	1	1.9	: 1	4.5 BJ		5.9 B	
11.0 11.0	Fercent solids (%)		NA		33	I	75		88		33		21	
NS 3.4 — 2.1 — 60 NS 13.4 — 2.1 — 60 NS 13.4 — 13.(H) NS 0.2 [4] 0.1 [4] 0.01 0.5 12 [489] 16 Advalue, NS - no screening value, NA - not applicable, — - analyte not detected. [1] - concentration above sediment screening value, R. - concentration exceeds ecological screening value, e - estimated concentration using TOC data from ated Sediment (NYSDEC 1998, 1999): 1 = screening value are ecological values are ecological screening values are ecological values are ecological values are ecological screening values are ecological values values are ecological values values are ecological values values are ecological values value	Total PAHs (mg/Kg)		4.0 (L)	(1) SS			[7.8]		9.0		[166]		[125]	
13 (H) NS 13 (H) NS 13 (H) NS 14 (H) NS 15 (H) NS 16 (H)	Total Carcinogenic PAHs		NS	SN	3.4	1	2.1	1	0.2	1	. 83		. 09	
1-5 (H) NS - no screening value, NS - no screening value, NA - not applicable, —- analyte not detected. [1- concentration above sediment screening value, NS - no screening value, NS - no screening value, NA - not applicable, —- analyte not detected. [1- concentration above sediment screening value, [1- concentration exceeds ecological screening value, c estimated concentration using TOC data from condensated scales of technical screening value are cological values are cological screening value are cological screening value for total unchloring and produced as are concentrations (2) NOAA upper effects broad and expensive by fish consumption; W = drinking water sence protection. Servening concentrations (2) NOAA upper effects breakfold concentration (1999).	- 2				11,		7.9	1	90		166		125	
J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. [] - concentration exceeds cological screening value. e - estimated concentration another sample (AS) collected at the same location. What ASS-9%, e-29%, when ASS-9%, e-29%, when ASS-9%, e-25% when ASS-9%, e-25% when ASS-9%, e-20% may be another sample and the same location when a screening values are guidance values of parameters are guidance values of parameters are guidance values of parameters are guidance values are guidance values of parameters. A screening values are (1) EPA ARCS No Effects concentrations, (2) NOAA upper effects threshold concentration (1999).			<u>(</u>		70	₹ ;	.: 6.1 	4	0.01	0.5	22	[489]	91	[271]
J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. [} - concentration exceeds ecological screening value. e - estimated concentration another sample (AS) collected at the same location. When ASS-9%, e=3%, when ASS-9%, e=AS TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment screening values are guidance values obtained from I Contaminated Sediment (NYSDEC 1998); t = screening value for total unchlorinated phenols. Screening values are ecological values except as noted: H = human exposure by fish consumption; W = drinking value. L= Long & Mongan 1999. Ecological screening values are (1) EPA ARCS NO Effects concentrations; (2) NOAA upper effects threshold concentration (1999).				\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$										
another sample (A3) collected at the same location. When AS>=5%, e=AS TOC%. Samples analyzed by method NY ASP 95.2. NYS sediment screening values obtained from Technical Guidance for Screening value for total uncidonnated phenols. Screening values are ecological values except as noted: H = human exposure by fish consumption; W = drinking water source protection; Leadon and the consumption of the phenols are ecological values are ecological values are ecological values except as noted: H = human exposure by fish consumption; W = drinking water source protection; Page 14 of 17		ed value, NS - no screening value, NA	\ - not applicable, analyte	not detected. [] - concentration	above sediment so	reening value. {	- concentration	exceeds ecolog	ical screening va	lue. e - estimated	concentration u	sing TOC data f		
Caracteristics of the Conference of the Conferen	another sa Contamina	mple (AS) collected at the same locati ated Sediment (NYSDEC 1998,1999);	ion. When AS>=5%, e=5%; v c t = screening value for total	when AS<5%, e=AS TOC%. Sar unchlorinated phenols. Screenir	nples analyzed by a	method NY ASP gical values exce	95-2. NYS sedi	ment screening v	alues are guidar by fish consum	ce values obtained	from Technical	Guidance for S	creening	
	L = Long (& Morgan 1990. Ecological screening	g values are: (1) EPA ARCS 1	No Effects concentrations, (2) NC	AA upper effects	threshold concen	tration (1999).			: (100	Page	14 of 1.	_	

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Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

Sample Dase Values Value	Values Values OST122003 GST122003 CST122003 CST1	Values Values 65/13/2003		Sample ID	NYS	Ecological	WP.	WP-T2C	WP-ODI	ODI	WF	WP-OD1	WP-ODI	100	WP-T3A	T3A
upsign C C 12-15 mm (12-15 mm) C 12-15 mm C 12-15 mm C 0-6 mm 11/2	12.19	12.19 Co. c		Sample Date	Values	Values	05/13	/2003	61/50	/2003	05/13	3/2003	05/13	/2003	05/13	/2003
12	12	12 12 12 13 14 15 15 15 15 15 15 15	Commonned		20 5/5n	по/ко	C C C mg/Kg	.4 in. SC ===================================	0-0 C ma/Kg		0 - 1 C	SC SC	12 - 1 C mo/k/%	SC SC	0-0 C C	ii. SC
13 15 15 15 15 15 15 15	12 12 13 14 15 15 15 15 15 15 15	12 12 12 12 12 13 13 13	1 2-Dichlorobenzene			o. A	911,0	46,600 46,600	947,910	48/80C	34/SIII	ng/goc	37/8III	ug/gor	mg/vg	JOS/S⊓
NS	12 12 13 14 15 15 15 15 15 15 15	12 12 12 12 12 12 13 13	•		F				: 		1	l iii	1			1 11 15 16 16
NS N	NS N	NS												1	li.	
NS	NS	NS N	2-Methylnaphthalene		34											
NS	NS	NS —	4-Chloroaniline		SN	: : 1	.	1	3 5 1	1) 	1			* 	1
NS	NS	NS	4.				1									
1.00	NSS	NS	:			1		1	0.2 J	4	ļ	1	1	1		
13(4)	107	107	Tene		SS		i I		0.5 J	6		1			1	
1,40	14(1)	1,474	÷.		107		1	1 :	3.0 J	53	0.3 J	v)	1	1	0.1 J	2
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	1.5 (19)	1,4(7)	Denzo(a)anuracene		. 1.7		1 ;		10 DJ	[177]	<u>. 13</u>	[12]			0.5.1	6
NS 38(1) NS 38(1) NS 4.06(1) NS 4.06(1) NS 4.06(1) NS	NS 3.8 (1)	NS. 3.8 (1)			1.3 (A)	0.44(1)	{ c ·0}	[45]	(9.1.3)	[161]	117	[18]			{0.6.J}	
13(H)	1.3 (H)	13 (H)			NS NS	3.8 (1)	1		(III DI);	[56]	153	[5])	0.9 J	
NS N	NS N	NS N	Benzo(k)fluoranthene			7.0 (1)			3.1.1	. J&		1 1 1	10	1 /	0.3 J	
13(th) 1.3(th) 1.3(th) 1.1 181 1.1	1.3 (th) 1.3 (th) 1.4 (th) 1.4 (th) 1.5 (th)	1.3 (th) 1.3 (th) 1.5 (th) 1.1 (th) 1.1 (th) 1.1 (th) 1.2 (th) 1.3 (th)			NS	SN) 		011					1	(c O	6
NS	NS	NS			1.3(H)				6.8 J	F1201		181			1.50	ુ હ
NS 5.1 (2)	NS	NS	Di-n-butyl phthalate		NS		: 	1		; ; 1	i 		1) 	
15	15 15 15 15 15 15 15 15	15	Di-n-octyl phthalate		NS		1								0.13	2
NS 51(2)	NS S1 (2)	NS 5.1(2) ————————————————————————————————————	Dibenzo(a,h)anthracene		15	1	1	1	1.1 J	[19]	0.2 J	٣	1	:	0.1 J	2
1020	1020	1020	Dibenzofuran		NS	51(2)	4	T	0.2 J	6			1		1	
13(4)	13 (4)	1.3 (H)	Fluoranthene		1020	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13	1	16 DJ	283	2.0	33	1	ł	0.8 J	41
30.50 5.51	30.0 10.1 10.1 10.2 10.1 10.1 10.2	100 100	Indeno(12.3-cd)nyrene		» <u>-</u>			1	0.4.7	- {	0.07.7	1 5				
120	120	120			30				7-07	[]	0°0			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.3 J	<u>.</u>
0.5(0) - - - 15D1 265 2.2 36 - - - 0.81 961 - - - - 15D1 265 2.2 36 - - 0.81 NA - - - - - - - - - - - NA - - - - - - - - - - NA - - - - - - - - - - NA - - - - - - - - - - - NA -	0.5 (i) 0.5 (ii) 0.5 (iii) 0.5 (ii	0.5 (0) 0.5 (1) 0.5			120		1	. I	5.5 J	97	04.3	7	: 	1 1	03.1	ļ ,
961 — — — — — — — — — — — — — — — — — — —	961 — — — — — — — — — — — — — — — — — — —	961 150			0.50							• 1				
200 NA	NA	NA		:	961	1	1	1	15 DJ	265	2.2	36		1	0.8 J	14
NA N	NA NA NA 1.1 B	NA — 11000 B — 66700 B — 37600 B — 56400 J NA 1.1 B 5.7 B — 6.1 B — 3.8 B — 5.6 J 4.0 (L) NA — 2.7 B — 6.1 B — 5.6 J 4.0 (L) 8.5 (1) 0.5 — 2.4 B — 6.1 B — 3.3 B NS 0.5 — 2.4 B — 6.1 B — 5.7 B NS — 0.5 — 2.4 B — 6.1 B — 5.7 B NS — 0.5 — 2.4 B — — — 5.7 B NS — 0.5 — 1.2 B — — — 5.7 B 1.3 (H) NS — 0.5 [45] 1.1 [195] 1.6 [26] — — — — — — 5.7 B 1.3 (H) NS — 0.5 <	Bis(2-ethylhexyl)phthalate (BEH		200											
NA N	NA — 1.1 B — 57 BJ — 6.1 B — 3.8 B — 20-10 Use 4.0 (L) NA — 27 — 51 — 5.6 J 4.0 (L) 85 (1) 0.5 — 27 — 5.1 — 5.5 J NS 0.5 — 24 — 6.1 — — 5.7 NS — 0.5 — 6.1 — — 5.7 NS — 0.5 — 1.2 — — 5.7 NS — 0.5 — 1.6 [2.6] — 0.9 1.3 (H) NS 0.5 — 1.6 [2.6] — 0.9 1.3 (H) NS 0.5 — 1.5 Concentration using TOC data from	NA — 1.1 B 5 7 B I — 6.1 B — 3.8 B — 5.6 J NA — 70 — 27 — 51 — 5.6 J 4.0 (L) 85 (I) 0.5 — 24 — 6.1 — — 5.5 J NS O.5 — 24 — 6.1 — — 5.7 NS — 0.5 3.7 — 6.1 — 5.7 NS — 0.5 4.45 1.1 [195] 1.6 [2.6] — 0.9 1.3 (H) NS 0.5 [4.5] 1.1 [195] 1.6 [2.6] — — 0.9 A spolicable, — - analyte not detected. [] - concentration screening value. [] - concentration using TOC data from screening value. [] - concentration screening value concentration using TOC data from screening value. [] - concentration screening value. [] - concentration screening value concentration using TOC data from screening value concentration scre	Total organic carbon (mg/Kg)		Ϋ́Α		11000 8		56500 BT		a 00209		- 0.007c		2,400,1	
NA 40(L) 85(1) 0.5 - 27 - 51 - 53 - 30 NS NS 0.5 - 24 - 6.1 - 33 NS NS 0.5 - 24 - 6.1 - 33 1.3 (H) NS 0.5 - 5.7 1.3 (H) NS 0.5 (H5) 11 [195] 1.6 [26] - 0.9	NA	NA	% TOC		ĄZ		1.1B	1 1	5.7 BJ	: 1	6.1B		3.8B		5.6.3	1
4.0(L) 85 (l) 0.5 — [37] — [12] — — — 3.3 NS 0.5 — 24 — 6.1 — — 3.3 I.3 (f) NS 0.5 445 11 [195] 1.6 [26] — — 0.9	4.0 (L) 85 (1) 0.5 — [37] — [12] — [35] 3.3 NS	4.0 (L) 85 (1) 0.5 — 24 — 6.1 — 3.3 NS — 3.3 NS — 3.4 NS — 6.1 — — 3.3 NS — 5.7 NS — 6.1 — — 6.1 NS — 6.1 — — 6.1 1.2 — 6.1 NS — 6.1 — — 6.1 1.3 (H) NS — 6.1 1.4 (H) NS — 6.2 NS — 6.1 NS — 6.2 NS — 6.1	Percent solids (%)		Z,		70	1	27	1.	51		53		30	
NS 05 - 124 - 1441 - 33 NS 05 - 24 - 614 - 33 NS 05 - 37 - 12 - 37 13 (#) NS 05 - 65 13 (#) NS 05 - 67 0.9 (45) 11 (195) 1.6 (26) - 0.9	1.2 NS	12.1 12.2 13.5	Total PAHs (m9/K9)		4.0/4.	100 100 100 100 100 100 100 100 100 100	ý		100 mg							
1.3 (H) NS 0.5 (4.5) 1.1 (19.5) 1.6 (2.0) — 5.3 (4.5) 1.1 (19.5) 1.6 (2.0) — 0.9 (4.5) 1.5 (4.5)	13 (H) NS 0.5 [45] 11 [195] 1.6 [26]	1.3 (H) 1.3 (H) 1.3 (H) 1.3 (H) 1.4 (H) 1.5) SZ	NS NS) v		127		[12]	10		I	[-C-]	
1.3 (H) NS 0.5 [45] 1.6 [26] 0.9 (26] 0.9 (26] 0.9 (26] 0.9 (26] (26] 0.9 (26] (26] (26] (26] (26] (26] (26] (26]	1.3 (H) NS 0.5 [45] 11 [195] 1.6 [26]	1.3 (H) 1.3 (H) 1.4 (E) 1.5 (26] 1.6 (26] 1.6 (26) 1.7 (26) 1.8 (26) 1.9 (26)			SZ	20	50	1	47		0.1	1	1	1	3.33 3.43 3.43 3.43 3.43 3.43 3.43 3.43	1
	- estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds ecological screening value, e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>—5%, e=AS TOC%, Samples analyzed by method NY ASP 95.2. NYS sediment screening values are suidance values obtained from Technical Cinitance for Somewise	1 - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds ecological screening value, e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>-5%, e=35%, when AS>-5%, e=AS TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Science (NYS)EC [1998 1999); t = screening value for including value for screening values are ecological values are ecolo			1.3 (H)	SN	0,5	[45]	; ; ;	71951	, ę	[92]	l I)) o O	1.61
1. serimand value NC, no commune value NM. and malified is a seriman of the seriman value NC, no commune value NM.	J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening Value. [] - concentration exceeds ecological screening value. e - estimat another sample (AS) collected at the same location. When AS=5%, e=5%, when AS=5%, e=7A; TOC%. Samples analyzed by method NY ASP 952. NYS sediment screening values are guidance values.	J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. [] - concentration value, and the screening value or estimat another sample (AS) collected at the same location. When AS>=5%, when AS>=5%, when AS>=5%, when AS>=5%, when AS>=5% and AS==5%. The AS = Samples analyzed by method NY ASP 95-2. NYS sediment screening values are guidance values obtained another sample (AS) collected at the sample of the ASS==5%, when ASS==5% and ASS==5% and ASS==5%. The ASS==5% and ASS														
1. estimated with MC, an excession and M. and analysis of the state of	J-estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds ecological screening value. e - estimat another sample (AS) collected at the same location. When AS>=5%, when	J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. [} - concentration exceeds ecological screening value, e - estimat another sample (AS) collected at the same location. When AS>=5%, when AS>=5%, e=AS TOC%. Samples analyzed by method NY ASP 952. NYS sediment screening values are guidance values obtained contaminated Sediment (NYSO): 1 = screening value for total unfoltorinated phenols. Screening values are ecological values except as noted. H = human exposure by fish consumption; W = drint and the property of the property o				a in the second of the second of the										
	another sample (AS) collected at the same location. When AS=5%, e=6A; TOC%, Samples analyzed by method NY ASP 952. NYS sectiment screening values are addressed as the sample of the sam	another standard (AS) collected the same location. When AS=5%, when AS=5%, when AS=5%, send as a collected the same location when AS=5%, e=5%, when AS=5%, send as a collected the same location. When AS=5%, e=5% when AS=5%, send as a collected the same location and location. When AS=5%, when AS=5%, send AS		N. and commence on SM	and analisation											

Seconting concentration (SC) calculated as concentration (C)/fraction of organic carbon (foc) in units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.) Date Printed: 03/11/2005 09-44-56
DBF File: Q\10653_NYSDEC\27258_ThreeStar\CreekTables.dbf
FXP File: Q\10653_NYSDEC\27258_TihreeStar\CreekTables.dbf

File Number: 10653,27258

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

Sample Dase Valence	Values OST132003 OST1320	Compound Ug/g OC	Values Walues	30-6 tit	C C (2.3) (0.8) (0	2003 in. SC ug/s0C	2-24 2-24 2-24 3-34 3-34 3-34 3-34 3-34	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 - 6 tm	0.091 0.091 0.091 0.091 0.091 0.091 0.091 0.091 0.091 0.091 0.091	in. Sc. Sc. Legy/good. C. Legy
The color of the	The color of the	Compound 1.2-Dichlorobenzene 1.3-Dichlorobenzene 1.4-Dichlorobenzene 2-Methylnäphitalene 4-Chioroaniline 4-Chioroaniline 4-Chioroaniline 5.4-Methylphenol 6.4-Methylphenol 7.5-Methylphenol 8.5-Methylphenol 9.5-Methylphenol 9.5-Methylp	mg/kg — — — — — — — — — — — — — — — — — — —		0.2 J (0.8 J)	S				0.09 J 0.51 0.2 J 0.5 J	m. SC
Comparison	Comparison Com	12-Dichlorobenzene	0.44(1) 0.44(1) 1.40(1) 1.40(1) NS NS			- - - - - - - - - -				0.09 J 0.09 J 0.57 J 0.27 O.27 O.27 O.27 O.27 O.27 O.27 O.27 O	1
	Column	1.4-Dichlorobenzene 1.2 2-Methyhiaphthalene 34 4-Chioroaniline NS 4-Chioroaniline NS Acenaphthene NS Acenaphthene NS Acenaphthene NS Anti-acene 107 Benzo(a)anthracene 113 (H) Benzo(a)huoranthene 133 (H) Benzo(b)huoranthene 133 (H) Benzo(k)fluoranthene 133 (H) Benzo(k)fluoranthene 133 (H) Benzo(k)fluoranthene 133 (H) Benzo(k)fluoranthene 133 (H) Di-n-butyl phthalate NS Di-tr-octyl phthalate NS Di-tr-octyl phthalate NS Di-tr-octyl phthalate NS Di-tr-octyl phthalate 15 Dibenzo (a, hamthracene 15 Dibenzo (a, ham	0.44(1) 3.8(1) 3.8(1) 3.8(1) 3.8(1) 3.8(1) 3.8(1) 3.8(1)		0.23 0.23 0.24 0.24 0.24 0.24	[13] [13] [13]				0.09 J 0.09 J 0.57 J 0.7 J 0.7 J 0.7 J 0.7 J 0.7 J 0.7 J 0.2 J 0.2 J	7
Control	Color Colo	2-Methylnap/hthalone 2-Methylnap/hthalone NS 4-Chioroaniline NS Acenaphthene NS Acenaphthene NS Acenaphthene NS Antiacene 107 Benzo(a)antiacene 113 (H) Benzo(a)antiacene 113 (H) NS Benzo(b)huoranthene 113 (H) NS Benzo(k)fluoranthene 113 (H) NS Benzo(k)fluoranthene NS Chrysene NS Direccyl phthalate NS Direcc	0.44(1) 4.0(1) 3.8(1) NS NS		0.23 0.23 0.43 0.24 0.24					0.09 J 0.09 J 0.57 J 0.7 J 0.7 J 0.2 J 0.2 J 0.2 J	
	Color	4-Chioroaniline NS Acenaphthene NS Acenaphthene NS Authracene NS Authracene NS Authracene NS Authracene 107 Benzo(a)anthracene 13 (H) Benzo(a)anthracene 13 (H) NS Benzo(b)prene 13 (H) NS Benzo(b)prene NS Carbazole Chrysene NS Chrysene NS Dienzo(a) phthalate NS Dienzo(a) phth	0.44(1) 4.0(1) 3.8(1) NS NS		0.23 0.23 0.34 0.34 0.34 0.38 0.23	3				0.09 J 0.09 J 0.57 J 0.57 J 0.71 D 0.2 J 0.2 J	
Control Cont	Control Cont	4-Wethylphenol Acenaphthene NS Acenaphthene NS Acenaphthene NS Anthracene 107 Berrzo(a)anthracene 113 (H) Berrzo(h)perylene 12 (H) Berrzo(h)perylene 13 (H) NS Berrzo(h)perylene 13 (H) NS Berrzo(h)perylene NS Berrzo(h)perylene NS Dienzo(h)phthalate NS Dienzo(h)phthalate NS Dienzo(h)phthalate NS Dienzo(h)mhtracene 15 Diberrzo(h) MS Dienzo(h)mhtracene 15 Diberrzo(h) MS Dienzo(h)mhtracene 15 Diberrzo(h) MS Diberrzo(h) MS Dienzo(h) MS	0.44(1) 4.0(1) 3.8(1) NS NS		0.23 0.23 0.24 0.24 0.24 0.24 0.22	1 1 1 1 1 1 1 1 1 1				0.09 J 0.09 J 0.57 J 0.57 J 0.7 J 0.2 J 0.2 J 0.2 J	
Continue	Control Cont	Acenaphtitene Acenaphtitene Acenaphtitene NS Antiracene Berizo(a)antiracene Berizo(a)prime Berizo(a)prime Berizo(a)prime Berizo(a)prime Berizo(b)prime 13 (H) NS Berizo(b)prime 13 (H) NS Berizo(b)prime NS Chrysene Din-buryl phthalate NS Din-co(a) phth	0.44(1) 4.0(1) 3.8(1) NS NS		0.23 0.23 (0.83) 0.34 0.34 0.23	1 1 2 2 3 1 1 2 3 1 1 1 1 1 1 1 1 1					
	Control Cont	Avoitability with the control of the	0.44(1) 4.0(1) 3.8(1) NS NS		0.2.1 0.2.3 (0.8.1) 1.1.7 0.3.1 0.3.1 0.2.1	3 [13]				0.09 J 0.05 J 0.57 J 0.07 J 0.02 J 0.02 J 0.02 J	2 2 [13] [13] [13] 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
— 0.24 9 0.24 13 1.6 36 — — 0.00 J 0.04(1) 0.64 9 0.921 153 1.24 634 171 0.03 J	Comparison	Democracies	0.44(1) 4.0(1) 3.8(1) NS NS		0.2.1 (0.8.1) (1.1.7 0.3.1 0.8.1 	3 13 13 13 13 13 13 13 13				0.09 J 0.57 (0.51) 0.71 0.2 J 0.2 J 0.2 J 0.2 J	2 [13] [13] [13] 5 5 6 7 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1
0.44(1) 0.44	0.44(1) 0.41	Berzo(a) pyrene Berzo(b) fluoranthene Berzo(b) fluoranthene Berzo(b) fluoranthene Berzo(b) fluoranthene Berzo(b) fluoranthene Berzo(b) phithalate Berzo(b) phithalate Berzo(b) phithalate Berzo(b) phithalate Berzo(b) phithalate Berzo(b) phithalate Berzo(b)	0.44(1) 4.0(1) 3.8(1) NS NS	5 년 왕 후 10 10 10 10 10 10 10 10 10 10 10 10 10	(0.8.1) (1.1.7 0.3.1 (0.4.1) (0.8.1) (0.2.1)	(15) (15) (13) (13) (13)				0.5.1 (0.5.1) 0.2.1 0.2.1 -	[13] 5 [18] 1 [18]
4,000 1,041 (143) (14)	### 4.00 (1) 1.0.1 [14] [15] [21] [48] [0.53] [9] [0.53] [15] [0.53] [15] [15] [15] [0.53] [15] [15] [15] [15] [15] [15] [15] [15	Benzo(b)fluoranthene 13.(H) Benzo(ghi)perylene NS Benzo(k)fluoranthene 13.(H) Carbazole Chrysene 13.(H) Din-buyl phthalate NS Din-ocyl phthalate NS Din-ocyl phthalate NS Din-ocyl phthalate NS Dibenzo(a,b)anthracene 15 Dibenzo(a,b)anthracene 15 Dibenzofuran NS Dibenzofuran NS Fluoranthene 13.(H) Naphthalene 13.(H) Na	40(1) 38(1) 38(1) NS NS		(10.8.4) 0.3.1 0.8.1 0.8.1 0.2.1	(19) 6 7 13 13 13				(0.5.1) 0.7.1 0.2.1 0.2.1 0.5.1	[13] 5 [6] [6]
3.8(1) 3.8(1) 3.8(1) 3.8(1) 3.8(1) 3.8(1) 3.8(1) 3.8(2) 4.0(1) 3.8(1) 3.8(2) 3.8(3) 3.8(3) 3.8(4) 3.8(1) 3.	3.8 (1)	Benzo(giti)perylene NS Benzo(k)fluoranthene 1:3 (H) Carbazole NS Chrysene 1:3 (H) Di-n-butyl pithalate NS Dienzo(a,l)anthracene 15 Dibenzo(a,l)anthracene 15 Dibenzo(a,l)anth	3.8 (1) NS NS 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.3 J 0.4 J 0.8 T - - 0.2 J	6 6 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1				0.2.1 0.2.1 0.2.1 0.5.1	[18] [3] 50 s
49(1) (33) (44) (54) (55) (55) (56) (56) (57) (58) (57) (58)	## 40(1) 0.31 141 0.41 171 171 0.23 151 0.23 0.23	Benzokk/Ituoranthene 1.3 (H) Carbazole Carbazole NS Chrysene NS Di-n-butyl phthalate NS Di-n-ocyl phthalate NS Dibenzoku-namhracene 15 Dibenzoku-namhracene 1020 Fluoranthene 1.3 (H) Naphthalene 1.4 (H) Naphthalene 1.5 (H) Naphthalene 1.5 (H) Naphthalene 1.6 (H) Naphthalene 1.7 (H) Naphthalene 1.8 (H) Naphthalene 1.9 (H) Naph	NS NS (1)		0.4.1 0.8.1 0.2.1) E °				02.7 -02.1	. [3]
NS O O O O O O O O O O O O O	NS	Carbazole Chrysene Chrysene Din-buryl pithalate NS Din-ocyl pithalate Diberacofa hantracene Diberacofaria Fluoranthene Fluoranthene Indeno(1,23-cd)pyrene	S		0.81	[8] I				0.5.1	£ £ 1
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Color	Chrysene Din-buryl phthalate NS Din-ocyl phthalate NS Diberacof(a,l)anthracene 15 Diberacof(a,l)anthracene 1020 Fluoranthene 1020 Fluoranthene 13 (H) Naphthalene 13 (H) Naphthalene 120 Phenauthrene 120	(0) 155		081	<u>6</u>				0.5.J	[6]
551(3) 0.21 2 —	Si (2)	Di-n-outy) pitutalate Di-n-ocyl pitutalate Diperzos (a.l.) authracene 15 Diberzos (a.l.) authracene 1020 Fluoranthene 1020 Fluoranthene 1.3 (H) Napitualene 1.3 (H) Napitualene 1.2 (H) Physical Control Contr	(0) 19		 0.2.J	11, 11				2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	. 1
51(2)	S51(2)	Dibenzo(a,h)anthracene 15 Dibenzo(a,h)anthracene 16 Dibenzo(una 1020 Fluoranthene 1020 Fluoranthene 13 (H) Naphthalenee 13 (H) Naphthalenee 120 Phenol			0.2.3		02J	_		1	
5.(2) — — 0.21 3 0.21 5 — 0.11 5.(2) — 0.99 1.3 1.11 15 0.09 2 — 0.11 — 0.99 1.3 1.11 15 0.02 4 — 0.31 17 0.81 — 0.31 [4] 0.41 [7] 0.6 [14] 0.31 [7] 0.21 — 0.41 5 0.21 8 0.21 5 0.31 [7] 0.21 — 0.41 5 0.21 8 0.21 5 0.31 8 0.21 — 0.41 1.41 2.4 4.0 90 0.81 21 0.21 — 0.90 0.81 - - - - - - — 0.90 0.81 - - - - - - — 0.90 0.81 - - - - - - — 0.90 0.81 - - - - - - — 0.90 0.81 - - - - - -	Si (2)	Diverizor (4.1) annuracene Discrizor (4.1) annuracene NS Fluoranthene Fluoranthene 1.3 (H) Naphthalene 1.3 (H) Naphthalene 1.20 Phenol	54 (2)		0.2 J	e	0.2 J				
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	2.1(42)	Fluoranthene 1020 Fluorene 1020 Fluorene 1.3 (H) Naphthialene 30 Phenarthrene 120 Phenol 65 (H) Pyrene 651	(%) Tre					-		0.13	۳
13	11 19 4.9 111 19 6.81 19 0	13 (H) 13 (H) 30 120 05 (t)				•					
	10 1 10 1 1 1 1 1 1	1.3 (H) 30 120 0.5 (t)				- 61				0.8 J	20
10 11 12 13 14 15 15 17 18 18 18 18 18 18 18	10	30 120 0.5 (t)			1 5	1 [
— 0.4J 5 0.5J 8 2.0 45 0.3J 8 0.2J — 1.0J 14 1.4J 24 4.0 90 0.8J 21 0.8J — 69300 BJ - 57700.1 - 44.0 - 0.8J 21 0.8J — 6.9 BJ - 5.8J - 44.J - 4.0 BJ - 3.8 BJ — 2.9 - 5.4 - 4.0 BJ - 3.8 BJ NS 1.1 - 4.5 - 12.5 - 14.7 - 14.7 NS 0.07 1 1.2 [2.1] 2.9 [66] 0.5 [13] 0.7	10 14 5 0.51 8 2.0 45 0.31 8 0.21	0.5 (t)	100		(898		0.2 J	9
- 1.0.1 14 140 0 0.8.1 21 0.8.1 - 1.0.1 14 141 24 4.0 90 0.8.1 21 0.8.1 - 6.9.81 - 5.8.1 - 44200.1 - 35600.BI - 38.89 - 6.9.81 - 5.8.1 - 44.1 - 4.0.81 - 38.81 - 6.9.81 - 5.8.1 - 4.4.1 - 4.0.81 - 38.81 - 6.9.81 - 5.8.1 - 4.4.1 - 4.0.81 - 6.9.81 - 5.8.1 - 4.4.1 - 4.0.81 - 7.0 1.1 - 4.5 - 1.2 1.2 - 2.5 - 7.0 1.1 - 4.5 - 2.5 - 7.0 1.1 - 4.5 - 2.5 - 7.0 1.1 1.2 1.1 2.9 [66] 0.5 [13] 0.7	10 14 14 24 40 90 0.8 21 0.8 1.8 1.4 1.4 1.4 24 4.0 90 0.8 21 0.8 1.	0.5(t)			0.5 J	∞				, , ,	.
	1.01 14 14 24 4.0 90 0.8 21 0.8 3.	061								77.7	+ 1
Second S	Second Early Seco		1		1.4.J	24	E E E			0.8 J	22
69300BJ - 57700J - 44200J - 38600BJ - 38BJ - 6.9 BJ - 5.8 J - 4.4 J - 4.0 BJ - 3.8 BJ - 29 - 29 - 4.6 - 4.6 NS 1.1 - 4.5 - 1.2 - 2.7 NS 0.07 1 1.2 2.9 (66) 0.5 (13) 0.7	Second	oblectiny mexy ppinnariate (BEHF).			1					1	
Section 29	Second Ed. Sec	ganic carbon (mg/Kg)			577001			0			3
85(1) 3.5 — (8.0] — (2.5) — (4.5) — (4.7] — (4	85(1) 3.5 (8.0] (2.5) (4.7]	NA	1		5.8.3	1				3 & D.T	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	85 (1) 3.5	Y.,			36			- 29		46	
NS 1.1 — (2.5) — (4.7)	NS 1.1 — (9.9.1 1.2 2.2 1.2 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2				10.01						
1.3 (H) NS NS 0.07 1 1.2 [2.1] 2.9 [66] 0.5 [13] 0.7 We will NN According NA Accord	13 (H) NS 0.07 1 1.2 2.9 (66) 0.7 (13) 0.7 A 7 A 7 A 7 A 7 A 7 A 7 A 7 A	5.	13 } }		[o.v.] 4.5					[47]	
13 (4) NS 0.07 1 1.2 [21] 2.9 [66] 0.5 [13] 0.7 1 cffmind value NA. Assessment A. Asse	1.3 (H) NS 0.07 1 1.2 [21] 2.9 [66] 0.5 [13] 0.7 1 estimated value, NS - no serceming value, NA - not applicable, — - analyte not detected. [1] - concentration above sectiment screening value. } - concentration exceeds ecological screening value, c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=35% when AS>=5%, e=AS TOC%, Samples analyzed by method NV ARP 9C.2. NVX sestimant sense in the same concentration using TOC data from	SN		3.5	8.0				# # # # # # # # # # # # # # # # # # #	7.7	
1. Setting all N. A. Screening with the setting of	J - estimated value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds ecological screening value. c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS==5%, e=5%, e	1.3(H)	SN	0.07	1.2	[21]			# T	0.7	181
1 estimated value NN and exemple value NA and exemple value	J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value, {} - concentration exceeds ecological screening value, earther stance location. When ASS=5%, e=5%, when AS<5%, e=AS TOC%. Samples analyted by method NY ARP 95.2. NVS earthern severation and the several seve										
I estimated value NS in a committee value MA and sometimely and it is	J - estimated value, NS - no serrening value, NA - not applicable, — - analyte not detected [] - concentration above sediment screening value, {} - concentration exceeds ecological screening value, another sample (AS) collected at the same location. When ASS=5%, e=5%, when AS<5%, e=6 Total Collected and the same location. When ASS=5%, e=5%, when ASS<5%, e=6 Total Collected and the same location. When ASS=5%, e=5%, when ASS<5%, e=6 Total Collected and the same location. When ASS=5%, e=5%, when ASS<5%, e=6 Total Collected and the same location. When ASS=5%, e=5%, when ASS<5%, e=6 Total Collected and the same location. When ASS=5%, e=5%, when ASS<5%, e=6 Total Collected and the same location and the same location. When ASS=5%, e=6 Total Collected and the same location and the same location and the same location.										
Commence and the notice of the notable of the notab	S TOC%. Samples analyzed by method NY ASP 95.2. NYS explirent screening values are middlessed		de not detected [] - concentration abo	enten enimenta tradutas eur	, ,		0 8. 9 -	₽.			

Page 16 of 17
Serening concentration (SC) calculated as concentration (C)/fraction of organic carbon (foc) in units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not eale.). Date Printed: 03/11/2005 09:44:56
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Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	WP-T3B	T3B	WP-T3C	30	WP-T3C	13C				
	Sample Date	Sediment Values	Screening Values	05/13/2003	2003	05/13/2003	2003	05/13/2003	2003		-		
		\(\frac{1}{2}\)		12 - 24 in. C	sc.	0-6 iii.	ii. SC	6-11 in. C	ii. SC	U	SC	O.	S
Compound		ug/g OC	mg/kg	mg/Kg	ng/goC	mg/Kg	ng/gOC	mg/Kg	ng/gOC	mg/Kg	ng/goC	mg/Kg	ng/gOC
1,2-Dichlorobenzene		12	1	1	1	1	1	1	1				
1,5-Dichlorohenzene		12		1	i	i.	1	1					
		2. The second of					- 13 - 13 - 14		1				
			f	1	1	1	1		1				
		- SN			***								
Acenaphthene		SN	1	·	1	ı	1	1	1				
Acenaphthylene		SN						0.09 J					
Anthracene		107	1	1	1	1	1	0.2.3	7				
Benzo(a)anthracene	12	12			1	0.3 J	4	0.7.5	9				
Benzolajpyrene		1.3 (H)	0.44 (1)		1	{0.5.1}	<u></u>	(0.7.3)	[10]				
Democ/children-domo		(H)		1		0.5.J	[7]	101	[15]				
Senzo(gn)perylene		SZ.	3.8 (1)	1	1	0.1 J	7	0.2 J	4			:	
luorantnene			4.0(1)			0.2 J	[3]	0.3.J	[2]				
		SX		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1	1	1	1				
Curysche D: - hit datherster					1	0.4 J	[5]	0.6.1	[10]				
Di-n-butyl primarate		SZ	1		1	1	1		1				
Data-octyl panalare		No.			Į.								
			1	1	1		1	0.1 J					
Discourted			5.1(2)		İ								
			1		1	0.5 J	7	1.0.1	15				:
3-5-7		111		ſ		;	1.8	1 ;					
Namhthalene		(H) (H)	1 200	1 200	1	0.1 J	[2]	0.3 J	4		300000000000000000000000000000000000000	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
			1			1 .	(2				
Phenol. The second seco		100	1	1		6.2.9	7	0.4)	9	200000000000000000000000000000000000000	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		
Pyrene		100 miles de la companya de la compa			 	190		•	1 9				
Bis(2-ethylhexyl)phthalate (BEIHP)							•	771	2 -				
Total organic carbon (mg/Kg)		NA		19700B		72000 J		63800 1			300		
% TOC	000 00000000000000000000000000000000000		1	2.0 B	1	7.2 J	:	6.4 J	1				
Fercent solids (%)		NA.		54	1	31		45					
Total PAHs (me/Ke)		Z. O. T. D	85.01										
Total Carcinogenic PAHs		NS.) 	- 	7 6 10		3.6					
Total SVOCs						3.2		6.7					
BaP Equivalents			SN	1	1	0.5	[2]	1.0	[16]				
NOTES.													
	 > no screening value, NA collected at the same location 	J - Satimated Value, NS - no screening value, NA - not applicable, analyte not detected. [] another sample (AS) collected at the same location. When AS>=5%, e=5%; when AS<5%, e=	ected. [] - concentration a S<5%, e=AS TOC%. Sarm	concentration above sediment screening value. STOC%. Samples analyzed by method NY A.	reening value. {	} - concentration 95-2. NYS sedim	exceeds ecologic	al screening values	ac. e - estimated	concentration us	 concentration exceeds ecological screening value. e-estimated concentration using TOC data from NVS sediment screening values are oxidence values obtained from Technical Guidance for Screen 	m m	
Contaminated Sedim	ant (NYSDEC 1998,1999): 1990 Feological concening	Committed Committed Containing of the Containing Containing Values are cological values except a noted. He human exposure by fish consumption, W - drinking water connection of the Containing Contain	inated phenols. Screening	enols. Secreting where are cological values except as noted. He human exposure by fish consumption, W = drinking water source protection;	gical values exce	of as noted: H=h	uman exposure	y fish consump	non, W = drinkir	ng water source p	protection;	9	
Screening concentrat.	on (SC) calculated as conce	entration (C)/fraction of organic carb	on (foc) in units of ug/gO(SC derived for	sediment with %	ration (1999). TOC ranging bet	ween 0.2% and 1	2%. SC was not	calculated for %	Page TOCounside the	1/ Of 17	_	
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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

05/12/2003 0 - 6 in. mg/Kg WP-LK5 0.81 BJ (1.2 BJ) 11100 J 24 J 13 BJ (64 J) (3.3 J) (126 J*) 8700 J (637 J) (0.3 J) (30 J) 1360 BJ 4.7 BJ 100 BJ (230 J) 328 BJ 26 BJ 05/12/2003 (0.93 BJ) WP-LK4 0 - 6 in. mg/Кg 11600 J (1000 J) (0.33 J) (26 BJ) 1350 BJ 16000 98 BJ 0.7 BJ (3.0.1) (99.1) 73.10.1 4.7 BJ 212 BJ 11 BJ (83 J) (228J)22 BJ 05/12/2003 WP-LK3 0.64 BJ (0.8 BJ) 0 - 6 in. mg/Kg 18800 J (551 J) (0.29 J) (26 BJ) 1420 BJ 92 BJ 8.8 BJ (90 J) (2.7 J) (79 J) 8150 J (224 J) 357 BJ 29 BJ 21 J 05/12/2003 0 - 6 in. mg/Kg WP-LK2 (1.4 BJ) 11900 J (187 J*) 6950 BJ 0.67 BJ (579 J) (0.57.J) (29.BJ) 1510 BJ 11 BJ (3.2.1) 386 BJ (359 J*)(90 J) 88 BJ 38 BJ 4 BJ 05/12/2003 WP-LK1 0 - 6 in. mg/Kg (1.3 BJ) 4.9 BJ 120 BJ 0.86 BJ 10200 J (0.31 J) (33 BJ) 1740 BJ (707 J) (27 J) 14 BJ (3.3.1) 8570 J 330 BJ (221 J) (51.3) 29 BJ 0.1 (Eisler 1991) NS Sediment Lowest Effect Level (LEL) 26.0 (P) 16.0 (P) 2% (P) 31.0 (P) NS 460 (P) 0.15 (L) 16 (P) mg/Kg 0.6 (P) 1.0 (L) NS NS SZ S S Ş \$ \$ A S S S Sediment Severe Effect Level (SEL) 110.0 (L) NS 110.0 (P) 110.0 (P) 1100 (L) 33.0 (P) NS NS 9.0 (P) 4% (P) 1.3 (L) 50 (L) NS NS 2.2 (L) NS NS NS NS NS 270 (L) NS mg/Kg SZ SZ Sample Date Sample Depth Sample ID Cyanide, amenable to chlorination Total organic carbon (mg/Kg) Percent solids (%) Chromium** Cyanide, total Magnesium Manganese Nickel Potassium Selenium Aluminum 3eryllium Cadmium Antimony Vanadium Arsenic Calcium Mercury Thallium Barium Cobait Copper Sodium Cead Silver ron

J estimated value, NS = no screening value, NA = not applicable, —- no data. B = analyte detected above PQL in Prop Blank. c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS>=5%, e=AS TOC%. Samples analyzed by methods 7196A/200.7/24.5.5/335.2/9010B/9014.
Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999).
except for the total cyanide screening value obtained from Bisler 1991. L = Long & Morgan; P = Persaud; (1) = EPA ARCS No Effects concentration.
* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Into data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. NOTES:

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42100 J

91600 J



Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

Wappingers Falls, New York Three Star Anodizing Site

	Sample ID Sediment	Sediment	WP-LK01-A	WP-LK01-A	WP-LK01-A	WP-LK01-B	WP-LK01-B
		Lowest Effect					
	Sample Date Level (SEL)	Level (LEL)	05/10/2001	05/10/2001	05/10/2001	05/10/2001	05/10/2001
			0 - 6 in.	6 - 12 in.	19 - 25 in.	0 - 6 in.	6 - 12 in.
	Units mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound							
Aluminum	SN	73200 (1)	14500 J	11400 J	13700 J	14200 J	11700 J
Antimony	25.0 (L)	2.0 (L)	1	(3.2 JN)	!		
Arsenic	33.0 (P)	6.0 (P)	4.6 J	(6.6.1)	1.5	5.3	52.1
Barium	SN	SN	94 J	74 J	82 J	90 1	73.1
Beryllium	SN	SN	0.57 J	0.53 J	0.62 J	0.53.1	0.42 I
Cadmium	9.0 (P)	0.6 (P)	1	0.16 J	0.34 J	<u> </u>	1 !!
Calcium	SZ	SN	7600 J	6330 J	9540 J	7030 J	5980.1
Chromium**	110.0 (P)	26.0 (P)	18.1	15 J	17 J	18 J	15 J
Cobalt	SN	NS	8.6 J	9.3 J	9.2 J	7.9 J	6.5 J
Copper	110.0 (P)	16.0 (P)	(37.1)	(31.3)	(38 J)	(34.1)	(30))
Iron	4% (P)	2% (P)	(3.0.1)	(2.4.1)	(2.9.1)	(2.7 J)	(2.4 J)
Lead	110.0 (L)	31.0 (P)	(49 J)	(42 J)	(62.1)	(46 J)	(413)
Magnesium	SN	SN	7130 J	5540 J	6390 J	6850 J	\$720 J
Manganese	1100 (L)	460 (P)	(594 J)	(566.1)	(636.1)	460 J	(541 J)
Mercury	1.3 (L)	0.15 (L)	!		(0.2 J)	1	· ,
Nickel	50 (L)	16 (P)	(25 J)	(22.1)	(23 J)	(24 J)	(22.1)
Potassium	SN	NS	1090 J	852 J	932 J	1110.1	(S88 I
Selenium	NS	SN	2.5 J	1.2 J	1.4 J	i	1.7.1
Silver	2.2 (L)	1.0 (L)	i	ı	1	!	,
Sodium	SN	NS	124 J	82 J	67 J	145 J	112.1
Thallium	SN	NS	-	1	1		
Vanadium	SN	SX	20 J	19 J	18 J	f 61	20 J
Zinc	270 (L)	120 (P/L)	(204 J)	(136 J)	(145 J)	(168 J)	(141))
Cyanide, total		0.1 (Eisler 1991)	1	1		. 1	· ,
Cyanide, amenable to chlorination	SN	NS		ı	1	ļ	1
Percent solids (%)	Ą	ΔN	,,	35	74	30	()
, n	71.6		1 1		P	6.7	75
pu *******	ď.	KZ.	7.3	7.5	7.9	7.6	7.7
10C	NS	SN	01	4.7	3.4	6.7	6.2
Total organic carbon (mg/Kg)	SN	NS	00166	47000	33800	00899	62000
•							

1 - estimated value, NS = no screening value, NA = not applicable, — - no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%, When AS>=5%, e=5%. TOC%, Samples analyzed by methods 7196A/200 7/245.5/335.2/9010B/9014. Sediment screening values are judicated values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1998). Sediment obtained from Bisler 1991. L = Long & Morgan: P = Persaud; (1) = Persaud; (2) = Persaud; (3) = Persaud; (3) = Persaud; (4) = Persaud; (4) = Persaud; (5) = P

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DRAFT Table 4-3

Wappingers Falls, New York Three Star Anodizing Site

Wappinger Creek Investigation - Sediment Samples

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

WP-LK01-C 05/10/2001 26 - 32 in. mg/Kg 0.53 J 0.31 J 16 J 16 J 8.5 J (36 J) (2.8 J) (36 J) (466 J) (666 J) (666 J) (666 J) (666 J) (7.2 J) (7 --18 J (132 J) ---WP-LK01-C 05/10/2001 6 - 12 in. mg/Kg (34 J) (2.7 J) (44 J) 6410 J (613 J) 22 J (135 J) 0.2 J 6750 J 0.55 J --(24 J) 996 J 2 J 17J 8.5J WP-UK01-C 05/10/2001 0 - 6 in. mg/Kg 8.3 J (3.7 J) (2.9 J) (4.7 J) 6990 J (569 J) 19 J (162 J) 7240 J 18 J __ (24.J) 1140.J 0.57 J (3.2.1) 148 J WP-LK01-B 05/10/2001 25 - 31 in. mg/Kg (616J) (0.21J) (136 J) 8.9 J (37 J) (2.8 J) (59 J) 5800 J 0.55 J 5350 J 17 J (22 J) 888 J 1.6.1 WP-LK01-B DUP 05/10/2001 6 - 12 in. mg/Kg (640.) (162 J) (34 J) (2.7 J) (46 J) 6440 J 0.53 J 6640 J (24 J) 956 J 108 J 2.1 J 7.6 J 0.1 (Eisler 1991) NS Sediment Lowest Effect Level (LEL) 120 (P/L) 26.0 (P) NS 16.0 (P) 2% (P) 31.0 (P) NS 460 (P) 0.15 (L) mg/Kg 6.0 (P) NS NS 0.6 (P) 1.0 (L) NS NS NS NS 16 (P) SZ S S Sediment Severe Effect Level (SEL) 110.0 (L) NS 1100 (L) 110.0 (P) NS 110.0 (P) 4% (P) NS 25.0 (L) 33.0 (P) NS NS 9.0 (P) NS 13(2) 2.2 (L) NS NS NS NS NS 270 (L) mg/Kg 50 (L) \$ \$ Units Sample Date Sample Depth Sample ID Cyanide, amenable to chlorination Total organic carbon (mg/Kg) Percent solids (%) Cyanide, total Chromium** Magnesium Manganese Selenium Antimony Beryllium Cadmium Potassium Vanadium Mercury Thallium Barium Calcium Copper Arsenic Cobalt Sodium Nickel % TOC Silver Lead Zinc

- exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. J - estimated value, NS = no screening value, NA = not applicable, —- no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another symple (AS) collected at the same location. When ASS-2%, e=3%. When ASS-2%, Samples analyzed by methods 7196At2007.245 5/335.2/9010B/9014. Sediment seconing values are guidance values obtained from Technical Guidance for Servening Contaminated Sediment (NYSDEC 1998, 1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud; (I) = EPA ARCS No Effects concentration.

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Three Star Anodizing Site Wappingers Falls, New York

Wappinger Creek Investigation - Sediment Samples
Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

	Sample ID	Sediment	Sediment	WP-01-A	WP-04.45-9	WP-09A	WP-11A	LG-OUT
	Sample Date	Severe Effect Level (SEL)	Lowest Effect Level (LEL)	05/09/2001	05/09/2001	05/09/2001	05/09/2001	02/03/2001
	Sample Depth			0 - 6 in.				
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound								
Aluminum		NS	73200 (1)	10000	10700	7850	4650	7350
Antimony		25.0 (L)	2.0 (L)	0.52 JN	1.2 JN	0.51 JN	0.63 JN	(2.3 JN)
Arsenic		33.0 (P)	6.0 (P)	(6.5)	(8.9)	(19)	(01)	(6.9)
Barium		NS	SN	54	79	61	28 J	80
Beryllium		NS	NS	0.45 J	0.43 J	0.45 J	0.27 3	0.36 J
Cadmium		9.0 (P)	0.6 (P)	(1.1)	(1.3.3)	0.34 J	0.54 J	(2.4)
Calcium		SN	NS	24900	4140	6120	1460	10800
Chromium**		110.0 (P)	26.0 (P)	19	26	25 J	26 J	(29)
Cobalt		SN	SN	7.6 J	7.9 3	7.9 J	5.3 J	6.5 J
Copper		110.0 (P)	16.0 (P)	(48)	(91)	(41)	(172 *)	(88)
Iron		4% (P)	2% (P)	(3.4)	(4.3 *)	(2.8)	1.4	(3.1)
Lead		110.0 (L)	31.0 (P)	(94)	(152 *)	(73)	(225 *)	(235 *)
Magnesium		NS	SN	00681	7180	4480	1960	6490
Manganese		1100 (L)	460 (P)	(912 3)	(1790 J*)	(902 JN)	440 JN	(566.1)
Mercury		1.3 (L)	0.15 (L)	(0.51)	0.15 J	(0.17 J)	(0.44)	(1.1)
Nickel		50 (L)	16 (P)	(22)	(26)	(17)	13	(34)
Potassium		SZ	NS	636 J	709 J	759 J	297 J	617 J
Selenium		NS	NS	0.94 J	1.9	1.5	1.2 J	1.1 J
Silver		2.2 (L)	1.0 (L)	1	0.27 J	1	1	ı
Sodium		NS	NS	69 J	81 J	I 66	84 J	1 06
Thallium		NS	NS	1	-	1	-	-
Vanadium		NS	NS	14	18	24	10 J	17
Zinc		270 (L)	120 (P/L)	(163)	(210)	78	(196)	(285 *)
Cyanide, total		SN	0.1 (Eisler 1991)	i	1	1	(1.1)	.
Cyanide, amenable to chlorination		NS	NS	}		1	į	-
Percent solids (%)		NA AN	ZA	81	73	99	65	77
hd		٧X	NA	8.2	8.1		4.8	rr;
% TOC		SN	NS	1.9	2.2	6.6	7.7	5.6
Total organic carbon (mg/Kg)		NS	NS	18600	22100	65500	76500	26000

J - estimated value, NS = no screening value, NA = not applicable, ... - no data. B = analyte detected above PQL in Prop Blank. e - estimated concentration using TOC data from another samples at the same location. When ASS—SS*, e-S*, When ASS—SS*, e-S*, ann be analyzed by methods \$7186A,280 7.245 5/335.2.9010B/9014. Sediment streeming values are guidance values obtained from Technical Guidance for Secreening Contaminated Sediment (NYSDEC 1998, 1999). except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud* (1) = EPA ARCS No Effects concentration.

* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID Sediment	Sediment	WP-LGOUT2	WP-MW4	WP-MW4 DUP	WP-16	WP-18
	Sample Date Level (SEL)	Level (LEL)	05/13/2003 0 = 6 in	05/13/2003 0 - 6 in	05/13/2003 0 - 6 in	05/09/2001 0 - 6 in	05/09/2001 0 - 6 in.
	Units mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/K.g	mg/Kg	mg/Kg
Compound							
Aluminum	NS	73200 (1)	10100	12000	12600	10800	0886
Antimony	25.0 (L)	2.0 (L)	0.9 BNJ	0.87 BNJ	(25 NJ)	0.87 JN	
Arsenic	33.0 (P)	6.0 (P)	(9:9)	(6.3)	(8.4)	(7)	Ŋ
Barium	SN	NS	118	62	74	57	31.)
Beryllium	NS	NS	0.45 B	0.48 B	0.52 B	0.43 J	0.48 J
Cadmium	9.0 (P)	0.6 (P)	(1.7)	(1.2 B)	(1.2 B)	(1.9)	0.2 J
Calcium	SN	NS	13000	5390	9830	2130	2500
Chromium**	110.0 (P)	26.0 (P)	23	18	17	17	17
Cobalt	NS	NS	7.9 B	8.4 B	9.5 B	7.3 J	I 6
Copper	110.0 (P)	16.0 (P)	(63)	(53)	(62)	(61)	16
Iron	4% (P)	2% (P)	(3.4)	(3.6)	(4.1 *)	(3.3)	(2.7)
Lead	110.0 (L)	31.0 (P)	(141 *)	(130 *)	(1450 *)	(67)	24
Magnesium	SN	NS	7210	7290	7330	0889	4830
Manganese	1100 (L)	460 (P)	345	(541)	(678)	(489 J)	293 J
Mercury	13 (L)	0.15 (L)	(0.34)	(0.16)	0.14	(0.17.1)	0.15 J
Nickel	50 (L)	16 (P)	(56 *)	(25)	(26)	(23)	(21)
Potassium	SN	NS	861 B	817.8	710B	748 J	1180 J
Selenium	SN	SN	I	ı	1	1.5	11
Silver	2.2 (L)	1.0 (L)	1	•) •	1	1	-
Sodium	SN	NS	99 B	83 B	74 B	513	88 J
Thallium	SN	NS	!	1	1		
Vanadium	SN	NS	20	17	18	16	16
Zinc	270 (L)	120 (P/L.)	(262)	(231)	(246)	(300 *)	74
Cyanide, total	SN	0.1 (Eisler 1991)	(0.33 BJN)	(0.34 BJN)	(0.35 BJN)	}	-
Cyanide, amenable to chlorination	SN	NS	1	1	1	-	
Percent solids (%)	NA	NA	75	81	79	79	89
Hd	NA	NA AN	!	***	1	8.2	7.5
% TOC	NS	SN	1.2 J	2.5	1.2	6.0	2.3
Total organic carbon (mg/Kg)	SZ	NS	12400 J	25400	12100	8770	23400

J - estimated value, NS = no screening value, NA = not applicable, --- no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%, When AS>=5%, e=5%, TOC%, Samples analyzed by methods 7196A/200,7245.5/335.2/9010B/9014. Sediment screening value coation. When AS>=5%, e=5%, When AS>=5%, e=5% analyzed by methods 7196A/200,7245.5/335.2/9010B/9014. Sediment coations care the coation of the ASP ASP Contenting Contaminated Sediment (NYSDEC) (1984,1999).

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Wappingers Falls, New York Three Star Anodizing Site

Wappinger Creek Investigation - Sediment Samples

05/14/2003 WP-M3 0 - 6 in. mg/Kg 05/14/2003 12 - 17 in. mg/Kg WP-M2 Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data 05/14/2003 6 - 12 in. mg/Kg WP-M2 05/14/2003 0 - 6 in. WP-M2 mg/Kg 05/09/2001 6 - 12 in. mg/Kg WP-18 Sediment Lowest Effect Level (LEL) mg/Kg Sediment Severe Effect Level (SEL) mg/Kg Sample Date Sample Depth Units Sample ID

	ļ)	9. 9.	9,,,9,,,	541/SIII	11,8/10,8	mg/Kg
Compound							
Aluminum	NS	73200 (1)	10100	15400 1	10600	1,090	1 0050
Antimony	25.0 (L)	2.0 (L)	i	1 7 BNI	2001	00601	10006
Arsenic	33.0 (P)	(4) 0.9	5.6	(*10.4%)	490	1 3	:
Barium	, sv	No.		(cc.c.)	((51)	(14.1)	*L <.c
Donallina	2 2	CNI	7 + 7	73 E	46 B	37B	53 BJ
Belyingii	Z.	SX	0.47 J	0.77 BJ	0.45 B	0.45 B	0.5 BJ
Cadmium	9.0 (P)	0.6 (P)	0.098 J	(1.8 BJ)	(2.6)	(1.2 B)	(1.4 B.D
Calcium	SN	NS	2900	9540 3	2350	1130 B	170001
Chromium**	110.0 (P)	26.0 (P)	16	(34.D	(482 *)	(465 *)	2007.1
Cobalt	NS	NS	16	14 B1	(E)	0.4 B	(6.72)
Copper	110.0 (P)	16.0 (P)	. 91	(58.1)	325	2.4.b	IO PI
Iron	4% (P)	2% (P)	9	(600)	(1)	(10)	((())
- Pad	(2)8/1	278(F)	(7.7)	(3.6.1)	(2.6)	(2.8)	(2.3 J)
No.	110.0 (L)	31.0 (P)	20	(129 J*)	(210 *)	(174 *)	(182 J*)
Magnesium	SZ	SN	4960	8490 J	5830	5670	11400 1
Manganese	1100 (L)	460 (P)	244 J	(874 J)	324	285	(527 D
Mercury	1.3 (L)	0.15 (L)	(0.44 J)	(0.83 J)	(34 *)	(* 89)	(c '2c)
Nickel	50 (L)	16 (P)	(20)	(32.1)) (2)	(33)	(15/3)
Potassíum	SN	NS	1140 ĭ	1150 BI	(±2) 366 D	(77)	(747)
Selenium	SN	SN	7 700	CT CCII	900	α/†0	871 BJ
Silver	600	, t	0.74.0	I	1	1	1
	7.7 (L)	1.0 (L)	-	I	1	}	i
Sodium	SN	NS	79 J	159 BJ	ļ	1	138 21
Lhallium	SS	NS	1	i	1.13	0.85B	
Vanadium	NS	NS	16	24 BJ	81	13	ia cc
Zinc	270 (L)	120 (P/L)	69	(325 J*)	(396 *)	(195)	\$1 POC
Cyanide, total	SN	0.1 (Eisler 1991)	ı	(13BIN)	(M. 1.5)	(200)	((() ()
Cvanide, amenable to chlorination	NC	SIV.		(100 001)	(NIC Y'C)	(NIC /-1)	}
	C.	S	ı	1	1	-	1
Percent solids (%)	NA	Ϋ́Z	74	°.	Š	į	
Ha	17		t i	97	96	6/	39
, H	ev.	AZ	7.4		1	1	i
35.8	N. N.	SZ	2.4	1.1 e BJ	1.1 e.BJ	1.1 BJ	6.4 B.I
1 otal organic carbon (mg/Kg)	SN	NS	24400	11300 e BJ	11300 e.BJ	11300 BJ	63800 BJ

J-estimated value, NS = no sorrening value, NA = not applicable, —... no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS><5%, e=AS TOC%. Samples analyzed by methods 7196A/200 1/245.5/335.2/9010B/9014. Sediment sorrening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Mongan; P = Persaud; (1) = EPA ARCS No Effects concentration.

* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappingers Falls, New York Three Star Anodizing Site

	Sample ID Sediment	Sediment	Sediment	WP-M3	WP-DOT	WP-DOT	WP-DOT	WP-29A
		Severe Effect	Lowest Effect					
	Sample Date Sample Denth	Level (SEL)	Level (LEL)	05/14/2003 6 - 12 in	05/14/2003 0 - 6 in	05/14/2003 6 12 in	05/14/2003	05/14/2003
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound))
Aluminum		NS	73200 (1)	10900	14400	12400	11700	0096
Antimony		25.0 (L)	2.0 (L)	(92 NJ*)	(5.4 BNJ)	(27 NJ*)		(13 BNJ)
Arsenic		33.0 (P)	6.0 (P)	(33 J)	(9.5.1)	(103]*)	(35]*)	5.71
Barium		NS N	NS	. 63	33 B	89	54 B	
Beryllium		NS	NS	0.6 B	0.53 B	0.61 B	0.5 B	0.43 B
Cadmium		9.0 (P)	0.6 (P)	(23 *)	(4.2)	(53 *)	(7.4)	(3.6)
Calcium		NS	NS	13100	3820	4810	2290	4220
Chromium**		110.0 (P)	26.0 (P)	(280 *)	(20)	(2270 *)	(2130 *)	(55)
Cobalt		NS	NS	11 B	13 B	9.7 B	9,9 B	12 B
Copper		110.0 (P)	16.0 (P)	(187 *)	(44)	(426 *)	(214 *)	(56)
Iron		4% (P)	2% (P)	(2.5)	(3.6)	(2.7)	(2.7)	(2.2)
Lead		110.0 (L)	31.0 (P)	(366 *)	(113 *)	(803 *)	(452 *)	(106)
Magnesium		SN	NS	9670	0968	7060	5950	5970
Manganese		1100 (L)	460 (P)	418	339	320	229	272
Mercury		1.3 (L)	0.15 (L)	(27 *)	(0.86)	(186 *)	(88 *)	(4.6 *)
Nickel		50 (L)	16 (P)	(23)	(33)	(22)	(22)	(27)
Potassium		NS	NS	1000 B	724 B	937 B	844 B	705 B
Selenium		NS	NS	12B	!	ı	1	: 1
Silver		2.2 (L)	1.0 (L)		1	1	i	1
Sodium		SN	NS	-	!	ŀ	1	-
Thallium		NS	NS	ì	18	1.2 B	I	1.2 B
Vanadium		ΝS	SN	91	18	16B	15	15 B
Zinc		270 (L)	120 (P/L)	(1780 *)	(732 *)	(4650 *)	(1210*)	(466 *)
Cyanide, total		NS	0.1 (Eisler 1991)	(NC 91)	(0.52 BJN)	(26 JN)	(2.7 JN)	(0.32 BJN)
Cyanide, amenable to chlorination		٧S	NS	ï	1		. 1	,
Percent solids (%)		٧ 7	ĄV	99	64	19	3	9
Ha		AZ.	* Z	}	5	5	6/	, AC
%T0C		2	S S	10.77	13.01		;	;
Total accounts and a feet of	- /		27.	G D to	LG C.1	1.3 e.B.J	1.3 e BJ	6.3 e BJ
TOTAL OF SAILE CALOOH (HIS/NS)	-	0.7	N.	63800 e BJ	13400 BJ	13400 e BJ	13400 e BJ	62900 e BJ

1- estimated value, NS = no sercening value, NA = not applicable, --- no data. B = analyte detected above PQL in Prep Blank, e - estimated concentration using TOC data from another sample cAS) collected at the same location. When AS>=5%, e=5%. When AS>=5%, e=AS TOC%. Samples analyzed by methods 7196A/200.7245.5735.2/9010B/9014. Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999). except for the total cyanide sortening value obtained from Bisler 1991. L = Long & Morgan; P = Persaud; (1) = BPA ARCS No Effects concentration.

*- exceeds Sediment (SEL) screening value (1) - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Three Star Anodizing Site Wappingers Falls, New York

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	Sediment Severe Effect	Sediment	WP-29A	WP-29A DUP	WP-29A	WP-29	WP-29
	Sample Date	Level (SEL)	Level (LEL)	05/14/2003 6 - 12 in	05/14/2003 6 - 17 in	05/14/2003 12 - 17 in	05/09/2001	05/09/2001
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound								
Aluminum		NS	73200 (1)	13000	11600	18700	11800	10500
Antimony		25.0 (L)	2.0 (L)	(91 NJ*)	(105 NJ*)	1	(159 JN*)	(3.1N)
Arsenic		33.0 (P)	6.0 (P)	(162 J*)	(114*)	(31 J)	(20)	(27)
Barium		NS	NS	82	70 B	44 B	f 69	31 J
Beryllium		SN	SN	0.69 B	0.6 B	0.73 B	0.53 J	0.44 J
Cadmium		9.0 (P)	0.6 (P)	(4 62)	(* 89)	(7)	(27 *)	(32 *)
Calcium		NS	SN	6140	5380	2280	5840	2360
Chromium**		110.0 (P)	26.0 (P)	(2000 *)	(1490 *)	(1040 *)	(267 J*)	(620 J*)
Cobalt		NS	NS	10 B	8.9 B	13 B	11.3	6.6 J
Copper		110.0 (P)	16.0 (P)	(504 *)	(391 *)	(173 *)	(154*)	(115 *)
Iron		4% (P)	2% (P)	(2.7)	(2.4)	(4.2 *)	(2.7)	(2.6)
Lead		110.0 (L)	31.0 (P)	(1050 *)	(* 658)	(348 *)	(376 *)	(321 *)
Magnesium		NS	SN	6910	6410	10600	7320	5570
Manganese		1100 (L)	460 (P)	369	316	254	366 JN	208 JN
Mercury		1.3 (L)	0.15 (L)	(144 *)	(130 J*)	(95 *)	(32 *)	(87 *)
Nickel		SO (L)	16 (P)	(23)	(20)	(37)	(25)	(18)
Potassium		NS	NS	1080 B	901 B	883 B	1000 J	679 J
Selenium		NS	SN		1.3 B	!	1.4 J	0.49 J
Silver		2.2 (L)	1.0 (L)	-	;	1	1	ı
Sodium		NS	SN	* * *		***	112 J	48 J
Thallium		NS	NS	1.4 B	-	;	!	
Vanadium		NS	NS	17B	15 B	24	16 J	12 J
Zinc		270 (L)	120 (P/L)	(+ 0059)	(5410*)	(926 *)	(1980*)	(2610 *)
Cyanide, total		NS	0.1 (Eisler 1991)	(34 JN)	(34 JN)	(6.2 JN)	(28)	(9)
Cyanide, amenable to chlorination		NS	NS	•	ļ	•	1	- 1
Percent solids (%)		NA	ΥN	53	55	09	\$6	69
hd		NA	NA	• • • •	!	ļ	4.8	7.8
% TOC		NS	NS	6.3 BJ	7 BJ	6.3 c BJ	2.2	2.0
Total organic carbon (mg/Kg)		NS	NS	62900 BJ	70100 BJ	62900 e BJ	21700	7330

J-estimated value, NS = no screening value, NA = not applicable, -- no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<=5%, e=AS TOC%. Samples analyzed by methods 7196A/200, 17245.5/335.2/9010B/9014. Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999). except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan; P = Persaud; (1) = EPA ARCS No Effects concentration.

*- exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Evon data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Wappingers Falls, New York Three Star Anodizing Site

Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

DRAFT Table 4-3

	Sample ID	Sediment Source Effect	Sediment	WP-29	WP-CKOUT	WP-OD3	WP-OD3	WP-PL
	Sample Date	Severe Effect Level (SEL)	Lowest Effect Level (LEL)	05/09/2001	05/14/2003	05/14/2003	05/14/2003	05/08/2001
	Sample Deput	mg/Kg	mg/Kg	ng/Kg	mg/Kg	mg/Kg	o - 12 m. mg/Kg	mg/Kg
Compound								-
Aluminum		NS	73200 (1)	12800	11400	9310	11300	12500 J
Antimony		25.0 (L)	2.0 (L)	i	1.7 BNJ	1.7 BNJ	(2.9 BNJ)	(6.3 JN)
Arsenic		33.0 (P)	6.0 (P)	(44 *)	(18)	(6.4)	(2)	(16.1)
Barium		NS	NS	81	130	58	58 B	74 J
Beryllium		NS	NS	0.6 J	0.59 B	0.41 B	0.54 B	0.63 J
Cadmium		9.0 (P)	0.6 (P)	(+ 6'6)	(1.8)	(1.7)	(2.3)	(8.5.1)
Calcium		NS	NS	3900	3200	1780	1880	6040 J
Chromium**		110.0 (P)	26.0 (P)	(4120 J*)	(64)	(48)	(88)	(544 J*)
Cobalt		NS	NS	9.4 J	12 B	8.2 B	9.7B	13 J
Copper		110.0 (P)	16.0 (P)	(462 *)	(154 *)	(88)	(104)	(183 J*)
Iron		4% (P)	2% (P)	(3.0)	(3.0)	(2.5)	(2.3)	(2.8.J)
Lead		110.0 (L)	31.0 (P)	(637 *)	(182 *)	(130 *)	(243 *)	(279 J*)
Magnesium		NS	NS	6190	4860	5110	5250	5700 J
Manganese		1100 (L)	460 (P)	322 JN	(2390 *)	(069)	171	386 JN
Mercury		1.3 (L)	0.15 (L)	(118 *)	(9.6 J*)	(1.2.1)	(2.4 J*)	(17.5*)
Nickel		50 (L)	16 (P)	(21)	(25)	(19)	(22)	(41 J)
Potassium		NS	SZ	1180 J	888 B	599 B	887 B	1330 J
Selenium		NS	NS	2.1	1.8	•	1	3.3 J
Silver		2.2 (L)	1.0 (L)	0.25 J	1	1	:	(1.2.1)
Sodium		SN	NS	98 J		!	ì	189 J
Thallium		NS	NS	1	2.2 B	1.4 B	1.5 B	
Vanadium		NS	SN	16 J	19	13 B	15	21 J
Zinc		270 (L)	120 (P/L)	(1330 *)	(836*)	(244)	(307 *)	(825 J*)
Cyanide, total		NS	0.1 (Eisler 1991)	(6.1)	(0.27 BJN)	!	(0.28 BJN)	(7.3.1)
Cyanide, amenable to chlorination		NS	NS	1	ł	ı	-	2.2
Percent solids (%)		NA	NA	58	70	72	89	26
hH		NA	NA	7.6	!	1	!	7.2
% TOC		NS	NS	11	3.6	3.1 e	3.1	12
Total organic carbon (mg/Kg)		NS	NS	105000	35900	30500 e	30500	115000

J. estimated value, NS = no sercening value, NA = not applicable, — - no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%, When AS>=5%, e=5% TOC%, Samples analyzed by methods 7196A/200,7245.5/35.2/9010B/9014. Sediment screening value obtained then Technical Guidance for Screening Contaminated Sediment (NYSDES 1999).

Sediment care produce are guidance values obtained from Eisler 1991. L = Long & Morgan; P = Persaud, (I) = PRA ARCS NOs Effects concentration.

* exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Three Star Anodizing Site Wappingers Falls, New York

Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

	Sample ID	Sediment Severe Effect	Sediment Lowest Effect	WP-PL DUP	MP-PL	WP-PL1	WP-PL1	WP-PL1
	Sample Date Sample Denth		Level (LEL)	05/08/2001 0 - 6 in.	05/08/2001 6 - 11 in.	05/13/2003 0 - 6 in.	05/13/2003 6 - 12 in.	05/13/2003 12 - 18 in.
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/K.g	mg/Kg	mg/Kg
Compound								
Aluminum		SN	73200(1)	11900 J	14000 J	16000 J	16700 J	16600
Antimony		25.0 (L)	2.0 (L)	(4.5 JN)	(3.4 JN)	(7.1 BNJ)	(4.7 BNJ)	1
Arsenic		33.0 (P)	6.0 (P)	(9.6 J)	(105 *)	(13.1)	(28 J)	4.5
Barium		SN	NS	70.5	87 J	90 BJ	106 J	105
Beryllium		NS	NS	0.59 J	0.67 J	0.79 BJ	0.83 BJ	0.8 B
Cadmium		9.0 (P)	0.6 (P)	(6.4.J)	(* 61)	(4.6 J)	(2.3 BJ)	0.4B
Calcium		NS	NS	5930 J	4230	7220 J	5050 J	4340
Chromium**		110.0 (P)	26.0 (P)	(412 J*)	(3760 J*)	(335 J*)	(474 J*)	24
Cobalt		NS	SZ	12.1	9.6 J	14 BJ	12 BJ	12 B
Copper		110.0 (P)	16.0 (P)	(158 J*)	(345 *)	(109 J)	(104 J)	(24)
Iron		4% (P)	2% (P)	(2.6 J)	(2.8)	(3.0 J)	(2.6 J)	(2.4)
Lead		110.0 (L)	31.0 (P)	(281 J*)	(629 *)	(181 J*)	(213 J*)	19
Magnesium		SZ	NS	5350 J	4990	6570 J	5670 J	5800
Manganese		1100 (L)	460 (P)	408 JN	354 JN	456 J	276 J	299
Mercury		1.3 (L)	0.15 (L)	(9 1*)	(182 *)	(8.5 J*)	(14 J*)	(0.3)
Nickel		50 (L)	16 (P)	(37.1)	(23)	(37.1)	(25 J)	(24)
Potassium		NS	NS	1230 J	1140 J	1470 BJ	1170 BJ	1040 B
Selenium		NS	NS	1.7 J	3.5	1	1.4 BJ	1.1B
Silver		2.2 (L)	1.0 (L)	(1.1 J)	0.55 J	1	1	1
Sodium		NS	NS	176.1	147 J	185 BJ	133 BJ	100 B
Thallium		NS	NS	!	1	!	1	1
Vanadium		NS	SZ	21 J	17.1	25 BJ	20 BJ	18
Zinc		270 (L)	120 (P/L)	(654 J*)	(1820 *)	(501 J*)	(275 J*)	79
Cyanide, total		NS	0.1 (Eisler 1991)	1	(42)	(0.87 BJ)	(0.52 BJ)	(0.65 B)
Cyanide, amenable to chlorination	E	NS	NS	1	13	1	ı	1
Percent solids (%)		NA	NA	25	40	29	43	56
Hd		NA	NA	7.7	7.4	•	1 4 4	!
% TOC		NS	SZ	12	8.2	11.5	8.1 J	5.2
Total organic carbon (mg/Kg)		NS	NS	115000	82300	108001	80500 J	51700

J. estimated value, NS = no screening value, NA = not applicable, no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e>5%. When AS>=5%, e>5% TOC%, Samples analyzed by methods 71245.3/332.2/90108/9014.
Sediment screening value are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998). estimated to the sequence value obtained from Eisler 1991. L = Long & Mongan, P = Persaud; (1) = DPA ARCS No Effects concentration.

* - exceeds Sediment (SEL) screening value. (1) - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. NOTES:

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Wappinger Creek Investigation - Sediment Samples Wappingers Falls, New York

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

Three Star Anodizing Site

	ı							ſ
	Sample ID Sediment Severe Effect	Sediment Lowest Effect	WP-PL2	WP-PL2	WP-PL2	WP-PL3	WP-PL3	
		Level (LEL)	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	
			0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	6 - 12 in.	
	Units mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Compound								
Aluminum	SN	73200 (1)	15000 J	15700 J	13200 J	15900 J	17100 I	Τ
Antimony	25.0 (L)	2.0 (L)	ł	!	(7.8 BNJ)		(21 BND	
Arsenic	33.0 (P)	6.0 (P)	3.4 BJ	5.6 BJ	(20.3)	4.3 BJ	(34 [*)	
Barium	NS	NS	79 BJ	86 BJ	77 BJ	87 BJ	(5:2) 103 B.I	
Beryllium	SN	NS	0.74 BJ	0.78 BJ	0.63 BJ	0.79 BJ	0.82 BJ	-
Cadmium	9.0 (P)	0.6 (P)	(4.7 J)	(5.1)	(4.7.1)	(4.9.1)	(8.9.1)	
Calcium	SN	SN	6420 J	5450 J	3670 J	7350 J	5310.1	
Chromium**	110.0 (P)	26.0 (P)	(204 J*)	(211 J*)	(574 J*)	(244]*)	(1170.1*)	
Cobalt	SN	SN	13 BJ	13 BJ	9.7 BJ	14 BJ	13 BI	
Copper	110.0 (P)	16.0 (P)	(162 J*)	(195 J*)	(112 J*)	(146 J*)	(225 J*)	
Iron	4% (P)	2% (P)	(2.6.J)	(2.7.1)	(2.3.1)	(2.8.1)	(2.8.1)	
Lead	110.0 (L)	31.0 (P)	(297 J*)	(405 J*)	(193 J*)	(258 J*)	(435 J*)	
Magnesium	SN	SN	6200 J	£ 0619	4750 J	é590 J	5940 J	
Manganese	1100 (L)	460 (P)	335 J	30I J	256 J	349 J	335 J	
Mercury	1.3 (L)	0.15 (L)	(8.1 J*)	(8.5 J*)	(20 J*)	(9.5 J*)	(27 3*)	
Nickel	50 (L)	16 (P)	(41 J)	(36.1)	(21.1)	(43.1)	(29.1)	
Potassium	SN	NS	1490 BJ	1350 BJ	954 BJ	1540 BJ	1360 BJ	
Selenium	SN	NS	1	2 BJ	ļ	ı	1.9 BJ	
Silver	2.2 (L)	1.0 (L)	;	0.97 BJ	i	1	1	
Sodium	NS	NS	221 BJ	189 BJ	134 BJ	249 BJ	199 BI	
Thallium	SN	NS	1	1	l	3 BJ	† }	
Vanadium	NS	NS	22 BJ	25 BJ	16 BJ	25 BJ	24 BJ	
Zinc	270 (L)	120 (P/L)	(488 J*)	(515 J*)	(431 J*)	(492 J*)	(887.1*)	_
Cyanide, total		0.1 (Eisler 1991)	i	(0.49 BJ)	(8)	(0.68 B.D	(117)	
Cyanide, amenable to chlorination	NS u	SN	i	.	1.7	<u> </u>		
Percent solids (%)	₹ Z.	NA	26	7 .	43	7	50	
Hd	₹ Z	Ϋ́	: 1	: !	?	73	r r	
% TOC	SN	s S	5.9 BJ	6.4 BJ	7.7 RI	9.4BI	ia c	
Total organic carbon (mg/Kg)	NS	NS	58700 BJ	64200 BJ	77000 BJ	93900 BJ	12 B) 118000 BJ	
								-

J. estimated value, NS = no screening value, NA = not applicable, no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample collected at the same location. When ASS—5%, e=AS TOC%, Samples analyzed by methods 7196A/200,7245.5/335.2/9010B/9014. sample to detecting values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC) 1998,1999.

except for the total cyanide screening value obtained from Eisler 1991. L = Long & Mongan, P = Persaud (i) = PRA ARCS NO Effects concentration.

* exceceds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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O'BRIEN SIGERE Engineers, inc.

DRAFT Table 4-3

Three Star Anodizing Site Wappingers Falls, New York

Inorganic Concentrations Compared to Screening Values Including p.H., TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	Sediment Severe Effect	Sediment	WP-T1A	WP-T1A	WP-T1A	WP-TIC	WP-TIC
	Sample Date I	Level (SEL)	Level (LEL)	05/14/2003 0 - 6 in	05/14/2003 6 - 12 in	05/14/2003 17 - 74 in	05/14/2003 0 - 6 in	05/14/2003 6 - 10 in
		тв/Кв	mg/Kg	mg/Kg	mg/Kg	mg/Kg	тв/Кв	mg/Kg
Compound								
Aluminum		NS .	73200 (1)	13700 J	12900 J	13500	0696	11500
Antimony		25.0 (L)	2.0 (L)	į	(3.7 BNJ)	1	(40 NJ*)	(52 NJ*)
Arsenic		33.0 (P)	6.0 (P)	(6.8 J)	(8.)	(13)	(6.2)	(22)
Barium		NS	NS	68 BJ	69 BJ	57 B	42 B	60 B
Beryllium		NS	SN	0.67 BJ	0.66 BJ	0.62 B	0.46B	0.58 B
Cadmium		9.0 (P)	0.6 (P)	(1.9 BJ)	(4.5 J)	(1.6 B)	(3.3)	(13 *)
Calcium		NS	NS	5910 J	4730 J	2700	4590	4060
Chromium**		110.0 (P)	26.0 (P)	(53 J)	(148)*)	(242 *)	(74)	(274 *)
Cobalt		NS	NS	17 BJ	14 BJ	11B	10 B	10 B
Copper		110.0 (P)	16.0 (P)	(70.1)	(117 J*)	(48)	(19)	(132 *)
Iron		4%(P)	2% (P)	(2.9 J)	(2.6.J)	(2.6)	(2.2)	(2.5)
Lead		110.0 (L)	31.0 (P)	(87.1)	(210 J*)	(101)	(92)	(230 *)
Magnesium		NS	NS	6250 J	2960 J	5920	5590	5550
Manganese		1100 (L)	460 (P)	(527 J)	351 J	284	363	306
Mercury		1.3 (L)	0.15 (L)	(1.7 J*)	(4.6 J*)	(3.1 J*)	(4.8 J*)	(20 J*)
Nickel		50 (L)	16 (P)	(35 J)	(35.1)	(23)	(22)	(22)
Potassium		NS	NS	1190 BJ	1090 BJ	1020 B	756 B	916B
Selenium		NS	NS	-	1.5 BJ	1	1	1
Silver		2.2 (L)	1.0 (L)	1	1	1	1	1
Sodium		NS	NS	137 BJ	102 BJ	1	-	-
Thallium		NS	NS	3.3 BJ	3 BJ	1.1B	18	1.5 B
Vanadium		NS	NS	24 BJ	25 J	16B	14B	15 B
Zinc		270 (L)	120 (P/L)	(240 J)	(452 J*)	(192)	(323 *)	(1050 *)
Cyanide, total		NS	0.1 (Eisler 1991)	(0.65 BJ)	(0.84 BJN)	(0.33 BN)	(3.9 N)	(4.3 N)
Cyanide, amenable to chlorination		SN	NS	ı	1	i	!	-
Percent solids (%)	, ,	NA	NA	34	43	59	70	19
Hd		NA	NA		. 1	: 1	: I	3 :
% TOC		NS	NS	8.5 e J	8.5 e J	8.5 J	3.1 e	1.6
Total organic carbon (mg/Kg)	•	NS	NS	85400 e J	85400 e J	85400 J	31100 e	31100

* exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. J - estimated value, NS = no screening value, NA = not applicable, ... - no data. B = analyte detected above PQL in Prop Blank. e - estimated concentration using TOC data from another sample at the same location. When ASS—SS, exp. ASS—SS, when ASS—SS, explose analyzed by methods 7196A200, 7245 5/335.2/9010B/9014. Softment screening values are guidance values obtained from Technical Guidance for Sercening Contaminated Sediment (NYSDEC 1998, 1999).

Secopt for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud, (1) = EPA ARCS No Effects concentration.

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DRAFT Table 4-3 Three Star Anodizing Site Wappingers Falls, New York

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID Sedi	Sediment Severe Effect	Sediment Lourest Effect	WP-OD2	WP-OD2	WP-OD2	WP-T2A	WP-T2A
		Level (SEL)	Level (LEL)	05/14/2003	05/14/2003	05/14/2003	05/13/2003	05/13/2003
				0 - 6 in.	6 - 12 in.	12 - 22 in.	0 - 6 in.	6 - 12 in.
	Units mg/Kg	Kg	mg/Kg	mg/Kg	тв/Кв	mg/Kg	mg/Kg	mg/Kg
Compound								
Aluminum	SN		73200 (1)	12600 J	11700 J	12700	13100 J	10300
Antimony	25.	25.0 (L)	2.0 (L)	I	!	ŀ		(8.9 BNJ)
Arsenic	33.4	33.0 (P)	6.0 (P)	5.3 BJ	5.1 J	(16)		(7.5)
Barium	SN		NS	66 BJ	60 BJ	48 B		45 B
Beryllium	SN		NS	0.61 BJ	0.54 BJ	0.56B		0.44B
Cadmium	0.6	9.0 (P)	0.6 (P)	(2.3 BJ)	(2.2 J)	(4)	(1.9 BJ)	(2.8)
Calcium	SN		NS	5310 J	3120 J	1950		2290
Chromium**	110	110.0 (P)	26.0 (P)	(68 J)	(78.1)	(351 *)		(119*)
Cobalt	SN		NS	14 BJ	12 BJ	12 B		118
Copper	311	110.0 (P)	16.0 (P)	(69.1)	(63 J)	(55)		(46)
Iron	4%	(P)	2% (P)	(2.5 J)	(2.5 J)	(2.8.)		(2.2)
Lead	110).0 (L)	31.0 (P)	(96.1)	(111 3*)	(102)		(91)
Magnesium	SN		NS	6150 J	5370 J	5780		4830
Manganese	110	1100 (L)	460 (P)	433 J	305 J	284		228
Mercury	1.3	1.3 (L)	0.15 (L)	(1.9 J*)	(2.5 J*)	(19 J*)		(3.9 *)
Nickel	20((J)	16 (P)	(36.J)	(31.J)	(24)		(21.)
Potassium	NS		NS	1260 BJ	951 BJ	1080 B		896B
Selenium	NS		NS	-	:	1		1
Silver	2.2	2.2 (L)	1.0 (L)		1	1		ı
Sodium	SN		NS	156 BJ	90 BJ	1		76B
Thallium	NS		NS	2.4 BJ		1.6B		-
Vanadium	NS		NS	24 BJ	21 J	16B		13 B
Zinc	270	270 (L)	120 (P/L)	(266 J)	(250 J)	(442 *)		(311 *)
Cyanide, total			0.1 (Eisler 1991)	1	ı	I		(0.44B)
Cyanide, amenable to chlorination	NS NS		NS	ì	***	1		1
Percent solids (%)	AN		٧Z	30	49	63	27	63
Hd	NA		Z.A.	!	1	ł	1	1
% TOC	SN		SN	4.1 e J	4.1 e J	4.1 J	5 B.J	3.1 B
Total organic carbon (mg/Kg)	NS		NS	41100 cJ	41100 e J	41100 J	49600 BJ	31400 B

- exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Fron data are shown as percent. ** Hexavalent Chronium was also analyzed, but not detected. J - estimated value, NS = no screening value, NA = not applicable, — - no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample and at ne same location. When ASS—S9%, extent ASS—S9%, exapt located by methods 7196A200.71245.57335.2/9010B/9014. Sodiment streening values are guidance values obtained from Technical Guidance for Sortening Contaminated Sediment (NYSDEC 1998, 1999). As Solitorial Contaminated Sediment (NYSDEC 1998, 1999). As Solitorial Contaminated Sediment (NYSDEC 1998, 1999). Laborated from Technical Guidance for Sortening Contaminated Sediment (NYSDEC 1998, 1999). Laborated from Eisler 1991, Laborated & Morgan: Paperauck; (1) = EPA ARCS No Effects concentration.

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Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

Wappingers Falls, New York Three Star Anodizing Site

	Sample ID Sec	Sediment Source Effect	Sediment	WP-T2B	WP-T2B	WP-T2B	WP-T2C	WP-T2C
	Sample Date Let	Level (SEL)	Level (LEL.)	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ng/Kg
Compound					1	•	1))
Aluminum	SN		73200 (1)	14700 J	11800	11400	11900 J	14000
Antimony	25	25.0 (L)	2.0 (L)	ı	;	1	1	
Arsenic	33	33.0 (P)	6.0 (P)	(6.5.1)	3.8	2.2 B	(7.7 J)	(40*)
Barium	NS	"	NS	78 BJ	28 B	41 B	65 BJ	60 B
Beryllium	NS		NS	0.69 BJ	0.38 B	0.44B	0.61 BJ	0.64 B
Cadmium)'6	9.0 (P)	0.6 (P)	(1.5 BJ)	(I.1 B)	0.56B	(4.6 J)	(5.6)
Calcium	ž		NS	7300 J	1630	1740	6760 J	3170
Chromium**	77	110.0 (P)	26.0 (P)	(34 J)	(27)	17	(643)	(826 *)
Cobalt	ž	NS	NS	18 BJ	14	103	18 BJ	14B
Copper	11	110.0 (P)	16.0 (P)	(50.1)	(22)	14	(106)	(129 *)
Iron	49	4% (P)	2% (P)	(3.0 J)	(2.7)	(2.3)	(2.6.J)	(2.8)
Lead		110.0 (L)	31.0 (P)	(106.1)	(40)	26	(125 J*)	(287 *)
Magnesium	NS		NS	7780 J	7170	5240	6670 J	6280
Manganese	11	1100 (L)	460 (P)	(506.1)	248	247	421 J	290
Mercury	1.3	1.3 (L)	0.15 (L)	(0.46 J)	(0.17)	(0.18)	(1.7 J*)	(33 *)
Nickel	50	50 (L)	16 (P)	(35 J)	(26)	(20)	(37.3)	(29)
Potassium	NS		NS	1540 BJ	740 B	960 B	1310 BJ	1270 B
Selenium	NS		NS	ı	!	1	1	-
Silver	2.2	2.2 (L)	1.0 (L)	;	ı	;	1	1
Sodium	SX		NS	195 BJ	56 B	88 B	163 BJ	124 B
Thallium	SN		NS	1	0.86 BJ	1.5 BJ	1	1
Vanadium	NS		NS	23 BJ	13 B	13 B	22 BJ	18 B
Zinc	27	270 (L)	120 (P/L)	(238 J)	(155)	82	(470 J*)	(588 *)
Cyanide, total	SN		0.1 (Eisler 1991)	í	(0.33 B)	1	-	(1.5)
Cyanide, amenable to chlorination	SN		NS	I	ı	1	I	1
Percent solids (%)	AN	,	AA	33	75	89	33	51
Hd	Ż	_	Ϋ́Z	1	1	!	****	: 1
% TOC	SN		NS	4.9 J	2.6 J	1.9	4.5 BJ	5.9 B
Total organic carbon (mg/Kg)	SN		SN	49000 J	26400 J	19100	45000 BJ	59000 B

J. estimated value, NS = no serreening value, NA = not applicable, --- no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, APR AS <5%, AS = 70 C%, Samples analyzed by methods 7196A/200, 7245.5/335.2/9010B/9014. Sodiment expectancy authors are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDES) (1998,1999). Sodiment expecting value are guidance obtained from Eislen 1991. L = Long & Mongan, P = Persaud, (I) = PPA ARCS NO Effects concentration.

* except for the total cyanide serrening value obtained from Eislen 1991. L = Long & Mongan, P = Persaud, (I) = PPA ARCS NO Effects concentration.

* exceeds Sediment (SEL) screening value () - exceeds Sediment (LEL) screening value from data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples Wappingers Falls, New York

	Sample ID Sediment	Sediment	WP-T2C	WP-OD1	WP-OD1	WP-OD1	WP-T3A
	Sample Date Level (SEL)	Level (LEL)	05/13/2003 12 - 24 in	05/13/2003 0 = 6 in	05/13/2003 6 - 17 in	05/13/2003	05/13/2003
	Units mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	.2 - 12 III. mg/Kg	mg/Kg
Compound							
Aluminum Aluminum	SN	73200 (1)	13400	12200 J	17000	15800	15800 J
Antimony	25.0 (L)	2.0 (L)	;	I	1	ł	
Arsenic	33.0 (P)	6.0 (P)	3.8	(16.1)	(21)	\$	(6.1 BJ)
Barium	SN	SN	45 B	67 BJ	87	81	92 BJ
Beryllium	SN	NS	0.5 B	0.69 BJ	0.83 B	0.79 B	0.82 BJ
Cadmium	9.0 (P)	0.6 (P)	0.42 B	(5.8 J)	(1.8 B)	0.58 B	(2.8 BJ)
Calcium	SN	NS	1710	6940 J	3700	3130	\$830 J
Chromium**	110.0 (P)	26.0 (P)	(31)	(247 J*)	(266 *)	23	(66.3)
Cobalt	SN	SN	10 B	20 BJ	14 B	12 B	17 BJ
Copper	110.0 (P)	16.0 (P)	(18)	(89.1)	(68)	(23)	(84 J)
Iron	4% (P)	2% (P)	(2.6)	(2.8.1)	(2.9)	(2.7)	(3.1.7)
Lead	110.0 (L)	31.0 (P)	(37)	(138 J*)	(218*)	(99)	(106 J)
Magnesium	SN	SN	6130	6070 J	6320	5930	8070 J
Manganese	1100 (L)	460 (P)	242	450 J	366	374	(469 J)
Mercury	1.3 (L)	0.15 (L)	0.095	(8.3 J*)	(20 *)	0.11	(1.1.1)
Nickel	50 (L)	16 (P)	(23)	(47 J)	(29)	(26)	(42 J)
Potassium	SN	SZ	8 066	1490 BJ	1560 B	1470 B	1900 BJ
Selenium	SN	SZ	1	1	1	1	ı
Silver	2.2 (L)	1.0 (L)	1	-	I	1	1
Sodium	SN	NS	99 B	222 BJ	185 B	165 B	223 BJ
Thallium	NS	SZ	ļ	3.1 BJ	1.7 BJ	2.2 BJ	ı
Vanadium	NS	NS	15	28 BJ	23	22	38 J
Zinc	270 (L)	120 (P/L)	73	(611 3*)	(251)	84	(316 J*)
Cyanide, total		0.1 (Eisler 1991)	(0.27 B)	1	(0.6B)	!	
Cyanide, amenable to chlorination	n NS	NS	I	1	1	1	
Percent solids (%)	NA	NA	70	27	51	53	30
Hd	NA	NA	!	1	1	1	1
%TOC	NS	NS	1.1 B	5.7 BJ	6.18	3.8 B	5.6 3
Total organic carbon (mg/Kg)	SN	NS	11000B	56500 BJ	60700 B	37600 B	56400 J

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Wappingers Falls, New York Three Star Anodizing Site

DRAFT Table 4-3

Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

-	Sample ID Sediment	Sediment Lourset Effect	WP-T3A DUP	WP-T3A	WP-T3A	WP-T3B	WP-T3B	
	Sample Date Level (SEL)	Level (LEL)	05/13/2003	05/13/2003 6 - 13 in	05/13/2003 17 - 24 in	05/13/2003	05/13/2003	
	Jampie Depui Units mg/Kg	mg/Kg	mg/Kg	o - 12 m. mg/Kg	ng/Kg	mg/Kg	0 - 12 in. mg/Kg	
Сопрочи		:						
Aluminum	SN	73200 (1)	14600 J	19000 J	15900	14500 J	16500 J	Τ
Antimony	25.0 (L)	2.0 (L)	ļ	į	(2.4 BNJ)	I	ı	
Arsenic	33.0 (P)	6.0 (P)	(6.1 BJ)	(101)	(30)	5 BJ	(8.4 J)	
Barium	SN	SN.	84 BJ	95 BJ	98	94 BJ	91 J	
Beryllium	SN	SN	0.73 BJ	0.94 BJ	0.76B	0.79 BJ	0.82 BJ	
Cadmium	9.0 (P)	0.6 (P)	(2.4 BJ)	(3.7.1)	(5.3)	(1.7 BJ)	(1.5 BJ)	
Calcium	SN	SN	8110 J	10200 J	4460	L 1500 J	4860 J	
Chromium**	110.0 (P)	26.0 (P)	(60 J)	(110 J)	(322 *)	(44.)	(159 J*)	
Cobalt	SN	SN	15 BJ	19 BJ	13 B	14 BJ	15 BJ	
Copper	110.0 (P)	16.0 (P)	(73 J)	(1.66)	(81)	(56 J)	(53.1)	
Iron	4% (P)	2% (P)	(2.8 J)	(3.8.1)	(2.8)	(3.0.1)	(3.0.3)	
Lead	110.0 (L)	31.0 (P)	(94 J)	(136 J*)	(160 *)	(67.1)	(94.1)	
Magnesium	SN	NS	7860 J	12900 J	6970	7180 J	7110 J	_
Manganese	1100 (L)	460 (P)	445 J	(492.1)	400	(702 J)	(495 J)	-
Mercury	1.3 (3.)	0.15 (L)	(1.3.J)	(2.7 J*)	(13 *)	(0.77.0)	(0.44 J)	_
Nickel	50 (L)	16 (P)	(38.1)	(48 J)	(27)	(31.1)	(34.1)	
Potassium	SN	SN	1720 BJ	1840 BJ	1610 B	1750 BJ	1650 BJ	
Selenium	NS	NS	-	1	1.1 B	!	1	
Silver	2.2 (L)	1.0 (L)	-	;	!	1	1	
Sodium	NS	SN	207 BJ	180 BJ	129 B	195 BJ	144 BJ	
Thallium	NS	SN	-	-	;	2.3 BJ	2.5 BJ	
Vanadium	SN	NS	31 BJ	51 J	21	25 BJ	28 J	
Zinc	270 (L)	120 (P/L.)	(281 J*)	(364 J*)	(508 *)	(222 J)	(179 J)	_
Cyanide, total		0.1 (Eisler 1991)	i	1	(2.7)	1	-	
Cyanide, amenable to chlorination	NS no	NS	1	:	***	I	1	
Percent solids (%)	NA	NA	29	36	54	29	46	
Hd	NA	NA	-	!	!	ı	ı	
% TOC	SN	NS	6.9 BJ	5.8 J	4.4 J	4 BJ	3.8 BJ	
Total organic carbon (mg/Kg)	SN	NS	69300 BJ	57700 J	44200 J	39600 BJ	38000 BJ	
								-

J - estimated value, NS = no screening value, NA = not applicable, — - no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample concentration contentration using TOC data from another sample contentration. When AS>=5%. When AS>=5%. Servering Contaminated Sediment (NYSDEC 1998, 1999).

Sediment screening values are guidance values obtained from Technical Guidance for Servering Contaminated Sediment (NYSDEC 1998, 1999).

Second Contamination are contentration. The Data Servering Sediment (USE) screening value obtained from Eisler 1991. L = Long & Morgan. P = Persaud. (i)

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O BRIEN 5 GERE ENGINEERS, INC.

DRAFT Table 4-3

Wappingers Falls, New York Three Star Anodizing Site

Wappinger Creek Investigation - Sediment Samples

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data 05/13/2003 6 - 11 in. mg/Kg (0.36 BJ) (115 J*) 14 BJ (125 J*) 6830 J (466 J) (4.9 J*) (33 J) 1590 BJ WP-T3C 0.81 BJ (353 J*)(3.4 J) 5800 J 179 BJ (9.3.1) (78.1) 1.5 BJ 05/13/2003 WP-T3C (2.6 BJ) 8620 J (0.84 J) (41 J) 2010 BJ 0.89 BJ (3.2 J) (94 J) 7830 J (508 J) 249 BJ (269 J) 0 - 6 in. mg/Kg 5.8 BJ 92 BJ (60 J) 15 BJ (79.1) 42 J 05/13/2003 12 - 24 in. mg/Kg WP-T3B (0.61 B) (29) (3.0) (188 *) 6520 430 0.13 (29) 1640 B 0.8 B (6.4) 3150 14 B 132 B (53) 2 BJ 0.1 (Eisler 1991) NS Sediment Lowest Effect Level (LEL) 73200 (1) 2.0 (L) 6.0 (P) NS NS 120 (P/L) NS 26.0 (P) NS 16.0 (P) 2% (P) 31.0 (P) 0.15 (L) 16 (P) 460 (P) mg/Kg 0.6 (P) NS NS 1.0 (L) S SS SS A S S S Sediment Severe Effect Level (SEL) 4% (P) 110.0 (L) NS 110.0 (P) 110.0 (P) 1100 (L) 33.0 (P) NS NS 9.0 (P) NS 1.3 (L) 50 (L) mg/Kg Units Sample ID Sample Date Sample Depth Cyanide, amenable to chlorination Total organic carbon (mg/Kg) Percent solids (%) Cyanide, total Chromium** Magnesium Manganese Aluminum Cadmium Selenium Antimony Beryllium Potassium Vanadium Calcium Fhallium Arsenic Barium Mercury Соррег Cobalt Sodium Nickel % TOC Silver Lead TO.

* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent ** Hexavalent Chromium was also analyzed, but not detected. J - estimated value, NS = no screening value, NA = not applicable, ... - no data. B = analyte detected above PQL in Prop Blank. e - estimated concentration using TOC data from another starpet (AS) cannot dat the same location. When ASS-2%, e=5%. When ASS-2% as e=3% TOC. Samples analyzed by methods 7196A72017.245.5335.2/9010B/9014. Sediment soroling values are guidance values obtained from Technical Guidance for Sercening Contaminated Sediment (AYSDEC 1998, 1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan; P = Persaud. (1) = EPA ARCS No Effects concentration.

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63800 J

72000 J

19700 B

Table 4-4 Pesticides detected in sediment compared to screening values including %TOC data.

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	æ		ပ		12	13	I	8.6	5.7	3.6	7	İ	I	i	i		I
	Screening	value	ng/gOC		0.01	0.01	0.01	0.03	0.8	0.001	0.001	0.1	0.0008				
			Parameter	Pesticide	4,4-DDD	4,4-DDE	4,4-DDT	Endosulfan sulfate	Endrin	a-chlorodane	g-chlorodane	Dieldrin	Heptachlor epoxide	Endrin ketone	a-BHC	JUL76	2

Screening values presented from *Technical Guidance for Screening Cotaminated Sediments*. NYSDEC 1999.

C = analytical concentration reported by laboratory in ug/Kg; SC = screening concentration in ug/gOC for comparison to NYSDEC screening values reported in those units.

--- = constituent not detected

Data qualifiers: J = estimated concentration; B= blank contamination



New York State Department of Environmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 4-5. Wappingers Lake sediment results - background

Constituents above the Lead SEL screening values	Parameter	Description
	ad	Lead ranged from 47 to 187 mg/Kg, with each location exceeding the LEL of 31 mg/Kg and two of the six locations exceeding the SEL of 110
		mg/Kg. The maximum background level of lead was approximately 1.7 times the SEL.
Zinc	Q	Zinc ranged from 178 to 359 mg/Kg, with each location exceeding the LEL of 120 mg/Kg and one of the six locations exceeding the SEL of 270 mg/Kg. The maximum background level was approximately 1.3 times the SEL.
Constituents frequently Cadmium above LEL screening values	dmium	Cadmium was above LEL in five of six samples with maximum level of 1.4 mg/kg compared to a LEL of 0.6 mg/Kg.
Cop	Copper	Copper ranged from 35 to 90 mg/Kg with each of the six samples exceeding the LEL of 16 mg/Kg.
Iron		Iron ranged from 2.7% to 3.3% with each of the six samples exceeding the LEL of 2%.
Mar	nganese	Manganese Manganese ranged from 541 to 1000 mg/Kg with each of the six samples exceeding the LEL of 460 mg/Kg.
Mer	Mercury	Mercury ranged from 0.29 to 0.57 mg/Kg with each of the six samples exceeding the LEL of 0.15 mg/Kg.
Nickel		Nickel ranged from 24 to 33 mg/Kg with each of the six samples exceeding the LEL of 16 mg/Kg.



New York State Department of Environmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

Table 4-5. Wappingers Lake sediment results - background

eri S		Surface sediment (6 samples total)
Concentration range	Parameter	Description
Constituents slightly above the LEL screening value	Arsenic	Arsenic was slightly above LEL in one of six samples with a maximum concentration of 6.3 mg/Kg compared to a LEL of 6.0 mg/Kg.
	Chromium	Chromium was above the LEL in one of the six background samples, with a maximum of 27 mg/Kg detected compared to a LEL of 26 mg/Kg. Hexavalent chromium was not detected; however, the detection limit for hexavalent chromium was higher than the LEL in four of the six complex (Section 2.5.1).
	Cyanide	Cyanide was detected in one of the six samples at 3.2 mg/Kg which was
		above the 0.1 mg/Kg screening value of Eisler (1991). A New York State screening value is not provided in the state's sediment guidance (NYSDEC 1999) Cyanide was not detected in the other five
		background samples; however, the detection limits for those samples
		were above the screening value, ranging from 1.4 to 4.3 mg/Kg.
		Amenable cyanide was not detected above the detection limits of mg/Kg.
Constituents not	Silver	Silver was not detected; however, the detection limits for some of the
detected above the		samples were above the LEL screening value.
LEL screening value,		
but trace level		
presence can not be		
ruled out		



New York State Department of Environmental Conservation Three Star Anodizing Site - Creek RI Wappingers Falls, New York

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Table 4-6. Wappingers Creek sediment constituents (mg/Kg) above screening values BaP BaP BaP Chapter Parts (mg/Kg) above screening values	Area/Location NYS Guidance - I El	NYS Guidance - SEL	Atternative ecological value Background Maximum	Site area WP-01-A	WP-4.45-9	WP-09A	WP-11A	LG-OUT	LG-OUT2	MP-MW4 MP-MW4 (DUP)	WP-16	Shoal area WP-18	WP-M2	WP-M3	WP-0D3	WP-DOT



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Table 4-6. Wappingers Creek sediment constituents (mg/Kg) above screening values	Area/Location	NYS Guidance - LEL	NYS Guidance - SEL	Alternative ecological value	Background Maximum	Shoal area (continued)	WP-29A		(DUP)		90 JW			WP-CKOUT	Embayment	, WP-PL	(DUP)			WP-PL1			WP-PL2			WP-PL3		Downstream section				WP-T1C	

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Table 4-6. Wappingers Creek sediment constituents (mg/Kg) above screening values

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4	וומטוו						6-12 in			6-12 in	0-6 in		0-6 in		12-24 in			12-19 in				12-24 In	0-6 in		12-24 in		6-11 in (max
Arms/ contion	i i	NYS Guidance - LEL	NYS Guidance - SEL	Afternative ecological value	Background Maximum	Downstream section (continued) WP-OD2 0-6 in	9	12	WP-T2A	U	WP-T2B	. 42	WP-T2C	ω (, T	WP-0D1	O	12		(DUP)	Φ (17.	WP-T3B	9	12	WP-T3C	9	



2/25/2005

Table 4-6. Wappingers Creek sediment constituents (mg/Kg) above screening values

	_		BaP																		
Area/Location Dep	pth tPA	H Baf	200	DB	Depth tPAH BaP OC DBF Phen	_		ပ္ပ			Fe			Нg	Ϊ	Se	Ag	F	۸N	Zu	CN
NYS Guidance - LEL	4	i	1.3	-	1	2		9.0			2%			0.15	16	1	-	!	-	120	0.1
NYS Guidance - SEL	-	!	l	l	1	33	33	တ	110	110	%	110	1100	1.3	δ	ŀ	2.2	!		270	I
Alternative ecological value	8	0.44	4	5.1				i			İ			ı	i	i	1	1	ļ		1
Background Maximum	5.5	5 0.6	0.01	1		3.2	6.3	1.4BJ			3.3%			0.57	33	2.5	1	1	38B	329	3.2

Estimated concentration qualifiers (J) not presented; samples with blank contamination associated are qualified (B); --- = not detected above screening value or not detected. NYS Guidance = Technical Guidance for Screening Contaminated Sediments. New York State Department of Environmental Conservation. 1999.

LEL= lowest effect screening level; SEL = severe effect screening level as defined by the NYS Guidance.

tPAH = total PAH; BaP = benzo(a)pyrene equivalent concentration; BaP OC = BaP conc. normalized by organic carbon conc.; DBF = dibenzofuran; Phen = phenol.

Sb = antimony; As = arsenic; Cd = cadmium; Cr = chromium; Cu = copper; Fe = iron; Pb = lead; Mn = manganese; Hg = mercuny; Ni = nicket; Se = selenium; Ag = silver; Tl = thallium; Vn = vanadium; Zn = zinc; CN = cyanide.



Table 4-7. Descriptions of tidal creek bed.

Location ID	Approx. Dist to Hudson R. (ft)	Approx. width (ft)	Description	Creek bed description
Site area	riduson iv. (it)	width (it)	Description	Oreek bed description
WP01	10200	160	Hydro-facility dock on north side of Creek.	Rock and cobble pockets of sand.
WP03	10000		Upstream of East bridge.	Rock and cobble pockets of sand.
WP04.45	9860	100	Sample collected downstream of East bridge.	Pocket of sand.
WP03-WP8	10000-9500		Adjacent to the Three Star site.	Rock and cobble.
WP09	9400		Several pipes located along north bank, one observed on south bank.	
WP10	9300		Downstream of West bridge on north side of Creek.	Sand and gravel.
WP-LGOUT2	9200	125	Sample collected from north lagoon outlet area.	Coarse sand and gravel.
WP11	9200		Sample collected from in the vicinity of former storage tanks formerly located on north parcel.	Sand and gravel.
WP12	9100		Upstream of outlet of Three Star lagoon on south side of Creek.	
WP-MW4	9050	125	Downstream outlet of Three Star lagoon on south side of Creek.	Coarse sand and gravel.
WP16	8700	100	South side of Creek prior to Shoal Area.	
Shoal area	10200			
WP18	8400			Silt and sand.
WP-M2	8300	250	South side of Creek at beginning of Shoal area.	Silt and sand with some gravel.
WP21	8200		location of low tide seep.	
WP22	8100		location of low tide seep.	
WP-M3	7850	300	South side of Creek upper mid-Shoal area.	Silt and sand with some gravel.
WP25	7800		Public works garage area.	

Table 4-7. Descriptions of tidal creek bed.

	Approx. Dist to	Approx.		
Location ID	Hudson R. (ft)	width (ft)	Description	Creek bed description
Shoal area (cor	•			
WP-DOT	7700	375	South side of Creek in the vicinity of the Public works garage.	Silt and coarse sand with some pebbles.
WP-29A	7550		Site side of Creek mid- Shoal area.	Silt and sand turning to course sand and some gravel below.
WP29	7400		Sample collected from shoal near center of Creek and boat launch.	Silt and sand.
WP-CKOUT	7100	330	South side of Creek at an outlet of a tributary.	Sand and silt with some pebbles.
Embayment				
WP-PL2	7050		North portion of embayment.	Silt and organic matter.
WP-PL3	6900		Northwest portion of the embayment.	Silt and organic matter.
WP-PL1	6500		Southwest portion of the embayment.	Silt and organic matter with some clay.
WP-PL	6500		Approximate center of embayment.	Silt and organic matter with some clay.
Downstream se	ection		·	
WP-OD3	6950	200	West shore of creek near opening of the embayment.	Silt and organic matter mixing with sand and gravel below.
WP37	6600			Firm Silt.
WP-T1A	5350	580	North shore of downstream section.	Silt and organic matter to sand and gravel below.
WP-T1C	5200	580	South shore of downstream section.	Silt and organic matter with traces of gravel.
WP-T2B	3750	800	South side of Creek midway to shore.	Silt and organic matter shallow to sand and gravel below.
WP-OD2	3700			Silt and organic matter turning to silt and sand with traces of gravel.
WP-T2C	3650		Near south shore.	Silt to silt and gravel below.
WP-OD1	1500	500	North side of Creek midway to shore; north of Rt. 28 bridge.	Silt with some organics.
WP-T3A	1000		North shore of Creek in the vicinity of the Rt. 28 bridge.	Silt with some organic matter to silt and sand below.
WP-T3B	800	580	Appproximate center of Creek downstream of Rt. 28 bridge.	Silt with some organic matter to silt with traces of sand below.
WP-T3C	0		South shore of Creek at	Silt with some organic matter with traces of sand and gravel below.



Table 4-8. Wappingers Creek sediment results

ומבור ז כי זיבקצייוקכוס פוכפת פכמווויכות וכפתום	מונים אספור כ			
		Surface sediment (30 samples total)		Deeper sediment (21 locations total)
Concentration range	Parameter	Description	Parameter	Description
Constituents over 50			Mercury	Mercury Mercury in subsurface sediment of the shoal area (WP
times SEL screening				DOT) and embayment (WP-PI.) far exceeded surface
values				contractions and (2 1 1 1) month difference and (2 2
				sediment concentrations. The maximum
				concentrations of mercury at both of these two areas
			-	were detected in similar depth intervals of
				approximately 6- to 12-inches, and at similar
				concentrations of approximately 180 mg/kg, which is
				approximately 140 times the SEL of 1.3 mg/Kg. In
				total, 17 of the 21 locations where subsurface
				sediment samples were collected from also contained
	<u></u>			mercury at levels above the SEL screening value.

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The A O MACHINITIAN	able 4-o. vvappingers

Table 4-8. Wappingers Creek sediment results	Creek sedin	nent results		
Concentration range	Parameter	Surface sediment (30 samples total) Description	Parameter	Deeper sediment (21 locations total) Description
Constituents 20 to 50 times SEL Screening	Mercury	The maximum levels of mercury in surface sediment Chromium were detected in two areas consisting of the shoal	Chromium	The maximum total chromium in subsurface sediment of 4,120 mg/Kg was observed in the shoal area (WP-
עסים ש מים ש		area (WP-29) and embayment (WP-PL) (Figure 2-1). At those two locations, the mercury in surface		29), a level that is approximately 38 times the SEL screening value of 110 mg/Kg. Similar levels of total
		sediment was 32 and 17 mg/Kg, respectively which is approximately 25 and 13 times the SEL		chromium were also observed in subsurface sediment collected from the embayment (WP-PL). Fighteen of
	· · · · ·	respectively. In addition, 11 other samples of		the 21 locations where subsurface sediment was
		surface sediment contained mercury above the SEL of 1.3 mg/Kg from locations in the vicinity of the		sampled in the creek contained total chromium above the SEL screening value. The maximum
		embayment (WP-PL1, WP-PL2, WP-PL3), the shoal		concentration of total chromium in subsurface
		(WP-29A, WP-CK OUT), and downstream		sediment exceeded that of surface sediment.
		locations along both shores (WP-T1A, WP-T1C,		Hexavalent chromium, the more toxic form of
	* * * *	WP-OD2, WP-T2A, WP-T2C, and WP-OD1).		chromium on which the SEL screening value is based,
	·····			was not detected.
		<u>z</u>	Zinc	The maximum level of zinc in subsurface sediment of
				6,500 mg/Kg was observed in the shoal area (WP-
				29A), a level that is approximately 24 times the SEL
				screening value of 270 mg/Kg. The maximum
				background concentration of 359 mg/Kg was also
				above the SEL screening value. Seventeen of the 21
				locations where subsurface sediment was sampled in
				the creek contained zinc above the maximum
				background level and the SEL screening value. The
				maximum subsurface sediment concentration of zinc
				exceeded that of surface sediment.

Page 2 of 8

Table 4-8. Wappingers Creek sediment results

Surfac		Surface sediment (30 samples total)		Deeper sediment (21 locations total)
Concentration range	Parameter		Parameter	Description
Constituents 10 to 20	Lead	The maximum level of lead in surface sediment was Oyanide	Cyanide	The maximum concentration of total cyanide in
times SEL screening		detected in the vicinity of the lagoon outlet (WP-		subsurface sediment of 42 mg/Kg was observed in the
10 to 20 times		MW4), at 1,450 mg/Kg, which is approximately 13		embayment (WP-PL), a level that is approximately 13
maximum background		times the SEL. Six other samples of surface		times the maximum background level of 3.2 mg/Kg
		sediment collected from locations in the vicinity of		that was observed. Similar levels of total cyanide
		the lagoon outlet (LG-OUT, WP-11A), the shoal		were also observed in subsurface sediment collected
		(WP-29), and the embayment (WP-PL, WP-PL2,		from the shoal area (WP-29A). Four of the 21
		WP-PL3) also contained lead above the background		locations where subsurface sediment samples were
		maximum of 187 mg/Kg and the SEL of 110		collected contained total cyanide above the maximum
		mg/Kg. Ten additional locations contained		background levels observed. The maximum
		sediment with lead that exceeded the SEL, but		subsurface sediment concentration of total cyanide
		within the maximum concentration of background		exceeded that of surface sediment. Amenable
		samples (Section 4.1).		cyanide, the biologically available fraction of cyanide,
				was not detected. No SEL screening value is included
				in New York State guidance for screening sediment.
				It is recognized that concentrations compared to
				background levels are not directly comparable to other
				constituents for which SEL screening values apply.
-				

Table 4-8. Wappingers Creek sediment results

Deeper sediment (21 locations total)	Parameter Description	Lead was observed ab maximum background 21 subsurface sedimer The maximum of 1,05 sediment was collected The maximum observapproximately 6 tim level. The concentrat collected from in the v MW4) exceeded the m in subsurface sedimen	copper Copper was observed above the SEL of 110 mg/Kg in 10 of 21 subsurface locations where sediment samples were collected for the RI. The maximum of 504 mg/Kg observed in the shoal area (WP-29A), was approximately five times the SEL screening value. The maximum subsurface sediment concentration of copper exceeded that of surface sediment. WP- WP- wium ening
diment results Surface sediment (30 samples total)		Zinc was observed al 11 samples collected OUT), the shoal (W 29A, WP-DOT and V area (WP-T1C, WP- The maximum was of from the shoal (WP- approximately 7 time samples (WPT-2A, contained zinc abov LEL.	m Chromium was observed above the SEL of 110 copper mg/Kg in five samples collected from in the vicinity of the shoal (WP-29), the embayment (WP-PL, WP-WP1, WP-PL2, and WP-WP3), and the downstream area (WP-DD1). The maximum concentration of chromium in surface sediment was observed in the embayment (WP-PL) at 544 mg/Kg, which is approximately 5 times the SEL. In addition, eleven samples collected from the shoal area (WP-T1A, WP-T1C, WP-DD2, WP-T2A, WP-T2C, WP-T3A, WP-T3B, WP-T3C) contained chromium above background levels and the LEL screening
Creek sed	Parameter		Chromium
lable 4-8. Wappingers Creek sediment results	Concentration range	≥	

Table 4-8. Wappingers Creek sediment results

	Deeper sediment (21 locations total)	Parameter Description	
Scanner (Course	Surface sediment (30 samples total)	Description	in six samples collected from in the vicinity of the lagoon (WP-11A), the shoal (WP-29, WP-CK0UT), and the embayment (WP-PL, WP-PL2, and WP-PL3). The maximum of 183 mg/Kg, which is approximately 1.7 times the SEL, was observed in surface sediment collected from the embayment (WP-PL). Other locations were within background levels.
		Param	Coppe
. cele . c. reppingers electrocament coams		Concentration range Parameter	Constituents frequently Copper above 1 to 10 times SEL Screening value



Table 4-8. Wappingers Creek sediment results

Table 4-6. Wappingers Creek sequinent results	Cleek seal	Surface sediment (30 samples total)		Deeper sediment (21 locations total)
Concentration range	Parameter	Description	Parameter	Description
Other constituents	Antimony	Antimony was observed above the SEL of 25 Cadmium	l	Cadmium was observed above the SEL of 9 mg/Kg in
detected less frequently		mg/Kg in two samples consisting of one location in	Si	six of the 21 subsurface locations were sediment
fines SEI values		the vicinity of the shoal (WP-29) and the	š	samples were collected for the RI. The maximum of
		downstream area along the east shore (WP-T1C).	7	79 mg/Kg observed in the shoal area (WP-29A), was
		The maximum concentration of antimony observed	ਫ਼	approximately nine times the SEL screening value.
		was 159 mg/Kg in the vicinity of the shoal (WP-	Ţ	The maximum subsurface sediment concentration of
		29), which is approximately 6 times the SEL. In	3	cadmium exceeded that of surface sediment.
		addition, two other samples from the shoal area (WP		
		29A and WP-DOT) contained antimony above the		
		LEL. Antimony was not present in background		
		samples (Section 4.1).		
	Cadmium	Cadmium was observed above the SEL of 9 mg/Kg Arsenic		Arsenic was observed above the SEL of 33 mg/Kg in
		in one sample collected from the vicinity of the	S	six of the 21 subsurface locations where sediment
		shoal (WP-29) at a level of 27 mg/Kg which is	š	samples were collected for the RI. The maximum of
		approximately 3 times the SEL. In addition, two		162 mg/Kg observed in subsurface sediment collected
		other samples collected from the shoal area (WP-	Į.	from the shoal area (WP-29A), was approximately
		29A and WP-DOT) and one sample collected from	ţţ	five times the SEL screening value. The maximum
		the downstream area (WP-T1C) contained cadmium	ıs	subsurface sediment concentration of arsenic
	_	above background levels and the LEL screening	ับ	exceeded that of surface sediment.
		value.		

Table 4-8. Wappingers Creek sediment results

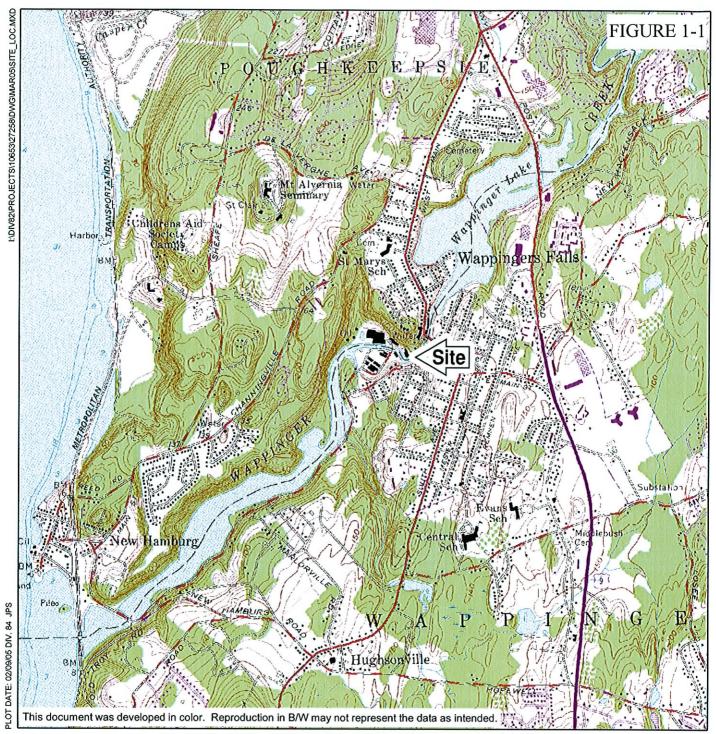
		C		
:		total)		Deeper sediment (Z1 locations total)
Concentration range	Parameter	Description	Parameter	Description
Other constituents		Manganese Manganese was observed in two samples above the Antimony	•	Antimony was observed above the SEL of 25 mg/Kg
detected less frequently		SEL of 1100 mg/Kg consisting of one location in		in four of 21 subsurface locations where sediment
times SEL values		the vicinity of the Site (WP-4.45-9) and the other in	-	samples were collected for the RI. The maximum
		the vicinity of the shoal (WP-CKOUT). The	-	concentration of antimony detected in subsurface
		maximum concentration of 2390 mg/Kg was		sediment, 162 mg/Kg, was observed in the shoal area
		observed in vicinity of the shoal (WP-WP-	_	(WP-29A). The maximum was approximately four
		CKOUT), a level that is approximately 2 times the	-	times the SEL screening value. The maximum
	•_•_•	SEL. Manganese levels in other samples were	••	subsurface sediment concentration of antimony was
		comparable to background levels.		approximately equivalent to the maximum
			_	concentration observed in surface sediment from the
				same area (WP-29).
Constituents at levels	Iron	Iron was observed at 4.3% in the vicinity of the Site, Iron		Iron was observed up to 4.2% in the shoal area (WP-
Strittar to SEL		a level that is comparable to the SEL of 4.0%.	- •	29A), a level that is comparable to the SEL of 4.0%
		Other locations were similar to background levels	••	and levels observed in surface sediment in the vicinity
		which included a maximum of 3.3%.	~	of the site. Other locations were similar to
			_	background levels which included a maximum of
	Nickel	Nickel was observed at 56 mg/Kg in the vicinity of		
		the lagoon outlet (WP-LGOUT2), a level that is		
		comparable to the SEL of 50 mg/Kg. Twelve other		
		locations contained nickel above the maximum		
		background level of 33 mg/Kg.		
				and the second s

Page 7 of 8

Table 4-8. Wappingers Creek sediment results

background level of 3.2 mg/kg in three samples consisting of one each collected from the shoal (WP 29), the embayment (WP-PL), and downstream area (WP-T1C). The shoal area (WP-29) contained the highest level of cyanide observed at 28 mg/kg. The biologically available fraction of cyanide, measured as amenable cyanide, was not detected. A cyanide screening value of 0.1 mg/kg obtained from Eisler (1991) was below the maximum background levels observed, as discussed previously (Section 4.1).
cund le ting of o e embay (1C). Ti t level o: ically av mable c; ing value was beled, as die,
background level of 3.2 mg/ consisting of one each collecte 29), the embayment (WP-PL), (WP-T1C). The shoal area (Nighest level of cyanide observations biologically available fraction as amenable cyanide, was not screening value of 0.1 mg/Kg





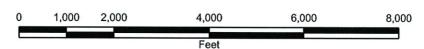
ADAPTED FROM: WAPPINGER FALLS, NY USGS QUADRANGLE



NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
THREE STAR ANODIZING SITE
WAPPINGER FALLS, NEW YORK

SITE LOCATION







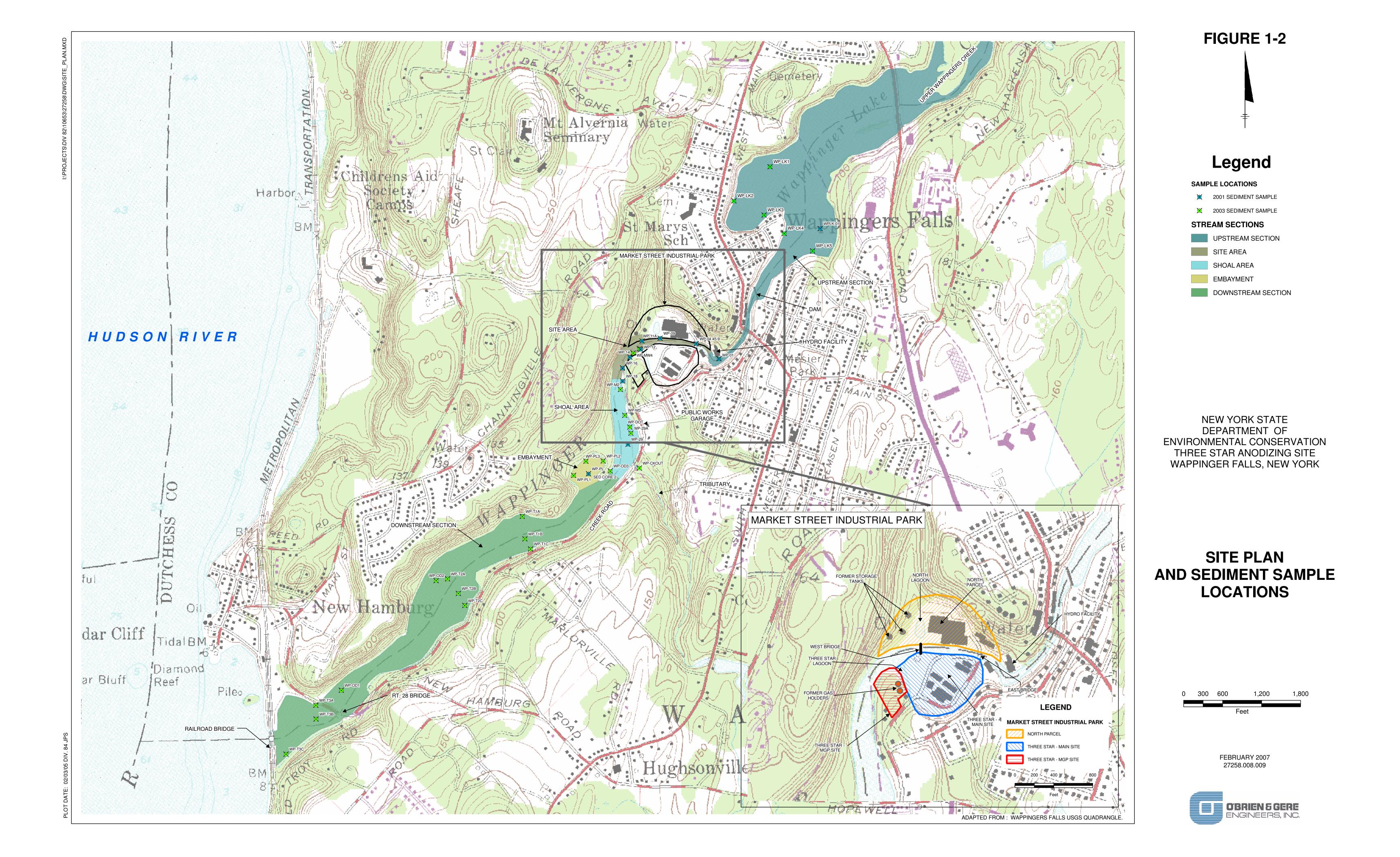


FIGURE 1-3



DRAFT

<u>LEGEND</u>

1 BUILDING IDENTIFICATION

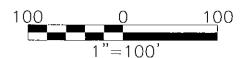
[11] FORMER BUILDING LOCATION

SUSPECTED FILL AREAS

FORMER GAS HOLDER

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
THREE STAR ANODIZING SITE
WAPPINGER FALLS, NEW YORK

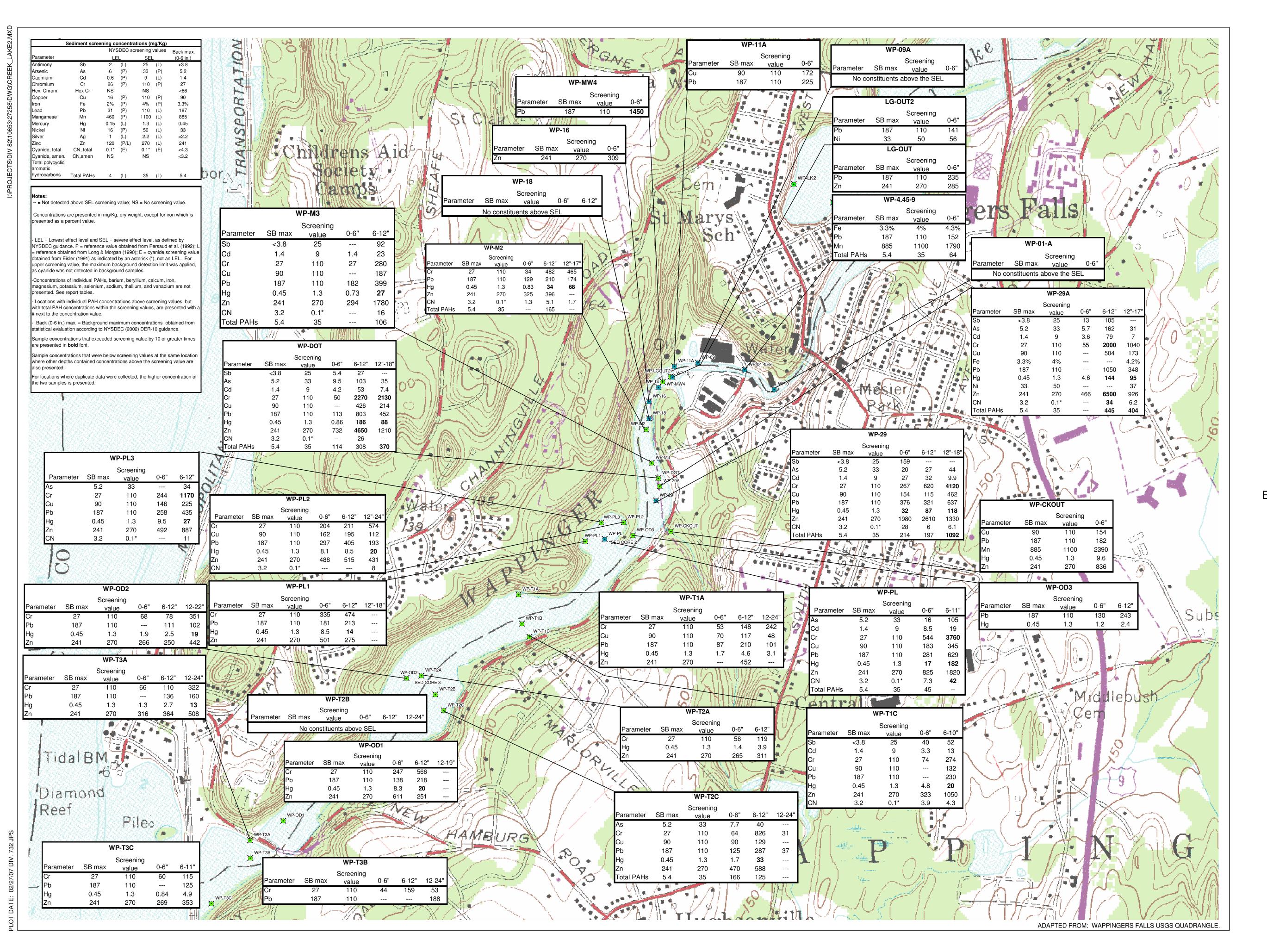
THREE STAR SITE (2001)

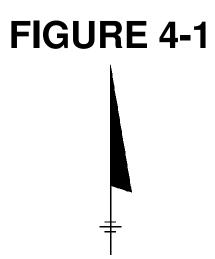


FILE NO. 10653/27258.008 MARCH 2005



3/11/05 DIV. 84 JPS





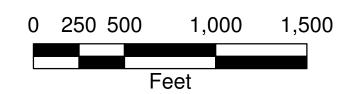
Legend

SAMPLE LOCATIONS

2003 SEDIMENT SAMPLE

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
THREE STAR ANODIZING SITE
WAPPINGER FALLS, NEW YORK

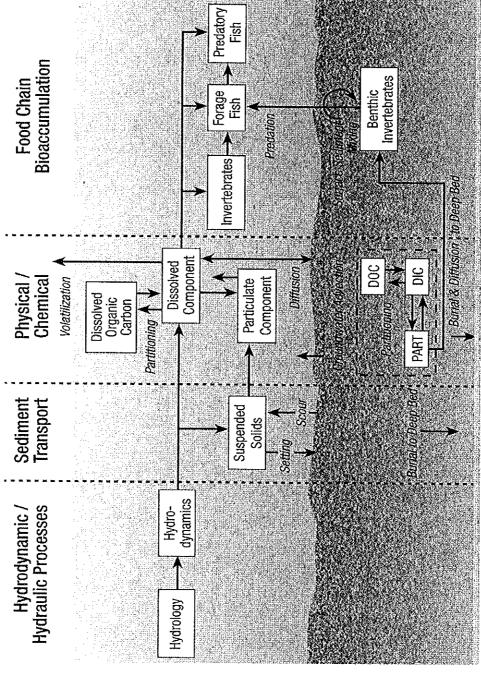
SEDIMENT DATA ABOVE SEL SCREENING VALUES



FEBRUARY 2007 27258.008.009



Figure 1-4. Conceptualization of fate and transport of constituents in an aquatic system



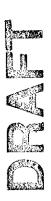
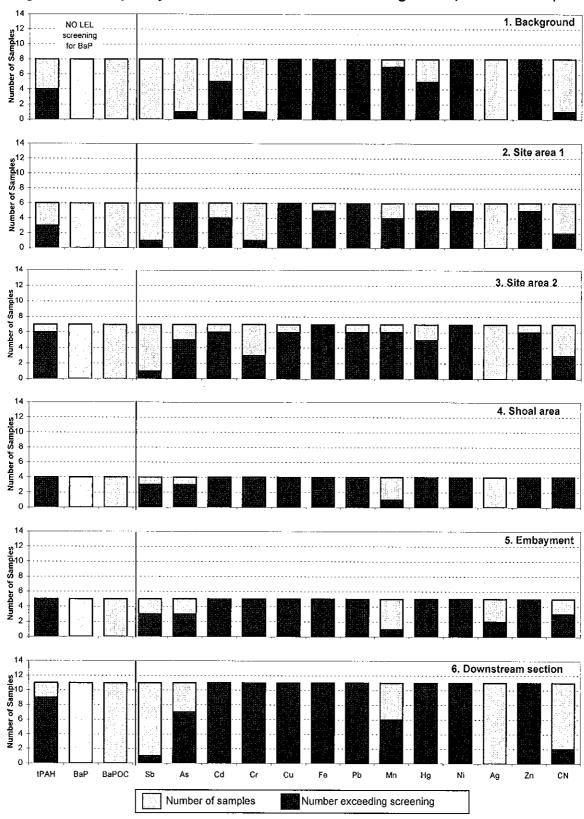


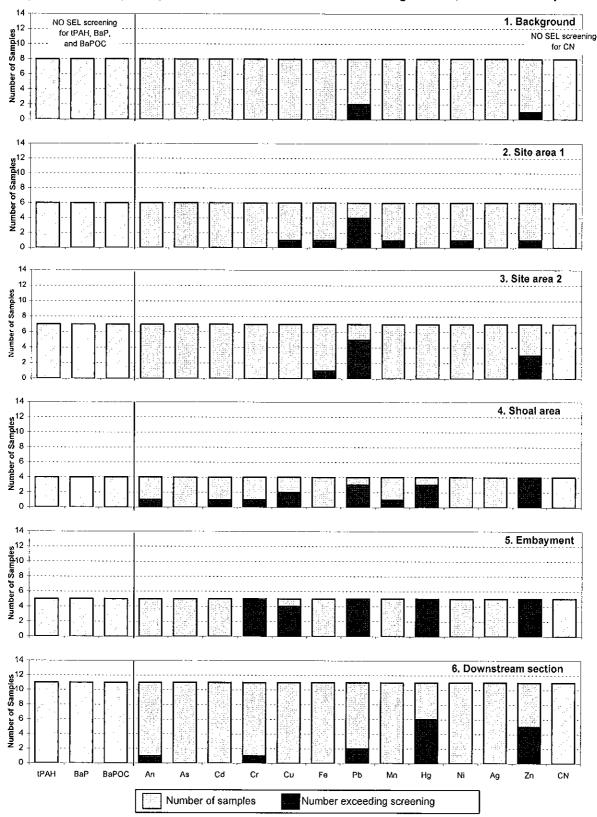
Figure 6-1. Frequency of detections above LEL screening values, 0-6 Inches depth



Notes:



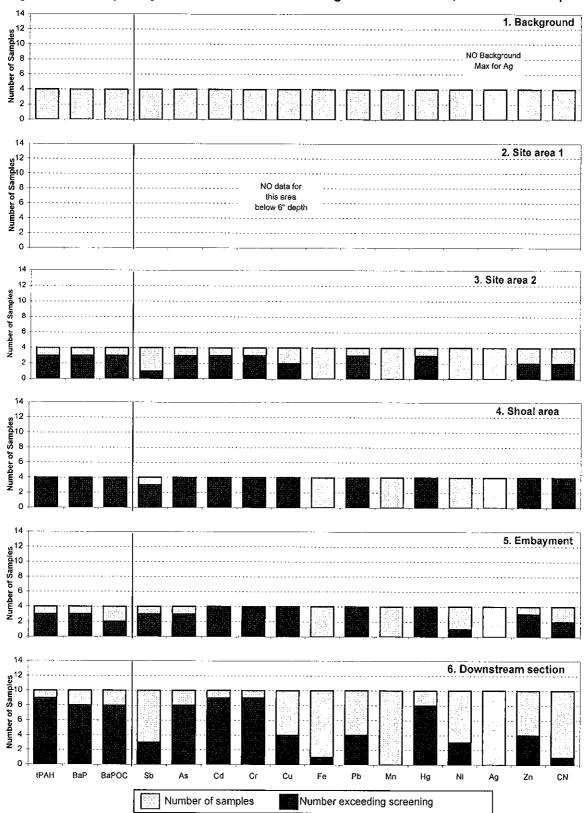
Figure 6-2. Frequency of detections above SEL screening values, 0-6 Inches depth



Notes:



Figure 6-3. Frequency of detections above background maximum, 6-12 inches depth

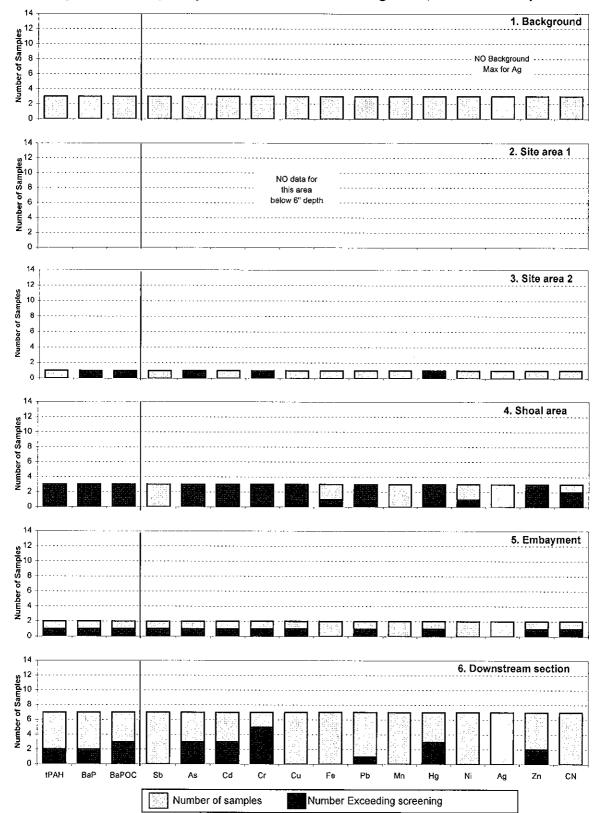


Notes:



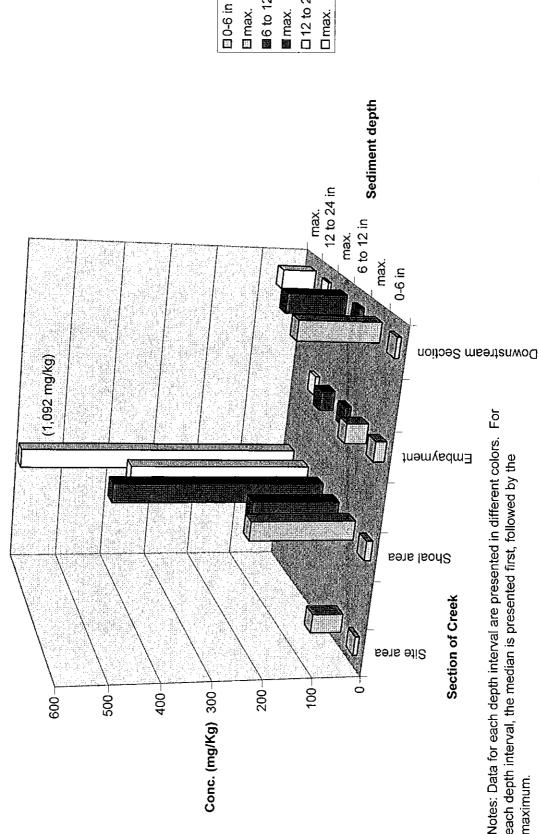
Three Star Anodizing Site - Creek RI Wappingers Falls, New York Wappinger Creek Sediment Data

Figure 6-4. Frequency of detections above background, >12 inches depth



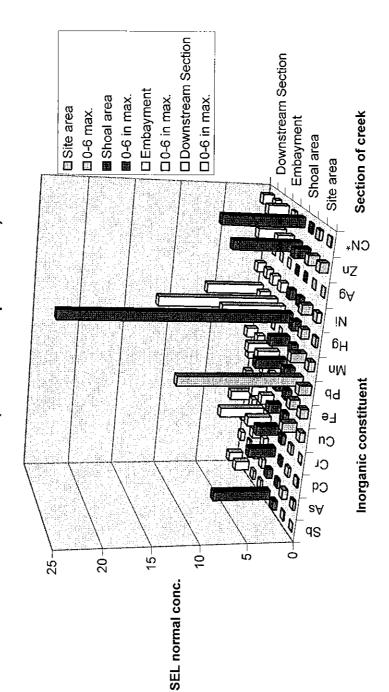
Notes:

Figure 6-5. Spatial trends of total PAHs in sediment



Notes: Data for each depth interval are presented in different colors. For each depth interval, the median is presented first, followed by the maximum.

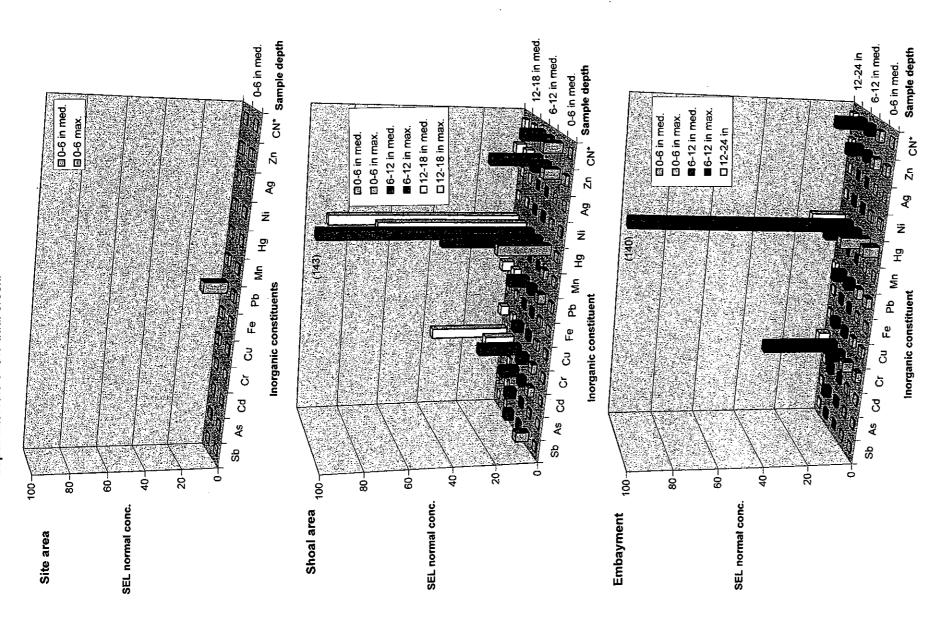
Figure 6-6. Spatial trends of inorganic constituents in surface sediment (0 to 6 inch depth interval)

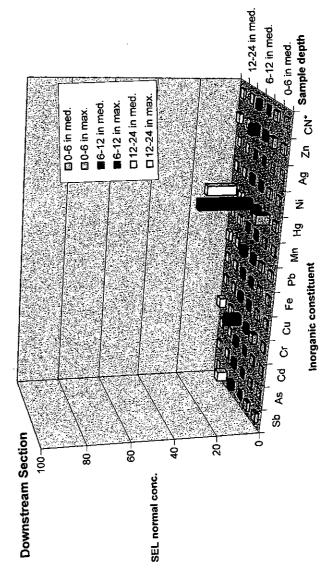


of the creek, the median is presented first, followed by the maximum. * indicates that cyanide Notes: Data for each section of the creek are presented in different colors. For each section data are normalized to background data.



Figure 6-7. Spatial Trends of inorganic constituents in sediment depth intervals of the tidal creek.







APPENDIX A

Field logs

APPENDIX A

Field logs

Field logs: Surface water 1065/27250/th

New York State Department of Environmental Conservation Three Star Anodizing Site Wappingers Falls, New York

Sampling Date: 5/14/02

Water column sampling field log

	Wa	Water depth			Water				00/00	- Popular			_
Sample Station	Time Tota	Total Sample	Æ	Cond.	Temp.	Turb.	D.O.	Salinity	Sample	Sample		Commonte	
Site Bridge			MAN									COMMENS	
downstranglyper 15:30	08:39	Pop	7.8r	" 1275 "	23%/	18.7	14.0y	0			X2	X2 (1) VOA	
mid		MID	7.85	1.312 °	48	25.3	81.6	o,			6	AT PACH	
lower		Bor	7.84	.25	12.46	8777	10.01	8			d	NTERVAL	
24 70	4.15 W				2 :				(1		20,00	
	19.49 Juddn	106	7.76	.273 12.53	î i	23.8	90/1	0			7	Not (1)	7
Drage mid		SE SE	783	272 12.98 23.8	12.1%		28.82	ง			9	Coursed Mr	
lower		Bot	7.84	270	12.36	29.3	5.90	0			, 91	ERCA IN IEMAN	
WARPINGER	18:00 10.5'								OSW/SW	1		Adv (L)	
LAKE upper		700	1.7.1	244	377	19.7	11.14	C	BLIND DELP	۰	, N	Coule cres A?	
(BACK ROOMD)		076		7.72	11.93	22.9	92://	0			Ţ	CACH CALLED	
lower		80 €	29%	7.68 ,239 11.98	\$6.//	19.9 11.56	11.56	0			ā	MIERANG	
Additional Notes: \	Where water depths permit, samples collected as depth integrated composite samples consisting of aliquots from upper, mid, and lower depths.	lepths perr id, and low	nit, samp er depths	ales collects.	oted as c	depth inte	egrated o	omposite	samples	consistii	ng of alic	quots	
			•										
Weather Data:						Sampling personnel:	l pareci	' -	1		/	. 17	
Description:	VARABLE						2	/ I	uoch,	2	ין ק	Tail Dankia	
Air temperature:	500												
Wind:	201-5	70											
Precipiatation:	VACIABLE												

O'Brien & Gere Engineers, Inc. i82/10653/27258/4/Field Doc/SW_fldlog.xls

Sampling Date: $\sqrt{/5/0}$ 2

Water column sampling field log

		Wate	Water depth			Water				QAVQC	Inspect	
Sample Station	Time	Total	Sample	Hd	Cond.	Temp.	Turb.	D.O.	Salinity	Sample	Sample	Comments
SITE BRIDGE	07:4S	8.5)	(1) VoA
(Downsmerm)			1.5	7.48	7.40 0.245 11.93	11.93	38.0	7.88	٥			COLLECTED AT
mid			3	7.63	7.63 0.247 12.39	12.39	,	76.0 1293	0			DACH INDIRAN
lower			6.5	7.72	7.72 0.242 1270 17.6 11.30	24	17.6	11.30	0		1 (1) 1 (1)	
27. 28	08:80	17.5		计算影响		Zo: 21					1	(3) YOU
BROGE upper			3,	7.76	7.76 0.247 12.08 54.5 12.30	12.08	54.5	17.30	0			Collecto AT
pim			ć	7.46	7.96 0.246 11.37 32.1 10.26	11.37	1.28	27.01	0			OKN WREAM
lower			72	3.75	7.35 20.11 Eps. 0 St.F	11.05	25.3	7.69	0			
2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	03:30	3″										0 1 11 1 10
ueddn (Marine Marine	292	.305	13.03	5.9	4501	0			s run carected
outtall mid			XXII Voc. so						- Mile of Control			•
lower			arga Thirting o									
Additional Notes:	Where water depths from upper, mid, and	vater de per, mid	pths pen	permit, sample lower depths.	ples colle s.	cted as	depth int	egrated c	composite	e samples	consistir	Where water depths permit, samples collected as depth integrated composite samples consisting of aliquots from upper, mid, and lower depths.
Monthor Data							:		1		ļ	
Description:	Party	Cloudy		500 - 2			Samplir	ig persol	חוופן: כן	Sampling personnel: אפאר) אפרול אפנין	Zerry.	/Crais Gebrie
Air temperature:	12											
Precipiatation:	l					-						

O'Brien & Gere Engineers, Inc. i82/10653/27258/4/Field Doc/SW_fldlog.xls

Sampling Date: 5/15/02

Water column sampling field log

WINE BOTTOM. BHCH INTIBORAL BUESTION. MOST LIKELY COLLEGED TO CLOSE TO Sampling personnel: Sport Shelly / Conf. GABLE CURRO F Comments Contegre VON (i) B S Additional Notes: Where water depths permit, samples collected as depth integrated composite samples consisting of aliquots Sample Sample Inspect QAVQC Salinity ٥ 0 7.66 0.250 11.88 300. 14.95 7.81 |0.253 | 12.52 | 52.4 | 12.16 о. О. 4.5 | 7.94 | 0.24 | 15.0 | 9.13 Turb. Temp. Water Cond. from upper, mid, and lower depths. PARTLY (LOUBY - SUMMY Sample Ö 10-15 NPH GUSTS Water depth Total 2 アクシア 10;30 11:30 Time upper Air temperature: mid (BACKGROWNPHICK) lower lower mid lower MAG upper Description: Precipiatation: WARP WICES Sample Station Weather Data:

O'Brien & Gere Engineers, Inc. i82/10653/27258/4/Field Doc/SW_fldlog.xls

Field logs: Sediment

DATE CONTENTS REFERENCE PAGE

		999
	lann	PAPER
1	(or	WRITING
	Ribert	ALL-WEATHER

HATEL AND ADDRESS OF THE PARTY			
			5, 75
			Three STAM S. TE
			THREE
Name	Address	Phone	Project

CRESK INVESTIERTON

"Rite in the Rain" - A unique All-Weather Writing paper created to shed water and enhance the written image. It is widely used throughout the world for recording critical field data in all kinds of weather.

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Tacoma, WA 98424-1017 USA
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WANTER CREEK ENVISITINGTEEN BELL AYLEND 5/12/03

いまみかい シチャア

KILLY FARTERA

11.30 - CJUMS BOAT

12:00 - CUNCH

3100 - ON SETRE

CPS BENKHAMEKS

1 BODS OF LIGHT POLIC MORNIER WATER

47 H. 46465 : 4

E: (229454 90 F

5 RASE OF DOOR PACEFUL ANATHER

J. 595013.33

Pt. 221-6221 : 3

extented: nostey acoust 55-60'F

200, prieve Bunk of JMIXING BUNG EUBL-5001 5/12/03 13.55 E) Three Sprons

Sompline has been completed by others Discussion by Keyn of Unice Assac. to evaluate sediment. Lake Austi. CORNER, & ACOR

Welly hesped meety at dock. Mos Health & Sufaty Mitys. 5/14/03 furling lot meating Conducted at also before trovaling to site. Sefety usines associated in fouring beat.

WELLI Spalos 1440 (0-6") Wet brown 5.1+ W, some organic motter KAN/CNS (Naterdapith 5ft 9.n. OF Rending N= 594.333.5

Car Coop

PDCP = 2.

E= 122804412

× * ×

5AT= 8 POUP= 2.1

N= 545394,8 E= 1228152.4

WP-LK3 (0-6")

5/12/03 16:00

N = 595587.8 6 = 1228565.2

SA5= 9 POOP= 1.8

Water Dept. 348"

West brown silt by some organic mostler

Two Somple Coses Collected includes ins/mas composite of

PLUSH CORE

5/12/03 1525 (0-6")

N 595797.7 E 1228096.2

Poof: 2.2 SAF: 7

36500. WARE DEPTHY

WET BROWN SICT W, SOME

PUSH CORE

OREMIC MATTER

WPLKy (0-6") 5/12/03 16:35	5/12/03 16:35	WP LK5 (6-6")	5/12/03 15-15 7
N\$ 595310.6	SAT: 8	N: 595048.7	(X)
E \$ 1228860.7	Pal: 25	6= 1229323-1	Phop. 3.7
JATER Jupth: 34 11."		WATER DEPOSE 5 ft 4 IN	12
Wet branget it is some organic mother	me organic moter	brown 5.1+ W, Some organic MATTER.	organic political

Ø

Dush Cozé push core

19.30 Bechineks

"I COUNT PUR BOD MICHEL BUNDO

1. 594976.3.

547. 8 PD0: 47

o 7 BASK OF DOCK FACTOR LINTERS

8:105621.3

POOP: 4.7

But But In Walth

12.2 JARS STR

5/13/03

7:35 ON SETTE - BELL AYLETIC CHARLES SHARK

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OFS BRICHTARIAS

ביו בוברה אינה אינה 77313

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£: 125 70000 5+

SAT: 6

3 DATE MANNELLE

+1 07-869221 :3 4 5 598485 C

DAT: 6

WEST HEL

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347 S 1008:3.0

UT : 410 35 54.72

Curson

50.15

LAT / LONG COLL

SENCH NORTH & Z

UNO: 73 "55 80.26

-	_

WP. Pr3 5/13/63	LAT: 41 35 3761 N 6925 LONG: 78 55 4646 W 5A5. 5 7D2P= 3	WATER DEPTH! - 3/4	PELOVERY: 14 3.0	Some Sheer produced during coring. Cone Collected ay 0940	organic metter including	6-12" brown silt wy Some Osymie Mether
10 2 2 2 13/03 0850 Sampled	LA 41.3537.28 N CR:35 LONG 73'55 42.26 W (WALCHORK) SAT 5.	WATER DEPOS 24 900	far trutur - 5fx 610 (asr) Recovery - 25"	0-6" Wet brown s. It w/ some coso cagnic months including	6-K" brown SiH in Some 6900 black Silt & root matter	12-24" firm brown silt W. Some organic mother

PUSH CORE LIGHT BREEZE

PUSH CORE OVERCUST, CLOWS PRUEZE

11.15

BOR IN THERE THE CASE

WP- T3C 5/13/03

09-15

W. P.) Spizos

Jord 73' 55 48.27 W JA 41/3535.13 N

4.3

SA

Loric: 13'56 47.79W Som: 5 Poor: 3.1

WAREN DAMM. 3/45 in.

PENETRATION: 4/4 415 RELOVERY: 11in

0.2" Wet brow 5.17

" ?~ **@**

1.25

2-6" brown sitt w organic mether

かれる

1:35 trace Sind & Sourch brown silt in/some ORIGINALITY ON <u>,</u> II - 9

OVERCAST WILLS BREEZE & LIEAT Pust core

.. 8 45 : MAREO DRAWN

Perceptions 546" Recovery: 1FTC"

Stripk collect at 9:50

Organic metter & Sing clay brom Sill Wy Some 30.0

020 LAN Force Grown 5. 17 and over matter w, some gray day 6-12"

bran silt wisome gravel 10th and mad to course somo 1. 10.

OVERLIAM, W. LIENT BREEZE & LIGHT RAIN PUSH CORE

15 Shalos	Lars 41°34'58.39~ Larb = 73'52' 42,24 W Sor = 7	Restration = 7th 3wm 410 Recovery = 28 inch	6-6 Trawn 5.1+ Witho 1300 5ped pads, Gray 5.1+4-6 m. 5ome Organic Metter, 0-6m. 6-12" Brown 5.11 in, 1310	4-11" brown 5:17 W, 12-24" Brown 5:14 W, frace 13:15 5000 12:17 in. and trave orzytric method with cone 17-24 brown 5:17 W, frace Sond	
14 Areco VAP- TSA S/13/03 1141	\$ 35'00.84"\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Recovery the way	6-12° bran (gray 5.18 W) (205 Some 5.184 Some	2-24" brown Gray 5.17 w, 1215 BLIND DUF 1 = WP-T3A (0-6") RECORD 32" RECORD 32" COVERCOSS W, LISHT RAN	

1352

WP-001 (0-6

Core: 41°35'02,74 N Core 73°56'37.04W SAT= 5

LAS 41°35' 19.49N Lay 73°56' 15.23 W

 $\boldsymbol{\omega}$

SAT :

8

Poor s

Chrom cooper 14th Recovery 1H3in

organic metter of trace 6-6" Wet bransilt W/Some

Stay Silt,

6-12" brown silt wil Some 169" Organic Mitter. J. 7 9-12" clork brown Sporty

Sitt Wither Organic

Dush copie

514 w, som organies in word

Gravel
Gravel and to be some
Stravel and cobble

ongmic matter a trace

Some arganic Mother

brown Sill W

6-12"

0-6" Wet bram silt w,

WAREN DEPTHE 2A

POOP = 4.7

Partahu = 3ft gin Recovery = 1 ft 7in

Ousit Core

18 WP-72C 1450	19 WP-72B
CAK = 41° 35' 15.40 N LONG = 73° 56' 11.80 W SAT = 8 POOP = 23	CAT = 41°35° 17.28~ LONG: 78°66° 13.08W SAT = 8 PDOT: 8.1
WARENDERN = 14611. DENEMBER = 3491. RECOVERS = 24	WATEL DOPIN = 2FF Sin POSIETRATION = 4F4 7 in. RELEVINARY = 2417
0-6 Wet brain 5,140-3: 1520 Net brain 5,140,] 36. trace Since J56. 6-12: 6-8 Sirve Since Cobble 2 Sirved 2 Sirved 2 Sirved 2 Sirved 20-12 brain 5,140-d Some Sirve trace organice matter 12-24 Brain 5,14 wy some 1535 Organice matter 12-15" 15-34 Brain Sind Wy trace	6.12" Wet brown silt w., mother Jo-2, 1550 2-6" grays. It w., a trace gravel 6.12" gray Sorro, wother a trace gravel 50me dryor. mother a trace gravel 6.12" gray course (605 50me organe mother 15.48" brown clay 2 15.48" brown clay 2 16.548" brown clay 2 16.24" gray course (605)
push coel one of some me.	WOH CEPE

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A Decree of the same

i	グーグー	

LONG = 4°35°35,45N LONG = 73°55°59,45N SAT = 7 POOP = 5.2 WAYDE DEPTH = 1440

Postromon

Six Attempts to collect Sample, Insufficient recovery.

Struple location Abandones

CVARIAS Ancer

OVENLAS

Push Coré

NP. LEGURZ (0-6")

Low = 41° 35° 54.26"N Low = 75° 55° 34.10"W SAF = 8 SAT = 8 Pool = 2.2

500cs /792 Vocs

5561

MO

0-6" Comsé Sano a Gearel

2"-L" Stand Start, Server GRAY STAT, SECONDEC JUN

6"-12" - Blown STLT, CRUANEC

OKERASTICE SATIRATION WITH DEPT

10-12 . THACK SANDS

12"-18" (Denes STUT

SOME WROAMELS

18"-2" SELTY SAND OFFER

21"-24" (SRAJI) SFLT, ORGANIES
BORCK SAND AND ORANKE

MS/MSB COLLECTRD

WP 1TC - 9:05 LAT: 11°35' 23.89" SAT: 6 LOX: 73°55' 58.32" CO. POOP: 2.1 WATTRE DEPTH = 6'9" PRINTERTED = 7'8" RECEVER = 10"

SAMPLE COLLECTES @ 9.10

D.C. O.1 Blown SELT 9.225 HEW ORCHNER CONT. 1-5" DK Blown/64AY SELTY SAND GRAVIEL 5-6" Blown SELT OCCAMPEL SAMPATIED

6-10" OK Blown SILLT 9:30
Thack GRAVAIL

PUSH CLER PARTU SUNIU

POSH CREK

4

	12-81 Species SELT		TOALS CROPETO	21.22" Bow SAN/5.0.7	(MRS) (MAS)							A CONTRACTOR OF THE CONTRACTOR								
9:45 - WP-c02	CAT: 21/ 35 19.86" SAS: 41	LONE 73.56 17.55" DERP: 5.3	WATER 018071 = 357	PRORTRYTHAN - SF4 10in	excovaled = 2210	SHEKES PESENT DURING PROSTATION (1234 RESULT	SAMPLE CHIRCTELS @ 9:50	0-6" 0-1" DK Blown SILT 9:55	- CV	SOUTH ORIGINAL	(-6. Old Pleased State T	TRACIC SAND	Swik olah #C	6-12" 6-12" DK Blows SELT 10:05	South allowate	TAKK SAWS and GARVIEL	12-72" (2-16" OX Slow) SALK 10:15"	JANGS - OCAS STAT	16.18" 8leans/60th 50174 Str. 51	That Church

אטא ניצה אפתרן בטטטן Mics WP. CKOUT

Nater Depth = 3th, \$1 in.

Let = 41° 35' 36.12"N Set = 8

Leny = 73° 55' 34'15" in PDOP: 2.0

Recovery/Peretration = 6 in. Sample collection @ by hand auger

Weather 1 Overcast

SOME MESSLES and CHAVEL 0-6" Blown SAND/SECT

GORLA KOLB . JAIMER OF COMPENSARS 19115 SELE LAKE JACOBE

10:30 WP-003

85 40.85 W. 85 "40.85" 27 = 20.00 WATER ORPHY 864 212 PRIMITATION - 4/FT SIN KREUKRY - 1310

SHEEN PRESENT BUREAUGH PRESENTATION SAMPLE CALKCTED @ 10:35 (MS A RESSULT SIF)

10:45 SUME ORGANIC O-1" Bland SELT

1-L" COARSK SAND OPEN HOSHUN SANJATKO

the offerences かられてい

6.10" SILTY SAND ORBY 10:55 SIME GRAVEL AND OLEANY 10.12" GRATI CORESIE SAND

,,21-9

SUMIE CHANGE

PUNT CORPE

OVERCAST

1VKROP5

12:50 WP. DOT LAT = 41° 35' 42.39" N STT = XB E LOUE - 73° 55' 36 21" W POOP - B. 1 LOUE - 73° 55' 36 21" W POOP - B. 1 REURTRATENT - 3 FT 5" N PREURTRATENT - 4FT 6.N RECEVERE - 18 M	SAMPLE CALRITED @ 12:55 6. 6. 0. 7. BROWN SELT MECHY SANDARD SAME GREANSEL 6-12" BLOWN SELT 13:15 6-12" BLOWN SELT 13:15 8000 BROWN 10.11" BROWN 10.1	POSH CORK 13:15 MS/MSD COLPECTED FROM PARTLY SUNJY 6-12" FATERWAL
30 12:10 WERAA 12:10 WERAA 42:10 WERAA 6000 WORE = 170 SS '41.45" > 54T = 6 6000 WATER DEOTH = 384 6", N PENETRATED = 5F4 5" N ERWYREY = 17.0	Contract Collected C 12:15 Post CAR Start Survey 1-2" Bland SELT (2:12) 1-2" Bland SELT (2:12) 1-2" Bland SELT (2:12) 2-6" HED/CONSK SAND -CREY SING GRANEL NO GRANEL 12-12" Bland SELT PRES CHAIS NO CREY 2-6" HED/CONSK SAND -CREY SING GRANEL NO GRANEL 12-13" HED/CONSK SAND -CREY SING GRANEL NO GRANEL 12-13" HED/CONSK SAND -CREY SING GRANEL 13-13" HED/CONSK SAND -CREY SAND SELT THER QLANGE NO CRANEL 15"-13" HED/CONSK SAND - CREY SAND	BIEND DOD COLLECTED @ 12:40

SED CORER # 2 13:40 present of LAT = 41 35' 35.09" > 547 = 41 CONTROL -73' 55 44.45" > 900 = 5:3 CONTROL - 244 6.00

PRINETENTAL DEPTH = 244 6.00

PRINETENTEND = 364 7"

PRINETENT = 154 4.00

14:00 SKS CRER # 3 NEW XXADO
LAT 41°35'19.07" N SKT: 6
LUNC 73'56'16.41" W PAR-3
WATCR ORPH = ZFT
PRINTER ORPH = ZFT
PRINTER ORPH = ZFT
REUJERT - 23:0

141 35 LUNCH
171 45 WP-173
171 45 WP-173
171 40 WP-173
172 WATE 173 55 35 175 170 MP 25+ (ME)
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SAMPLE COLLECTES @ 14:45 LA = 41° 35' 44.19" ~ SAF= 7 LAX = 73" 55' 37. 21" W PAOP - 2.4 Color Osans selt 15:00 SOUTH ORGANIST (COLE)

12-6" GRAY JOH GROWN SELT

ORGANISC (LEUNS, TWINS)

6-12" 60-8" GRAY SECTY SANS 15:05

SOUTH ORISCIA JOHN ELL

8-17" OK BROWN SELT

TRACK GROWEL NO ORGANIEL

EVEH COCK

6.8 = 9009 W . 38 05" W POOP = 3.8 344 1 G LAS = 4/1°35'48.12" D

PENETENESS - BF R. WATER DEPTH = 03 m

RECOURT = 1# 5.n

SAMPLE CREECERS @ 15:20 0-6" 0-3" Aban ster

HEERLY SATURATION

Sorth arbante 3-6 CKM SELT

6-8: GRAY (BRUND SANDY SELT 15:30 らみたいるちたろ

B-12' BRAN MED/CORESTE SIAND TRACK ORESANTE

12-13.5" REDITION SECT 15135 SWIR CHANKL AND PRODUE

12-17

13.5-17" CHAM COARSE SAND Sink opposit

SMR PRBSIKS

3 POOD = 3 ON KITHOLOFT 545 works or prit - 2++ yin. SED CORT #4 15:35 KURTRATEN - SF4 11.M. 600 - 73 55 '38.16" W REWINEY = 19.71 JEAR WP. 12

16:30 EUSPAKINT SLANK

DUNK

Burs

5Parr3

STORPAGE S

6"CKKAN

SPATULA

608L-3613

Post 80F DUERBAST

0910 palessed SED cores (0-6") and (6-12") intervals for physical parameter

0936 SED CORE Y processed (6-12") intervals

10 SED CORE 2 processed (0-6") 4 (6-12") intervals

0950 (WP-T3A processed (0-6) 9(6.12") Intervals

APPENDIX B

Bathymetry data collected for the Creek RI



UBJECT	HRE	<u>E 4</u>	T))	2 411	E,	b	Jap	gne	er (<u>Se</u>	ek	B	974	yme	SIP	еет 1 –	ВУ	<u></u>	JAA	· [امر دا)	4/2	9 0) 2	10. 10 272	56 58	53 / 3		
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Table 1- Approximate water depths at site bridges relative to water surface and bridge distances

Table 1a - Upstream bridge		Table 1b - Downstream bridge	idge
Distance from		Distance from	
Water surface	Water	Water surface	Water
to bottom of bridge (ft.)	depth (ft.)	to bottom of bridge (ft.)	depth (ft.)
-	16	~	15.5
2	15	2	14.5
ო	14	m	13.5
4	13	4	12.5
၃	12	လ	11.5
9	11	ဖ	10.5
7	10	7	9.5
∞	ത	ω	8.5
O	∞	თ	7.5
10	7	10	6.5
	9	11	5.5
12	വ	12	4.5
Water samples should be collected	se collected	Water samples should be collected at	be collected at
approximately 20 ft. from north end of bridge.	th end of bridge.	the approximate center of the bridge	er of the bridge.

Depths presented in black were measured, depths presented in blue are estimated from measured data. Sample collection positions based on review of creek bathymetry data collected 4/4/01.

APPENDIX C

Sample location coordinates

Table 1 Wappingers Creek Investigation - 2003

Location	Lattitude	Longitude
Wappingers Lake		
WP-LK1	N: 596333.5	E: 1228644.2
WP-LK2	N: 595797.7	E: 1228096.2
WP-LK3	N: 595587.8	E: 1228565.2
WP-LK4	N: 595310.6	E: 1228880.7
WP-LK5	N: 595048.7	E: 1229323.1
Wappingers Creek		
WP-PL2	41 35 37.28 N	73 55 42.26 W
WP-PL3	41 35 37.61 N	73 55 46.48 W
WP-PL1	41 35 35.13 N	73 55 48.29 W
WP-T3C	41 34 52.27 N	73 56 47.79 W
WP-T3A	41 35 00.84 N	73 56 41.88 W
WP-T3B	41 34 58.39 N	73 56 42.24 W
WP-OD1	41 35 02.74 N	73 56 37.04 W
WP-T2A	41 35 19.49N	73 56 15.23 W
WP-T2C	41 35 15.40N	73 56 11.80 W
WP-T2B	41 35 17.28N	73 56 13.08 W
WP-T1B	41 35 25.43N	73 55 59.45 W
WP-LGOUT2	41 35 54.26N	73 55 34.10 W
WP-MW4	41 35 53.66N	73 55 35.34 W
WP-T1A	41 35 29.59N	73 56 00.16 W
WP-T1C	41 35 23.89 N	73 55 58.32 W
WP-OD2	41 35 19.26N	73 56 17.55 W
WP-OD3	41 35 35.72N	73 56 40.85 W
WP-CKOUT	41 35 36.12N	73 55 34.93 W
WP-29A	41 35 41.45N	73 55 36.02 W
WP-DOT	41 35 42.39N	73 55 36.21 W
SED CORE 2	41 35 35.09N	73 55 44.43 W
WP-M3	41 35 44.19N	73 55 37.21 W
WP-M2	41 35 48.12N	73 55 38.02 W
SED CORE 4	41 35 48.13 N	73 55 38.16 W

Source: O'Brien & Gere Engineers, Inc.

APPENDIX D

DER-10 Background evaluation

Sediments 0-6 inches depth

Units in mg/Kg Sample ID	Total	Total Carcinogenic PAHs	BaP Equivalents
WP-LK01-A	5.4 J	2.7 J	0.60 J
WP-LK01-B	5.5 J	2.8 J	0.60 J
WP-LK01-C	5.4 J	2.8 J	0.60 J
Average LK01A,B,C	5.4	2.8	0.60
WP-LK1	1.7 J	0.9 J	0.30 J
WP-LK2	1.7 J	0.7 J	0.04 J
WP-LK3	2.6 J	1.5 J	0.40 J
WP-LK4	2.5 J	1.2 J	0.30 J
WP-LK5	4.1 J	2.2 J	0.50 J
Based on Natural Logs:			
25th percentile	1.9	1.0	0.30
75th percentile	3.7	2.0	0.47
Percentile range	1.8	1.0	0.17
X = Range times 1.5	2.7	1.5	0.26
Y = 75th percentile+X	6.3	3.5	0.73
Maximum	5.4	2.8	0.60
Maximum Exceeds Y?			

14500 J 14200	Sediments 0-6 inches depth																		
14500 11 UJN 45 34.1 0.57 0.19 UJ 7600 18.4 17.9 UJ 8.6 J 14200 1.2 UJN 5 J 89.5 J 0.53 J 0.21 UJ 7030 17.7 J 16 UJ 7.9 J 14200 3.2 UJ 1.1 UJN 4.1 J 90.3 J 0.57 J 0.2 UJ 7240 J 8.3 J 13.9 UJ 8.3 J 14433 3.2 1.1 4.6 91.3 0.56 0.2 7290 18.1 15.9 J 8.3 J 14500 3.2 UJ 4.1 J 4.9 EJ 1.2 EJ 0.5 EJ 1.3 EJ 19200 J 27 J 54 UJ 14 EJ 14500 3.1 UJN 6.3 EJ 92 EJ 0.64 EJ 0.8 EJ 1800 J 27 J 54 UJ 11 EJ 14500 1.8 UJN 4.7 EJ 92 EJ 0.64 EJ 0.8 EJ 1800 J 27 J 41 UJ 18 EJ 15000 J 1.2 UJN 4.7 EJ 98 EJ 0.7 EJ 0.8 EJ 1100 J 24 J 28 UJ 13 EJ 15000 J 1.2 UJN 4.7 EJ 99 0.78 1.3 EJ 1100 J 24 J 28 UJ 13 EJ 26th percentile range 2.736 0 1.58 0.26 8.0 0.13 0.44 1406 4.2 32 32 32 25th percentile range 2.736 0 1.58 0.26 8.0 0.13 0.44 1406 4.2 32 32 32 25th percentile range 2.736 0 2.57 0.39 12.1 0.20 0.67 2.10 0.44 48 4.7 25th percentile range 2.736 0 2.57 0.39 12.1 0.20 0.67 2.10 0.44 48 4.7 25th percentile range 2.736 0 2.57 0.39 12.1 0.20 0.78 1.3 0.418 2.1 0.44 48 4.7 25th percentile range 2.736 0 2.57 0.39 0.78 1.3 0.44 0.46 4.2 32 32 32 32 32 25th percentile range 2.736 0 2.57 0.39 0.78		առսյաոլ		νυαμυουλ	ojuesu	ពាបារនវ		muimbs(mulals(muimostic	łexavalent		Copper	ron	peər	muisəngsM	Vanganese	Десспъ	Nickel
OTA,B,C 14200 J 3.2 UJ 1.1 UJN 5 J 88.5 J 0.21 UJ 7030 J 17.7 J 16 UJ 7.9 J OTA,B,C 14433 3.2 UJ 1.1 UJN 4.1 J 90.3 J 0.57 J 0.2 UJ 7240 J 18.3 J 13.9 UJ 8.3 J 14433 3.2 UJ 1.1 UJN 4.1 J 90.3 J 0.57 J 0.2 UJ 7240 J 18.3 J 13.9 UJ 8.3 J 14500 J 2.4 UJN 4.9 BJ 1.2 BJ 0.5 BJ 1.4 BJ 13800 J 2.7 J 54 UJ 14 BJ 16000 J 3.1 UJN 6.3 BJ 0.5 BJ 0.6 BJ 1.8 BJ 1.4 BJ 1.8 BJ 16000 J 1.8 UJN 4.7 BJ 98 BJ 0.7 BJ 0.8 BJ 1.2 BJ 1.1 BJ 1.1 BJ 75th percentile range 1.7 8 J 1.0 BJ 1.2 BJ 1.1 BJ 1.1 BJ 1.1 BJ 1.1 BJ 75th percentile range 2.7 36 0.2 BJ 0.8 BJ 0.7 BJ 0.8 BJ 0.4 BJ 1.2 BJ 1.1 BJ <th>WP-1 K01-A</th> <th>14500</th> <th></th> <th>1.1 UJN</th> <th>4.6 J</th> <th>94.1</th> <th> </th> <th>0.19 UJ</th> <th>7600 J</th> <th>18.4 J</th> <th>.s U</th> <th></th> <th>36.7 J</th> <th>29800 J</th> <th>49.4 J</th> <th>7130 J</th> <th>594 J</th> <th>0.35 UJ</th> <th>II .</th>	WP-1 K01-A	14500		1.1 UJN	4.6 J	94.1		0.19 UJ	7600 J	18.4 J	.s U		36.7 J	29800 J	49.4 J	7130 J	594 J	0.35 UJ	II .
14600 j 3.2 UJ 1.1 UJN 4.1 j 90.3 j 0.57 j 0.2 UJ 7240 j 18.3 j 13.9 UJ 8.3 j 1.2 UJ 1.1 UJN 4.1 j 90.3 j 0.57 j 0.2 UJ 7240 j 18.3 j 13.9 UJ 8.3 j 1.2 UJ 1.1 UJN 4.9 BJ 120 B 0.8 BJ 1.4 BJ 1900 j 25 J 86 UJ 11 BJ 14500 j 1.8 UJN 4.7 BJ 98 BJ 0.64 BJ 0.8 BJ 18000 j 22 J 41 UJ 11 BJ 14000 j 1.8 UJN 4.7 BJ 98 BJ 0.7 BJ 0.93 BJ 11000 j 22 J 41 UJ 11 BJ 11000 j 22 j 41 UJ 11 BJ	WP-LK01-B	14200 J		1.2 U.N	ري دي	89.5 J	-	0,21 UJ	7030	17.7 J			34.2 J	27000 J	45.9 J	6850 J	460 J	0.4 UJ	
LKOIA,B,C 14433 3.2 1.1 4.6 91.3 0.56 0.2 7290 18.1 15.93 8.3 19200 J	WP-LK01-C	14600 J	3.2 UJ	1.1 U.SN	4. 1.	90.3 J	7	0.2 UJ	7240 J	_			36.7 J	28600 J	46.5 J	C 0669	Se9 J	0.37 UJ	
19200 J	Average LK01A B.C.	14433	3.2	1-1	4.6	91.3		0.2	7290	ı	ı	1	35.9	28467	47.3	0669	541	0.37	
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sed on Natural Logs: 25th percentile range 17600 J 1.2 UJN 4.7 BJ 100 BJ 0.81 BJ 11.0 BJ 11100 J 24 J 28 UJ 13 BJ 25th percentile range 14,449 3.2 1.3 4.6 91 0.65 0.83 10,418 21 18 9.3 75th percentile range 2,736 0 1.58 0.26 8.0 0.78 1.3 11,824 25 50 12 X = Range times 1.5 4,105 0 2.37 0.39 0.71 0.00 0.44 1,406 4.2 3.2 3.2 X = Texture times 1.5 4,105 0 2.37 0.39 1.21 0.00 0.07 2.110 6.4 48 4.7 X = Texture times 1.5 4,05 0 2.3 2.0 4.7 4.8 4.7	WP-LK4	16000 J		18 USN	4.7 BJ			0.93 BJ	11600 J	_			წ	29600 J	8	7310 J	1000	0.33	
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14,449 3.2 1.3 4.6 91 0.65 0.83 10,418 21 18 9.3 17,186 3.2 2.9 4.8 99 0.78 1.3 11,824 25 50 12 2,736 0 1.58 0.26 8.0 0.13 0.44 1,406 4.2 32 3.2 3,710 0 2.37 0.39 12.1 0.20 0.67 2,110 6.4 48 4.7 3,100 0 2.37 0.39 12.1 0.00 0.67 2,110 6.4 48 4.7 3,100 0 0 0 0 0 7.30 3.2 4.7 3,100 0 0 0 0 0 3.2 4.7 3,100 0 0 0 0 0 3.2 4.7 3,100 0 0 0 0 0 4.8 4.7	Based on Natural Logs:																		
17,186 3.2 2.9 4.8 99 0.78 1.3 11,824 25 50 12 2,736 0 1.58 0.26 8.0 0.13 0.44 1,406 4.2 3.2 3.2 3.2 4,105 0 2.37 0.39 12.1 0.20 0.67 2,110 6.4 48 4,7 0.100 0.7 2,110 6.4 48 4,7 0.100 0.7 2,110 6.4 48 4,7 0.100 0.7 2,110 6.4 48 4,7 0.100 0.7 2,10 0.100 0.7 0.100 0.7 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	25th percentile	14,449	3.2	6.	4.6	91		0.83	10,418	77	18	9.3	য়	28,728	89	7068	558	0.30	8
2,736 0 1.58 0.26 8.0 0.13 0.44 1,406 4.2 32 3.2 4.105 0 2.37 0.39 12.1 0.20 0.67 2,110 6.4 48 4.7 4.7 4.7 4.7 4.7 4.7 4.7 4.7 4.7 4.7	75th percentile	17,186	3.2	2.9	8.4	8		1.3	11,824	53	S,	7	88	32,473	119	8463	689	0.36	စ္က
4,105 0 2.37 0.39 12.1 0.20 0.67 2,110 6.4 48 4.7	Percentile range	2,736	0		0.26	8.0		0.44	1,406	4.2	32	3.2	첧	3,744	S	1395	131	90.0	3.7
24 20 27 52 53 419 0.08 10 13.034 32 90 17	X = Range times 1.5	4,105	0		0.39	12.1		29'0	2,110	6.4	84	4.7	51	5,617	7,	2093	136	0.09	9.9
1. C. 3. C. C. C. C. C. C. C. C. C. C. C. C. C.	Y = 75th percentile+X	21,290	3.2	5.3	5.2	112		1.9	13,934	33	66	7	5	38,089	2 8	10,556	885	0.45	32
19,200 J 3.2 UJ 3.8 UJN 6.3 BJ 120 BJ 0.86 BJ 1.4 BJ 18,800 J 27 J 86 UJ 14 BJ	Maximum	19,200 J	3.2 ∪∪	,	6.3 BJ	120 BJ	0.86 BJ	1.4 BU	18,800 J	27 J	86 UJ	14 BJ	8	32,800 J	187 J	8700 J	000	0.57 J	33 82
Maximum Exceeds Y? Yes Yes	Maximum Exceeds Y?	1	-	iancefi [Yes	Yes	1		Yes	ا	1		,	,	1	1	Yes	Yes	ı

Mickel	0200 11 2	33 BJ
Mercury	9486874	0.45
esensgnsM	\$986£ 1 2	J 885.2
្ហានឧប្បព្វាយ	\$\$66E#4	8700
рвег	1438851	187 J
Iron	9686642	32800 J
Соррег	80 <u>9</u> 0 11 2	£ 06
Соран	\$8\$0 \$ \$4	14 BJ
Chromium, Hexavalent	18640299	86 UJ
muimosdO	£740447	27 J
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1.4 BJ

0.86 BJ

112

3.2 UJ 3.8 UJN 5.2

19200 J

Values to Use

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6/3/2004

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1110 J 1.6 U 0.64 U 145 J 3.2 UJN 2.2 UJ 18.9 J 1140 J 1.5 UJ 0.59 UJ 148 J 2.9 UJN 3.2 J 18.7 J 1110 J 1.5 UJ 0.59 UJ 148 J 2.9 UJN 3.2 J 18.7 J 11113 1.9 0.6 13.9 3.0 BJ 3.5 UJ 2.7 UJ 2.8 BJ 15.0 BJ 15.0 BJ 3.9 UJ 1.8 UJ 2.2 UJ 38.8 BJ 5.5 UJ 4.3 UJ 3.8 BJ 14.0 DJ 2.0 BJ 1.50 BJ	WP-1 K01-A	1090 J	2.5 J	0.57 UJ	124 J		1.9 UJ	19.8 J	242
1140 J 1.5 UJ 0.59 UJ 148 J 2.9 UJN 3.2 J 18.7 J 1113 1.9 0.6 139 3 2.433 19.1 1740 BJ 3.0 U 1.4 UJ 3.0 BJ 3.5 UJ 2.433 19.1 1740 BJ 3.9 UJ 1.8 UJ 3.5 UJ 2.9 BJ 14.0 BJ 3.9 UJ 1.8 UJ 3.5 UJ 2.9 BJ 1.8 UJ 1.8 UJ 3.5 UJ 2.9 BJ 1.8 UJ 1.8 UJ 2.1 UJ 2.1 UJ 2.8 BJ 1.8 UJ 1.4 UJ 2.8 BJ 2.8 UJ 2.9 BJ 1.8 UJ 2.1 UJ 2.8 BJ 1.8 UJ 1.4 UJ 2.8 BJ 2.8 UJ 2.9 BJ 1.8 UJ 2.9 BJ 2.9 UJ 2.9 UJ 2.9 BJ 2.9 UJ 2.9	WP-LK01-B	1110 J	1.6 UJ	0.64 U	145 J		2.2 UJ	18.9	188 J
1113 1.9 0.6 139 3 2.433 19.1 1740 BJ 3 UJ 1.4 UJ 330 BJ 35 UJ 2.7 UJ 29 BJ 1510 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1350 BJ 2.3 UJ 1.1 UJ 21 BJ 2.6 UJ 2.0 BJ 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 22 BJ 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 22 BJ 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 22 BJ 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 22 BJ 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 22 BJ 1360 BJ 1.6 UJ 0.72 UJ 350 4.2 3.3 29 1360 BJ 1.7 0.9 114 1.5 1.2 0.1 1360 BJ 1.8 UJ 1.7 350 4.2 3.3 29 1360 BJ 1.7 0.9 114 1.5 1.2 0.1 1360 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1360 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1360 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1360 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1360 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1360 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1360 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1360 BJ 1.8 UJ 2.2 UJ 2.8 UJ 2.8 1360 BJ 1.8 UJ 2.2 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 1.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 1.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 1.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 1.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 1360 BJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8 UJ 2.8	WP-L K01-C	1140 J	1.5 UJ	0.59 UJ	148 J		3.2 J	18.7 J	162 J
1740 BJ 3 UJ 1.4 UJ 330 BJ 3.5 UJ 2.7 UJ 29 BJ 1510 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1420 BJ 139 UJ 1.8 UJ 3.5 UJ 2.8 BJ 1350 BJ 2.3 UJ 1.1 UJ 212 BJ 2.6 UJ 2.0 UJ 22 BJ 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 18 UJ 1.4 UJ 2.6 BJ 2.8 BJ 18 UJ 1.4 UJ 2.6 BJ 2.8 BJ 18 UJ 1.4 UJ 2.6 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 2.6 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 2.6 BJ 1.6 UJ 0.7 UJ 2.7 UJ 2.8 BJ 1.8 UJ 1.4 UJ 2.8 BJ 1.8 UJ 1.4 UJ 2.8 BJ 1.8 UJ 1.4 UJ 2.8 BJ 1.8 UJ 1.4 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.6 UJ 2.8 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 3.8 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 3.8 BJ 1.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 3.8 B	Average L K01A B.C	1113	1.9	0.6	139	ဗ	2.433	19.1	178
1510 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ 1420 BJ 1420 BJ 3.9 UJ 18 UJ 357 BJ 4.4 UJ 3.5 UJ 29 BJ 1350 BJ 2.3 UJ 11 UJ 212 BJ 2.6 UJ 2 UJ 22 BJ 1350 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 2.6 BJ 75th percentile range 135	WP-LK1		3 5	1.4 UJ		3.5 UJ	2.7 UJ		221 J
1420 BJ 3.9 UJ 1.8 UJ 357 BJ 4.4 UJ 3.5 UJ 29 BJ 1350 BJ 1.3 UJ 1.1 UJ 212 BJ 2.6 UJ 2.9 BJ 1350 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 2.6 BJ 2.5 UJ 2.8 BJ 1.5 UJ 2.7 BJ 1.5 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 2.6 BJ 2.5 UJ 2.8 BJ 1.5 UJ 2.7 BJ 2.8 BJ 1.5 UJ 2.8 BJ 1.8 UJ 1.4 UJ 2.6 BJ 2.8 BJ 2.5 UJ 2.8 BJ 2.8	WP-LK2					5.5 UJ			389
1350 BJ 2.3 UJ 1.1 UJ 212 BJ 2.6 UJ 2 UJ 22 BJ 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 2.6 BJ 254 percentile range times 1.5 2.6 2.7 2.1 2.3 X = Range times 1.5 2.0 2.6 1.3 3.7 1.7 350 4.2 3.3 2.9 X = Tath percentile range times 1.5 2.6 2.6 1.3 170 2.2 1.8 9.1 Assimum Aximum Exceeds YP 2.8 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ Assimum Exceeds YP 2.8 2.8 2.8 2.8 2.8 2.8 Assimum Exceeds YP 2.8 2.8 2.8 2.8 2.8 2.8 Assimum Exceeds YP 2.8 2.8 2.8 2.8 2.8 2.8 2.8 Assimum Exceeds YP 2.8 2.8 2.8 2.8 2.8 2.8 2.8 Assimum Exceeds YP 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 Assimum Exceeds YP 2.8	WP-LK3				_	4.4 UJ			24.
sed on Natural Logs: 1360 BJ 1.6 UJ 0.72 UJ 328 BJ 1.8 UJ 1.4 UJ 26 BJ 25th percentile 1352 1.9 0.8 236 2.7 2.1 23 75th percentile range 134 1.7 0.9 114 1.5 1.2 3.3 29 Percentile range times 15 2.6 1.3 170 2.2 1.8 9.1 Y = 75th percentile+X 1689 6.2 3.0 520 6.4 5.1 38 Maximum 1740 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ Iaximum Exceeds Y?? 2.2 1.2 1.3 1.2 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.4 1.5 1.3 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4	WP-LK4	1350 BJ	2.3 UJ						228 J
1352 1.9 0.8 236 2.7 2.1 23 29 1487 3.7 1.7 350 4.2 3.3 29 134 1.7 0.9 114 1.5 1.2 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1	WP-LK5	1360 BJ	1.6 UJ	0.72 UJ					230
1352 1.9 0.8 236 2.7 2.1 23 1487 3.7 1.7 350 4.2 3.3 29 134 1.7 0.9 114 1.5 1.2 6.1 202 2.6 1.3 170 5.0 6.4 5.1 38 1740 BJ 48 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ	Based on Natural Logs:								
1487 3.7 1.7 350 4.2 3.3 29 134 1.7 0.9 114 1.5 1.2 6.1 202 2.6 1.3 170 2.2 1.8 9.1 1689 6.2 3.0 520 6.4 5.1 38 1740 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ	25th percentile	1352	1.9	0.8	236	2.7	2.1	ខ	222
134 1.7 0.9 114 1.5 1.2 6.1 202 2.6 1.3 170 2.2 1.8 9.1 1689 6.2 3.0 520 6.4 5.1 38 1740 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ	75th percentile	1487	3.7	1.7	320	4.2	3.3	83	529
202 2.6 1.3 170 2.2 1.8 9.1 1689 6.2 3.0 520 6.4 5.1 38 1740 8J 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ	Percentile range	1 34	1.7	6.0	114	1,5	1.2	6.1	7.8
1689 6.2 3.0 520 6.4 5.1 38 1740 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ	X = Range times 1.5	202	5.6	1.3	170	2.2	1.8	9.1	11.6
1740 BJ 4.8 UJ 2.2 UJ 386 BJ 5.5 UJ 4.3 UJ 38 BJ	Y = 75th percentile+X	1689	6.2	3.0	220	6.4	5.1	ඝ	241
	Maximum	1740 BJ				5.5 UJ	4,3 ∪∪		359 J
	Maximum Exceeds Y?	, Kes	ı	ı	1	ı	13	ı	Yes

ı		
zlnc	9990++4	241
Wanadlum	7440622	38 BJ
		4.3 UJ
Total cyanide	52175	UJ 4
muillsd1	0820 17 4	5.5
wnibo 2	9620 11 4	386 BJ
Silver	V440224	2.2 UJ
20/115	7000772	4.8 UU
muinele2	2642877	
muissatoq	7800 11 7	1689
Chem Mame	САS	falues to Use

6/3/2004

APPENDIX E

Analytical data tables

Three Star Anodizing Site DRAFT - Table A-1

Wappinger Creek Investigation - Sediment Samples Wappingers Falls, New York

Volatile Organic Compound Concentrations

Background 05/10/2001 25 - 31 in. mg/Kg WP-LK01-B 0.021 UJ 0.036 UJ 0.021 UJ 0.015 J 0.0040 J 0.0020 J 54700 47.9 WP-LK01-B DUP Background 05/10/2001 6 - 12 in. 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.090 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.0060 J 0.037 UJ 0.0060 J 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.036 J 0.037 UJ 0.037 UJ U 750,0 0,037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ 0.037 UJ mg/Kg 55200 33.5 Background 05/10/2001 6 - 12 in. WP-LK01-B 0.033 UJ 0.033 UJ 0.033 UJ 0.067 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.033 UJ 0.0090 J 0.033 UJ J.033 UJ 0.028 J 0.033 UJ 0.033 UJ J.033 UJ J.033 UJ J.033 UJ 0.010J mg/Kg 62000 Background 05/10/2001 WP-LK01-B 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 U 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.043 UJ 0.014 J 0-6 in. mg/Kg 66800 25 WP-LK01-A Background 05/10/2001 19 - 25 in. 0.021 UJ 0.02 I UJ 0.021 UJ 0.021 UJ 0.021 UJ 0.021 UJ 0.021 UJ 0.011 J mg/Kg 0.028 J 0.070 J 33800 45.8 WP-LK01-A Background 05/10/2001 6 - 12 in. 0.029 UJ 0.029 UI 0.029 UJ 0.029 UJ 0.029 U 0.029 U 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ J.029 UJ 1.029 UI 3.029 UJ J.029 UJ J.029 UJ 0.029 UJ U 650.0 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ 0.029 UJ J.029 UJ 0.015 J mg/Kg 47000 34.9 Background 05/10/2001 WP-LK01-A 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.040 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.0050 J 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.038 UJ 0.015 J 0 - 6 in. mg/Kg 99100 Sample 1D Location Cross Reference Sample Date Sample Depth 4-Mcthyl-2-pentanone (MIBK) Total organic carbon (mg/Kg) cis-1,3-Dichloropropylene trans-1,3-Dichloropropene 1,1,2,2-Tetrachloroethane rans-1,2-Dichloroethene Dibromochloromethane Bromodichloromethane cis-1,2-Dichloroethene Compound 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,2-Dichloropropane Carbon tetrachloride 1,2-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 2-Butanone (MEK) Methylene chloride Гетасыютоетьепе Percent solids (%) Carbon disulfide Trichloroethene Bromomethane Chloromethane Chlorobenzene Vinyl chloride Xylene (total) Chloroethane Ethylbenzene СһІогоботт Bromoform Benzene Toluene Acetone Styrene

U - not detected, J - estimated value, B - blank contamination
e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.

NOTES

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FXP File: QN10653_NYSDEC/27258_THREESTARVTABLEPRK.FXP

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DRAFT - Table A-1
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Volatile Organic Compound Concentrations

Ct[S	WP-I VOLC	7 102 I W	2 1041 00	100 Out	WP 64 45 0	1478 OO 4	3. 3. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.
Uncation Cross Reference		Back ground	Backeround	Section 1	Section 1	Section 1	Wr-11A Section 1
Sample Date		05/10/2001	05/10/2001	05/09/2001	05/09/2001	05/09/2001	05/09/2001
Sample Depth	0 - 6 in.	6 - 12 in.	26 - 32 in.	0 - 6 in.	0 - 6 in.	0-6 in.	0 - 6 in.
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound							
1,1,1-Trichloroethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
1,1,2,2-Tetrachloroethane	0.040 UJ	0.026 UJ	0.021 UI	0.012 U	0.013 U	0.013 UJ	0.014 U
1,1,2-Trichloroethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
1,1-Dichloroethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
1,1-Dichloroethene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
1,2-Dichloroethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0,013 UJ	0.014 U
1,2-Dichloropropane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
2-Butanone (MEK)	0.015 J	0.036 J	0.025 J	0.012 U	0.013 U	0.013 UJ	0.014 U
2-Hexanone	0.040 UJ	0.026 UJ	0.021 UJ	0,012 U	0.013 U	0.013 UJ	0.014 U
4-Methyl-2-pentanone (MIBK)	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Acetone	0.040 UJ	0.11.5	0.096 J	0.012 U	0.013 U	0.013 UJ	0.014 U
Benzene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Bromodichloromethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Bromoform	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Bromomethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Carbon disulfide	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Carbon tetrachloride	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Chlorobenzene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Chloroethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Chloroform	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Chloromethane	0.0040 J	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Dibromochloromethane	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Ethylbenzene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Methylene chloride	0.040 UJ	0.0030 J	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Styrenc	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Tetrachloroethene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Toluene	0,0040 J	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Trichloroethene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Vinyl chloride	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Xylene (total)	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
cis-1,2-Dichloroethene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
cis-1,3-Dichloropropylene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
trans-1,2-Dichloroethene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
trans-1,3-Dichloropropene	0.040 UJ	0.026 UJ	0.021 UJ	0.012 U	0.013 U	0.013 UJ	0.014 U
Total organic carbon (mg/Kg)	58700	55500	38800	18600	22100	65500	76500
Percent solids (%)	28.8	35.7	49.8	81	73.2	65.6	65.2
NOTES. U - not detected. 1 - estimated value. B - blank contamination	- blank contamination				THE THE STATE OF T		
	data from another sample (AS) co	liceted at the same location. When	1 AS>=5%, c=5%. When AS<5%	, e=AS TOC%.			
Sample locations are delined as: Dack	round - upstream of site. Section	l I - adjacent to site. Section 2 - do	ownstream of site. Section 5 - 10w	er portion of creek.		Dace C Dace	
						=	-

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DRAFT - Table A-1
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Volatile Organic Compound Concentrations

																											_	•						-									Г
wr-18	Section 2	05/09/2001	6 - 12 in.	mg/Kg		0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015	0.0070	0.015 U	0.015 U	0.017 U	0.015 U	0.015 U	0.015 U	0.015 U	0.0020 J	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	24400	63.9		
WP-18	Section 2	05/09/2001	0-6 in.	mg/Kg		0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.0080 J	0.015 U	0.015 U	0.025 U	0.015 U	0.015 U	0.015 U	0.015 U	0.0050 J	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.0040 J	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	23400	68.4		
WP-16	Section 1	05/09/2001	0 - 6 in.	mg/Kg		0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.0020 J	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	8770	78.6		
WP-MW4 DUP	Section 1	05/13/2003	0 - 6 in.	mg/Kg		0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	12100	79		
WP-MW4	Section 1	05/13/2003	0 - 6 in.	mg/Kg		0.012 Ü	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	25400	81		,
WP-LGOUT2	Section 1	05/13/2003	0 - 6 in.	mg/Kg		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.0010 J	0.013 U	0.013 U	0.0020 J	0.013 U	0.0010 J	0.013 U	12400 J	75		
				Units 1118/NS		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.024	0.013 U	0.023	0.013 U	0.0020 J	0.0030 J	0.013 U	0.0020 J	0.013 U	26000	277		alue, B - blank contamination
Sam	Location Cross Reference	Sampi	Sample Depth		Compound	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	I,2-Dichloroethane	1,2-Dichloropropane	2-Butanone (MEK)	2-Hexanone	4-Methyl-2-pentanone (MIBK)	Acetone	Benzene	Bromodichloromethane	Втотобогт	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	Ethylbenzene	Methylene chloride	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Vmyl chloride	Xylene (total)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropylene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Total organic carbon (mg/Kg)	Percent solids (%)		NOTES: U - not detected, J - estimated value, B - blank contamination

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS><5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 2 - downstream of site. Section 3 - lower portion of creek.

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DRAFT - Table A-1 Three Star Anodizing Site Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Volatile Organic Compound Concentrations

Clalame S	ID WP-29	WP-29	WP-29	WP.PI	WP-PL DUP	Td-dM
Location Cross Reference		Section 2	Section 2	Section 2	Section 2	Section 2
Sample Date		05/09/2001	05/09/2001	05/08/2001	05/08/2001	05/08/2001
Sample Depth	oth 0-6 m.	6 - 12 in.	12 - 18 in.	0 - 6 in.	0 - 6 in.	6 - 11 in.
ű	Units "SAS	mg/ng	mg/kg	mg/Kg	SV/SIII	Ing/Ng
Compound						
1,1,1-Trichloroethane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
1,1,2,2-Tetrachloroethane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
1,1,2-Trichloroethane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
1,1-Dichloroethane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
1,1-Dichloroethene	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
1,2-Dichloroethane	0.020 UJ	0.014 U	U 770.0	0.037 UJ	0.034 UJ	0.025 UJ
1,2-Dichloropropane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
2-Butanone (MEK)	0.0080 J	0.033 J	0.077 J	0.037 UJ	0.034 UJ	0.028 J
2-Hexanone	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
4-Methyl-2-pentanone (MIBK)	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Acetone	0.022 UJ	0.085 J	0.17 U	0.037 UJ	0.034 UJ	0.061 J
Benzene	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Bromodichloromethane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Втоппоботп	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Bromomethane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Carbon disulfide	0.020 UJ	0.0030 J	0.011 J	0.037 UJ	0.034 [1]	0.035 111
Carbon tetrachloride	0.020 UJ	0,014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Chlorobenzene	0.020 UJ	0.014 U	0.077 U	0.037 [J]	0.034 LII	0.025 111
Chloroethane	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Chloroform	0.020 115	0.01417	11 22 0	0.037111	0.034.111	111 5000
Chloromethane	0.020 UJ	0.014 U	0.077 U	0.037111	0.034 [1]	0.025 111
Dibromochloromethane	0.020 111	0.0141J	0.077 13	1117500	0.034.111	TT 5000
Ethylbenzene	0.020 UJ	0.014 []	0.077 11	0.037 111	0.034 111	CO CEDES
Methylene chloride	0.020 UJ	0.017	0.077 U	0.037113	0.034 1.11	0.025
Styrene	0.020 UJ	0.014 U	0.077 U	0,037 UJ	0.034 UJ	0.025 UJ
Tetrachloroethene	0.020 UJ	0.014 U	0.077 U	0,037 UJ	0.034 UJ	0,025 1J
Toluene	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Trichloroethene	0.020 UJ	0.014 U	U 771 U	0.037 UJ	0.034 UJ	0.025 UJ
Vinyl chloride	0.020 UJ	0.014 U	0,077 U	0.037 UJ	0.034 UJ	0.025 UJ
Xylene (total)	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
cis-1,2-Dichloroethene	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
cis-1,3-Dichloropropylene	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
trans-1,2-Dichloroethene	0.020 UJ	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
trans-1,3-Dichloropropene	0.020 UI	0.014 U	0.077 U	0.037 UJ	0.034 UJ	0.025 UJ
Total organic carbon (mg/Kg)	21700	7330	105000	115000	115000	82300
Percent solids (%)	56.7	623	582	35.6	7.47	305
		7:10	400	2		
NOTES: U-not detected, J- estimated value, B- blank contamination c- estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, When AS><5%, e=AS TOC%.	, B - blank contamination DC data from another sample (AS) c	ollected at the same location. W.	hen AS>=5%, e=5%. When AS	<5%, e=AS TOC%.		
Sample locations are defined as: Ba	ckground - upstream of site. Sectio	in 1 - adjacent to site. Section 2 -	- downstream of site. Section 3 -	lower portion of creek.		•
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Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations Three Star Anodizing Site Wappingers Falls, New York DRAFT - Table A-2

Sample ID	1	WP-LK2	WP-LK3	WP-LK4	WP-LK5	WP-LK01-A	WP-LK01-A	
Location Cross Reference	ce Background	Background	Background	Background	Background	Background	Background	
Sample Date		0 - 6 in. mg/Kg	0 - 6 in. mg/Kg	0 - 6 in. mg/Kg	0 - 6 in. mg/Kg	05/10/2001 0 - 6 in. mg/Kg	03/10/2001 6 - 12 in. mg/Kg	
Compound							•	
1,2,4-Trichlorobenzene	I.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	IU 6.1	
1,2-Dichlorobenzene	I.9 UI	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	U 6.1	
1,3-Dichlorobenzene	I.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	U. 6.1	
I,4-Dichlorobenzene	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	IJ 6.1	
Bis(2-chloroisopropyl) ether	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	ID 6.1	
2,4,5-Trichlorophenol	4.6 UJ	6.9 UJ	6.0 UJ	3.5 UJ	2.3 UJ	3.1 UJ	4.6 UJ	
2,4,6-Trichlorophenol	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 (J)	ID 61	
2,4-Dichlorophenol	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	U 6.1	
2,4-Dimethylphenol	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	m61	-
2,4-Dinitrophenol	4.6 UJ	E9 UI	6.0 UJ	3.5 UJ	2.3 UJ	3.1 UJ	4.6 UJ	
2,4-Dinitrotoluene	I.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	IU 6.1	
2,6-Dinitrotoluene	IJ 6.1	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	In 6:1	
2-Chloronaphthalene	I.9 UI	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	ID 6.1	
2-Chlorophenol	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	ID 6.1	
2-Methylnaphthalene	U 6.1	2.8 UJ	2.4 UJ	I.4 UJ	0.93 UJ	13 01	ID 6.1	
2-Methylphenol	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	11161	
2-Nitroaniline	4.6 UJ	IU 6.9	6.0 UJ	3.5 UJ	2.3 W	3.1 UJ	4.6 UJ	
2-Nitrophenol	U) 6.1	2.8 UJ	2.4 UI	1.4 UJ	0.93 UJ	1.3 UJ	tD 6:1	
3,3-Dichlorobenzidine	LD 6.1	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	ID 6.1	-
3-Nitroaniline	4.6 UJ	6.9 UJ	6.0 UJ	3.5 UJ	2.3 UJ	3.1 UJ	4.6 UJ	
4,6-Dinitro-2-methylphenol	4.6 UJ	(1) 6.9	6.0 UJ	3.5 UJ	2.3 UJ	3.1 UJ	4.6 UJ	
4-Bromophenyl phenyl ether	1.9 U	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UI	1.9 UI	
4-Chloro-3-methylphenol	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	1.9 UJ	
4-Chloroaniline	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UI	1.9 U	
4-Chlorophenyl phenyl ether	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	11.9 UJ	
4-Methylphenol	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	1J. Q.I.	
4-Nitroaniline	4.6 UJ	6.9 UJ	6.0 UJ	3.5 UJ	2.3 UJ	3.1 UJ	4.6 UJ	
4-Nitrophenol	4.6 UJ	6.9 UI	6.0 UJ	3.5 UJ	2.3 UJ	3.1 UJ	4.6 UJ	
Acenaphthene	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	IJ 9 UJ	
Acenaphthylene	1.9 UJ	2.8 UI	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	D 6.1	
Anthracene	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	U. 9.11	
Benzo(a)anthracene	1.9 UJ	2.8 UJ	0.27 J	0.20 J	0.30 J	0.38 J	0.21 J	
Benzo[a]pyrene	0.22 J	2.8 UI	0.27 J	0.22 J	0.37 J	0.46 J	0.21 5	
Benzo(b)fluoranthene	0.36 J	0.41 J	0.54 J	0.38 J	0.60 J	1.0.1	0.40 J	
Benzo(ghi)perylene	1.9 UJ	2.8 UJ	2.4 UJ	0.16 J	0.23 J	1.3 UI	IJ.9 UJ	
Benzo(k)fluoranthene	I.9 UI	2.8 UJ	2.4 UJ	1.4 UJ	0.21 J	0.29 J	IJ 6.1	
Butyl benzyl phthalate	I.9 UI	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	13 UJ	IJ 6.1	
Carbazole	IO 6.1	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1300	W 6.1	
Chrysene	0.27 J	0.30 J	0.37 J	0.28 J	0.44 J	0.59 J	0.28 J	
Di-n-butyl phthalate	1.9 UJ	2.8 UJ	2.4 UJ	1.4 UJ	0.93 UJ	1.3 UJ	1.9 UJ	
NOTHE .	B - blonk confamination							Ī

U-not detected, I - estimated value, B - blank contamination.
e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%, sample locations are defined as: Background - upstream of site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations Wappingers Falls, New York Three Star Anodizing Site DRAFT - Table A-2

Sample ID Location Cross Reference Sample Date Sample Depth Units		Į									Hexachlorocyclopentadiene				N-Nitrosodipropylamine	N-Nitrosodiphenylamine							Bis(2-chloroethoxy)methane		Bis(2-ethylhexyl)phthalate (BEHP)	Total organic carbon (mg/Kg)	
																									P)		
WP-LK1 Background 05/12/2003 0 - 6 in. mg/Kg		1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	0.42 J	1.9 UI	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	IJ 6.1	1.9 UJ	4.6 UJ	1.9 UJ	1.9 UJ	0.42 J	1.9 UJ	I.9 UI	1.9 UJ	102000 J	18
WP-LK2 Background 05/12/2003 0 - 6 in. mg/Kg		2.8 UJ	2.8 UJ	2.8 UJ	2.8 UJ	2.8 UJ	0.47 J	2.8 UI	2.8 UJ	2.8 UJ	2.8 UJ	2.8 UJ	2.8 UJ	2.8 UJ	2.8 UI	2.8 UJ	2.8 UJ	2.8 UJ	to 6.9	2.8 UJ	2.8 UJ	0.48 J	2.8 UJ	2.8 UJ	2.8 UJ	91600 J	12
WP-LK3 Background 05/12/2003 0 - 6 in. mg/Kg		2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	0.55 J	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	6.0 UJ	2.4 UJ	2.4 UJ	0.61 J	2.4 UJ	2.4 UJ	2.4 UJ	63300 J	14
WP-LK4 Background 05/12/2003 0 - 6 in. mg/Kg		1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	0.45 J	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	0.15 J	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	3.5 UJ	0.17 J	1.4 UJ	0.46 J	1.4 UJ	1.4 UJ	1.4 UJ	42100 J	25
WP-LK5 Background 05/12/2003 0 - 6 in. mg/Rg		0,93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.66 J	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.24 J	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	2.3 UJ	0.23 J	U.93 UI	0.77 J	0.93 UJ	0.93 UJ	0.93 UJ	46100 J	36
WP-LK01-A Background 05/10/2001 0 - 6 in. mg/Kg		1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	0.98 J	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UI	1.3 UI	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	3.1 UJ	0.41 J	1.3 UJ	13.5	1.3 UJ	1.3 UJ	1.1 3	99100	22.4
WP-LK01-A Background 05/10/2001 6 - 12 in. mg/Kg	•	1.9 UJ	1.9 UJ	1.9 U	U. 6.1	1.9 UJ	0.44 J	ID 6.1	1.9 UJ	L9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	U.9 U.	1.9 UJ	U9 CI	1.9 UJ	1.9 UJ	4.6 UJ	0.23 J	1.9 UJ	0.60 J	1.9 UJ	IJ 6.1	0.52 J	47000	34.9

U-not detected, J - estimated value, B - blank contamination.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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DRAFT - Table A-2
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Semivolatile Organic Compound Concentrations

	Cample 1D	WP-LK01-A	WP-I K01-B	WP.1 K01-B	WP-1 K01-B DITE	a-10/11-a/m	7 10 7 T 07W	O TOAT WIL	
Location	Location Cross Reference	Background	Background	Background	Background	Background	Backeround	Wr-LNOI-C Backeround	
	Sample Date	05/10/2001	05/10/2001	05/10/2001	05/10/2001	05/10/2001	05/10/2001	05/10/2001	
	Sample Depth	19 - 25 in.	0 - 6 in.	6 - 12 in.	6 - 12 in.	25 - 31 in.	0 - 6 in.	6 - 12 in.	
	Units	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Compound									
1,2,4-Trichlorobenzene		0.69 UJ	I.4 UJ	1.1 UJ	1.2 UJ	U 69.0	1.3 UJ	0.85 UJ	[
1,2-Dichlorobenzene		0.69 UI	1.4 UI	1.1 UJ	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UJ	
1,3-Dichlorobenzene		0.69 UI	1.4 UJ	1.1 UJ	1.2 UJ	ID 69:0	1.3 UJ	0.85 UJ	
1,4-Dichlorobenzene		ID 69:0	1.4 UJ	1.1 Uš	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UJ	
Bis(2-chloroisopropyl) ether		0.69 UJ	1.4 UJ	1.1 UI	1.2 UJ	0.69 UJ	1.3 UJ	0.85 U	
2,4,5-Trichlorophenol		1.7 UJ	3.5 UJ	2.7 UJ	3.0 UJ	1.7 UJ	3.2 UJ	2.1 III	
2,4,6-Trichlorophenol		0.69 UJ	1.4 UJ	1.1 UJ	1.2 UJ	IO 69:0	13.11	0.85111	
2,4-Dichlorophenol		0.69 UJ	1.4 UJ	1.1 UJ	1.2 U.	II 69.0	13111	0.85111	
2,4-Dimethylphenol		0.69 UJ	1.4 UJ	D.1.0	1.2 UJ	0.69 UI	13111	111 58 0	
2,4-Dinitrophenol		1.7 UJ	3.5 UJ	2.7 UJ	3.0 UI	1.7 UJ	3.2.111	2 111	
2,4-Dinitrotoluene		0.69 UJ	1.4 UJ	In 171	17 71	0.69.117	11.5	E 1.2	
2,6-Dinitrotoluene		0.69 UJ	1.4 UJ	11.1.1	12 111		13.55	CO CS:0	
2-Chloronaphthalene		0.69 UJ	1.4 UJ	1.1 1.1	12111	0.69 0	3 5	10 to 0	
2-Chlorophenol		0.69 UJ	1.4 [1]	11111	12.11	(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	3 : :	10 Co.0	
2-Methylnaphthalene		ID 69:0	1.4 []]		12.11	(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	io e i	LO C8:0	
2-Methylphenol		0.6911	14111	11111		50.70.0		0.85 0.3	
2-Nitroaniline		1711	3 5 111	27.13	20.71	0.09	3 :	0.85 UJ	
2-Nitronhenol		0.60111	14111	50,73		3	3.2 UJ	2.1 UJ	
3.3.Dichlorobanzidina		0.60 UJ	5 .		m z.i	0.69 UJ	1.3 UJ	0.85 UJ	
3 Mittageniling		0.09 0.0			12 U	0.69 UJ	13 53	0.85 UJ	
2-Initioanime		1.7 UJ	3.5 UJ	2.7 UJ	3.0 UJ	1.7 UJ	3.2 UJ	2.1 03	,
4,5-Dinito-z-methylphenol		1.7 UJ	3.5 UJ	2.7 UJ	3.0 UJ	1.7 UJ	3.2 UJ	2.1 UJ	
4-Bromophenyl phenyl ether		0.69 UJ	I.4 UI	1.1 UJ	1.2 UJ	IU 69:0	1.3 UJ	0.85 UJ	
4-Chloro-3-methylphenol		0.69 UJ	1.4 01	1.1 UJ	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UJ	
4-Chloroaniline		0.69 UJ	1.4 UJ	1.1 UJ	1.2 UJ	£D 69:0	1.3 CU	0.85 UJ	
4-Chlorophenyl phenyl ether		0.69 UJ	1.4 UJ	1.1 03	1.2 UJ	0.69 UJ	1.3 UJ	0,85 UJ	
4-Methylphenol		0.69 UJ	1.4 UJ	1.1 03	1.2 UJ	0.69 UJ	13 UJ	0.85 UJ	
4-Nitroaniline		1.7 UJ	3.5 UJ	2.7 UJ	3.0 UJ	1.7 UJ	3.2 UJ	2.1 UJ	
4-Nitrophenol		1.7 UJ	3.5 UJ	2.7 UJ	3.0 UJ	1.7 UJ	3.2 UJ	2.1 UI	
Acenaphthene		0.69 UJ	1.4 UJ	1.1 UJ	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UJ	
Acenaphthylene		0.69 UJ	1.4 UJ	1.1 UJ	12 W	0.69 UJ	1.3 UI	0.85 UJ	
Anthracene		0.69 UJ	1.4 UJ	1.1 51	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UJ	
Benzo(a)anthracene		0.13 J	0,40 J	0.27 J	0.25 J	0.091 J	0.39 J	0.20 J	
Benzo[a]pyrene		0.11 J	0.46 J	0.27 J	0.25 J	0.094 J	0.42 J	0.22 J	
Benzo(b)fluoranthene		0.21 J	0.79 J	0.54 J	0.48 J	0.16 J	0.80 J	0.37 J	
Benzo(ghi)perylene		0.69 UJ	0.16 J	æ	1.2 UJ	0.69 UJ	0.19 J	0.095 J	
Benzo(k)fluoranthene		0.075 J	0.32 J	0.20 J	0.16 J	0.69 UJ	0.28 J	0.12 J	
Butyl benzyl phthalate		0,69 UJ	1.4 UJ	1.1 G	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UI	-
Carbazole		0.69 UJ	1.4 UJ	1.1 53	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UJ	
Chrysene		0.18 J	0.59 J	0.34 J	0.38 J	0.14 J	0.64 J	0.26 J	
Di-n-butyl phthalate		0.69 UI	1.4 UI	1.1 U	1.2 UJ	0.69 UJ	1.3 UJ	0.85 UJ	
NOTES: U-not detected, J.	U - not detected, J - estimated value, B - blank contamination. e - estimated concentration using TOC data from another samy	lank contamination. Ia from another sample (AS)	collected at the same location. \	U - not detected, J - estimated value, B - blank contamination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.	i<5%, e=AS TOC%.	1-70-11			
Sample locations a	ve defined as: Backgro	and - upstream of site. Sect	tion 1 - adjacent to site. Section :	2 - downstream of site. Section 3	 lower portion of creek. 		Ć		
							٠	Cl 32	-

DRAFT - Table A-2
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Semivolatile Organic Compound Concentrations

Name

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NOTES:

U - not detected J - estimated value, B - blank contamination.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 2 - downstream of site. Section 3 - lower portion of creek.

File Number: 10653.27258

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Page

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations Three Star Anodizing Site DRAFT - Table A-2

	37D 1 ZO1 C	4 10 000	UD 04 45 0	400 000	11.00	F15.01	ETHIOD I WIL
Vample II.	Packetton d	Vr-01-A	Nection 1	Vortice 1	Cooping 1	Section 1	Sortion 1
Lucation Closs Neterine	05/10/2001	05/09/2001	05/09/2001	05/09/2001	05/09/2001	05/09/2001	05/13/2003
Sample Date	26 - 32 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound							
1,2,4-Trichlorobenzene	IN 69:0	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0,44 U
1,2-Dichlorobenzene	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.14 J	0.066 J
1,3-Dichlorobenzene	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
1,4-Dichlorobenzene	0.69 UJ	0.40 U	2.2 U	0.43 U	0,45 U	0.85 U	0.44 U
Bis(2-chloroisopropyl) ether	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2,4,5-Trichlorophenol	1.7 UJ	0.95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U
2,4,6-Trichlorophenol	IO 69:0	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0,44 U
2,4-Dichlorophenol	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2,4-Dimethylphenol	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2,4-Dinitrophenol	1.7 UJ	0.95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U
2,4-Dinitrotoluene	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2,6-Dinitrotoluene	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2-Chloronaphthalene	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2-Chlorophenol	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2-Methylnaphthalene	IO 69:0	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2-Methylphenol	U 69'0	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
2-Nitroaniline	1.7 UJ	0,95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U
2-Nitrophenol	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
3,3-Dichlorobenzidine	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0,44 U
3-Nitroaniline	1.7 UJ	0.95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U
4,6-Dinitro-2-methylphenol	1.7 UJ	0.95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U
4-Bromophenyl phenyl ether	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
4-Chloro-3-methylphenol	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
4-Chloroaniline	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
4-Chlorophenyl phenyl ether	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
4-Methylphenol	0.69 UI	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
4-Nitroaniline	1.7 UJ	0.95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U
4-Nitrophenol	1.7 UJ	0.95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U
Acenaphthene	0.69 UJ	0.40 Ü	0.43 J	0.43 U	0.45 U	0.096 J	0.44 U
Acenaphthylene	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
Anthracene	0.69 UJ	0.40 U	1.9 J	0.10 J	0.45 U	0.39 J	0.15 J
Benzo(a)anthracene	0.13 J	0.40 U	6.1	0.29 J	0.34 J	2.6	0.65
Benzo[a]pyrene	0.18 J	0.40 Ū	5.9	0.27 J	0.38 J	3.6	0.65
Benzo(b)fluoranthene	0.24 J	0.047 J	8.8	0.46	0.48	4.6	0.81
Benzo(ghi)perylene	0.38 J	0.40 U	1.4 J	0.12 J	0.22 J	1.7	0.32 J
Benzo(k)fluoranthene	0.69 UJ	0.40 U	2.2	0.15 J	0.18 J	1.4	0.29 J
Butyl benzyl phthalate	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
Carbazole	0,69 UJ	0.40 U	1.2 J	0.053 J	0.45 U	0.20 J	0.088 J
Chrysene	0.19 J	0.40 U	5.8	0.41 J	0.34 J	2.5	0.60
Di-n-butyl phthalate	0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U
MOTES. II - not detected 1 - estimated usine B - blank conta	blook contamination						

U-not detected 1-estimated value, B-blank contamination.
e-estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of ercek. NOTES:

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DRAFT - Table A-2
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Semivolatile Organic Compound Concentrations

-	Sample ID	WP-LK01-C	WP-01-A	WP-04.45-9	WP-09A	WP-11A	LG-OUT	WP-LGOUT2	
Location		Background	Section 1	Section 1	Section 1	Section 1	Section 1	Section 1	
	Sample Depth	26 - 32 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Compound									
Di-n-octyl phthalate		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	_
Dibenzo(a,h)anthracene		0.69 UJ	0.40 U	0.67 J	0.43 U	0.45 U	0.90	0.12 J	
Dibenzofuran		0.69 UJ	0,40 U	0.47 J	0.43 U	0.45 U	0.85 U	0.44 U	
Diethyl phthalate		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Dimethyl phthalate		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Fluorznthene		0.27 J	0.050 J	11	0.64	0.49	2.8	76'0	
Fluorene		0.69 UJ	0,40 U	0.41 J	0.054 J	0.45 U	ĵ 660.0	0.44 U	
Hexachlorobenzene		ID 69:0	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Hexachlorobutadiene		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 Ü	
Hexachlorocyclopentadiene		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Hexachloroethane		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Indeno(1,2,3-cd)pyrene		0.11J	0.40 U	2.2 J	0.18 J	0.26 J	2.6	0,36 J	
Isophorone		U 69:0	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
N-Nitrosodipropylamine		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
N-Nitrosodiphenylamine		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Naphthalene		0.69 UJ	0.40 U	0.37 J	0.43 U	0.45 U	0.13 J	0.048 J	
Nitrobenzene		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0,85 U	0.44 U	_
Pentachlorophenol		1.7 UJ	0.95 U	5.3 U	1.0 U	1.1 U	2.1 U	1.1 U	
Phenanthrene		0.15 J	0.40 U	7.5	0.61	0.19 J	1.5	0.64	
Phenol		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0,44 U	
Pyrene		0.37 J	0.053 J	9.2	0.75	0.53	3.3	1.1	
Bis(2-chloroethoxy)methane		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Bis(2-chloroethyl)ether		0.69 UJ	0.40 U	2.2 U	0.43 U	0.45 U	0.85 U	0.44 U	
Bis(2-ethylhexyl)phthalate (BEHP)		0.16 J	0.097 J	2.2 U	0.49	0.14 J	0.55 J	0.44 U	
Total organic carbon (mg/Kg)		38800	18600	22100	65500	76500	26000	12400 J	
Percent solids (%)		49.8	81	73.2	65.6	65.2	77.2	75	
NOTES: U-not detected, J-estimated value, B-blank contamination.	stimated value, B - bl	lank contamination.		11. 11. 12. 12. 12. 12. 12. 12. 12. 12.	, or or or or or or or or or or or or or				
Sample locations are	defined as: Backgrou	and - upstream of site. See	y conceiou at the same rocation; trion 1 - adjacent to site. Section	Commission concentration using 100 data none abundant to site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.	- lower portion of creek.		ſ	ç	
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Page

DRAFT - Table A-2
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Semivolatile Organic Compound Concentrations

3 Géréna I. Descripa 1 Section I. Section 2 Section 2 Section 3 </th <th></th> <th>Г</th> <th>W.P. MWA</th> <th>WE WANT DIE</th> <th>31 WW</th> <th>WB 19</th> <th>91 d/m</th> <th>WB MO</th> <th>MD MO</th>		Г	W.P. MWA	WE WANT DIE	31 WW	WB 19	91 d/m	WB MO	MD MO
Sample Base (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	C restrant	-	Section 1	Soction 1	Wr-10	01-1M	Vr-10	Contine 3	W F-IVLZ
Assimpted begin beg	Location		35/13/2003	Section 1 05/13/2003	05/09/2001	Section 2 05/09/2001	Section 2 05/09/2001	Section 2 05/14/2/03	Section 2 05/14/2003
			0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	6 - 12 in.	05/14/2005 0 - 6 in.	6 - 12 in.
Activation of a control of a contr			ng/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
March Marc	Compound								
Oct 10 0.41 U 0.45 U 0.48 U 0.51 U 12 U Oct 10 Conformation 0.41 U 0.42 U 0.40 U 0.51 U 12 U 12 U Oct 10 Conformation 0.41 U 0.42 U 0.40 U 0.59 U 0.51 U 12 U 12 U All U 0.42 U 0.42 U 0.40 U 0.59 U 12 U 12 U 12 U All U 0.42 U 0.42 U 0.40 U 0.59 U 0.51 U 12 U 12 U All O 0.42 U 0.40 U 0.59 U 0.51 U 12 U 12 U Oct 20 U 0.42 U 0.40 U 0.59 U 0.51 U 12 U 12 U All D 0.42 U 0.42 U 0.40 U 0.59 U 0.51 U 12 U 12 U Oct 20 U 0.42 U 0.42 U 0.40 U 0.59 U 0.51 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U 12 U	1,2,4-Trichlorobenzene		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
641U 042U 040U 049U 051U 12U condenzente 041U 042U 040U 059U 051U 12U condenzente 041U 042U 040U 059U 051U 12U showphend 141U 042U 040U 059U 051U 12U showphend 141U 042U 040U 059U 051U 12U showphend 141U 042U 040U 059U 051U 12U showphend 141U 042U 040U 059U 051U 12U showphend 041U 042U 040U 059U 051U 12U showphend 041U 042U 040U 059U 051U 12U showphend 041U 042U 040U 059U 051U 12U showphend 041U 042U 040U 059U 051U 12U showphend 041U 042U 040U 059U </th <th>1,2-Dichlorobenzene</th> <th></th> <th>0,41 U</th> <th>0.19 J</th> <th>0.048 J</th> <th>0.49 U</th> <th>0.51 U</th> <th>1.2 UJ</th> <th>5.1 U</th>	1,2-Dichlorobenzene		0,41 U	0.19 J	0.048 J	0.49 U	0.51 U	1.2 UJ	5.1 U
odd 10 0.40 U 0.40 U 0.40 U 0.41 U 12 U	1,3-Dichlorobenzene		0,41 U	0.42 U	0,40 U	0.49 U	0.51 U	1.2 UI	5.1 U
of 10 041U 042U 049U 051U 12U oflictorophenol 10 U 042U 049U 051U 12U oflictorophenol 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U opplement 041U 042U 049U 051U 12U	1,4-Dichlorobenzene		0.41 U	0.092 J	0.40 U	0.49 Ü	0.51 U	1.2 UJ	5.1 U
All Design plants 11 U 0.06 U 12 U 12 U 13 U Richosphenol 0.41 U 0.42 U 0.69 U 0.51 U 12 U 12 U Antiplemol 0.41 U 0.42 U 0.40 U 0.69 U 0.51 U 12 U Ophenol 0.41 U 0.42 U 0.40 U 0.69 U 0.51 U 12 U Ophenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U Ophenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U Ordered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U Ordered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U Order 0.42 U 0.40 U 0.49 U 0.51 U 12 U 12 U Order 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U Order 0.42 U 0.40 U 0.40 U 0.40 U 0.51 U 12 U <th< th=""><th>Bis(2-chloroisopropyl) ether</th><th></th><th>0.41 U</th><th>0.42 U</th><th>0.40 U</th><th>0.49 U</th><th>0.51 U</th><th>1.2 UJ</th><th>5.1 U</th></th<>	Bis(2-chloroisopropyl) ether		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
Application 641U 642U 649U 649U 611U 12U Objection 641U 642U 649U 649U 611U 12U Objection 641U 642U 649U 631U 12U 12U Objection 641U 642U 649U 649U 631U 12U Objection 641U 642U 649U 649U 631U 12U Objection 641U 642U 649U 631U 12U 12U Objection 641U 642U 649U 631U 12U 12U Objection 641U 642U 649U 631U 12U 12U Objection 641U 642U 649U 649U 631U 12U Objection 641U 642U 649U 649U 631U 12U Objection 641U 642U 649U 631U 12U 12U Objection 641U 642U 649U <th>2,4,5-Trichlorophenol</th> <th></th> <th>1.0 U</th> <th>1.1 U</th> <th>0.96 U</th> <th>1.2 U</th> <th>1.2 U</th> <th>3.0 UJ</th> <th>13 U</th>	2,4,5-Trichlorophenol		1.0 U	1.1 U	0.96 U	1.2 U	1.2 U	3.0 UJ	13 U
41 U 0.41 U 0.42 U 0.42 U 0.43 U 0.43 U 0.43 U 0.45 U <th>2,4,6-Trichlorophenol</th> <th></th> <th>0.41 U</th> <th>0.42 U</th> <th>0.40 U</th> <th>0.49 U</th> <th>0.51 U</th> <th>1.2 UJ</th> <th>\$10</th>	2,4,6-Trichlorophenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	\$10
(4) U. O.2.U.	2,4-Dichlorophenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	\$10
1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 3.0 U oxboltedene 0.41 U 0.42 U 0.49 U 0.49 U 0.51 U 1.2 U toxboltedene 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U toxboltedene 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U phenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U phenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U phenol 0.41 U 0.42 U 0.49 U 0.51 U 1.2 U 1.2 U phenol 0.41 U 0.42 U 0.49 U 0.51 U 1.2 U 1.2 U oxberralible 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U oxberralible 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U oxberralible 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U	2,4-Dimethylphenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.10
only on colorate to control on colorate to	2,4-Dinitrophenol		1.0 U	1.1 U	0.96 U	1.2 U	1.2 U	3.0 UJ	13 U
outline 0.41 U 0.42 U 0.49 U 0.49 U 0.51 U 12 U prophletime 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U prophletime 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U prophletion 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U prophletion 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U proportion 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U infered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U infered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U infered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U infered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U infered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U <th< th=""><th>2,4-Dinitrotoluene</th><th></th><th>0.41 U</th><th>0.42 U</th><th>0.40 U</th><th>0.49 U</th><th>0.51 U</th><th>1.2 UJ</th><th>5.1 U</th></th<>	2,4-Dinitrotoluene		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
applications 0.41 U 0.42 U 0.49 U 0.51 U 12 U applications 0.41 U 0.42 U 0.49 U 0.51 U 12 U applications 0.42 U 0.42 U 0.49 U 0.51 U 12 U phenol 0.02 J 0.14 I 0.42 U 0.49 U 0.51 U 12 U phenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U phenol 0.41 U 0.42 U 0.49 U 0.51 U 12 U non-benzidate 0.41 U 0.42 U 0.49 U 0.51 U 12 U non-benzidate 0.41 U 0.42 U 0.49 U 0.51 U 12 U non-benzidate 0.41 U 0.42 U 0.49 U 0.51 U 12 U non-benzidate 0.41 U 0.42 U 0.49 U 0.51 U 12 U non-benzidate 0.41 U 0.42 U 0.49 U 0.51 U 12 U non-benzidate 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U	2,6-Dinitrotoluene		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
obstanted 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U obstanted 0.62 J 0.14 J 0.40 U 0.49 U 0.51 U 12 U offilling 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U filling 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U filling 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U filling 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U obsenzifilated 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U blentylphetod 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U blentylphetod 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 12 U blentylphetod 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 12 U blentylphetod 0.41 U 0.42 U 0.40 U 0.40 U 0.51	2-Chloronaphthalene		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
maje thatener 0.052 J 0.14 J 0.40 U 0.49 U 0.51 U 12 U maje thatener 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U intered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U intered 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U intered 0.41 U 0.42 U 0.49 U 0.51 U 12 U 3.0 U oc2-methylphenol 0.41 U 0.42 U 0.49 U 0.51 U 12 U 3.0 U 3-methylphenol 0.41 U 0.42 U 0.49 U 0.51 U 12 U 3.0 U 3-methylphenol 0.41 U 0.42 U 0.49 U 0.51 U 12 U 3.0 U 3-methylphenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U 3-methylphenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U 3-methylphenol 0.41 U 0.42 U 0.40 U 0.49 U	2-Chlorophenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
odd Union 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U	2-Methylnaphthalene		0.052 J	0.14 J	0.40 U	0.49 U	0.51 U	1.2 UJ	\$10
lilidilitie 1.1 U 0.96 U 1.2 U 1.2 U 3.0 U ceach 0.42 U 0.42 U 0.45 U 0.51 U 1.2 U 3.0 U ceach 0.41 U 0.42 U 0.49 U 0.51 U 1.2 U 3.0 U nilline 0.01 U 1.1 U 0.66 U 0.49 U 0.51 U 1.2 U 0.02 July benealy pleneyl ether 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3.3 anethylphenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3.4 milline 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U milline 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U milline 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U line 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U line 0.42 U 0.42 U 0.49 U 0.49 U 0.51 U 1.2 U<	2-Methylphenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
centrol 0.41 U 0.42 U 0.64 U 0.54 U 0.51 U 12 U oxborazidine 0.41 U 0.42 U 0.64 U 0.54 U 0.51 U 12 U iline 1.0 U 1.1 U 0.66 U 1.2 U 1.2 U 3.0 U oxborazidine 0.41 U 0.42 U 0.66 U 1.2 U 1.2 U 3.0 U oxborazi plenuly cherol 0.41 U 0.42 U 0.40 U 0.43 U 0.51 U 1.2 U oxborazi plenuly cherol 0.44 U 0.40 U 0.49 U 0.51 U 1.2 U oxborazi plenuly cherol 0.44 U 0.40 U 0.49 U 0.51 U 1.2 U oxborazi plenuly cherol 0.44 U 0.40 U 0.49 U 0.51 U 1.2 U plenuly phenol 0.44 U 0.40 U 0.40 U 0.40 U 0.51 U 1.2 U illine 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 1.2 U illine 0.02 U 0.40 U 0.40 U 0.40 U 0.51 U 1.2 U	2-Nitroaniline		1.0 U	1.1 U	0.96 U	1.2 U	1.2 U	3.0 UJ	13 U
oxel U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U 30 U 1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 30 U 1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 30 U 1.0 U 1.1 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U 0.42 U 0.40 U 0.49 U 0.49 U 0.51 U 1.2 U 1.2 U 0.40 U 0.40 U 0.49 U 0.49 U 0.51 U 1.2 U 1.2 U 1.2 U 1.2 U	2-Nitrophenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
line 1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 3.0 U color 1.1 U 0.96 U 1.2 U 1.2 U 3.0 U color 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3-methylphenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3-miline 0.047 J 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3-milylphenol 0.041 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3-milylphenol 0.44 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3-milylphenol 0.44 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U 3-milylphenol 0.44 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U 3-milylphenol 0.44 U 0.45 U 0.49 U 0.51 U 1.2 U 1.2 U 3-milylphenol 0.44 U 0.45 U 0.45 U 0.45 U 0.51 U 1.2	3,3-Dichlorobenzidine		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
1.0 U 1.1 U 0.96 U 1.2 U 3.0 U 70-2-methylptenol 1.0 U 1.1 U 0.96 U 1.2 U 3.0 U 3-methylptenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 3-methylptenol 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U 1.2 U miline 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U ptenyl phenyl ether 0.41 U 0.42 U 0.49 U 0.51 U 1.2 U phenyl phenyl ether 0.41 U 0.42 U 0.49 U 0.51 U 1.2 U phenyl phenyl ether 0.41 U 0.42 U 0.49 U 0.51 U 1.2 U phenyl phenyl ether 0.42 U 0.49 U 0.51 U 1.2 U 1.2 U in out 1.0 U 1.1 U 0.49 U 0.51 U 1.2 U 1.2 U in out 0.47 D 0.87 J 0.49 U 0.51 U 0.51 U 0.51 U in out 0.47 D 0.27 J 0.47	3-Nitroaniline		1.0 U	1.1 U	0.96 U	1.2 U	1.2 U	3.0 UJ	13 U
O41 U 042 U 040 U 049 U 051 U 12 U 041 U 042 U 040 U 049 U 051 U 12 U 044 U 042 U 040 U 049 U 051 U 12 U 047 J 042 U 040 U 049 U 051 U 12 U 050 U 040 U 049 U 051 U 12 U 10 U 1.1 U 060 U 12 U 12 U 1iline 0.042 J 0.087 J 12 U 12 U 1iline 0.042 J 0.087 J 12 U 12 U 1iline 0.042 J 0.087 J 0.13 J 0.51 U 12 U 1iline 0.042 J 0.087 J 0.13 J 0.51 U 12 U 1iline 0.042 J 0.087 J 0.13 J 0.51 U 12 U 1iline 0.042 J 0.087 J 0.14 J 0.01 J 12 U 1iline 0.042 J 0.087 J 0.14 J 0.051 J 1.10 J 1.10 J 1iline	4,6-Dinitro-2-methylphenol		1.0 U	1.1 U	0.96 U	1.2 U	1.2 U	3.0 UJ	13 U
3-methylphenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U anvilline 0.047 J 0.42 U 0.40 U 0.49 U 0.51 U 12 U abenyl phenyl ether 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U abenyl phenyl ether 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U abenyl phenyl ether 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U abensel 1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 3.0 U enol 0.042 J 0.18 J 0.40 U 0.49 U 0.51 U 1.2 U hyleme 0.042 J 0.28 J 0.40 U 0.49 U 0.51 U 1.2 U nylyleme 0.042 J 0.27 J 0.49 U 0.51 U 1.2 U 1.2 U nylyleme 0.042 J 0.27 J 0.27 J 0.27 J 0.25 U 1.2 U nylyleme 1.2 D 0.27 J 0.27 J 0.27 J	4-Bromophenyl phenyl ether		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
milling 0.0471 0.42 U 0.40 U 0.49 U 0.51 U 12 U phenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U phenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 12 U phenol 1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 1.2 U enol 0.047 0.18 J 0.68 J 1.2 U 3.0 U phene 0.047 0.38 J 0.69 U 1.2 U 3.0 U phene 0.047 0.38 J 0.40 U 0.49 U 0.51 U 1.2 U phene 0.047 0.38 J 0.40 U 0.49 U 0.51 U 1.2 U phene 0.047 0.38 J 0.49 U 0.51 U 1.2 U 1.2 U phene 0.047 0.38 J 0.49 U 0.51 U 1.2 U 1.2 U phene 0.049 U 0.49 U 0.51 U 0.51 U 1.2 U 1.2 U phene 0.040 U 0	4-Chloro-3-methylphenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
obation of the plants	4-Chloroaniline		0.047 J	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
phenol 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 U line 1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 3.0 U enol 1.0 U 1.1 U 0.96 U 1.2 U 3.0 U 3.0 U enol 0.042 J 0.13 J 0.51 U 3.0 U 1.2 U 3.0 U hylene 0.47 0.38 J 0.40 U 0.49 U 0.51 U 3.0 U ninthracene 0.80 1.2 0.27 J 0.49 U 0.51 U 1.2 U ninthracene 3.8 D 4.7 D 0.82 D 0.95 D 0.05 I 1.4 J systeme 3.7 D 4.7 D 0.82 D 0.74 D 0.68 J 1.1 J hyperylene 1.2 0.27 J 0.23 J 0.23 J 0.51 U 0.51 J hyperylene 1.4 2.0 0.31 J 0.23 J 0.51 U 0.51 U 0.52 J hyperylene 1.4 2.0 0.31 J 0.49 U 0.51 U 0.51 U	4-Chlorophenyl phenyl ether		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
Hine 1.0 U 1.1 U 0.96 U 1.2 U 1.2 U 3.0 UJ Hence 0.042 J 0.18 J 0.087 J 0.13 J 0.13 U 1.2 U Horne 0.042 J 0.18 J 0.087 J 0.13 J 0.12 U 1.2 U Holme 0.047 0.38 J 0.40 U 0.49 U 0.51 U 1.2 UJ Holme 0.47 0.37 J 0.33 J 0.49 U 0.34 J Holme 0.47 0.45 D 0.87 0.06 J 0.14 J Holme 1.2 0.27 J 0.27 J 0.06 J 0.14 J Holme 0.41 U 0.42 U 0.49 U 0.49 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 0.51 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 0.51 U 0.51 U Holme 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 0.51 U 0.51 U 0.51 U Holme 0.42 U 0.40 U 0.40 U 0.51	4-Methylphenol		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
tenol 1.0 U 1.1 U 0.96 U 1.2 U 2.0 3.0 UJ betwee 0.042 J 0.18 J 0.087 J 0.13 J 0.14 J	4-Nitroaniline		1.0 U	1.1 U	0.96 U	1.2 U	1.2 U	3.0 UJ	13 U
hene 6.042 J 0.18 J 0.087 J 0.13 J 0.51 U 1.2 UJ hene 6.04 J 0.38 J 0.40 U 0.49 U 0.49 U 1.2 UJ 1.2 UJ 0.40 U 0.49 U 0.51 U 1.2 UJ 1.2 UJ 0.40 U 0.49 U 0.51 U 1.2 UJ 1.2 UJ 0.40 U 0.40 U 0.51 U 0.34 J 1.1	4-Nitrophenol		1.0 U	1.1 U	0.96 U	1.2 U	1.2 U	3.0 UJ	13 U
hylene 0.47 0.38 J 0.40 0.49 U 0.51 U 1.2 UJ te 0.80 1.2 0.27 J 0.33 J 0.34 J 0.34 J 0.34 J 0.34 J 0.35 J 0.35 J 0.34 J 0.34 J 0.35 J 0.35 J 0.34 J 0.34 J 0.35 J 0.35 J 0.35 J 0.34 J 0.34 J 0.35 J 0	Acenaphthene		0.042 J	0.18 J	0.087 J	0.13 J	0.51 U	1.2 UJ	1.4 J
re 0.80 1.2 0.27 J 0.33 J 0.51 U 0.34 J multracene 3.8D 4.7D 0.82 0.95 0.082 J 1.4 J syrene 3.7D 4.5D 0.67 0.74 0.065 J 1.1 J fluoranthene 1.2 4.5D 0.29 J 0.23 J 0.14 J 2.0 J fluoranthene 1.4 2.0 0.31 J 0.23 J 0.51 U 0.65 J fluoranthene 0.41 U 0.42 U 0.40 U 0.40 U 0.51 U 0.59 J syl phthalate 0.14 J 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ syl phthalate 0.14 J 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ syl phthalate 0.14 J 0.42 U 0.49 U 0.51 U 1.2 UJ syl phthalate 0.14 J 0.42 U 0.49 U 0.51 U 1.2 UJ syl phthalate 0.50 U 0.49 U 0.49 U 0.51 U 1.2 UJ syl phthalate	Acenaphthylene	Ĭ	0.47	0.38 J	0.40 U	0.49 U	0.51 U	1.2 UJ	1.7 J
nuthracene 3.8 D 4.7 D 0.82 0.95 0.082 J 1.4 J syrene 3.7 D 4.5 D 0.67 0.74 0.066 J 1.1 J fluoranthene 4.5 D 6.2 D 0.92 1.0 0.14 J 2.0 J i)perylene 1.2 1.5 0.29 J 0.23 J 0.51 U 0.65 J fluoranthene 1.4 2.0 0.31 J 0.35 J 0.51 U 0.65 J syl phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ syl phthalate 2.9 4.2 D 0.80 0.84 0.089 J 1.2 J 1 phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 J	Anthracene		08.0	1.2	0.27 J	0.33 J	0.51 U	0.34 J	5.8
syrene 3.7 D 4.5 D 0.67 0.74 0.066 J 1.1 J fluoranthene 4.5 D 6.2 D 0.92 1.0 0.14 J 2.0 J i)perylene 1.2 1.5 0.29 J 0.23 J 0.51 U 0.65 J fluoranthene 1.4 2.0 0.31 J 0.36 J 0.51 U 0.55 J zyl phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ syl 4.2 D 0.80 0.84 0.089 J 1.2 J 1 phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ	Benzo(a)anthracene		3.8 D	4.7 D	0.82	0.95	0.082 J	1,4 J	17
fluoranthene 4.5 D 6.2 D 0.92 1.0 0.14 J 2.0 J fluoranthene 1.2 1.5 0.29 J 0.23 J 0.51 U 0.65 J fluoranthene 1.4 2.0 0.31 J 0.36 J 0.51 U 0.65 J zyl phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ 2.9 4.2 D 0.80 0.84 U 0.89 J 1.2 J 1 phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 J	Benzo[a]pyrene		3.7 D	4.5 D	0.67	0.74	0.066 J	1.1 J	14
typerylene 1.2 1.5 0.29 J 0.23 J 0.51 U 0.65 J fluoranthene 1.4 2.0 0.31 J 0.36 J 0.51 U 0.59 J zyl phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ : 0.14 J 0.42 J 0.12 J 0.49 U 0.51 U 1.2 UJ lphthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ 1 bhthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ	Benzo(b)fluoranthene	•	4.5 D	6.2 D	0.92	1.0	0.14 J	2.0 J	17
fluctrantchene 1.4 2.0 0.31 J 0.36 J 0.51 U 0.59 J zyl phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ : 0.14 J 0.42 J 0.12 J 0.49 U 0.51 U 1.2 UJ 1phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 J 1phthalate 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UJ	Benzo(ghi)perylene		1.2	1.5	0.29 J	0.23 J	0.51 U	0.65 J	4.3 J
2yl phthalate 0.41 U 0.42 U 0.40 U 0.51 U 1.2 UJ 1.2 UJ 0.12 J 0.49 U 0.51 U 1.2 UJ 1.2 UJ 0.80 0.84 0.089 J 1.2 UJ 1.2 UJ 0.40 U 0.49 U 0.51 U 1.2 UJ	Benzo(k)fluoranthene		1.4	2.0	0.31 J	0.36 J	0.51 U	0.59 J	6.8
: 0.14	Butyl benzyl phthalate		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
2.9 4.2 D 0.80 0.84 0.089 J 1.2 J 1.	Carbazole		0.14 J	0.42 J	0.12 J	0.49 U	0.51 U	1.2 UJ	5.1 U
0.41 0.42 U 0.40 U 0.49 U 0.51 U 1.2 UI	Chrysene	•	2.9	4.2 D	0.80	0.84	0.089 J	1.2 J	14
	Di-n-butyl phthalate		0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U

U - not detected, J - estimated value, B - blank contamination.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5% When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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FXP File: Q\10653 \NYSDEC\27258 THREESTAR\TABLEPRK_FXP

Control Cose Reference Section We-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN DIP WE-MAN								
Section 1 Section 1 Section 1 Section 1 Section 1 Section 2 Section 2 Section 2 Section 3 Section 3 Section 3 Section 4 Section 4 Section 4 Section 4 Section 4 Section 4 Section 6 Section 6 Section 6 Section 6 Section 7 Sect	Sample ID	WP-MW4	WP-MW4 DUP	WP-16	WP-18	WP-18	WP-M2	WP-M2
Sumple Depute 0 - 6 in. 0 - 6 in. 0 - 6 in. 0 - 12 in. All U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.12 I 0.22 I 0.053 J 0.49 U 0.51 U 0.51 U 0.12 I 0.22 J 0.059 J 0.49 U 0.51 U 0.51 U 0.12 I 0.24 U 0.40 U 0.49 U 0.51 U 0.51 U 0.12 I 0.24 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.40 U <t< th=""><th>Location Cross Reference</th><th>Section 1 05/13/2003</th><th>Section 1 05/13/2003</th><th>Section 1</th><th>Section 2 05/09/2001</th><th>Section 2 05/09/2001</th><th>Section 2 05/14/2003</th><th>Section 2 05/14/2003</th></t<>	Location Cross Reference	Section 1 05/13/2003	Section 1 05/13/2003	Section 1	Section 2 05/09/2001	Section 2 05/09/2001	Section 2 05/14/2003	Section 2 05/14/2003
Units mg/kg	Sample Date Sample Depth	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	6 - 12 in.	0 - 6 in.	6 - 12 in.
0.41	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
0.41 0 0.42 0 0.45 0 0.	Compound							
0.25 0.69 0.151 0.510 0.510 0.111 0.511 0.511 0.512 0.521 0.525 0.659 0.6551 0.6551 0.6551 0.6551 0.6551 0.6551 0.6551 0.6551 0.6511 0.641 0.642 0.640 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.6511 0.642 0.640 0.6491 0.6511 0.6511 0.642 0.640 0.6491 0.6511 0.6511 0.642 0.640 0.6491 0.6511 0.6511 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.640 0.6491 0.6511 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.641 0.642 0.640 0.6491 0.6511 0.641 0.641 0.642 0.641 0.642 0.641 0.642 0.641 0.642 0.641 0.642	Di-n-octyl phthalate	0,41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
0411 0421 0451 0451 0451 0451 0451 0451 0451 045	Dibenzo(a,h)anthracene	0.58	69.0	0.16 J	0.11 J	0.51 U	0.23 J	1.9 J
0.41	Dibenzofuran	0.12 J	0.25 J	0.059 J	0.49 U	0.51 U	1.2 UJ	0.70 J
0.40	Diethyl phthalate	0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
64D 90D 115 17 0.201 6401 6401 6491 6151 70 0.511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 16 14 1 6421 6421 6491 6491 6511 16 14 1 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6491 6511 6411 6421 6421 6491 6511 6421 6421 6431 6511 6421 6421 6431 6511 6431 6431 6431 6511 6441 6431 6431 6431 6431 6441 6431 6431 6431 6431 6441 6431 6431 6431 6431 6441 6431 6431 6431 6431 6441 6431 6431 6431 6431 6441 6431 6431 6431 6431 6441 6431 6431 6431 6431 6431 6441 6431 6431 6431 6431 6431 6431 6441 6431 6431 6431 6431 6431 6431 6441 6431 6431 6431 6431 6431 6431 6431 6441 6431 6431 6431 6431 6431 6431 6431 6441 6431 6431 6431 6431 6431 6431 6431 6441 6431 6431 6431 6431 6431 6431 6431	Dimethyl phthalate	0.41 U	0.42 U	0,40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
0.20 0.45	Fluoranthene	6.4 D	9.0 D	1.5	1.7	0.20 J	2.4	33
0.41	Fluorene	0.20 J	0.30 J	0.12 J	0.49 U	0.51 U	1.2 UJ	1.6 J
0.41 U	Hexachlorobenzene	0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
0.41 U	Hexachlorobutadiene	0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
Control Cont	Hexachlorocyclopentadiene	0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
16 19 047 0311 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 10U 11U 056U 12U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 040U 049U 051U 041U 042U 052J 016J 016J 120 053U 053U 053U 053U 14J 1. Estimated value, B Mark contamination 18 79 78.6 68.4 63.9 19 10 10 10 10 10 10 10	Hexachloroethane	0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
0.41 U	Indeno(1,2,3-cd)pyrene	1.6	1.9	0.47	0,31 3	0.51 U	0.66 J	5.1 J
0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.0 U 1.1 U 0.45 U 0.50 U 1.2 U 1.2 U 2.4 4.4 D 1.5 1.5 0.57 0.060 J 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.5 0.41 U 0.42 U 0.25 J 0.16 J 0.14 J 2.540	Isophorone	0.41 U	0.42 U	0.40 U	0,49 U	0.51 U	1.2 UJ	5.1 U
0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.16 J 0.44 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 1.0 U 1.1 U 0.42 U 0.96 U 1.2 U 1.2 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.41 U 0.42 U 0.25 J 0.16 J 0.14 J 1.5	N-Nitrosodipropylamine	0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
0.16 J 0.44 0.40 U 0.49 U 0.51 U 1.0 U	N-Nitrosodiphenylamine	0.41 U	0.42 U	0.40 U	0.49 U	0.51 U	1.2 UJ	5.1 U
10	Naphthalene	0.16.1	0.44	0.40 1	0.49 U	U 15.0	1.2 [1]	12.1
1.0 U	Nitrobenzene	0.41 []	0.42 11	0.40 (1	0.49 1	0.51 (1)	1.2 [1]	2.11
Comparison of the Contamination Comp	Pentachlorophenol	1.011	1111	11960	1211	1211	30111	13.11
6.41 U. 0.42 U. 0.40 U. 0.49 U. 0.51 U. 5.4 D. 7.2 D. 1.5 1.6 0.29 J. 6.41 U. 0.42 U. 0.40 U. 0.49 U. 0.51 U. 0.41 U. 0.42 U. 0.40 U. 0.49 U. 0.51 U. 25400 12100 8770 0.16 J. 0.14 J. 8 I. 79 78.6 68.4 63.9 A.1 - estimated value, B blank contamination. 79 78.6 68.4 63.9 As extraction using TOC data from another sample, GAS collected at the same location. When AS>=5%, g=45%. When AS> 68.4 63.9 As excition 1 - adjuscent to site. Section 1 - adjuscent to site. Section 2 - downstream of site. Section 1 - adjuscent to site. Section 2 - downstream of site. Section 1 - adjuscent to site. Section 2 - downstream of site. Section 1 - adjuscent to site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 3 - downstream of site. Section 2 - downstream of site. Section 3 - downstream of site. Section 3 - downstream of site. Section 4 - downstream of site. Section 3 - downstream of site. Section 4 - downstream of site. Section 4 - downstream of site. Section 5 - downstream of site. Section 5 - downstream of site. Section 5 - downstream of site. Section 5 - downstream of site. Section 5 - downstream of site. Section	Phenanthrene	2.4	4.4 D	1.3	0.57	0 060 1	0.84 1	2 1
S4D 72D 1.5 1.6 0.29	Phenoi	0.41 11	0.42.11	0.4011	0.4911	0.51.11	1211	5.111
### Cation 1 - Address and Park Contamination. ### Cation 1 - Address and Park Contamination. ### Address and Park Conta	Pyrene	5.4 D	7.27	1.5	1.6	1 950	1.4.0	29
EHP) 0.41 U 0.42 U 0.40 U 0.49 U 0.51 U 0.51 U 0.41 U 0.42 U 0.42 U 0.25 J 0.16 J 0.16 J 0.14 J 0.14 J 0.42 U 0.25 J 0.16 J 0.16 J 0.14 J 0.14 J 0.15 J 0.16	Bis(2-chloroethoxy)methane	0.1.7	0.42 11	0.4011	0.4911	2/20	10111	5111
EHP) 0.41 U 0.42 U 0.25 J 0.16 J 0.14 J 0.14 J 1.25 J 0.16 J 0.16 J 0.14 J 0.14 J 0.25 J 0.16 J 0.16 J 0.14	Bis(2-chloroethyl)ether	0.41 11	0.42.11	0.4011	0.49.11	5111	1211	5111
25400 24400 81 79 8770 23400 24400 81 79 78.6 68.4 63.9 3.1 - estimated value, B - blank contamination. In same location. When AS>=5%, e=5%, When AS>=5%, e=AS TOC%. In sare defined as: Background - upstram of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 2 - downstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 3 - lower portion of creek.	Bis(2-ethylbexyl)phthalate (BEHP)	0.41 []	0.42.11	0.251	1910	0.21.0	1711	21.0
25400 21400 81 79 78.6 68.4 65.9	Distancing menyllynmiaiate (Dient)	0 11:0	0 74.0	C C 7.0	70770	7	20 2:1	0 1.0
- not detected, J. estimated value, B blank contamination estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%, ample location are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site. Section 2 - downstream of site.	Total organic carbon (mg/Kg)	25400	12100	8770	23400	24400	11300 e BJ	11300 ¢ BJ
U - not detected, J - estimated value, B - blank contarnination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - dower portion of creek.	Percent solids (%)	18	79	78.6	68.4	63.9	28	99
U - not detected, J - estimated value, B - blank contarnination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.								
U - not detected, J - estimated value, B - blank contarnination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.								
U - not detected, J - estimated value, B - blank contamination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 1 - adjacent to site.								
U - not detected, J - estimated value, B - blank contamination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.								
U - not detected, J - estimated value, B - blank contamination. c - estimated concentration using TCC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.								
U - not detected, J - estimated value, B - blank contamination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.								
Page		blank contamination. ata from another sample (AS) coll round - upstream of site. Section	llected at the same location. When I - adjacent to site. Section 2 - do	1 AS>=5%, e=5%. When AS<5% wnstream of site. Section 3 - low	s, e=AS TOC%. er portion of creek.			
							Page 4 of	12 CONTINUED

File Number: 10653,27258

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FXP File: Q\110653_NYSDEC-27258_THREESTAR\TABLEPRK_FXP

DRAFT - Table A-2

Three Star Anodizing Site Wappingers Falls, New York

Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations

Control of Control of		Sample ID	WP-M2	WP-M3	WP-M3	WP-DOT	WP-DOT	WP-DOT	WP-29A	
Assimple Deggi 12.1 Dr. B. O. 6 B. B. G. 12.1 Dr. B. O. 6 B. B. B. B. B. B. B. B. B. B. B. B. B.		Location Cross Reference Sample Date	Section 2 05/14/2003	Section 2 05/14/2003	Section 2 05/14/2003	Section 2 05/14/2003	Section 2 05/14/2003	Section 2 05/14/2003	Section 2 05/14/2003	
Microplement Micr		Sample Depth	12 - 17 in. mg/Kg	0 - 6 in. mg/Kg	6 - 12 in. mg/Kg	0 - 6 in. mg/Kg	6 - 12 in. mg/Kg	12 - 18 in. mg/Kg	0 - 6 in. mg/Kg	
All cools became of a 24 U GSS U S1 U S2 U 11 U 18 U cools conference 0.42 U 0.85 U S1 U S2 U 11 U 18 U cools conference 0.42 U 0.85 U S1 U S2 U 11 U 18 U consistence 0.42 U 0.85 U S1 U S2 U 11 U 18 U consistence 0.42 U 0.85 U S1 U S2 U 11 U 18 U phylacel 0.42 U 0.85 U S1 U S2 U 11 U 18 U phylacel 0.42 U 0.85 U S1 U S2 U 11 U 18 U phylacel 0.42 U 0.85 U S1 U S2 U 11 U 18 U phylacel 0.42 U 0.85 U S1 U S2 U 11 U 18 U phylacel 0.42 U 0.85 U S1 U S2 U 11 U 18 U phylacel 0.42 U 0.85 U S1 U S2 U 11 U 18 U phylacel	Compound))))))	0	
Q.Q.U. Q.S.V. S.I.V.<	1,2,4-Trichlorobenzer	16	0.42 U	0.85 U	5.1 U	5.2 U	11 U	1181	11111	
O-2 U 0.87 U \$1 U \$2 U 11 U 18 U Orderizationer 0.42 U 0.85 U \$1 U \$2 U 11 U 18 U Orderization obsolutions 0.42 U 0.85 U \$1 U \$2 U 11 U 46 U distriction obsolutions 0.42 U 0.85 U \$1 U \$2 U 46 U 46 U objective objection of the control of the co	1,2-Dichlorobenzene		0.42 U	0.85 U	5.1 U	5.2 U	11 0	18 U	1.4	
observations 0.42 U 0.85 U 51 U 52 U 11 U 18 U obsorphaned 0.42 U 0.85 U 51 U 52 U 11 U 18 U bloopsplaned 0.42 U 0.85 U 51 U 52 U 11 U 18 U bloopsplaned 0.42 U 0.85 U 51 U 52 U 11 U 18 U obsolution 0.42 U 0.85 U 51 U 52 U 11 U 18 U obsolution 0.42 U 0.85 U 51 U 52 U 11 U 18 U obsolution 0.42 U 0.85 U 51 U 52 U 11 U 18 U obsolution 0.42 U 0.85 U 51 U 52 U 11 U 18 U coolumne 0.42 U 0.85 U 51 U 52 U 11 U 18 U coolumne 0.42 U 0.85 U 51 U 52 U 11 U 18 U coolumne 0.42 U 0.85 U 51 U 52 U 11 U 18 U coolumne<	1,3-Dichlorobenzene		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	0.20 J	
out_stitute 0.42 U 0.85 U \$1 U \$2 U \$1 U \$2 U \$1 U \$2 U	1,4-Dichlorobenzene		0,42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	13	
All Differentiation of the propertial of the properties of the properties of the propertial of the propertial of the properties of the properties of the properties of th	Bis(2-chloroisopropy)	() ether	0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	U.1.U	
Age of the proposed of	2,4,5-Trichlorophenol		1.1 U	2.1 U	13 U	13 U	27 U	46 U	2:8 U	
occopioned 0.42 U 0.85 U 51 U 52 U 11 U 18 U objected 11 U 12 U 51 U 52 U 11 U 18 U objected 11 U 21 U 13 U 51 U 52 U 11 U 18 U objected 0.42 U 0.85 U 51 U 52 U 11 U 18 U objected 0.42 U 0.85 U 51 U 52 U 11 U 18 U objected 0.42 U 0.85 U 51 U 52 U 11 U 18 U objected 0.42 U 0.85 U 51 U 52 U 11 U 18 U objected 0.42 U 0.85 U 51 U 52 U 11 U 18 U objected 0.42 U 0.85 U 51 U 52 U 11 U 18 U objected 0.42 U 0.85 U 51 U 13 U 11 U 18 U objected 0.42 U 0.85 U 51 U 13 U 11 U 18 U objected	2,4,6-Trichlorophenol		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
Q42U Q88U 51U 52U 11U 18 U voblemed 14 U 21 13 U 15 U 11 U 18 U voblemed 0.42 U 0.85 U 51 U 52 U 11 U 18 U voblemed 0.42 U 0.85 U 51 U 52 U 11 U 18 U phenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U phenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U phenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U phenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U phenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U phenol 0.42 U 0.85 U 51 U 13 U 18 U 45 U 46 U phenol 0.42 U 0.85 U 51 U 13 U 11 U 18 U 18 U 18 U 18 U 18 U	2,4-Dichlorophenol		0.42 U	0.85 U	5.1 U	5.2 U	11.0	18 U	D I'I	
positioned 11 U 21 U 13 U 46 U oolbrane 0.42 U 0.85 U 51 U 52 U 11 U 18 U solutane 0.42 U 0.85 U 51 U 52 U 11 U 18 U solutane 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U 52 U 11 U 18 U shenol 0.42 U 0.85 U 51 U <t< th=""><th>2,4-Dimethylphenol</th><th></th><th>0.42 U</th><th>0.85 U</th><th>5.1 U</th><th>5.2 U</th><th>11 U</th><th>18 U</th><th>0.11</th><th></th></t<>	2,4-Dimethylphenol		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	0.11	
ox2 U 0x5 U 51 U 52 U 11 U 18 U ox2 U 0x5 U 51 U 52 U 11 U 18 U phenol 0x2 U 0x5 U 51 U 52 U 11 U 18 U phenol 0x2 U 0x5 U 51 U 52 U 11 U 18 U phenol 0x2 U 0x5 U 51 U 52 U 11 U 18 U phenol 11 U 21 U 52 U 11 U 18 U 18 U phenol 11 U 21 U 52 U 11 U 18 U 18 U phenol 11 U 21 U 52 U 11 U 18 U 18 U phenol 11 U 21 U 18 U 52 U 11 U 18 U phenol 11 U 21 U 18 U 52 U 11 U 18 U phenol 11 U 21 U 18 U 52 U 11 U 18 U phenol 11 U 21 U 52 U 11 U 18 U 11	2,4-Dinitrophenol		1.1 U	2.1 U	13 U	13 U	27 U	46 U	2.8 U	
oxpolationed 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U obstantiation 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U short 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U short 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U maplitulation 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U filled 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U short 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U co-contenzidine 0.42 U 0.85 U 5.1 U 13 U 11 U 18 U co-contenzidine 0.42 U 0.85 U 5.1 U 13 U 18 U 46 U co-contenzidine 0.42 U 0.85 U 5.1 U 13 U 18 U 46 U co-contenzidine 0.42 U 0.85 U 5.1 U 13 U 5.2 U 11 U 1	2,4-Dinitrotoluene		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
quaphlibatione 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U quaphlibatione 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U phemol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U phemol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U phemol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U end 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U phemol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U cend 0.42 U 0.85 U 5.1 U 5.2 U 11 U 46 U co-2-methylphotol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 48 U co-2-methylphotol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U co-2-methylphotol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	2,6-Dinitrotoluene		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
theology of the photology of the p	2-Chloronaphthalene		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
maphthalene 0.42 U 0.85 U 0.971 52 U 11 U 18 U maphthalene 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U mend 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U evaluable 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U mend 1.1 U 2.1 U 13 U 5.2 U 11 U 18 U o-2-methylphenol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 46 U mine 0.42 U 0.85 U 5.1 U 5.2 U 11 U 46 U mine 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U mine 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U mine 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U mine 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U mine 0.42	2-Chlorophenol		0.42 U	0.85 U	\$.1 U	5.2 U	11 U	18 U	1.1 U	
openal 0.42 U 0.85 U 5.1 U 5.1 U 11 U 11 U 46 U wile 1.1 U 2.1 U 13 U 5.1 U 5.1 U 15 U 17 U 46 U condensidation 0.42 U 0.85 U 5.1 U 13 U 11 U 18 U 46 U condensidation 0.42 U 0.85 U 5.1 U 13 U 27 U 46 U co-2-methylphenol 1.1 U 2.1 U 13 U 27 U 46 U obscyl phenyl ether 0.42 U 0.85 U 5.1 U 5.2 U 11 U 46 U minimphenol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U minimphenol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U minimphenol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U minimphenol 0.42 U 0.85 U 5.1 U 13 U 27 U 46 U menol 0.0 U 0.21 U 1.2 U 1.2 U	2-Methylnaphthalene		0.42 U	0.85 U	0.97 J	5.2 U	11 U	18 U	1.1 U	
till of till of	2-Methylphenol		0.42 U	0.85 U	5.1 U	5.2 U	110	180	1.10	
out-out-out-out-out-out-out-out-out-out-	2-Nitroaniline		U.1	2.1 U	13 U	13 U	27 U	46 U	2.8 U	
oxaperazidine 0.42 U 0.85 U 5.1 U 13 U 11 U 18 U 1.1 U 2.1 U 13 U 13 U 13 U 14 U 46 U 0-2-methylphenol 1.1 U 2.1 U 13 U 17 U 46 U 0-2-methylphenol 0.42 U 0.85 U 5.1 U 17 U 46 U 0.42 U 0.85 U 5.1 U 17 U 18 U 46 U 0.42 U 0.85 U 5.1 U 11 U 18 U 18 U 0.42 U 0.85 U 5.1 U 11 U 18 U 18 U 0.42 U 0.85 U 5.1 U 11 U 18 U 18 U 0.42 U 0.85 U 5.1 U 11 U 18 U 18 U 18 U 0.04 D 0.04 D 0.05 J 2.1 U 11 U 18 U 46 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U 18 U	2-Nitrophenol		0.42 U	0.85 U	5.1 U	5.2 U	11.0	181	1.10	
lill U 2.1U 13 U 27 U 46 U o-2-mody/plenol 1.1U 2.1U 13 U 27 U 46 U o-2-mody/plenol 0.42 U 0.85 U 5.1U 13 U 27 U 46 U 3-methy/plenol 0.42 U 0.85 U 5.1U 10 U 11 U 18 U 3-methy/plenol 0.42 U 0.85 U 5.1U 10 U 11 U 18 U molinie 0.42 U 0.85 U 5.1U 11 U 18 U 18 U molinie 0.42 U 0.85 U 5.1U 11 U 18 U 18 U nimer 0.043 U 0.85 U 11 U 18 U 46 U 46 U nimer 1.1 U 0.11 U 13 U 13 U 46 U 46 U niylene 0.21 J 0.11 J 13 U 12 U 46 U 46 U niylene 0.21 J 0.11 J 1.2 J 4.3 J 1.2 J 4.3 J 1.2 J niylene 0.21 J 0.11 J	3,3-Dichlorobenzidine		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	01:1	
-o-2-methylphenol 1.1 U 2.1 U 13 U 27 U 46 U co-2-methylphenol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 46 U 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U nemel 0.42 U 0.85 U 5.1 U 10 U 18 U shonol phenol phenol eder 0.043 J 0.85 U 5.1 U 11 U 18 U oblemol phenol eder 0.043 J 0.85 U 5.1 U 10 U 18 U oblemol phenol eder 1.0 U 0.05 U 1.0 U 1	3-Nitroaniline		1.1 U	2.1 U	13 U	13 U	27 U	46 U	2.8 U	
Oka2 U Oka5 U \$1 U \$2 U \$1 U	4,6-Dinitro-2-methylp	henol	1.1 U	2.1 U	13 U	13 U	27 U	46 U	2.8 U	
3-methylphenol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U 3-methylphenol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U henol 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U henol 0.043 U 0.85 U 5.1 U 13 U 27 U 46 U henol 1.1 U 2.1 U 13 U 27 U 46 U mol 1.1 U 2.1 U 13 U 27 U 46 U mol 1.1 U 2.1 U 13 U 27 U 46 U mol 1.1 U 2.1 U 13 U 27 U 46 U hene 0.21 3.1 U 2.7 U 46 U 46 U hylene 0.21 3.1 U 4.5 J 11 U 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J 4.5 J	4-Bromophenyl pheny	/l ether	0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
militine 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U nhenyl phenyl ether 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U nhenyl phenyl ether 0.42 U 0.85 U 5.1 U 5.2 U 11 U 46 U nine 1.1 U 2.1 U 13 U 27 U 46 U enol 1.2 U 13 U 27 U 46 U nhylene 0.21 J 0.11 J 5.1 U 4.9 J 6.6 J nhylene 0.2 J 1.2 J 1.1 U 4.9 J 6.6 J nce 1.0 0.11 J 5.1 U 4.9 J 6.6 J nce 1.0 0.11 J 5.1 U 4.9 J 6.6 J nchracene 4.2 D 1.3 B 8.7 J 1.7 J 1.8 U system 1.2 D 0.4 J 2.7 J 2.7 J 2.7 J system 1.2 D 0.6 J 2.7 J 2.6 J 2.4 J system 1.2 D 2.7 J	4-Chloro-3-methylphε	lous	0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
obasin 6.85 U 5.1 U 5.2 U 11 U 18 U shenoi obasin 6.85 U 5.1 U 13 U 11 U 18 U filine 1.1 U 2.1 U 13 U 2.7 U 46 U filine 1.1 U 2.1 U 13 U 2.7 U 46 U filine 1.1 U 2.1 U 13 U 2.7 U 46 U filine 1.0 0.055 J 2.7 J 4.9 J 46 U filine 1.0 0.055 J 2.7 J 4.9 J 46 U filine 1.0 0.055 J 2.7 J 4.9 J 46 U filine 1.0 0.055 J 2.7 J 4.5 J	4-Chloroaniline		0.42 U	0.85 U	5.1 U	5.2 U	11 0	18 U	1.1 U	
oblight 0.043 J 0.85 U 5.1 U 5.2 U 11 U 46 U fline 1.1 U 2.1 U 13 U 27 U 46 U enol 1.1 U 2.1 U 13 U 27 U 46 U enol 1.1 U 2.1 U 13 U 27 U 46 U thene 1.0 0.095 J 2.7 J 5.2 U 4.9 J 46 U thene 0.21 J 0.11 J 5.1 U 1.2 J 4.9 J 46 U the 1.0 0.34 J 5.1 U 4.5 J 11 U 46 U the 1.0 1.3 S 8.7 I 12 J 11 U 18 U syrene 3.6 D 1.2 S 8.1 I 10 27 I 27 I lowarantene 4.4 D 1.8 S 9.5 I 12 S 24 I 27 I local J 1.7 JD 0.64 J 2.5 J 2.8 J 2.8 J 2.4 J loward 0.05 J 1.5 S 2.0 I 1.7 J 1.8 U	4-Chlorophenyl pheny	d ether	0.42 U	0.85 U	5.1 U	5.2 U	11 0	18 U	1.1 U	
line 1.1 U 2.1 U 13 U 13 U 46 U enol 1.1 U 2.1 U 13 U 27 U 46 U enol 1.1 U 2.1 U 13 U 45 U 46 U thene 1.0 0.095 J 2.7 J 5.2 U 4.9 J 66 J thene 0.2 J 0.11 J 5.1 U 1.2 J 11 U 18 U thene 1.0 0.34 J 5.1 U 4.5 J 17 J 18 U thene 1.0 0.34 J 5.1 U 4.5 J 17 J 27 J thene 4.2 D 1.3 B 8.7 J 17 J 27 J 27 J syrene 3.6 D 1.2 B 8.1 J 10 J 2.2 J 2.4 J Djecylene 1.7 JD 0.64 J 2.5 J 2.8 J 2.4 J 2.0 J Alphthalate 0.64 J 0.68 J 4.0 J 5.2 U 11 U 18 U Alphthalate 0.42 U 0.85 U 2.1 U 2.2 U	4-Methylphenoi		0.043 J	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
enol 1.1 U 2.1 U 13 U 46 U hene 1.0 0.095 J 2.7 J 5.2 U 49 J 66 J hene 1.0 0.095 J 2.7 J 5.2 U 4.9 J 66 J hytene 0.2 J 0.11 J 5.1 U 4.5 J 11 U 18 U nyrene 3.6 D 1.3 8.7 13 27 27 yyrene 3.6 D 1.2 8.1 10 27 27 yyrene 4.4 D 1.8 9.5 12 24 yperjene 1.3 D 0.64 J 2.5 J 24 hyperjene 0.40 J 4.0 J 7.7 J 8.3 J sylphthalate 0.40 J 4.0 J 7.7 J 8.3 J sylphthalate 0.85 U 5.1 U 5.2 U 11 U 18 U phthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U phthalate 0.42 U 0.85 U 5.1 U 5.2 U	4-Nitroaniline		1.1 U	2.1 U	13 U	13 U	27 U	46 U	2.8 U	
hene 1.0 0.095 J 2.7 J 5.2 U 4.9 J 6.6 J hene 0.2 J 1 0.11 5.1 U 1.2 J 11 U 18 U 18 U 1.2 J 11 U 18 U 18 U 1.2 J 11 U 18 U 18 U 1.2 J 11 U 18 U 1.2 J 11 U 18 U 1.2 J 1.	4-Nitrophenol		1.1 U	2.1 U	13 U	13 U	27 U	46 U	2.8 U	
hylene 0.21 J 0.11 5.1 U 1.2 J 11 U 18 U 18 U 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.2 J 1.3 J 1.2 J 1.	Acenaphthene		1.0	0.095 J	2.7 J	5.2 U	4.9 J	6.6 J	0.25 J	
te 1.0 0.34 J 5.1 4.5 J 17 31 withracene 4.2 D 1.3 8.7 13 27 27 yvene 3.6 D 1.2 8.1 10 20 21 horsynthene 4.4 D 1.8 9.5 12 24 hopsylphthalte 1.7 JD 0.64 J 2.5 J 2.8 J 2.4 ylphthalte 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U hththalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U hththalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	Acenaphthylene		0.21 J	0.11.3	5.1 U	1.2 J	11 U	18 U	0.29 J	
unthracene 4.2 D 1.3 8.7 13 27 27 yyene 3.6 D 1.2 8.1 10 20 21 Horanthene 4.4 D 1.8 9.5 12 24 24 Iboranthene 1.2 JD 0.64 J 2.5 J 2.8 J 8.6 J 7.0 J Alporanthene 1.7 JD 0.68 J 4.0 J 4.0 J 7.7 J 8.3 J Alphthiate 0.45 U 0.85 U 5.1 U 5.2 U 11 U 18 U Phthialate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U Apthialate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	Anthracene		1,0	0.34 J	5.1	4.5 J	17	31	1.1 J	
yrene 3.6 D 1.2 8.1 10 20 21 horanthene 4.4 D 1.8 9.5 12 24 horanthene 1.2 JD 0.64 J 2.5 J 2.8 J 8.6 J 7.0 J ploranthene 1.7 JD 0.68 J 4.0 J 7.7 J 8.3 J zyl phthalate 0.45 U 0.85 U 5.1 U 11 U 18 U phthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U phthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	Benzo(a)anthracene		4.2 D	1.3	8.7	13	27	27	3.8	
Juoranthene 44 D 1.8 9.5 12 25 24 Juoranthene 1.2 JD 0.64 J 2.5 J 2.8 J 3.6 J 7.0 J Iuoranthene 1.7 JD 0.68 J 4.0 J 7.7 J 8.3 J Syl phthalate 0.16 J 0.85 U 5.1 U 11 U 18 U Aphthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U Iphthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	Вепzо[а]рутепе		3.6 D	1.2	8.1	10	20	21	3.6 DJ	
Operylene 1.2 JD 0.64 J 2.5 J 2.8 J 8.6 J 7.0 J Plucranthene 1.7 JD 0.68 J 4.0 J 4.0 J 7.7 J 8.3 J Syl phthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U 1 Dhthalate 0.16 J 0.85 U 8.6 10 22 24 Phthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	Benzo(b)fluoranthene		4.4 D	1.8	9.5	12	25	24	4.7 DJ	
lucoranthene 1.7 JD 0.68 J 4.0 J 4.0 J 7.7 J 8.3 J syl phthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U 0.16 J 0.85 U 5.1 U 5.2 U 11 U 18 U 3.7 D 1.5 8.6 10 22 24 Iphthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	Benzo(ghi)perylene		1.2 JD	0.64 J	2.5 J	2.8 J	8.6 J	7.0 J	1.1 DJ	
cyl phthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U 0.16 J 0.85 U 5.1 U 5.2 U 11 U 18 U 3.7 D 1.5 8.6 10 22 24 Iphthalate 0.42 U 0.85 U 5.1 U 5.2 U 11 U 18 U	Benzo(k)fluoranthene		1.7 JD	0.68 J	4.0 J	4.0 J	7.7 J	8.3 J	1.8 DJ	
0.16 J 0.85 U 5.1 U 18 U 18 U 18 U 1.5 8.6 10 22 24 Phitialate 0.42 U 0.85 U 5.1 U 5.2 U 18 U 18 U	Butyl benzyl phthalate		0.42 U	0.85 U	5.1 U	5.2 U	110	18 U	1.1 U	
3.7 D 1.5 8.6 10 22 24 : i bhthalate 0.42 U 0.85 U 5.2 U 11 U 18 U	Carbazole		0.16 J	0.85 U	5.1 U	5.2 U	110	18 U	1.1 U	
0.42 U 0.85 U 5.1 U 18 U 18 U	Chrysene		3.7 D	1.5	8.6	10	22	24	3.4	
	Di-n-butyl phthalate		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%. When AS>5%. E=5%. When AS>5% E=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.

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DBF File: Q\10653 NYSDEC27258 THREESTAR\TEMPDATA_DBF
FXP File: Q\10653 NYSDEC27258 THREESTAR\TABLEPRK_FXP

File Number: 10653.27258

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	Committee ID	WP-M2	WP-M3	137B-M3	TOO WA	ייסת פיעי	W POT	400 av	
Location	Location Cross Reference	Section 2	Section 2	Section 2	Section 2	Section 2	Section 2	Section 2	
	Sample Date	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	
	Sample Depth Units	12 - 1 / m. mg/Kg	0 - 6 m. mg/Кg	6 - 12 in. mg/Kg	0 - 6 m. mg/Kg	6 - 12 m. mg/Kg	12 - 18 m. mg/Kg	0 - 6 in. mg/Kg	
Compound									
Di-n-octyl phthalate		0.42 UJ	0.85 U	5.1 U	5.2 U	11 U	U81	1.1 UJ	l
Dibenzo(a,h)anthracene		0.53 JD	0.23 J	1.2 J	1.2 J	3.6 J	2.8 J	0.45 DJ	
Dibenzofuran		0.32 J	0.85 U	1.4 J	5.2 U	2.5 J	3.1 J	0.13 J	
Diethyl phthalate		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
Dimethyl phthalate		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
Fluoranthene		8.4 D	2.4	18	24	61	65	6.0	
Fluorene		0.51	0.85 U	1.9.1	0.59 J	6.6 J	9.2 J	0.30 J	
Hexachlorobenzene		0.42 U	0.85 U	5.1 U	5.2 U	11.0	18 U	; D	
Hexachlorobutadiene		0.42 U	0.85 U	5.1 U	5.2 U	11.0	180	011	
Kexachlorocyclopentadiene		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	D I'I	
Hexachloroethane		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	J.1 U	
Indeno(1,2,3-cd)pyrene		1.4 JD	0.63 J	3.2 J	3.6 J	9,3 J	7.6 J	1.2 DJ	
Isophorone		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
N-Nitrosodipropylamine		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
N-Nitrosodiphenylamine		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
Naphthalene		0.34 J	0.85 U	2.6 J	0.54 J	3.1 J	2.6 J	0.33 J	
Nitrobenzene		0.42 U	0.85 U	5.1 U	5.2 U	11 U	18 U	1.1 U	
Pentachlorophenol		1.1 U	2.1 U	13 U	13 U	27 U	46 U	2.8 U	
Phenanthrene		1.6	1.0	14	6,9	45	80	2.4	
Phenol		0.11 J	0.85 U	5.1 U	5.2 U	110	18 U	1.1 0	
Pyrene		7.7 D	2.9	15	20	47	\$4	0.9	
Bis(2-chloroethoxy)methane		0.42 U	0.85 U	5.1 U	5.2 U	110	18 U	nri	
Bis(2-chloroethyl)ether		0.42 U	0.85 U	5.1 U	5.2 U	DII	18 U	nri	
Bis(2-ethylhexyl)phthalate (BEHP)	P)	0.42 U	12 U	5.1 U	5.2 U	011	18 U	D1.1	
Total organic carbon (mo/Ko)		11300 BI	63800 RI	50000 e BI	13400181	13,400 e DI	19400021	10,00003	
Percent colide (%)		5000	30	FF 3 00005	13400	13400 € 23	13400 € 153	Socoo e Bu	
A CICCIII SOIIGS (70)		61	A-0	co.	**	10	/3	80	
				•					
NOTES: U - not detected, J	U - not detected, J - estimated value, B - blank contamination.	Slank contamination.	Apple Townson						
	entration using TOC de	ate from another sample (AS) c	c. estimated concernation using 100 data from another sample (AS) collected at the same location. When ASS-S ₆ e-Sts. 100C%. Semilal locations are Arfand w. Backersonidnersees on Keips. Section 1. selected in the same location. A demonstrate of East 100C%.	then AS>=5%, e=5%. When As	S<5%, e=AS TOC%.				
			II I dejerom to sitor. Centom e	- COWING COMMING CONTRACTOR	TOWER POLICIES OF CICED.		Page 5	of 12 CONTINUED	

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Page

DRAFT - Table A-2
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Semivolatile Organic Compound Concentrations

	Т							
Sample LU Traction Cross Before		Wr-29A Section 2	WF-29A DOF	WF-29A Section 2	WF-29 Section 2	WF-29 Section 3	WF-29 Section 3	WF-CROUI
Location Cross		Section 2 05/14/2003	Section 2 05/14/2003	Section 2 05/14/2003	Section 2 05/09/2001	3ection 2 05/09/2001	05/09/2001	Section 2 05/14/2003
Sam		6 - 12 in.	6 - 12 in.	12 - 17 in.	0 - 6 in.	6 - 12 in.	12 - 18 in.	0 - 6 in.
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound								
1,2,4-Trichlorobenzene	-	6.3 U	24 Ü	22 U	17 03	D 0.6	195 195	0.48 U
1,2-Dichlorobenzene	-	6.3 U	24 U	22 U	IJ UJ	0.0 U	26 U	0.48 U
1,3-Dichlorobenzene	-	6.3 U	24 U	22 U	17 UJ	9.0 U	26 U	0.48 U
1,4-Dichlorobenzene	-	6.3 U	24 U	22 U	17 UJ	0.0 U	26 U	0.48 U
Bis(2-chloroisopropyl) ether	7	6.3 U	24 U	22 U	I7 W	0.0 U	26 U	0.48 U
2,4,5-Trichlorophenol		16 U	01 U	26 U	41 UJ	22 U	140 U	1.2 U
2,4,6-Trichlorophenol	-	6.3 U	24 U	22 U	17 UJ	0.0 U	56 U	0.48 U
2,4-Dichlorophenol	-	6.3 U	24 U	22 U	17 UJ	9.0 U	26 U	0.48 U
2,4-Dimethylphenol	-	6.3 U	24 U	22 U	17 UJ	0.00	26 U	0.48 U
2,4-Dinitrophenol	•	16 U	61 U	26 U	41 UJ	22 U	140 U	1.2 U
2,4-Dinitrotoluene	-	6.3 U	24 U	22 U	17 UJ	0.0 U	56 U	0.48 U
2,6-Dinitrotoluene	-	6.3 U	24 U	22 U	17 UJ	0.00	56 U	0.481
2-Chloronaphthalene	-	6.3 U	24 U	22 U	17 UJ	0.00	26 U	0.48 1.1
2-Chlorophenol	,	6.3 U	24 U	22 U	17 (1)	1106	5617	0.48 11
2-Methylnaphthalene		161	146	22 11	17 111	111	55.7	0.4811
2-Methylphenol	•	6311	24.11	33 11	11771	î 7: 1	200	0.48.0
2 Nitronalina		0 5.0	0 + 7	27.5		0000	0 90	0.48 U
2 Mindamine		79.7	010	36.0	41 U	22.0	140 U	1.2 U
2-Ivitrophenol		6.3 U	24 U	22 U	17 03	0.0 U	26 U	0.48 U
3,3-Dichlorobenzidine	-	6.3 U	2 4 U	22 U	17 W	0.0 U	26 U	0.48 U
3-Nitroaniline		16 U	61 U	56 U	41 UJ	22 U	140 U	1.2 U
4,6-Dinitro-2-methylphenol	-	16 U	61 U	195 1	41 UJ	22 U	140 U	1.2 U
4-Bromophenyl phenyl ether	-	6.3 U	24 Ü	22 U	17 UI	D 0.6	26 U	0.48 U
4-Chloro-3-methylphenol	•	6.3 U	24 U	22 U	17 UJ	9.0 U	26 U	0.48 U
4-Chloroaniline	•	6.3 U	24 U	22 U	17 UJ	U 0.6	26 U	0.48 UJ
4-Chlorophenyl phenyl ether	,	6.3 U	24 U	22 U	17 UJ	0.0 U	56 U	0.48 U
4-Methylphenol	•	6.3 U	24 U	22 U	17 UJ	0.0 U	56 U	0.48 U
4-Nitroaniline		16 U	61 U	56 U	41 UJ	22 U	140 U	1.2 U
4-Nitrophenol		16 U	61 U	26 U	41 UJ	22 U	140 U	1.2 U
Acenaphthene	-	9.9	12.5	9.6 J	11.5	9.1	46 J	0.48 U
Acenaphthylene	•	0.82 J	24 U	22 U	17 UJ	D 0.6	26 U	0.055 J
Anthracene	. •	14	32	59	6.0 J	15	98	0.16 J
Benzo(a)anthracene	. •	19	33	30	20 J	13	84	0.92
Benzo[a]pyrene		16	27	23	17.3	9.3	64	0.94
Benzo(b)fluoranthene	.,	20	29	28	19 J	11	74	1,4
Benzo(ghi)perylene	7	4.2 J	9.5 J	7.2 J	6.2 J	2.6 J	15 J	0.25 J
Benzo(k)fluoranthene	~	8.1	13 J	8.0 J	6.5 J	3.7 3	32 J	0.60
Butyl benzyl phthalate	•	6,3 U	24 U	22 U	17 UJ	D 0'6	26U	0.4811
Carbazole	*	6.3 U	24 U	22 U	5.2 J	Д 0'6	36U	0.48 U
Chrysene	.1	18	31	25	181	11	11.	0.76
Di-n-butyl phthalate	•	6.3 U	24 U	22 U	17 U	0.0 U	26 U	0.48 U
NOTES: U - not detected, J - estimated value, B - blank contamination.	ted value, B - bla	ank contamination.						
	using TOC data	from another sample (AS) co	e-estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5% e=5%. When AS<5% e=AS TOC%	en AS>=5% c=5%. When ASs	5% ←AS TOC%.			

U-not detected, 1- estimated value, B- Diata Contammation.
U-not detected, 1- estimated value, B- Diata Contammation.
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Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations Wappingers Falls, New York Three Star Anodizing Site DRAFT - Table A-2

	Sample ID	WP-29A	WP-29A DUP	WP-29A	WP-29	WP-29	WP-29	WP-CKOUT
	Location Cross Reference	Section 2 05/14/2003	Section 2	Section 2	Section 2	Section 2	Section 2	Section 2
	Sample Date	6 - 12 in.	6 - 12 in.	12 - 17 in.	0 - 6 in.	6 - 12 in.	12 - 18 in.	0 - 6 in.
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound								
Di-n-octyl phthalate		6.3 U	24 U	22 U	17 UJ	D 0.6	N 95	0.48 U
Dibenzo(a,h)anthracene		1.9.1	3.8 J	3.1 J	2.3 J	1.7 J	9.8 J	0.11.0
Dibenzofuran		2.9 J	6.0 J	3.7 J	2.3 J	5.4 J	30 J	0.48 U
Diethyl phthalate		6.3 U	24 U	22 U	17 UJ	D 0.6	26 U	0.48 U
Dimethyl phthalate		6.3 U	24 U	22 U	17 UJ	0.0 U	56 U	0.48 U
Fluoranthene		45	71	72	43 J	34	180	2.0
Fluorene		6.2 J	14 J	11.3	6.2 J	£ 6.8	46 J	0.48 U
Hexachlorobenzene		6.3 U	24 U	22 U	17 UJ	0.6 U	56 U	0.48 U
Hexachlorobutadiene		6.3 U	24 U	22 U	17 U	0.0 U	26 U	0.48 U
Hexachlorocyclopentadiene	ene	6,3 U	24 U	22 U	17 UJ	0.0%	56 U	0.48 U
Hexachloroethane		6.3 U	24 U	22 U	17.02	0.076	26.0	0.48 U
Indeno(1,2,3-cd)pyrene		5.3 J	101	9.0 J	6.9 J	4.7.1	28.1	0.31.1
Isophorone		6.3 U	24 U	22 U	17 U	0.00 0.00	195 195	0.48 U
N-Nitrosodipropylamine		6.3 U	24 U	22 U	17 U	106	1195	0.481
N-Nitrosodiphenylamine		6.3 U	24 U	22 U	1713	0.006	5613	0.481
Naphthalene	•	155	28.50	261	3.1.1	5 7 7 7	5611	0.072 I
Nitrobenzene		73.11	2411	12.00	17111	1100	000	2200
Pentachlorophenol		1171	0 +7	0 77	3 5	0.00	200	0000
Dhonoshum			0.70) 	3.	0 27	140 0	0.2.1
r nettainuitene		***	00	90/	. 4 J.	42	210	0.3/ J
Phenoi		6.3 U	24 U	22 U	17 UJ	0.00	26 U	0.48 U
Pyrene		36	64	59	35 J	28	140	1.6
Bis(2-chloroethoxy)methane	hane	6.3 U	24 U	22 U	17 03	0.0 U	26 U	0.48 U
Bis(2-chloroethyl)ether		6.3 U	24 Ü	22 U	17 UJ	0.0 U	56 U	0.48 U
Bis(2-ethylhexyl)phthalate (BEHP)	ate (BEHP)	6.3 U	24 U	22 U	17 W	0.0 U	26 U	0.48 U
Total organic carbon (mg/Kg)	g/Kg)	62900 BJ	70100 BJ	50000 e BJ	21700	7330	105000	35900
Percent solids (%)	ì	53	55	09	56.2	62.2	58.2	70
NOTES: U-not do c estima Sample lo	U - not detected, J - estimated value, B - blank contamination. c - estimated concentration using TOC data from another sample locations are defined as: Background - upstream of si	blank contamination. lata from another sample (AS) co round - upstream of site. Section	U - not detected, J - estimated value, B - blank contamination. - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek	ten AS>=5%, e=5%. When AS downstream of site. Section 3 -	<5%, e=AS TOC%. Jower portion of creek.		Page 6	of 12 CONTINUED

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DRAFT - Table A-2
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Semivolatile Organic Compound Concentrations

Location Cross Reference Sample Date Sample Date Sample Date Sample Date 1,2-4 Trichlorobenzene 1,2-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-chloroisopropyl) ether 2,4-5-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimtophenol 2,4-Dimtophenol 2,4-Dimtophenol 2,4-Dimtophenol 2,4-Dimtophenol 2,4-Dimtophenol 2,4-Dimtophenol 2,4-Dimtophenol 2,4-Dimtophenol	rence Section 2 Date 05/14/2003 Depth 0 - 6 in. Units mg/Kg 0.46 U 0.46 U 0.46 U 0.46 U	Section 2 03 05/14/2003	Section 2 05/08/2001	Section 2 05/08/2001	Section 2 05/08/2001	Section 2 05/13/2003	Section 2 05/13/2003	
e) ether	i		1001.00			1.7		
Compound 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-chloropenzene Bis(2-chlorophenol 2,4-5-Trichlorophenol 2,4-Dimethylphenol 2,4-Dimethylphenol 2,4-Dimethylphenol 3,4-Dimethylphenol 3,4-Dimethylphenol 3,4-Dimethylphenol	0.46 U 0.46 U 0.46 U	6 - 12 in. mg/Kg	0 - 6 in. mg/Kg	0 - 6 in. mg/Kg	6 - 11 in. mg/Kg	U-0 m. mg/Kg	6 - 12 m. mg/Kg	
1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-chlorospropyl) ether 2,4,5-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimtophenol 2,4-Dimtophenol 3,4-Dimtophenol 3,4-Dimtophenol 3,4-Dimtophenol 3,4-Dimtophenol 3,4-Dimtophenol	0.46 U 0.46 U 0.46 U							
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-chlorospropyl) ether 2,4.5-Trichlorophenol 2,4-Dirhorophenol 2,4-Dirhorophenol 2,4-Dirhorophenol 3,4-Dirhorophenol 3,4-Dirhorophenol 3,4-Dirhorophenol 3,4-Dirhorophenol	0.46 U 0.46 U	0.49 U	1.2 UJ	1.1 UI	0.83 UJ	1.1 UI	0.78 UJ	
1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-chloroisopropyl) ether 2,4,5-Trichlorophenol 2,4-Dirhorophenol 2,4-Dirhorophenol 2,4-Dirhorophenol 3,4-Dirhorophenol 4,1-Dirhorophenol 7,1-Dirhorophenol 7,1-Dirhorophenol	0.4611	0.49 U	1.2 UJ	1.1 UI	0.83 UJ	1.1 UJ	0.78 UJ	
1,4-Dichlorobenzene Bis(2-chloroisopropyl) ether 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dishlorophenol 2,4-Dimethylphenol 3,4-Dimitrophenol 3,1-Dimitrophenol 3,1-Dimitrophenol	2:	0.49 U	1.2 UJ	1.1 UI	0.83 UJ	1.1 UJ	0.78 UJ	
Bis(2-chloroisopropyl) ether 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dienthylphenol 2,4-Dienthylphenol 2,4-Dimtrophenol 2,1-Dimtrophen	0.46 U	0.49 U	1.2 UJ	1.1 50	0.83 UJ	1.1 UI	0.78 UJ	
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Diethlorophenol 2,4-Dimethylphenol 2,4-Dimtophenol 3,1-Dimtophenol 3,1-Dimtophenol	0.46 U	0.49 U	1.2 UJ	1.1 G	0.83 UJ	51:1	0.78 UJ	
2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitophenol 3,1-Dimitophenol 7,1-Dimitophenol	1.2 U	1.2 U	3.0 UJ	2.8 UJ	2.0 UJ	LO 6.2	1.9 UJ	
2,4-Dichlorophenol 2,4-Dimchylphenol 2,4-Dimtophenol 2,4-Dimtophenol	0.46 U	0.49 U	1.2 UJ	11.1	0.83 UJ	13.03	0.78 UI	
2,4-Dimethylphenol 2,4-Dimitrophenol	0.46 U	0.49 U	1.2 UJ	5 77	0.83 UJ	511	0.78 UJ	
2,4-Dinitrophenol	0.46 U	U 67-0	1.2 UJ	1.1 G	0.83 UJ	57 77	0.78	
7.4.Dinitrotoluene	1.2 U	1.2 U	3.0 UJ	2.8 UJ	2.0 UJ	2.9 UI	II1 6:1	
יייים מוחיות מוחיות מוחיות	0.46 U	0.49 U	1.2 UJ	11.1	0.83 UJ	11111	0.78 1.11	
2,6-Dinitrotoluene	0.46 U	0.49 U	1.2 UJ	11.1	0,83 UJ	1.1 U	0.78	
2-Chloronaphthalene	0.46 U	0.49 U	1.2 UJ	1.1 01	0.83 UJ	1.1 (1)	0.78 [1]	
2-Chlorophenol	0.46 U	0.49 U	1.2 UI	11111	0.83111	11811	0.78111	
2-Methylnaphthalene	0.46 U	0.12 J	1.2 UI	11111	0.12.1	11111	11 8 20	
2-Methylphenol	0.4617	0.4911	12111	1111	1270	1111	111 8Z O	
2-Nitroaniline	1211	1211	110	28.11	20.50.5	E 65	110:	
2.Nitronhenol	0.4611	1000		2.6.03	2007		(U.S.C.)	
2.3 Dichlombandina	0.400	0.440	5.0	3;	0.83 0.1	5;:	0.78 UJ	
S,S-Licinorogenzique	0.46 U	0.49 U	1.2 U	1.1 U	0.83 UJ	201.1	0.78 UI	
3-Nitroaniline	1.2 U	1.2 U	3.0 Uš	2.8 UJ	2.0 UJ	2.9 UJ	ID 6.1	
4,6-Dinitro-2-methylphenol	1.2 U	1.2 U	3.0 UJ	2.8 UJ	2.0 UJ	2.9 UJ	U 6.1	
4-Bromophenyl phenyl ether	0.46 U	0.49 U	1.2 UJ	1.1 UJ	0.83 UJ	1.1 03	0.78 UJ	
4-Chloro-3-methylphenol	0.46 U	0.49 U	1.2 UJ	1.1 UI	0.83 UJ	1.1 GJ	0.78 UJ	
4-Chloroaniline	0.46 UI	0.22 J	1.2 UJ	1.1 53	0.83 UJ	1.1 53	0.78 UJ	
4-Chlorophenyl phenyl ether	0.46 U	0.49 U	1.2 UJ	1.1 51	0.83 UJ	1.1 51	0.78 UJ	
4-Methylphenol	0.46 U	0.068 J	1.2 UJ	1.1 UI	0.83 UJ	1.1 UJ	0.78 UJ	
4-Nitroaniline	1.2 U	1.2 U	3.0 UJ	2.8 UJ	2.0 UJ	2.9 UJ	L9 UJ	
4-Nitrophenol	1.2 U	1.2 U	3.0 UJ	2.8 UJ	2.0 UJ	2.9 UJ	IJ 6.1	
Acenaphthene	0.11 J	0.32 J	0.17 j	1.1 W	0.11 J	1.1 UJ	0.78 UJ	
Acenaphthylene	0.31 J	0.80	0.27 J	0.16 J	0.11.J	0.12 J	0.78 UJ	
Anthracene	1.3	3.6	1.2 J	0.59 J	0.77 J	0.50 J	0.78 UJ	
Benzo(a)anthracene	4.6 DJ	11D	4.6 J	3.2 J	2.6 J	2.2 J	0.27 J	
Benzo[a]pyrene	4.0 DJ	9.1 DJ	4.5 J	3.2 J	2.5 J	1.1 J	0.25 J	
Benzo(b)fluoranthene	5.3 DJ	11 DJ	5.9 J	7.6	4.0 J	2.4 J	0.39.1	
Benzo(ghi)perylene	0.94 J	1.9.1	1.5.1	, M	121	0.54 ĭ	1 1800	
Benzo(k)fluoranthene	2.2 J	3.5.1	2.3.1	I S	1 66 0	12 1	0.17.1	
Buryl benzyl phthalate	0.4611	0.4911	12111	11111	0.83111	11111	11.02.0	
Carbazole	0.450	0.45.0	E 2:1		0.83 UJ	51:1	0.78 03	
CL- 1022	0.450	(#I:O	77.	1.1 U	U.83 UJ	 	0.78 UJ	
Cmysene	2.8	001	J. C.4	2.9	2.7 J	2.1 3	0.30 J	
Dr-n-butyl phthalate 0.46 U	0.46 U	0.49 U	1.2 UJ	1.1 UJ	0.83 UJ	1.1 UJ	0.78 UJ	

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%, When AS><5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 2 - downstream of site. Section 3 - lower portion of ereck.

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									•
roctions I	Sample ID	WP-OD3	WP-OD3	WP-PL	WP-PL DUP	WP-PL	WP-PL1	WP-PL1	
Togeton	Sample Date	05/14/2003	05/14/2003	05/08/2001	Securit 2 05/08/2001	35U0012 05/08/2001	Section 2 05/13/2003	Secuoli 2 05/13/2003	
	Sample Depth	0 - 6 in.	6 - 12 in.	0 - 6 in.	0 - 6 in.	6 - 11 in.	0 - 6 in.	6 - 12 in.	
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Compound									
Di-n-octyl phthalate		0.46 UJ	0.49 UJ	1.2 UJ	1.1 U	0.83 UJ	1.1 UJ	0.78 UJ	T
Dibenzo(a,h)anthracene		0.34 J	0.83 J	0.81 J	0.73 J	0.59 J	0.25 J	0.78 UJ	
Dibenzofuran		0.065 J	0.23 J	0.13 J	1.1 UJ	0.28 J	1.1 51	0.78 UJ	_
Diethyl phthalate		0.46 U	0.49 U	1.2 UJ	1.1 UJ	0.83 UJ	D 1.1	0.78 UJ	
Dimethyl phthalate		0.46 U	0.49 U	1.2 UJ	1.1 (3)	0.83 UJ	571	0.78	
Fluoranthene		7.3 D	17 D	5.7 J	3.6 J	4.2 J	4.0.3	0.55 J	
Fluorene		0.19 J	0.45 J	0.23 J	0.16 J	0.27.5	1.1 (1)	0.78111	
Hexachlorobenzene		0.46 U	0.49 U	1.2 UJ	IN I'I	0.83 U.I		0.78 111	
Hexachlorobutadiene		0.46 U	0.49 U	1.2 UJ	11 11 11 11 11 11 11 11 11 11 11 11 11	0.83 [1]	11111	0.78111	
Hexachlorocyclopentadiene		0.46 U	0.49 U	1.2 UJ	10 T1	0.83111	11 11	0.78111	
Hexachloroethane		0.46 U	0.4911	12 111	11111	0.83111	11.11	0.7871	
Indeno(1,2,3-cd)pyrene		1,1 J	2.2 J	2.7.1	201	18.	1.750	1110	
Isophorone		0.46 U	0.49 U	1.2 1.1	111 111	0.83111	1 1 11	0.78111	_
N-Nitrosodipropylamine		0.46 U	0.4917	12111	11111	0.83.111	::: : ::::::::::::::::::::::::::::::::	0.3811	•
N-Nitrosodiphenylamine		0.46 11	0.491	111 61	11111	111 880	3 E	11000	_
Naphthalene		0.14 7	ST.0	0.28.1	1.200	1000	3 ;	U.8 C.	_
Nitrohenzene		0.4611	0.15	5070	22.0	1 67.0		0.78 QJ	
Destroblement		0.40	0.49 U	m 7:1	U. I. I. I	0.83 UJ	1.1 0	0.78 UJ	
Fentachlorophenol		1.2 U	1.2 U	3.0 UJ	2.8 UJ	2.0 UJ	2.9 UJ	I.9 UI	_
Phenanthrene		3.3	7.1 DJ	2.2 J	1.2 J	1.1 J	1.2.5	0.12 J	
Phenol		0,46 U	0.083 J	1.2 UJ	1.1 UJ	0.83 UJ	1.1 UJ	0.78 UJ	
Pyrene		8.2 D	20 D	8.4 J	5.9 J	5.6 J	3.5 J	0.55 J	
Bis(2-chloroethoxy)methane		0.46 U	0.49 U	1.2 UJ	1.1 UJ	0.83 UJ	1.1 (3)	0.78 UJ	
Bis(2-chloroethyl)ether		0.46 U	0.49 U	1.2 UJ	1.1 (1)	0.83 UI	1.1 (3)	0.78.111	_
Bis(2-ethylhexyl)phthalate (BEHP)	•	0.46 U	0.49 U	0.70	0.75 J	0.83 UJ	3 FT	0.78 UJ	
Total organic carbon (mg/Kg)		30500 e	30500	115000	115000	82300	1080001	\$0500 J	
Percent solids (%)		72	89	25.6	24.7	39.5	29	43	
									_
									_
NOTES: 11 and detected 1	serimated value B. !	11. not detected 1. estimated value R. Nach contamination						777	
	tration using TOC da	ata from another sample (A	.S) collected at the same location.	e-estimated concentration using TOC data from amount sample (AS) collocted at the same location. When AS=5%, e=5%. When AS<5%, e=AS TOC%.	4S<5%, e=AS TOC%.				
Sample locations are	defined as: Backgr	ound - upstream of site. Se	ection 1 - adjacent to site. Section	n 2 - downstream of site. Section	3 - lower portion of creek.		7	GONTHAN CONTENTION	

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FXP File: Q\10653_NYSDEC27258_THREESTAR\TABLEPRK_FXP

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Page

DRAFT - Table A-2
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Semivolatile Organic Compound Concentrations

		WP-PL1	WP-PL2	WP-PL2	WP-PL2	WP-PL3	WP-PL3	WP-T1A
Location Cross Reference		Section 2 05/13/2003	Section 2 05/13/2003	Section 2 05/12/003	Section 2.	Section 2 05/13/2003	Section 2 05/13/2003	Section 3 05/14/2003
- S		12 - 18 in.	0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	6 - 12 in.	0 - 6 in.
	_	тв/Кв	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Сотроип								
1,2,4-Trichlorobenzene		09'0	1.3 UJ	US 80.0	0.78 UJ	1.4 UJ	0.95 UJ	tU 86:0
1,2-Dichlorobenzene	3	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.95 UJ	U 86:0
1,3-Dichlorobenzene	5	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.95 UJ	tU 86:0
1,4-Dichlorobenzene	0	0.60 U	1.3 UJ	tO 86.0	0.78 UJ	1.4 UJ	U 56.0	U 86.0
Bis(2-chloroisopropyl) ether	0	0.60 U	1.3 UJ	U 86.0	0.78 UJ	1.4 UJ	0.95 UJ	U 86.0
2,4,5-Trichlorophenol	1	1.5 U	3.2 UJ	2.5 UJ	I.9 U	3.5 UJ	2.4 UJ	2.5 UI
2,4,6-Trichlorophenol	0	0.60 U	1.3 UJ	U 86.0	0.78 UJ	1.4 UJ	US 201	U. 86.0
2,4-Dichlorophenol	0	0.60 U	1.3 UJ	fD 86'0	0.78 UJ	1.4 UJ	U.95 UJ	0.98 UJ
2,4-Dimethylphenol	0	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	U.95 UJ	U.98 UJ
2,4-Dinitrophenol	1	1.5 U	3.2 UJ	2.5 UJ	IJ9 UJ	3.5 UJ	2.4 UJ	2.5 UJ
2,4-Dinitrotoluene	0	0.60 U	1.3 UJ	IN 86.0	0.78 UJ	1.4 U	US OU	UJ 86.0
2,6-Dinitrotoluene	0	0.60 U	1.3 UJ	TO 86.0	0.78 UJ	1.4 UJ	US OU	0.98 UJ
2-Chloronaphthalene	0	0.60 U	1.3 UJ	IU 86.0	0.78 UJ	1.4 UJ	U.95 UJ	0.98 UJ
2-Chlorophenol	9	0.60 U	1.3 UI	U 86.0	0.78 UJ	1.4 UJ	0.95 UJ	0.98 UJ
2-Methylnaphthalene	0	0.60 U	1.3 UJ	IU 86.0	0.78 UJ	U.4.1	U 56'0	U 86.0
2-Methylphenol	0	O'60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	tU 56.0	U 86:0
2-Nitroaniline		1.5 U	3.2 UJ	2.5 UJ	tD 6.1	3.5 UJ	2.4 UJ	2.5 UJ
2-Nitrophenol	0	0.60 U	1.3 UJ	U 86.0	0.78 UJ	1.4 UI	US 201	U38 OI
3,3-Dichlorobenzidine	0	0.60 U	1.3 UJ	US 800	0.77 UJ	1.4 UJ	USS UJ	0.98 UJ
3-Nitroaniline	1	1.5 U	3.2 UJ	2.5 UJ	U 6.1	3.5 UJ	2.4 UJ	2.5 UJ
4,6-Dinitro-2-methylphenol	-	1.5 U	3.2 UJ	2.5 UJ	IJ 6.1	3.5 UJ	2.4 UJ	2.5 UJ
4-Bromophenyl phenyl ether	0	0.60 U	1.3 UJ	US 80.0	0.78 UJ	1.4 UI	U.95 UJ	0.98 UJ
4-Chloro-3-methylphenol	0	0.60 U	1.3 UJ	tu 86.0	0.78 UJ	1.4 UI	U.95 UJ	U 86.0
4-Chloroaniline	0	0.60 U	1.3 UJ	IU 86.0	0.78 UJ	1.4 UI	U 56.0	U 86.0
4-Chiorophenyl phenyl ether	0	0.60 U	1.3 UJ	tO 86:0	0.78 UJ	I. 4. I.	U.95 U.	0.98 UJ
4-Methylphenol	Q	0.60 U	1.3 UJ	tU 86.0	0.78 UJ	U.4.1	U 56'0	U 86.0
4-Nitroaniline	1	1.5 U	3.2 UJ	2.5 UJ	1.9 UJ	3.5 UJ	2.4 UJ	2.5 UJ
4-Nitrophenol	1	1.5 U	3.2 UJ	2.5 UJ	1.9 U	3.5 UJ	2.4 UJ	2.5 UJ
Acenaphthene	0	0.60 U	1.3 UJ	fO 86'0	0.78 UJ	1.4 UJ	US 201	U.98 U.
Acenaphthylene	0	0.60 U	0.18 J	0.14 J	0.78 UJ	1.4 UJ	0.13 J	U 86.0
Anthracene	0	0,60 U	0.68 J	0.32 J	0.19 J	0.17 J	0.24 J	0.20 J
Benzo(a)anthracene	0	0'60 U	2.6 J	1.5.1	0.89 J	0.78 J	1.1 J	0.68 J
Benzo[a]pyrene	0	0'60 U	1.2 J	0.82 J	0.84 J	0.54 J	1.0 J	0.32 J
Benzo(b)fluoranthene	0	0.60 U	3.6 J	2.2 J	1.1 J	0.87 J	1.8 J	0.39 J
Benzo(ghi)perylene	0	0.60 U	0.71 J	0.49 J	0.31 J	0.21 J	0.46 J	0.13 J
Benzo(k)fluoranthene	0	0.60 U	1.1 J	0.77 J	0.51 J	0.43 J	0.56 J	0.23 J
Butyl benzyl phthalate	0	0'60 U	1.3 UJ	U 86:0	0.77 UJ	1.4 UJ	0.95 UJ	U 86.0
Carbazole	0	0.60 U	1.3 W	0.98 UJ	0.77 UJ	1.4 UJ	0.11 J	0.98 UJ
Chrysene	0	0.60 U	2.1 J	1.4 J	0.86 J	0.78 J	1.3 J	0.95 J
Di-n-butyl phthalate	0	0.60 U	1.3 UJ	0.98 UJ	0.77 UJ	0.20 J	USS UI	0.98 UJ
NOTES: U - not detected, J - estimated value, B - blank contamination	ated value, B - blar	ok contamination.	of large of the court Location 1	U - not detected 1 - estimated value, B - blank contamination. - entirened concentration with TDC data from contamination (1) contaminated with concentration with ACC 400 from ACC 500 - 400 TDC 500	%JUL 34 /83/2			

U - not detected, J - estimated value, B - blank contamination.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.

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41 -[3	i Id-a/n	W.P. PI 2	W.P. Pf 2	WP-PI 2	WP-Pf 3	WP_PI 3	WP-T1A
Location Cross Reference	Section 2	Section 2	Section 2	Section 2	Section 2	Section 2	Section 3
Sample Date	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/14/2003
Sample Depth Units	12 - 18 m. mg/Kg	0 - 6 in. mg/Kg	6 - 12 in. mg/Kg	12 - 24 m. mg/Kg	0 - 6 m. mg/Kg	6 - 12 m. mg/Kg	0 - 6 m. mg/Kg
Compound							
Di-n-octyl phthalate	0.60 U	1.3 UJ	0.98 UJ	UJ 77.0	1.4 UJ	0.95 UJ	tU 86.0
Dibenzo(a,h)anthracene	0.60 U	0.28 J	0.19 J	0.12 J	1.4 UJ	0.17 J	tU 86.0
Dibenzofuran	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.11 J	U 86.0
Diethyl phthalate	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.95 UJ	0.98 UJ
Dimethyl phthalate	0.60 U	1.3 UJ	US 80.0	0.78 UJ	1.4 UJ	0.95 UJ	U 86.0
Fluoranthene	0.60 U	4.5 J	2.2 J	1.5 J	1.4 J	2.5 J	1.2 J
Fluorene	0.60 U	0.15 J	U 86.0	0.78 UJ	1.4 UJ	0.13 J	0.98 UJ
Hexachlorobenzene	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.95 UJ	0.98 UJ
Hexachiorobutadiene	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.95 UJ	0.98 UJ
Hexachlorocyclopentadiene	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	U) \$6.0	0.98 UJ
Hexachloroethane	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.95 UJ	UN 86.0
Indeno(1,2,3-cd)pyrene	0.60 U	0.85 J	0.57 J	0.37 J	0.22 J	0.47 J	0.13 J
Isophorone	0.60 U	1.3 UJ	0.98 UJ	0.78 UJ	1.4 UJ	0.95 UJ	U 86.0
N-Nitrosodipropylamine	0.60 U	1.3 UJ	LD 86.0	0.78 UJ	1.4 UJ	US 670	U 86.0
N-Nitrosodiphenvlamine	0.60 U	1.3 UJ	ID 86.0	0.78 UJ	1,4 UJ	US 6.0	LD 86.0
Naphthalene	0.60 U	13 01	0.98 UJ	0.11 J	1.4 UJ	0.22 J	tU 86.0
Nitrohenzene	0.60 1	1.3 (1)	111 86 0	0.78 UI	1.4 [1]	111560	LU 86.0
Pentachlorophenol	1.5 U	3.2 UJ	2.5 UJ	IO 6.1	3.5 UJ	2.4 UJ	2.5 UJ
Phenanthrene	0.60 U	1.5 J	0.76 J	0.39 J	0.54 J	1.2 3	0.37.1
Phenol	0.60 U	13 01	tu 86.0	0.78 UJ	1.4 UJ	0.95 UJ	tD 86.0
Pyrene	11 09:0	43.1	2.4]	1.6.1	1.2.1	2.3 J	1,3 J
Bis(2-chloroethoxv)methane	D 09:0	13 01	tD 86:0	0.78 UJ	1.4 UJ	tu 56.0	U 86.0
Bis(2-chloroethyl)ether	0.60 U	1.3 (3)	IU 86.0	0.78	1.4 (1)	U 56.0	ID 86.0
Bis(2-ethylhexyl)phthalate (BEHP)	0.60 U	1.3 UJ	U 86.0	0.77 UJ	1.4 UJ	0.95 UJ	U 86.0
Total organic carbon (mg/Kg)	51700	58700 BJ	64200 BJ	77000 BJ	93900 BJ	118000 BJ	50000 e J
Percent solids (%)	56	56	34	43	24	35	34
NOTES: U - not detected, J - estimated value, B - blank contamination.	- blank contamination.	Illanted at the comme location. When	95/34 m-1/m /85-+ /85-\34	%OOE 3 + - +			
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 3 - townstream of site. Section 3 - lower portion of creek.	ground - upstream of site. Section	1 - adjacent to site. Section 2 - do	ownstream of site. Section 3 - low	er portion of creek.		٥	CONTINITION
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Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations Three Star Anodizing Site DRAFT - Table A-2

																																\neg	Г
WP-OD2 Section 3 05/14/2003 12 - 22 in. mg/Kg	0.53 U 0.53 U	0.53 U 0.53 U	0.53 U 1.3 U	0.53 U 0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	1.3 U	0.53.0	130	13 U	0.53 U	0.53 U	0.53 UJ	0.53 U	0.53 U	.s. s. t	0.68	0.19 J	1.6	3,4	3.0 DJ	3.8 DJ	1.0 DJ	1.6 DJ	0.53 U	0.058 J	2.3	0.53 U	
WP-OD2 Section 3 05/14/2003 6 - 12 in. mg/Kg	0.68 UJ 0.68 UJ	0.68 UJ 0.68 UJ	0.68 UJ 1.7 UJ	0.68 UJ 0.68 UJ	0.68 UJ	0.68 UJ	0.68 UJ	0.68 UJ	0.68 UJ	0.68 UJ	1.7 UJ	0.68 UJ	1.7 UJ	L7 UJ	0.68 UJ	0.68 UJ	0.68 UJ	0.68 UJ	0.68 UJ	U	0,16 J	0.12 J	0.32 J	1.6.1	1.2 J	1.8 J	0.36 J	0.93 J	0.68 UJ	0.68 UJ	0.96 J	0.68 UJ	
WP-OD2 Section 3 05/14/2003 0 - 6 in. mg/Kg	1.1 W 1.1 W	1.1 UI 1.1 UI	1.1 UJ 2.8 UJ	11 U	1.1 UJ 2.8 III	II.1 UI	1.1 W	3 B	1.1 UJ	1.1 W	2.8 UJ		2.8 UJ	2.8 UJ	1.1 00	1.1 UJ	1.1 G	1.1 03	1.1 G	2.8 UJ 2.8 TIT	1.1 UJ	1.1 UJ	0.19 J	0.89 J	0.51 J	0.84 J	0.16 J	0.46 J	1.1 53	1.1 53	1.2 J	1.1 UJ	
WP-T1C Section 3 05/14/2003 6 - 10 in. mg/Kg	0.54 U 0.54 U	0.54 U 0.54 U	0.54 U 1.3 U	0.54 U 0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.27 J	0.54 U	130	0.54 U	13 U	13 U	0.54 U	0.54 U	0.54 UJ	0.54 U	0.11.5	0.50	0,33 J	0.16 J	2.4	4.6 D	3.9 DJ	5.3 DJ	1.2 DJ	1.9 DJ	0.54 U	0.089 J	2.9	0.54 U	
WP-T1C Section 3 05/14/2003 0 - 6 in. mg/Kg	0.48 U 0.48 U	0.48 U 0.48 U	0.48 U 1.2 U	0.48 U 0.48 U	0.48 U	0.48 U	0,48 U	0.48 U	0.092 J	0.48 U	1.2 U	0.48 U	1.2 U	1.2 U	0.48 U	0.48 U	0.48 UJ	0.48 U	0.061 J	120	0.12 J	0.088 J	16.0	2.2	2.1 DJ	3.1 DJ	0.72 DJ	0.86 DJ	0.48 U	0.48 U	1.6	0.48 U	
WP-T1A Section 3 05/14/2003 12 - 24 in. mg/Kg	0.56 U 0.56 U	0.56 U 0.56 U	0.56 U 1.4 U	0.56 U 0.56 U	0.56 U 1 4 II	0.56 U	0.56 U 0.56 U	0.56 U	0.10 J	0.56 U	1,40	0.56 U	1.4 U	1.4 Ü	0.56 U	0.56 U	0.56 UJ	0.56 U	0.070 J	0 1 1.4 C	0.76	0.31 J	3.2 DJ	6.8 DJ	5.8 DJ	7.0 DJ	LG 6.1	3.4 DJ	0.56 U	0.082 J	6.6 DJ	0.098 J	
ole ID WP-T1A rence Section 3 Date 05/14/2003 Depth 6-12 in. Units mg/Kg	0.78 UJ UJ 87.0	0.78 UJ 0.78 UJ	0.78 UJ 1.9 UJ	0.78 UJ 0.78 UJ	0.78 UJ 19 EII	0.78 UJ	0.78 UJ	0.78 UJ	0.085 J	0.78 UJ	1.9 UJ	0.78 UJ	U 6.1	U 6.1	0.78 UJ	0.78 UJ	0.78 UJ	0.78 UJ	0.087 J	U. 6.1	0.72 J	0.59 J	3.3 J	8.6 DJ	8.8 DJ	11 DJ	2.1 J	4.7 J	0.78 UJ	0.10 J	4.6 J	0.14 ĭ	ue, B - blank contamination.
Sample ID Location Cross Reference Sample Date Sample Dete Sample Depti	Compound 1.2.4-Trichlorobenzene 1,2-Dichlorobenzene	1,3-Dichlorobenzene 1,4-Dichlorobenzene	Bis(2-chloroisopropyl) ether 2,4,5-Trichlorophenol	2,4,6-Trichlorophenol 2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline	2-Nitophenol 3.3-Dichlombenzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl phenyl ether	4-Methylphenol	4-Introducine 4-Nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo[a]pyrene	Benzo(b)fluoranthene	Benzo(ghi)perylene	Benzo(k)fluoranthene	Butyl benzyl phthalate	Carbazole	Chrysene	Di-n-butyl phthalate	NOTES: U - not detected, J - estimated value, B - blank contamination.

U - not detected, J - estimated value, B - blank contamination.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 2 - downstream of site. Section 3 - lower portion of creek.

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DBF File: QN10653 NYSDECA7228 THREESTARNTEMPDATA DBF
FXP File: QN10653 NYSDECA7258 THREESTARNTABLEPRK FXP

0.53 U 0.53 U 0.53 U 0.53 U 0.53 U
0.53 U 0.53 U
0.88 U 0.88 U 0.89 U 0.89 U 0.80 U
0.13 0.13 0.19 0.13 0.13 0.13 0.13
0.54 U 0.54 U 0.54 U 1.4 DJ 0.54 U 0.54 U
0.48 U 0.48 U 0.48 U 0.82 DJ 0.48 U 0.48 U 0.77 0.48 U
0.56 U 0.56 U 0.56 U 2.2 DJ 0.56 U 0.56 U 0.56 U 1.4 U
0.78 UJ 0.78 UJ 0.78 UJ 0.78 UJ 0.78 UJ 0.78 UJ 0.78 UJ 0.78 UJ
Hexachlorobutadiene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hideno(1,2,3-cd)pyrene Hophorone N-Nitrosodiphenylamine N-Nitrosodiphenylamine Naphthalene Nitrobenzene Pentachlorophenol
Hexachlorobutadiene Hexachlorocyclopentadiene Hexachlorocethane Indeno(1.2,3-cd)pyrene Isophorone N-Nitrosodipropylamine N-Nitrosodiphenylamine N-Nitrosodiphenylamine

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FXP File: QN10653_NYSDECQ7258_THREESTARVIABLEPRK.FXP

Cample	WP-T2A	WP-T2A	WP.T2B	WP-T2B	WP-T2B	WP-T2C	WP-T2C
Location Cross Reference		Section 3	Section 3	Section 3	Section 3	Section 3	Section 3
Sample Date Sample Deth	05/13/2003 0 - 6 in.	05/13/2003 6 - 12 in.	05/13/2003 0 - 6 in.	05/13/2003 6 - 12 in.	05/13/2003 12 - 24 in.	05/13/2003 0 - 6 in.	05/13/2003 6 - 12 in.
Units	тв/Кв	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound			***				
1,2,4-1richloropenzene	11.2 (1)	0.53 U	1.00.1	0.44 U	0.49 U	55	6.7 U
13-Dichlorohenzene	12.03	0.5311	101	0.44 0	0.49.0	10.01	6.711
1,4-Dichlorobenzene	1.2 UJ	0.53 U	1.0 UI	0.44 U	0.49 U	10 CI	6.7 U
Bis(2-chloroisopropy1) ether	1.2 UJ	0,53 U	1.0 UJ	0,44 U	0.49 U	10 OI	6.7 U
2,4,5-Trichlorophenol	3.1 W	1.3 U	2.5 UJ	1.1 U	120	25 UJ	17.0
2,4,6-Trichlorophenol	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
2,4-Dichlorophenol	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
2,4-Dimethylphenol	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
2,4-Dinitrophenol	3.1 UJ	13 U	2.5 UJ	1.1 U	1.2 U	25 UJ	U 7 I
2,4-Dinitrotoluene	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
2,6-Dinitrotoluene	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
2-Chloronaphthalene	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 O.I	6.7 U
2-Chlorophenol	1.2 UJ	0.53 U	1.0 UJ	0,44 U	0.49 U	10 O.I	6.7 U
2-Methylnaphthalene	1.2 UJ	0.53 U	1.0 UI	0.44 U	0.49 U	10 UJ	6.7 U
2-Methylphenol	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
2-Nitroaniline	3.1 UJ	13 U	2.5 UJ	1.1 U	1.2 U	25 UJ	17 U
2-Nitrophenol	12 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 O.I	6.7 U
3,3-Dichlorobenzidine	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 CI	6.7 U
3-Nitroaniline	3.1 UJ	1.3 U	2.5 UJ	1.1 U	1.2 U	25 UJ	17 U
4,6-Dinitro-2-methylphenol	3.1 UJ	13 U	2.5 UJ	1.1 U	1.2 U	25 UJ	170
4-Bromophenyl phenyl ether	1.2 UJ	0.53 U	1.0 UJ	0.44 Ü	0.49 U	10 UI	6.7 U
4-Chloro-3-methylphenol	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
4-Chloroaniline	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
4-Chlorophenyl phenyl ether	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UI	6.7 U
4-Methylphenol	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UI	6.7 U
4-Nitroaniline	3.1 UJ	1.3 U	2.5 UJ	1.1 U	1.2 U	25 UJ	17 U
4-Nitrophenol	3.1 UJ	13 U	2.5 UJ	1.1 Ŭ	1.2 U	25 UJ	17 U
Acenaphthene	1.2 UJ	0.17 J	0.13 J	0.064 J	0.49 U	10 O.I	6.7 U
Acenaphthylene	1.2 UJ	0.16 J	0.12 J	0.10 J	0.49 U	10 UI	0.79 J
Anthracene	0.35 J	0.71	0.57 J	0.37 J	0.49 U	6.0 J	6.5 J
Benzo(a)anthracene	1.9.1	3.4	1.8.3	1.2	0.10 J	18.1	13
Benzo[a]pyrene	0.90 J	2.8	1.6.1	0.91 J	0.085 J	15.1	11
Benzo(b)fluoranthene	2.6 J	3.7 D	2.2 J	1.4 J	0.10 J	20 J	13
Benzo(ghi)perylene	0.60 J	0.94	0.45 J	0.28 J	0.49 UJ	5.8 J	4.4 J
Benzo(k)fluoranthene	0.57 J	0.98	0.78 J	0.37 J	0.49 UJ	6.0 J	4.3 J
Butyl benzyl phthalate	1.2 UJ	0.53 U	1.0 UI	0.44 U	0,49 U	10 UJ	6.7 U
Carbazole	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 O.I	6.7 U
Chrysene	1.4 J	2.5	1.6 J	0.89	0.088 J	15.3	12
Di-n-butyl phthalate	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UI	6.7 U
NOTES: U - not detected, J - estimated value, B - blank contamination. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS=5%, When AS<5%, e=AS TOC%.	- blank contamination. data from another sample (AS) α	ollected at the same location. Wi	hen AS>=5%, e=5%. When AS<	5%, e=AS TOC%.			
Sample locations are defined as: Backg	ground - upstream of site. Section	n I - adjacent to site. Section 2 -	downstream of site. Section 3 -	lower portion of creek.		Page 10 of	f 12

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Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations Wappingers Falls, New York Three Star Anodizing Site DRAFT - Table A-2

		7 000 001						
	Sample ID	WF-12A	WF-12A	WP-12B	WP-12B	WF-12B	WP-12C	WP-T2C
	Location Cross Reference Sample Date	05/13/2003	Section 3 05/13/2003	Section 5 05/13/2003	Section 3 05/13/2003	Section 3 05/13/2003	Section 3 05/13/2003	Section 3 05/13/2003
	Sample Depth	0 - 6 in.	6 - 12 in.	0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	6 - 12 in.
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Сотроии								
Di-n-octyl phthalate		1.2 UJ	0.53 U	1.0 UJ	0.44 UJ	0.49 UJ	10 UJ	6.7 U
Dibenzo(a,h)anthracene	ene	0.22 J	0.35 J	0.20 J	0.13 J	0.49 UJ	2.3 J	1.8 J
Dibenzofuran		1.2 UJ	0.068 J	1.0 UJ	0.045 J	0.49 U	10 UJ	6.7 U
Diethyl phthalate		1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UI	6.7 U
Dimethyl phthalate		1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
Fluoranthene		2.6 J	4.8 D	2.4 J	2.0	0.15 J	30 J	25
Fluorene		1.2 UJ	0.15 J	0.14 J	0.069 J	0.49 U	10 UJ	6.7 U
Hexachlorobenzene		1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UI	6.7 U
Hexachlorobutadiene	v	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
Hexachlorocyclopentadiene	tadiene	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
Hexachloroethane		1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
Indeno(1,2,3-cd)pyrene	ene	0.62 J	1.1	0.53 J	0.36 J	0.49 UJ	6,9 J	4.9 J
Isophorone		1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
N-Nitrosodipropylamine	nine	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
N-Nitrosodiphenylamine	nine	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0,49 U	10 UJ	6.7 U
Naphthalene		1.2 UJ	0.15 J	1.0 UJ	0.097 J	0.49 U	10 UJ	6.7 U
Nitrobenzene		1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UI	6.7 U
Pentachlorophenol		3.1 W	1.3 U	2.5 UJ	1.1 U	1.2 U	25 UJ	17 U
Phenanthrene		0.75 J	1.3	1.0.1	0.72	0.088 J	12 J	8.4
Phenol		1.2 UJ	0.53 U	1.0 UI	0,44 U	0.49 U	10 UJ	6.7 U
Pyrene		3.0 J	5.3 D	3.1 J	2.3	0.19 J	29 J	20
Bis(2-chloroethoxy)methane	methane	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
Bis(2-chloroethyl)ether	her	1.2 UJ	0.53 U	1.0 UJ	0.44 U	0.49 U	10 UJ	6.7 U
Bis(2-ethylhexyl)phthalate (BEHP)	halate (BEHP)	1.2 UJ	0.53 U	1.0 UI	0.44 UJ	0.49 U	10 UI	6.7 U
Total organic carbon (mg/Kg)	(mg/Kg)	49600 BJ	31400 B	49000 J	26400 I	19100	45000 BT	59000 B
Percent solids (%)	;	27	63	33	75	89	33	51

U - not detected, J - estimated value, B - blank contamination.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS>5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Semivolatile Organic Compound Concentrations Three Star Anodizing Site DRAFT - Table A-2

	000			- 460		E . C . C . C . C . C . C . C . C . C .		
Sample II)	WF-12C Section 3	WP-OD1	Section 3	Section 3	WP-13A Section 3	WF-13A DUF	WF-13A Section 3	
Sample Date	_	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	
Sample Depth	12 - 24 in. mg/Kg	0 - 6 in. mo/K o	6 - 12 in. mo/K o	12 - 19 in. mo/Kø	0 - 6 in. m9/K9	0 - 6 in. mg/Kg	6 - 12 in. ma/K o	
		0	0	0	9))	0	
L2.4-Trichlorobenzene	0.48 U	1.2 [1]	0.67 U	0.63 [J	1.100	1.1 1.1	0.93 U.I	
1,2-Dichlorobenzene	0.48 U	1.2 UJ	U.67 U	0.63 U	1.1 UI	1.1 (1)	0.93 UJ	
1,3-Dichlorobenzene	0.48 U	1.2 UJ	0.67 U	0,63 U	1.1 UJ	1.1 UJ	0.93 UJ	
1,4-Dichlorobenzene	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 03	1.1 UJ	0.93 UJ	
Bis(2-chloroisopropyl) ether	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UI	0.93 UJ	
2,4,5-Trichlorophenol	1.2 U	3.1 UJ	1.7 U	1.6 U	2.8 UJ	2.9 UJ	2.3 UJ	
2,4,6-Trichlorophenol	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ	
2,4-Dichlorophenol	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 00	0.93 UJ	
2,4-Dimethylphenol	0.48 U	1.2 UJ	O 1970	0.63 U	1.1 UJ	1.1 G	0.93 UJ	
2,4-Dinitrophenol	1.2 U	3.1 UJ	1.7 U	1.6 U	2.8 UJ	2.9 UJ	2.3 UJ	
2,4-Dinitrotoluene	0,48 U	1.2 UJ	O 29.0	0.63 U	1.1 UI	1.1 03	0.93 UJ	
2,6-Dinitrotoluene	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 02	1.1 03	0.93 UJ	
2-Chloronaphthalene	0.48 U	1.2 UJ	O 29.0	0.63 U	1.1 UI	1.1 UJ	0.93 UJ	
2-Chlorophenol	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 আ	1.1 00	0.93 UJ	
2-Methylnaphthalenc	0.48 U	1.2 UJ	O.67 U	0.63 U	1.1 00	1.1 UJ	0.93 UJ	
2-Methylphenol	0.48 U	12 UJ	O 1970	0.63 U	1:1 G	1.1 UJ	0.93 UJ	
2-Nitroaniline	1.2 U	3.1 UJ	1.7 U	1.6 U	2.8 UJ	2.9 UJ	2.3 UI	
2-Nitrophenol	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 년	1.1 53	U 56.0	
3,3-Dichlorobenzidine	0.48 U	1.2 UJ	O 29.0	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ	
3-Nitroaniline	12 U	3.1 UJ	1.7 U	1.6 U	2.8 UJ	2.9 UJ	2.3 UI	
4,6-Dinitro-2-methylphenol	1.2 U	3.1 UI	1.7 U	1.6 U	2.8 UJ	2.9 UJ	2.3 UJ	
4-Bromophenyl phenyl ether	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UI	1.1 UJ	0.93 UJ	
4-Chloro-3-methylphenol	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ	
4-Chloroaniline	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UI	1.1 UJ	U 56.0	
4-Chlorophenyl phenyl ether	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 53	0.93 UJ	
4-Methylphenol	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ	
4-Nitroaniline	1.2 U	3.1 UJ	1.7 U	1.6 U	2.8 UJ	2.9 UJ	2.3 UJ	
4-Nitrophenol	1.2 U	3.1 UJ	1.7 U	1.6 U	2.8 UJ	2.9 UJ	2.3 UJ	
Acenaphthene	0.48 U	0.23 J	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ	
Acenaphthylene	0.48 U	0.51 J	0.67 U	0.63 U	1.1 UI	1.1 UJ	0.93 UJ	
Anthracene	0.48 U	3.0.1	0.29 J	0.63 U	0.13 J	0.17 3	0.20 J	
Benzo(a)anthracene	0.48 U	10 DJ	1.3	0.63 U	0.51 J	0.62 J	0.86 J	
Benzo a pyrene	0.49	9.1 J	1.1 5	0.63 U	0.61 J	0.41 J	0.84 J	
Benzo(b)nuoranmene	0.48 U	ייייי	[5.1	0.63 U	0.93 J	1.0.1	1.1)	
Benzo(ghi)perylene	0,48 U	3,3 J	0.52 J	0.63 U	0.27 J	0.28 J	0.33 J	
Benzo(k)fluoranthene	0.48 U	3.1 J	0.42 J	0.63 U	0.32 J	0.26 J	0.41 J	
Butyl benzyl phthalate	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UI	0.93 UJ	
Carbazole	0.48 U	0.13 J	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ	
Chrysene	0.48 U	6.8 J	1.1	0.63 U	0.48 J	0.52 J	0.75 J	
Di-n-butyl phthalate	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 W	0.93 UJ	
NOTES: U- not detected, J - estimated value, B - blank contamination e - estimated concentration using TOC data from another sam	- blank contamination. data from another sample (AS) o	collected at the same location. W	Aen AS>=5%, e=5%, When AS	<5%. e=AS TOC%.				
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower pornion of creek	ground - upstream of site. Section	on 1 - adjacent to site. Section 2	- downstream of site. Section 3	lower portion of creek.		-		
						Dage 1	2	

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Sample ID	WP-T2C	WP-OD1	WP-OD1	WP-OD1	WP-T3A Section 3	WP-T3A DUP	WP-T3A Section 3
Sample Date Sample Depth	05/13/2003 12 - 24 in.	05/13/2003 0 - 6 in.	05/13/2003 6 - 12 in.	05/13/2003 12 - 19 in.	05/13/2003 0 - 6 in.	05/13/2003 0 - 6 in.	05/13/2003 6 - 12 in.
		mg/Kg	mg/Kg	mg/Kg	тв/Кв	mg/Kg	mg/Kg
Compound Di = catal = telesless	0.40.1	11.16-1	111270	11 62 0	0 + 4 T	0.17.1	111 000
Diserce(s b)orthmome	0.450	3:16	(.e. v	0.63 U	0.141	[01:0 1:1:	0.95 0.1
Dibenzofirm	0.46.0	0.15.1	17270	0.63 U	1111		0.103
Diethyl phthalate	0.48 [1	12.11	0.571	0.63	1111	31.1	0.03
Dimethyl phthalate	0.48 U	1.2 UJ	0.67 U	0.63 U	17 m	3 5	0.93 UJ
Fluoranthene	0.48 U	16 DJ	2.0	0.63 U	0.77 J	0.88 J	1.1 5
Fluorene	0,48 U	0,40 J	0.070 J	0.63 U	1.1 UJ	1.1 W	0.93 UJ
Hexachlorobenzene	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 4	1.1 UI	0.93 UJ
Hexachlorobutadiene	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 U	0.93 UJ
Hexachlorocyclopentadiene	0.48 U	1.2 UI	0.67 U	0.63 U	1.1 UJ	1.1 UI	U) 56:0
Hexachloroethane	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ
Indeno(1,2,3-cd)pyrene	0.48 U	3.8 J	0.53 J	0.63 U	0.31 J	0.28 J	0.39 J
Isophorone	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 W	1.1 UJ	0.93 UJ
N-Nitrosodipropylamine	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 W	0.93 UJ
N-Nitrosodiphenylamine	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 W	0.93 UJ
Naphthalene	0.48 U	0.27 J	D 19:0	0,63 U	1.1 W	1.1 UJ	0.93 UJ
Nitrobenzene	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ
Pentachlorophenol	1.2 U	3.1 UI	U.7.U	1.6 U	2.8 UJ	2.9 UJ	2.3 UJ
Phenanthrene	0.48 U	5.5 J	0.44 J	0.63 U	0.30 J	0.35 J	0.48 J
Phenol	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ
Pyrene	0.48 U	15 DJ	2.2	0.63 U	0.79 J	1.0 J	1.4 J
Bis(2-chloroethoxy)methane	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ
Bis(2-chloroethyl)ether	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 UJ	1.1 UJ	0.93 UJ
Bis(2-ethylhexyl)phthalate (BEHP)	0.48 U	1.2 UJ	0.67 U	0.63 U	1.1 (1)	1.1 UJ	0.93 UJ
Total organic carbon (me/Ke)	11000 B	56500 BT	8,00209	37600 B	56400 I	69300 BT	1 00723
Percent solids (%)	20021	200000	51	5,000 E	S DOLOR	30	500/10
	2	3	5		S.	67	00

U - not detected J - estimated value, B - blank contamination.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS>5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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DRAFT - Table A-2 ree Star Anodiving Site

,	Sample ID	WP-T3A	WP-T3B	WP-T3B	WP-T3B	WP-T3C	WP-T3C
Location Cri	Location Cross Reference	Section 3 05/13/2003	Section 3	Section 3 05/13/2003	Section 3 05/13/2003	Section 3	Section 3 05/13/0003
·		12 - 24 in.	0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	6 - 11 in.
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound							
1,2,4-Trichlorobenzene		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
1,2-Dichlorobenzene		0.62 U	1.1 UI	0.72 UJ	0.62 U	1.1 53	0.74 UJ
1,3-Dichlorobenzene		0.62 U	1.1 00	0.72 UJ	0.62 U	1.1 53	0.74 UJ
1,4-Dichlorobenzene		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 G	0.74 UJ
Bis(2-chloroisopropyl) ether		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 03	0.74 UJ
2,4,5-Trichlorophenol		1.5 U	2.9 UJ	1.8 UJ	1.5 U	2.7 UJ	tu 9.11
2,4,6-Trichlorophenol		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
2,4-Dichlorophenol		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
2,4-Dimethylphenol		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
2,4-Dinitrophenol		1.5 U	2.9 UJ	1.8 UJ	1.5 U	2.7 UJ	IU 6.1
2,4-Dinitrotoluene		0.62 U	1.1 UI	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
2,6-Dinitrotoluene		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
2-Chloronaphthalene		0.62 U	D 1:1	0.72 UJ	0.62 U	1.1 UI	0.74 []]
2-Chlorophenol		0.62 U	1.1 (1)	0.72 111	0.62 11	11111	0.74111
2-Methylnaphthalene		1 990 0	11111	0 77 111	11 69 0	1111	0.74711
2-Methylphenol		0.62 11	11111	111 02 0	5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1111	11.75.0
2 Niconalisa		0.50.0	3 6 6	0.72 UJ	0.02.0		0.74 UJ
Z-INITOANIINE		150	LO 8.2	I.s CJ	0.5.1	2.7 0.1	(U) 6.1
2-Nitrophenol		0.62 U	1.1 03	0.72 UJ	0.62 U	1:1 B	0.74 UJ
3,3-Dichlorobenzidine		0.62 U	1.1 UI	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
3-Nitroaniline		1.5 U	2.9 UJ	1.8 UJ	1.5 U	2.7 UJ	ID 6.1
4,6-Dinitro-2-methylphenol		1.5 U	2.9 UJ	1.8 UJ	1.5 U	2.7 UJ	ID 6.1
4-Bromophenyl phenyl ether		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 W	0.74 UJ
4-Chloro-3-methylphenol		0.62 U	1.1 53	0.72 UJ	0.62 U	1.1 W	0.74 UJ
4-Chloroaniline		0.62 U	1.1 আ	0.72 UJ	0.62 U	1.1 W	0.74 UJ
4-Chlorophenyl phenyl ether		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
4-Methylphenol		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
4-Nitroaniline		1.5 U	2.9 UJ	1.8 UJ	1.5 U	2.7 UJ	IJ 6.1
4-Nitrophenol		1.5 U	2.9 UJ	1.8 UJ	1.5 U	2.7 UJ	IU 6.1
Acenaphthene		0.099 J	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
Acenaphthylene		0.15 J	1.1 W	0.72 UJ	0.62 U	1.1 UJ	0.087 J
Anthracene		1.6	1.1 UJ	0.088 J	0.62 U	1.1 UJ	0.15 J
Benzo(a)anthracene		2.3	0.42 J	0.50 J	0.62 U	0.27 J	0.65 J
Benzo[a]pyrene		2.1	0.34 J	0.48 J	0.62 U	0.45 J	0.66 J
Benzo(b)fluoranthene		2.9	0.75 J	0.67 J	0.62 U	0.51 J	U.97 J
Benzo(ghi)perylene		0.49 J	0.27 J	0.20 J	0.62 U	0.11 J	0.23 J
Benzo(k)fluoranthene		0.95	0.20 J	0.21 J	0.62 U	0.18 J	0.32 J
Butyl benzyl phthalate		0.62 U	1.1 UI	0.72 UJ	0.62 U	1.1 UI	0.74 UJ
Carbazole		0.62 U	1.1 UI	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ
Chrysene		2.4	0.54 J	0.49 J	0.62 U	0.35 J	0.64 J
Di-n-butyl phthalate		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 03	0.74 UJ
NOTES: U- not detected, J - estimated value, B - blank contamination	imated value, B - b	lank contamination.	100	U- not detected, J - estimated value, B - blank contamination.	WOOL U.		THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY ADDRESS OF TH
c - estimated concentra,	tion using 100 da	a from another sample (AS) colle	acted at the same location. When	AS>=5% e=5% When Av<5%	e=AS TOC%.		

U- not detected, J - estimated value, B - blank contamination.
e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 2 - downstream of site. Section 3 - lower portion of creek.

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DBF File: 0×10653_NYSDEC27258_THREESTARYTEMPDATA_DBF

FXP File: 0×10653_NYSDEC27258_THREESTARYTABLEPRK_FXP

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-	Sample ID	WP-T3A Section 3	WP-T3B	WP-T3B	WP-T3B	WP-T3C Section 3	WP-T3C Section 3	
2007	ation Cross Reference	05/13/2003	35CUOII 3 05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	
	Sample Depth	12 - 24 in.	0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	6 - 11 in.	
	Units	mg/ 5.5	mg/Kg	mg/Kg	mg/Kg	ng/kg	1100 NG	
Compound						1		Т
Di-n-octyl phthalate		0.62 U	1.1 03	0.72 UJ	0.62 U	1.1 G	0.74 UJ	
Dibenzo(a,h)anthracene		0.23 J	1.1 UJ	0.098 J	0.62 U	1:1 63	0.095 J	
Dibenzofuran		0.093 J	1.1 (3)	0.72 UJ	0.62 U	1.1 53	0.74 UJ	
Diethyl phthalate		0.62 U	1.1 W	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ	
Dimethyl phthalate		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ	
Fluoranthene		4.9	0.77 J	0.75 J	0.62 U	0.51 J	0.96 J	
Fluorene		0.16 J	1.1 UJ	0.72 UJ	0.62 U	B ::	0.74 UJ	
Hexachlorobenzene		0.62 U	 D.::	0,72 UJ	0.62 U	1.1 G	0.74 UJ	
Hexachlorobutadiene		0.62 U	1.1 (1)	0.72 UJ	0.62 U	D FT	0.74 UJ	
Hexachlorocyclopentadiene		0.62 U	1.1 0.1	0.72 UJ	0.62 U	D 177	0,74 UJ	
Hexachloroethane		0.62 U	1.1 0	0.72 UJ	0.62 U	1.1 U	0.74 UJ	
Indeno(1,2,3-cd)pyrene		0.63	0.28 J	0.24 J	0.62 U	0.13 J	0.25 J	
Isophorone		0.62 U	1.1 00	0.72 UJ	0.62 U	1.1 G	0.74 UJ	
N-Nitrosodipropylamine		0.62 U	1.1 UI	0.72 UJ	0.62 U	1.1 (1)	0.74 UJ	
N-Nitrosodiphenvlamine		0.62 U	171 (31	0.72 UI	0.62 U	10 FT	0.74 UJ	
Naphthalene		0.23 [11 (11	0.72 111	0.6211	1111	I 660'0	
Nitrobenzene		0.6211	11111	111 22 0	5 = 50	1111	0.74 111	
Dentachloronhenol		1 5 1	5 E E	1871	2.32	27.17	101	
Phononical parameters		5	2.2 03	1.8 03	0 6.1	50 137	1,000	
Fuenantimene		2.0	1111	0.17.1	0.82 U	f / 1:0	0.56.3	
Phenol		0.62 U	1.1 U	0.72 UJ	0.62 U	1.1 U	0.74 UJ	
Pyrene		4.0	0.84 J	0.82 J	0.62 U	0.55 J	1.2)	_
Bis(2-chloroethoxy)methane		0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 5	0.74 UJ	
Bis(2-chloroethyl)ether		0.62 U	1.1 (3)	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ	
Bis(2-ethylhexyl)phthalate (BEHP)	зене)	0.62 U	1.1 UJ	0.72 UJ	0.62 U	1.1 UJ	0.74 UJ	
Total organic carbon (mg/Kg)	æ	44200 J	39600 BJ	38000 BJ	19700 B	72000 J	63800 J	
Percent solids (%)		54	29	46	54	31	45	
								Т
NOTES: 0 - not detected	cd, J - estimated value, B - concentration using TOC d	blank contamination. lata from another sample (AS) co	 U- not detected. J- estimated value, b- Dank conformation. L- stronger on the properties of th	ien AS>=5%, c=5%. When AS	5%, c=AS TOC%.			
Sample location	ons are defined as: Backg.	round - upstream of site. Section	n 1 - adjacent to site. Section 2 -	downstream of site. Section 3 -	lower portion of creek.		Page 12 of 12 CONTINUED	

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Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Three Star Anodizing Site DRAFT - Table A-3

		_
WP-LK01-A Background 05/10/2001 6 - 12 in. mg/Kg	11400 J 3.2 JN 6.6 J 73.8 J 0.53 J 0.16 J 6.3 J 0.16 J 6.3 J 11.5 U 9.3 J 11.5 U 9.3 J 11.5 U 9.3 J 23500 J 41.5 J 566 J 0.26 UJ 21.5 J 822 J 1.2 J 0.42 UJ 822 J 2.1 UJN 18.8 J 1.4 UJ 1.4 UJ 1.4 UJ 1.5 UJ 1.6 UJ 1.7 UJ 1.8 J 1.8	
WP-LK01-A Background 05/10/2001 0 - 6 in. mg/Kg	14500 J 1.1 UNN 4.6 J 94.1 J 0.57 J 0.67 J 0.67 J 18.4 J 17.9 U 8.6 J 36.7 J 29800 J 49.4 J 7130 J 29.8 UN 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 1090 J 25.2 J 25.2 J 25.3 J 25.4 J 26.4 J 27.4 J 28.4 J 27.5 J 27.7	
WP-LK5 Background 05/12/2003 0 - 6 in. mg/Kg	17600 J 1.2 UNN 4.7 BJ 100 BJ 0.81 BJ 1.2 BJ 1.1 100 J 24 J 28 U 13 BJ 64 J 32700 J 126 J 8700 J 637 J 0.30 J 1.6 UJ 0.72 UJ 0.72 UJ 2.8 BJ 1.6 UJ 0.72 UJ 2.8 BJ 1.4 UJ 2.8 BJ 1.4 UJ 2.8 BJ 1.4 UJ 2.8 BJ 1.4 UJ 2.8 BJ 1.4 UJ 2.8 BJ 1.4 UJ 2.8 BJ 1.8 UJ 2.8 BJ 2.8 D	
WP-LK4 Background 05/12/2003 0 - 6 in. mg/Kg	16000 J 1.8 UNN 4.7 BJ 98 BJ 0.70 BJ 0.93 BJ 1060 J 22 J 41 U 11 BJ 83 J 29600 J 99 J 7310 J 1000 J 0.33 J 26 BJ 1350 BJ 26 UU 27 UU 1.1 UJ 2.2 UJ 2.2 UJ 2.2 UJ 2.2 UJ 2.2 UJ 2.2 UJ 2.2 UJ 2.3 UJ 1.1 UJ 2.2 UJ 2.3 UJ 2.3 UJ 2.3 UJ 2.3 UJ 2.4 UJ 2.5 UJ 2.5 UJ 2.5 UJ 2.7 UJ 2.8 U	
WP-LK3 Background 05/12/2003 0 - 6 in. mg/Kg	14300 J 3.1 UIN 6.3 BJ 92 BJ 0.64 BJ 0.64 BJ 0.64 BJ 0.80 BJ 1800 J 21 J 14 U 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 26900 J 79 J 8.8 BJ 90 J 2690 J 79 J 8.8 BJ 90 J 269 BJ 27 J 18 UJ 29 BJ 22 J 3.5 UJ 18 UJ 29 BJ 22 J 3.5 UJ 18 UJ 29 BJ 22 J 3.5 UJ 18 UJ 29 BJ 22 J 3.5 UJ 18 UJ 29 BJ 20 DJ 2	
WP-LK2 Background 05/12/2003 0 - 6 in. mg/Kg	14500 J 3.8 UIN 4.0 BJ 88 BJ 0.67 BJ 11900 J 26 J 86 U 11 BJ 90 J 31800 J 187 J 6950 BJ 6950 BJ 677 J 6950 BJ 677 J 6950 BJ 779 J 6350 BJ 779 J 6350 BJ 779 J 6350 BJ 779 J 637 J 7386 BJ 730 J 731 J 732 UI 736 BJ 732 UI 736 BJ 733 J 734 UI 737 J 7	
Sample ID WP-LKt ross Reference Background Sample Date 05/12/2003 Sample Depth 0 - 6 in. Units mg/Kg	19200 J 2,4 UIN 4,9 BJ 120 BJ 0,86 BJ 1,3 BJ 1,2 BJ 1,2 BJ 54 U 1,4 BJ 51 J 52 U 66 J 8570 J 707 J 0,31 J 33 BJ 1740 BJ 330 BJ 350 UJ 114 UJ 330 BJ 221 J 27 UJ 21 J 31 BJ 32 UJ 33 BJ 33 DJ 35 UJ 37 UJ 38 UJ 37 UJ 3	
Sample ID Location Cross Reference Sample Date Sample Depth Units	Alurinium Antimony Arsenic Barium Berylium Cadmium Cadmium Chromium (Hexavalent) Cobalt Copper Iron Lead Magnesium Manganese Manganese Manganese Sodium Silver Sodium Thallium Vanadium Zinc Cyanide, total Cyanide, amenable to chlorination Percent solids (%) pH Total organic carbon (mg/Kg)	

U-not detected, J-estimated value, B-blank contamination, N-presumptive evidence to tentatively identify the compound.
e-estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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FXP File: Q\10653 \NYSDEC\27728 THREESTAR\TABLEPRK.FXP

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DRAFT - Table A-3
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Inorganic Concentrations

WP-LK01-C Background 05/10/2001 6-12 in. mg/Kg	13200 J 0.73 UIN 4.8 J 80.6 J 0.55 J 0.2 J 6750 J 16.6 J 11.2 U 8.5 J 33.8 J 26500 J 43.9 J 6410	
WP-LK01-C Background 05/10/2001 0 - 6 in. mg/Kg	14600 J 1.1 UJN 4.1 J 90.3 J 90.3 J 90.3 J 18.3 J 18.3 J 18.3 J 18.3 J 18.5 J 660 J 669 J 669 J 677 J 689 J 689 J 689 J 699 J 1140 J 1140 J 115 UJ 929 UJ 118 J	
WP-LK01-B Background 05/10/2001 25 - 31 in. mg/Kg	13100 J 0.58 UJN 4.9 J 80.1 J 0.55 J 0.36 J 16.5 J 8.35 U 8.9 J 16.5 J 8.9 J 8.0 J	
WP-LK01-B DUP Background 05/10/2001 6 - 12 in. mg/Kg	13300 J 1 UNN 4.3 J 8.3.1 J 0.53 J 0.18 UJ 6640 J 16.5 J 11.9 U 7.6 J 34.2 J 27200 J 46.3 J 640 J 640 J 640 J 640 J 0.33 UJ 24.1 J 956 J 22.1 J 0.53 UJ 102 J 102 J 102 J 102 J 102 J 103 J 104 J 105 J 107 J 108	
WP-LK01-B Background 05/10/2001 6 - 12 in. mg/Kg	11700 J 0.92 UJN 5.2 J 7.2.7 J 0.40 UJ 5.980 J 14.7 J 12.3 U 6.5 J 30.2 J 24.300 J 41.4 J 5720 J 5720 J 541 J 0.3 UJ 21.8 J 888 J 11.7 J 0.3 UJ 21.8 J 888 J 11.7 J 0.3 UJ 21.8 J 22.1 J 11.7 J 0.3 UJ 21.8 J 22.1 J 11.7 J 11.7 J 11.7 J 11.7 J 11.7 J 11.7 J 11.7 J 11.7 J 11.7 J 11.7 J 11.7 J 11.8 J 22.1 J 11.7 J 11.7 J 11.8 J 22.1 J 11.7 J 11.7 J 11.7 J 11.8 J 22.1 J 11.7 J 11.7 J 11.7 J 11.7 J 11.8 J 22.1 J 11.8 J 23.1 J 11.8 J 24.1 J 11.8 J 25.1 J 11.8 J 26.1 J 11.8 J 27.1 J 27.	
WP-LK01-B Background 05/10/2001 0 - 6 in. mg/Kg	14200 J 12 UIN 5 3 89.5 J 89.5 J 0.53 J 0.21 UJ 7030 J 17.7 J 16 U 7.9 J 34.2 J 24.9 J 6850 J 6850 J 6850 J 6850 J 1110 J 1110 J 1110 J 1110 J 1110 J 118 J 16 U 23.5 J 16 U 23.5 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 110 J 12 J 13 J 14 S J 16 U 16 U 17 J 18 J	
ole ID WP-LK01-A rrence Background Date 05/10/2001 Depth 19 - 25 in. Units mg/Kg	13700 J 0.59 UNN 5 J 82.4 J 0.62 J 0.34 J 95.40 J 17.2 J 8.73 U 9.2 J 17.2 J 8.73 U 9.2 J 17.2 J 17.2 J 17.2 J 8.73 U 9.2 J 17.3 J 17.3 J 17.3 J 17.3 J 17.3 J 17.4 J 17.4 J 17.5 UNN 18.2 J 11.1 UJ 11.	
Sample ID Location Cross Reference Sample Date Sample Dete Units	Compound Aluminum Aritimony Arsenic Beryllium Cadmium Calcium Calcium Caterium Manganese Mercury Nickel Potassium Salver Sodium Thallium Vanadium Zimc Cyanide, total Cyanide, total Cyanide, amenable to chlorination Percent solids (%) pH Total organic carbon (mg/Kg)	

U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentaively identify the compound.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=3%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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FXP File: QV10653_NYSDEC-27258_THREESTAR/TABLEPRK_FXP

DRAFT - Table A-3 ree Star Anodizing Site

Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Inorganic Concentrations

Sample ID		WP-01-A	WP-04,45-9	WP-09A	WP-11A	LG-OUT	WP-LGOUT2
Location Cross Reference	nce Background	Section 1 05/09/2001	Section 1 05/09/2001	Section 1 05/09/2001	Section 1 05/09/2001	Section 1 05/09/2001	Section 1 05/13/2003
Sample Depth		0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound							
Aluminum	12900 J	10000	10700	7850	4650	7350	10100
Antimony	0.58 UJN	0.52 JN	1.2 JN	N. 15.0	0.63 JN	2.3 JN	0.90 BNJ
Arsenic	4.3 J	6.5	6'8	18.5	10.2	6.6	6.6
Barium	77.7 J	53.5	78.8	61.2	27.8 J	80.1	118
Beryllium	0.53 J	0.45 J	0.43 J	0.45 J	0.27 J	0.36 J	0.45 B
Cadmium	0.31 J	1.1	1.3 J	0.34 J	0.54 J	2.4	1.7
Calcium	9730 J	24900	4140	6120	1460	10800	13000
Chromium	16.4 J	19.2	25.8	24.8 J	25.9 J	29.2	23
Chromium (Hexavalent)	8.03 U	4.94 U	5.46 U	6.1 U	6.13 U	5.18 U	13 U
Cobalt	8.5 J	7,6 J	7.9 J	7.9.1	5.3 J	6.5 J	7.9 B
Copper	36.4 J	47.6	91.4	40.9	172	88	63
Iron	27600 J	34400	43200	28000	14400	30600	33700
Lead	58.9 J	93.6	152	73.2	225	235	141
Magnesium	f 0619	18900	7180	4480	1960	6490	7210
Manganese	f 999	912 J	1790 J	902 JN	440 JN	566 J	345
Mercury	0.19 UI	0.51	0.15 J	0.17 J	0.44	1.1	0.34
Nickel	22 J	21.8	26	17.1	12.7	34.2	56
Potassium	890 J	636 J	709 J	759 J	297 J	617 J	861B
Selenium	1.5 J	0.94 J	1.9	1.5	1.2 J	1.1 J	0.74 U
Silver	0.3 UJ	0.17 U	0.27 J	0.19 U	0.2 U	0.19 U	0.34 U
Sodium	67.7 J	68.7 J	81.5	99.2 J	84.3	90.3 J	99 B
Thallium	1.5 UJN	0.86 UJN	NfD 96.0	0.93 UJ	U 86.0	0.92 UJN	0.85 U
Vanadium	17.6 J	14	17.6	24.2	10.3 J	16.7	20
Zinc	132 J	163	210	77.8	196	285	262
Cyanide, total	1 UJ	0.6 U	0.66 U	0.65 U	1.1	0.64 U	0.33 BJN
Cyanide, amenable to chlorination		1	1	:	U.1.U	1	ŀ
Percent solids (%)	49.8	81	73.2	9:59	65.2	77.2	75
Hd	7.6	8.2	8.1	8.1	8.4	8.3	1
Total organic carbon (mg/Kg)	38800	18600	22100	65500	76500	26000	12400 J

U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%. When AS>5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creck. NOTES:

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Location C	Sample ID V Location Cross Reference S Sample Date O Sample Depth O Units II	WP-MW4 Section 1 05/13/2003 0 - 6 in. mg/Kg	WP-MW4 DUP Section 1 05/13/2003 0 - 6 in. mg/Kg	WP-16 Section 1 05/09/2001 0 - 6 in. mg/Kg	WP-18 Section 2 05/09/2001 0 - 6 in. mg/Kg	WP-18 Section 2 05/09/2001 6 - 12 in. mg/Kg	. WP-M2 Section 2 05/14/2003 0 - 6 in. mg/Kg	WP-M2 Section 2 05/14/2003 6 - 12 in. mg/Kg
Compound Aluminum Areanic Barium Beryilium Cadmium Calcium Chromium (Hexavalent) Cobalt Copper Iron Lead Magnesium Manganese		12000 0.87 BNJ 6.3 6.3 6.2 0.48 B 1.2 B 5390 12 U 8.4 B 8.4 B 3.5 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3	12600 25 NJ 8.4 74 0.52 B 1.2 B 9830 17 13 U 9.5 B 62 41000 1450 7330	10800 0.87 JN 7 7 57.1 0.43 J 1.9 2130 17 5.09 U 7.3 J 61 33400 66.5 6880 489 J	9880 0.41 UJN 5 31 J 0.48 J 0.2 J 2500 16.7 5.85 U 9 J 16.4 27000 23.6 4830	10100 0.43 UIN 5.6 33.5 J 0.47 J 0.098 J 2900 16.4 6.26 U 9 J 16.2 26500 20.2 4960	15400 J 1.7 BNJ 6.6 BJ* 93 BJ 0.77 BJ 1.8 BJ 9540 J 34 J 36 U 14 BJ 58 J 5600 J 129 J 8490 J	10600 0.66 UJN 15 J 46 B 0.45 B 2.6 2350 482 15 U 10 B 71 25900 210 8330 324
Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide, total Cyanide, total Percent solids (%) pH Total organic carbon (mg/Kg)		0.16 25 817 B 817 B 0.69 U 0.32 U 83 B 0.79 U 17 231 0.34 BIN	0.14 26 710 B 0.71 U 0.33 U 74 B 0.81 U 18 246 0.35 BJN 12100	0.17 J 23.2 748 J 11 J 0.18 U 50.8 J 0.57 UIN 15.6 309 0.6 U	0.15 J 21 1180 J 11 J 0.21 U 87.9 J 1.1 UIN 16.2 74.3 0.74 U 68.4 7.5 23400	0.44 J 20.2 1140 J 0.94 J 0.22 U 78.6 J 1.1 UJN 15.9 68.6 0.76 U 63.9 7.4 24400	0.83 J 32 J 1150 BJ 2.0 UJ 0.94 UJ 159 BJ 2.3 UJ 2.4 BJ 325 J 1.3 BJN 11300 e BJ	34 24 766 B 0.84 U 0.84 U 5.39 U 5.39 U 5.1 B 396 5.1 JN 5.1 U 66 ——————————————————————————————————
NOTES: U - not detected, J - es c - estimated concentri Sample locations are d	stimated value, B - ble ration using TOC data defined as: Backgrou	ank contamination, N - presum i from another sample (AS) col nd - upstream of site. Section	U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, When AS<5%, e=AS TOC%, Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.	entify the compound. Ica AS>=5%, e≃5%. When AS downstream of site. Section 3	i<5%, e=AS TOC%. - lower portion of creek.		Page 4 of	12

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DRAFT - Table A-3
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Inorganic Concentrations

Sample ID Location Cross Reference Sample Date Sample Depth Units	Section 2 Solution 2 5 05/14/2003 12 - 17 in. mg/Kg	WP-M3 Section 2 05/14/2003 0 - 6 in. mg/Kg	WP-M3 Section 2 05/14/2003 6 - 12 in. mg/Kg	WP-DOT Section 2 05/14/2003 0 - 6 in. mg/Kg	WP-DOT Section 2 05/14/2003 6 - 12 in. mg/Kg	WP-DOT Section 2 05/14/2003 12 - 18 in. mg/Kg	WP-29A Section 2 05/14/2003 0 - 6 in. mg/Kg	
Compound								_
Aluminum	10900	f 0056	10900	14400	12400	11700	0096	_
Antimony	0.55 UIN	1.1 UN	92 NJ	5.4 BNJ	27 NJ	0.60 UJN	13 BNJ	
Arsenic	14 J	5.5 J*	33 J	9.5 J	103 J	35 J	5.7 J	
Barium	37B	53 BJ	ß	33 B	89	54 B	08	
Beryllium	0.45 B	0.50 BJ	0.60 B	0.53 B	0.61 B	0.50 B	0.43 B	
Cadmium	1.2 B	1.4 BJ	23	4.2	53	7.4	3.6	
Calcium	1170 B	17000 J	13100	3820	4810	2290	4220	
Chromium	465	27 J	280	50	2270	2130	55	
Chromium (Hexavalent)	13 U	25 U	15 U	16 U	16 U	14 U	17 U	_
Cobalt	9.4 B	10 BJ	11 B	13 B	9.7B	9.9 B	12 B	_
Copper	51	77 J	187	44	426	214	95	
Iron	28200	23100 J	25000	35900	26500	26500	21900	_
Lead	174	182 J	399	113	803	452	106	_
Magnesium	5670	11400 J	0296	0968	7060	5950	5970	_
Manganese	285	527 J	418	339	320	229	272	_
Mercury	89	0.73 J	27	0.86	186	88	4.6	_
Nickel	22	24 J	23	33	22	22	27	_
Potassium	647B	821 BJ	1000 B	724 B	937B	844 B	705 B	_
Selenium	0.71 U	1.4 UJ	1.2 B	0.88 U	0.92 U	0.76 U	0.96 U	
Silver	0.33 U	0.66 UJ	0.40 U	0.41 U	0.43 U	0.35 U	0.44 U	
Sodium	37 U	138 BJ	Ω 66	N 08	156 U	106 U	85 U	
Thallium	0.85 B	1.6 UJ	O.98 U	1.0 B	1.2 B	0.87 U	1.2 B	
Vanadium	13	22 BJ	16	18	16B	15	15B	
Zinc	195	294 J	1780	732	4650	1210	466	
Cyanide, total	N. 7.1	1.3 UJN	16 JN	0.52 BJN	26 JN	N. 7.2	0.32 BJN	_
Cyanide, amenable to chlorination	1.7 U	I	16 U	1	26 U	2.7 U	I	
Perrent collde (%)	92	30	¥	7	17	7	02	
Hu.	2		3	\$ 1	5	2	60	_
Total organic carbon (mg/Kg)	11300 BJ	63800 BJ	50000 eBJ	13400 BJ	13400 e.BJ	13400 e BJ	50000 e BJ	
								_

U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound.
e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

Date Printed: 12/16/2004 10-18-43
DBF File: QN10653 NYSDEC-27258 THREESTARNTEMPDATA.DBF
FXP File: QN10653_NYSDEC-27258_THREESTARNTABLEPRK.FXP

Sample ID		WP-29A DUP	WP-29A	WP-29	WP-29	WP-29	WP-CKOUT
Location Cross Reference		Section 2	Section 2	Section 2	Section 2	Section 2	Section 2
Sample Date		05/14/2003	05/14/2003	05/09/2001	05/09/2001	05/09/2001	05/14/2003
Sample Depth	th 6-12 in.	6 - 12 in.	12 - 17 in.	0 - 6 in.	6 - 12 in.	12 - 18 in.	0 - 6 in.
Cmits		III.g/Ng	angure angure	mg/vg	IIIE/NE	111g/Ng	mg/Ng
Compound							
Aluminum	13000	11600	18700	11800	10500	12800	11400
Antimony	91 NJ	105 NJ	0.73 UJN	NC 651	3.1%	0.48 UJN	1.7 BNJ
Arsenic	162 J	114	31 J	20	26.6	43.9	18
Barium	82	70 B	44 B	68.8 J	31.1 J	80.7	130
Beryllium	0.69 B	0.60 B	0.73 B	0.53 J	0.44 J	0.6 J	0.59 B
Cadmium	79	89	7.0	26.5	32.1	6.6	1.8
Čalcium	6140	5380	2280	5840	2360	3900	3200
Chromium	2000	1490	1040	267 J	620 J	4120 J	49
Chromium (Hexavalent)	191	18 U	17 U	7.12 U	6.43 U	6.87 U	14 U
Cobalt	10 B	8.9 B	13 B	10.8 J	6.6 J	9.4 J	12 B
Copper	504	391	173	154	115	462	154
Iron	26900	23900	41600	26900	25500	30300	30000
Lead	1050	859	348	376	321	637	182
Magnesium	6910	6410	10600	7320	5570	6190	4860
Manganese	369	316	254	366 JN	208 JN	322 JN	2390
Mercury	144	130 J	98	31.9	86.8	118	9.6 J
Nickel	23	20	37	24.6	18	21.3	25
Potassium	1080 B	901 B	883 B	1000 J	C 629 I	1180 J	888 B
Selenium	1.1 U	1.3 B	0.93 U	1.4.5	0.49 J	2.1	1.8
Silver	0.49 U	0.47 U	0.43 U	0.29 U	0.2 U	0.25 J	0.37 U
Sodium	119 U	92 U	64 U	112 J	47.8 J	197.6	114 U
Thaliium	1.4 B	1.2 U	1.1 U	1.4 UJ	U.97 UJ	1.2 UJ	2.2 B
Vanadium	17B	15B	24	15.5 J	12.1 J	16.4 J	19
Zinc	6500	5410	926	1980	2610	1330	836
Cyanide, total	34 JN	34 JN	6.2 JN	27.7	9	6.1	0.27 BJN
Cyanide, amenable to chlorination	34 U	34 U	6.2 U	U 7.72	0.9	6.1 U	ŧ
Percent solids (%)	53	55	09	56.2	62.2	58.2	70
Hd	I	1		8.4	7.8	7.6	i
Total organic carbon (mg/Kg)	62900 BJ	70100 BJ	50000 e BJ	21700	7330	105000	35900
		en en en en en en en en en en en en en e	1				
NOTES: U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek	B - blank contarnination, N - presur C data from another sample (AS) or ckground - upstream of site. Sectio	mptive evidence to tentatively id ollected at the same location. WI n 1 - adjacent to site. Section 2 -	entify the compound. nen AS>=5%, e=5%. When AS. downstream of site. Section 3 -	<5%, e=AS TOC%. lower portion of creek.		Page 6 c	of 12

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Sar	Sample ID WP-OD3	WP-OD3	WP-PL	WP-PL DUP	WP-PL	WP-PL1	WP-PL1	
Location Cross Reference			Section 2	Section 2	Section 2	Section 2	Section 2	
Samt			05/08/2001	05/08/2001	05/08/2001	05/13/2003	05/13/2003	
Sample		6 - 12 in.	0 - 6 m.	0 - 6 in.	6 - 11 in.	0 - 6 in.	6 - 12 in.	
	Units mg/Ag	mg/Kg	mg/Kg	mg/Kg	mg/Kg	36/28 36/28	mg/Kg	
Compound								
Aluminum	9310	11300	12500 J	11900 J	14000 J	16000 J	16700 J	
Antimony	1.7 BNJ	2.9 BNJ	6.3 JN	4.5 JN	3.4 JN	7.1 BNJ	4.7 BNJ	
Arsenic	6.4	7.0	16.4 J	9.6 J	105	13.3	28.J	
Barium	28	58 B	73.9 J	70.4 J	87.3 J	90 BJ	106 J	
Beryllium	0.41 B	0.54 B	0.63 J	0.59 J	0.67 J	0.79 BJ	0.83 BJ	
Cadmium	1.7	2.3	8.5 J	6.4 J	19.1	4.6 J	2.3 BJ	
Calcium	1780	1880	6040 J	5930 J	4230	7220 J	5050 J	
Chromium	48	68	544 J	412 J	3760 J	335 J	474 J	
Chromium (Hexavalent)	14 U	15 U	15.6 U	16.2 U	10.1 U	35 U	24 U	
Cobalt	8.2 B	9.7 B	13.3 J	11.9 J	9.63	14 BJ	12 BJ	
Copper	89	104	183 J	158 J	345	109 J	104 J	
Iron	24600	23100	28400 J	25600 J	27800	30000 J	26200 J	
Lead	130	243	279 J	281 J	629	181 J	213 J	
Magnesium	5110	5250	5700 J	5350 J	4990	6570 J	5670 J	
Manganese	069	171	386 JN	A08 JN	354 JN	456 J	276 J	
Mercury	1.2 J	2.4 J	17.1	16	182	8.5 J	14.J	
Nickel	61	22	40.7 J	37 J	22.9	37 J	25 J	
Potassium	599 B	887B	1330 J	1230 J	1140 J	1470 BJ	1170 BJ	
Selenium	0.78 U	0.82 U	3.3 J	1.73	3.5	2.0 UJ	1.4 BJ	
Silver	036 U	0.38 U	1.2 J	1.13	0.55 J	0.91 UJ	0.61 UJ	
Sodium	49 U	72 U	I 681	176 J	147 J	185 BJ	133 BJ	
Thallium	1.4 B	1.5 B	2.7 UJ	2.5 UJ	1.8 UJ	2.2 UJ	1.5 UJ	
Vanadium	13 B	15	21.2 3	20.5 J	17.2 J	25 BJ	20 BJ	
Zinc	244	307	825 J	654 J	1820	501 J	275 J	
Cyanide, total	NU 69'0	0.28 BJN	7.3 J	1.7 UJ	41.6	0.87 BJ	0.52 BJ	
Cyanide, amenable to chlorination	1	•	2.2	!	12.7	!	1	
Percent solids (%)	72	89	25.6	24.7	39.5	29	43	
Hd	ì		7.2	7.7	7.4	!	1	
Total organic carbon (mg/Kg)	30500 e	30500	115000	115000	82300	108000 J	80500 J	
								-

U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound.
e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.

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NOTES:

WP-T1A Section 3 05/14/2003 0 - 6 in. mg/Kg	,	13700 J	1.3 UJN	6.8.3	68 BJ	0.67 BJ	1.9 BJ	5910 J	53 J	29 U	17 BJ	70 J	28700 J	87 J	6250 J	527 3	1.7 J	35 J	1190 BJ	1.6 UJ	0.76 UJ	137 BJ	3.3 BJ	24 BJ	240 J	0.65 BJ	1	34	1	50000 e J		of 12
WP-PL3 Section 2 05/13/2003 6 - 12 in. mg/Kg	1	17100.7	21 BNJ	34 J	103 BJ	0.82 BJ	8.9 J	5310 J	1170 J	28 U	13 BJ	225 J	27900 J	435 J	5940 J	335 J	27 J	29 J	1360 BJ	1.9 BJ	0.74 UJ	199 BJ	1.8 UJ	24 BJ	887 J	11 3	110	35	1	118000 BJ		Page 8 of
WP-PL3 Section 2 05/13/2003 0 - 6 in. mg/Kg	,	15900 J	1.8 UJN	4.3 BJ	87 BJ	0.79 BJ	4.9 J	7350 J	244 3	42 U	14 BJ	146 J	27800 J	258 J	6590 J	349 J	9.5]	43 J	1540 BJ	2.3 UJ	1.1 UJ	249 BJ	3.0 BJ	25 BJ	492 J	0.68 BJ	1	24	!	93900 BJ		
WP-PL2 Section 2 05/13/2003 12 - 24 in. mg/Kg))	13200 J	7.8 BNJ	20 J	77 BJ	0.63 BJ	4.7 J	3670 J	574 J	24 U	9.7 BJ	112 J	22600 J	193 J	4750 J	256 J	20 J	21 J	954 BJ	1.3 UI	0.61 UJ	134 BJ	1.5 UJ	16 BJ	431 J	8.0 J	1.7	43	!	77000 BJ		AS<5%, c=AS TOC%. 3 - lower portion of creek.
WP-PL2 Section 2 05/13/2003 6 - 12 in. mg/Kg))	15700 J	1.3 U.N	5.6 BJ	86 BJ	0.78 BJ	5.0 J	5450 J	211 J	30 U	13 BJ	195 J	27000 J	405 J	6190.1	301 J	8.5]	36 J	1350 BJ	2.0 BJ	0.97 BJ	189 BJ	IJ 6.1	25 BJ	515 J	0.49 BJ	1	34	;	64200 BJ		ly identify the compound. . When AS>=5%, e=5%. When A n 2 - downstream of site. Section ?
WP-PL2 Section 2 05/13/2003 0 - 6 in. mg/Kg)	15000 J	1.7 U.N	3.4 BJ	79 BJ	0.74 BJ	4.7 J	6420 J	204 J	38 U	13 BJ	162 J	25500 J	297 J	6200 J	335 J	8.1 J	41 J	1490 BJ	2.1 UJ	U 86.0	221 BJ	2.4 UJ	22 BJ	488 J	1.9 UJ	I	26	ţ	58700 BJ		presumptive evidence to tentative (AS) collected at the same location Section 1 - adjacent to site. Section
Sample ID WP-PL1 ooss Reference Section 2 Sample Date 05/13/2003 Sample Depth 12 - 18 in. Units mg/Kg		16600	NIU 67.0	4.5	105	0.80 B	0.40 B	4340	24	18 U	12 B	24	24300	19	0085	299	0.30	24	1040 B	1.1 B	0.47 U	100 B	1.10	18	79	0.65 B	I	99	1	51700		U - not detected, J - estimated valve, B - blank contamination, N - presumptive evidence to tentatively identify the compound. c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<-5%, e=AS TOC%. Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek.
Sample ID Location Cross Reference Sample Date Sample Depth	puno	unu	tony	ic	E	fium	ium	E ·	camina	Chromium (Hexavalent)	ţ	ı			Magnesium	anese	ııy		ium	um.		ш	mn	tium		Cyanide, total	Cyanide, amenable to chlorination	Percent solids (%)		Total organic carbon (mg/Kg)	1	NOTES: U - not detected, J - estima e - estimated concentration Sample locations are defin
	Compound	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Chrot	Cobalt	Copper	E .	Lead	Magn	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Ziпс	Cyam	Cyani	Percer	Ηď	Total		ON

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WP-OD2 Section 3 05/14/2003 12 - 22 in. mg/Kg	12700 0.70 UIN 16 48 B 6.56 B 4.0 1950 351 16 U 12 B 55 5780 102 5780 1080 B 0.90 U 0.42 U 0.42 U 0.42 U 0.80 UN 1.6 B 16 B 16 B 16 B 16 B 16 B 16 B 16 B 1
WP-OD2 Section 3 05/14/2003 6 - 12 in. mg/Kg	11700 J 0.91 UIN 5.1 J 60 BJ 0.54 BJ 2.2 J 3120 J 78 J 21 U 12 BJ 63 J 24900 J 111 J 5370 J 305 J 25 J 31 J 90 BJ 112 UJ 90 BJ 113 UJ 90 BJ 113 UJ 90 BJ 113 UJ 90 BJ 113 UJ 90 BJ 114 UJ 90 BJ 115 UJ 90 BJ 117 UJ 90 BJ 117 UJ 90 BJ 118 UJ 90 BJ 118 UJ 90 BJ 119 UJ 90 DJ
WP-OD2 Section 3 05/14/2003 0 - 6 in. mg/Kg	12600 J 1.5 UNN 5.3 BJ 66 BJ 0.61 BJ 2.3 BJ 2.3 BJ 2.3 BJ 68 J 68 J 33 U 14 BJ 69 J 25300 J 96 J 150 B 1.5 UJ 0.86 UJ 1.5 BJ 2.4 BJ 2.4 BJ 2.4 BJ 2.4 BJ 2.6 J 1.7 UNN 1.7 UNN 1.7 UNN 1.7 UNN 1.8 UJ 1.9 D 1.7 UNN 1.7 UNN
WP-T1C Section 3 05/14/2003 6 - 10 in. mg/Kg	11500 52 NJ 22 60 B 60 B 60 B 13 4060 274 16 U 10 B 132 24900 230 2550 306 20 J 22 306 20 J 22 306 43 N 43 U 43 U 43 U
WP-T1C Section 3 05/14/2003 0 - 6 in. mg/Kg	9690 40 NJ 6.2 42 B 0.46 B 3.3 4590 74 14 U 10 B 61 22400 92 5590 363 4.8 J 22 756 B 0.80 U 0.37 U 1.0 B 1.4 B 3.3 U 3.9 U
WP-T1A Section 3 05/14/2003 12 - 24 in. mg/Kg	13500 0.75 UIN 13 57 B 0.62 B 1.6 B 2700 242 17 U 11 B 48 26000 101 5920 284 3.1 J 23 1020 B 0.95 U 0.44 U 69 U 1.1 B 1.6 B 1.1 B 1.20 B 0.95 U 0.44 U 69 U 1.1 B 1.6 B 1.7 C 1.8 C
ole ID WP-TIA rence Section 3 1 Date 05/14/2003 Depth 6-12 in. Units mg/Kg	12900 J 3.7 BNJ 8.0 J 69 BJ 0.66 BJ 4.5 J 4730 J 148 J 117 J 22900 J 22900 J 22900 J 22900 J 2500 J 2500 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 351 J 46 J 36 J 37 J 47 J 48
Sample Location Cross Refe Sample Sample	Autimount Antimony Arsenic Barium Berylium Cadmium Calcium Chromium (Hexavalent) Cobalt Copper Iron Lead Marganese Mercury Nickel Potassium Selenium Stiver Selenium Zinc Cyanide, total Cyanide, total Cyanide, amenable to chlorination Percent solids (%) PH Total organic carbon (mg/Kg)
The state of the s	Animound Animony Arsenic Barium Beryllium Cadmium Calcium Chromium (Hcxa Cobalt Copper Iron Lead Magnesium Magnesium Magnesium Magnesium Yanadium Selenium Selenium Selenium Selenium Selenium Selenium Potassium Vanadium Thallium Vanadium Thallium Vanadium Thallium Vanadium Thallium Vanadium Thallium Vanadium Thallium Vanadium Thallium Vanadium Thallium Total organic carb

U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound.
e - estimated concentration using FOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creck.

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Wappinger Creek Investigation - Sediment Samples Wappingers Falls, New York Three Star Anodizing Site Inorganic Concentrations DRAFT - Table A-3

	Cample ID	WP-T2A	WP-T2A	WP-T2B	WP-T7B	WP-72R	WP-T2C	WP-T2C
	Location Cross Reference	Section 3	Section 3	Section 3	Section 3	Section 3	Section 3	Section 3
	Sample Date	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/13/2003
	Sample Depth	0 - 6 in.	6 - 12 in.	0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	6 - 12 in.
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound								
Aluminum		13100 J	10300	14700 J	11800	11400	11900 J	14000
Antimony		1.6 UJN	8.9 BNJ	1.4 U.N	0.58 UJN	0.65 UJN	1.3 UN	0.87 UJN
Arsenic		5.3 BJ	7.5	6.5 J	3.8	2.2 B	7.7 J	40
Barium		70 BJ	45 B	78 BJ	28 B	41 B	65 BJ	60 B
Beryllium		0.70 BJ	0.44 B	0.69 BJ	0.38 B	0.44 B	0.61 BJ	0.64 B
Cadmium		1.9 BJ	2.8	1.5 BJ	1.1B	0.56 B	4.6 J	5.6
Calcium		6070 J	2290	7300 J	1630	1740	6760 J	3170
Chromium		58 J	119	34 J	27	17	64 J	826
Chromium (Hexavalent)		15 U	6.3 U	31 U	13 U	15 U	31 U	20 U
Cobalt		14 BJ	11.B	18 BJ	14	10 B	18 BJ	14B
Copper		69 J	46	50 J	22	14	90 J	129
Iron		27500 J	22400	29600 J	26900	23300	25700 J	27800
Lead		86J	91	106 J	40	26	125 J	287
Magnesium		6270 J	4830	7780 J	7170	5240	6670 J	6280
Manganese		633 J	228	506 J	248	247	421 J	290
Mercury		1.4 J	3.9	0.46 J	0.17	0.18	1.7 J	33
Nickel		32 J	21	35 J	26	20	37 J	29
Potassium		1400 BJ	896 B	1540 BJ	740 B	960 B	1310 BJ	1270 B
Selenium		2.0 UI	0.89 U	1.7 UJ	0.74 U	0.82 U	1.7 UJ	1.1 U
Silver		U) 56.0	0.41 U	0.80 UJ	0.34 U	0.38 U	0.80 UJ	0.51 U
Sodium		184 BJ	76 B	195 BJ	56B	88 B	163 BJ	124 B
Thallium		2.3 UJ	1.0 U	2.0 UJ	0.86 BJ	1.5 BJ	2.0 UJ	1.3 U
Vanadium		22 BJ	13 B	23 BJ	13 B	13B	22 BJ	18B
Zinc		265 J	311	238 J	155	82	470 J	588
Cyanide, total		1.8 UJ	0.44 B	1.5 UJ	0.33 B	0.74 U	1.5 UJ	1.5
Cyanide, amenable to chlorination	ılorination	;	1	11 1	!	l	1	1.5 U
Percent solids (%)		27	89	33	75	× ×	33	51
PH Hd		i 1	:	3 1	2	8	R 1	5 1
Total organic carbon (mg/Kg)	(g/Kg)	49600 BJ	31400 B	49000 J	26400 J	19100	45000 BJ	59000 B

U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound.
e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, when AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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	· · · · · · · · · · · · · · · · · · ·	
WP-T3A Section 3 05/13/2003 6 - 12 in. mg/Kg	15000 J 1.2 UNN 10 J 95 BJ 0.94 BJ 3.7 J 100200 J 110 J 28 U 19 BJ 99 J 38 100 J 136 J 12900 J 492 J 2.7 J 48 J 12900 J 492 J 2.7 J 48 J 1.8 UJ 1.8 UJ 1.8 UJ 1.8 UJ 1.8 UJ 1.8 UJ 3.6 J 1.4 UJ 3.7700 J	
WP-T3A DUP Section 3 05/13/2003 0 - 6 in. mg/Kg	14600 J 1.5 UIN 6.1 BJ 84 BJ 0.73 BJ 2.4 BJ 8110 J 60 J 34 U 15 BJ 73 D 28300 J 94 J 7860 J 445 J 13 J 38 J 1720 BJ 1720 BJ 19 UJ 0.90 UJ 220 UJ 221 UJ 221 UJ 231 BJ 222 UJ 31 BJ 221 UJ 231 J 231 J 231 J 231 J 222 UJ 231 J 231 J 231 J 232 UJ 237 BJ 237 BJ 237 BJ 237 BJ 237 BJ 237 BJ 237 BJ 238 J 239 UJ 237 BJ	
WP-T3A Section 3 05/13/2003 0 - 6 in. mg/Kg	15800 J 15 UIN 6.1 BJ 92 BJ 92 BJ 92 BJ 93 BJ 8830 J 66 J 34 U 17 BJ 84 J 30800 J 106 J 8070 J 8070 J 8070 J 106 J 107 U 108 UJ 223 BJ 224 U 38 J 36 J 17 U 18 U 19 U 1	
WP-OD1 Section 3 05/13/2003 12 - 19 in. mg/Kg	15800 0.83 UIN 5.0 8.1 0.79 B 0.58 B 0.58 B 0.58 B 0.58 B 19 U 12 B 23 26800 66 8930 374 0.11 26 1470 B 1.1 U 0.49 U 0.49 U 0.49 U 0.49 U 0.49 U 0.58 B 2.2 BJ 2.2 BJ 2.3 BJ 2.4 0.95 U	
WP-OD1 Section 3 05/13/2003 6 - 12 in. mg/Kg	17000 0.87 UJN 21 87 0.83 B 1.8 B 3700 566 20 U 14 B 89 29200 29 29 29 1560 B 1.1 U 0.51 U 1.7 BJ 1.7 BJ 23 251 0.60 B	
WP-OD1 Section 3 05/13/2003 0 - 6 in. mg/Kg	12200 J 1.6 UIN 16 J 67 BJ 0.69 BJ 5.8 J 6940 J 247 J 15 U 20 BJ 89 J 28000 J 138 J 6070 J 450 J 83 J 47 J 1490 BJ 222 BJ 3.1 BJ 222 BJ 3.1 BJ 222 BJ 611 J 1.9 UJ 1.9 UJ 1.9 UJ 27	
Sample ID WP-T2C Location Cross Reference Section 3 Sample Date 05/13/2003 Sample Depth 12 - 24 in. Units mg/Kg	13400 0.63 UJN 3.8 45 B 0.50 B 0.42 B 1710 3.1 5.7 U 10 B 18 25500 37 6130 242 0.095 23 990 B 0.80 U 0.37 U 0.31 U 15 73 11000 B	
Location Cr.	Compound Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium (Hexavalent) Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Selenium Sodium Thallium Vanadium Zinc Cyanide, total Cyanide, total Cyanide, total Total organic carbon (mg/Kg)	

U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound.

e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, when AS<5%, e=AS TOC%.
Sample locations are defined as: Background - upstream of site. Section 1 - adjacent to site. Section 2 - downstream of site. Section 3 - lower portion of creek. NOTES:

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Sample ID Location Cross Reference Sample Date Sample Depth Units	WP-T3A Section 3 05/13/2003 12 - 24 in. ng/Kg	WP-T3B Section 3 05/13/2003 0-6 in. mg/Kg	WP-T3B Section 3 05/13/2003 6 - 12 in. mg/Kg	WP-T3B Section 3 05/13/2003 12 - 24 in. mg/Kg	WP-T3C Section 3 06/13/2003 0 - 6 in. mg/Kg	WP-T3C Section 3 Socison 3 6-11 in. mg/Kg
Compound	15000	14500 1	1,6500.1	16600	15700 1	15400.1
Antimonic	2 4 BMI	VIII S I	SOCOT MILLON	0.82 ITM	141TN	1 3 BNI
Areaic	30 t.2	5.0 BI	84 1	6.4	5.8 BI	93.
Barium	8 %	94 BJ	91.3	81	92 BJ	116
Beryllium	0.76B	0.79 BJ	0.82 BJ	0.80 B	0.89 BJ	0.81 BJ
Cadmium	5.3	1.7 BJ	1.5 BJ	0.61 B	2.6 BJ	3.4 J
Calcium	4460	11500 J	4860 J	3150	8620 J	5800 J
Chromium	322	44 J	159 J	53	£09	115 J
Chromium (Hexavalent)	18 U	14 U	8.7 U	7.4 U	32 U	22 U
Cobalt	13 B	14 BJ	15 BJ	14B	15 BJ	14 BJ
Copper	81	56 J	53 J	29	79 J	78 J
Iron	27900	30200 J	30200 J	29600	31500 J	31100 J
Lead	160	67 J	94 J	188	94 J	125 J
Magnesium	0269	7180 J	7110J	6520	7830 J	6830 J
Manganese	400	702 J	495 J	430	508 J	466 J
Mercury	13	0.77.J	0,44 J	0.13	0.84 J	4.9 J
Nickel	27	31 J	34 J	59	41 J	33.1
Potassium	1610 B	1750 BJ	1650 BJ	1640 B	2010 BJ	1590 BJ
Selenium	1.1B	2.0 UJ	1.2 UJ	1.0 U	1.8 UI	1.5 BJ
Silver	0.48 U	0.91 UJ	0.57 UJ	0.48 U	0.83 UJ	0.58 UI
Sodium	129 B	195 BJ	144 BJ	132 B	249 BJ	179 BJ
Thallium	1.2 U	2.3 BJ	2.5 BJ	2.0 BJ	2.1 U3	1.4 UJ
Vanadium	2.1	25 BJ	f 87	23	42.5	7 22 7
Zinc	508	222 J	1791	92	269 J	353 J
Cyanide, total	7.7	1.7 03	OJ	0.93 U	1.6 (1)	U.30 Ed 00:30
Cyanide, amenable to chlorination	2.7 U	1	-	-	# 3 ° 1	1
Percent solids (%)	54	29	46	54	31	45
Hd	1	1	****		-	-
Total organic carbon (mg/Kg)	44200 J	39600 BJ	38000 BJ	19700 B	72000 J	63800 J
NOTES: U - not detected, J - estimated value, B - blank contamination, N - presumptive evidence to tentatively identify the compound.	- blank contamination, N - presun data from another sample (AS) co	nptive evidence to tentatively iden elected at the same location. When	tify the compound.	e=AS TOC%.		
Sample locations are defined as: Backg	ground - upstream of site. Section	1 1 - adjacent to site. Section 2 - do	ownstream of site. Section 3 - low	r portion of creek.		Dans 12 of 12
						rage to or the

File Number: 10653,27258

DRAFT - Table A-4
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Sediment Samples
Pesticides/PCB Data

					Τ								_																				·
WP-LK01-C	05/10/2001	0 - 72 in.	ug/Kg		14 UJ	14 UJ	14 [1]	0.8 UJ	140 UJ	67 UJ	140 UJ	140 UJ	140 UJ	140 UJ	140 UJ	14 UJ	6.8 UJ	14 UJ	14 UJ	14 UJ	14 UJ	14 UJ	6.8 UJ	6.8 UJ	fn 49	670 UJ	6.8 UJ	6.8 UJ	6.8 UJ	6.8 UJ	6.8 UJ	6.8 UJ	
WP-LK01+B	05/10/2001	25 - 372 in.	ug/Kg		12 J	13 JP	6.9	3.4 UJ	IN 69	140 UJ	ID 69	m 69	69 UJ	fn 69	E9 0.1	6.9 UJ	3.4 UJ	tO 6.9	6.9 UJ	6.9 UJ	£0 6.9	Ki 9 UJ	3.4 UJ	3.4 UJ	34 UJ	340 UJ	3.4 UJ	3.4 UJ	3.4 UJ	3.4 UJ	3.4 UJ	2 J	
WP-LK01-B	05/10/2001	6 - 144 in.	ug/Kg		11 UJ	6.7 J	11 UJ	5.5 UJ	110 UJ	220 UJ	110 UI	110 UJ	110 UJ	110 UJ	110 UJ	11 (3)	5.5 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 53	5.5 UJ	5.5 UX	55 UJ	550 UJ	5.5 UJ	3.6 JP	5.5 UJ	5.5 UJ	5.5 UJ	5.5 UJ	
WP-LK01-B	05/10/2001	0 - 72 in.	ug/Kg		15 UJ	15 UJ	15 UJ	7.3 UJ	150 UJ	290 UJ	150 UJ	150 UJ	150 UJ	150 UJ	150 UJ	15 UJ	7.3 UJ	15 UJ	15 UJ	15 UJ	15 UJ	15 UJ	7.3 UJ	7.3 UJ	73 UJ	730 UJ	7.3 UJ	BJUJ	7.3 UJ	7.3 UJ	7.3 UJ	7.3 UJ	
WP-LK01-A	05/10/2001	19 - 300 in.	ug/Kg		9.2 J	9.4 J	7 UJ	3.5 W	70 UI	140 UJ	70 UJ	70 UJ	70 UJ	70 UJ	70 UJ	3.2 J	3.5 UJ	7 03	7 UJ	7 UJ	7 UJ	7 UJ	3.5 UJ	3.5 UJ	35 UJ	350 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UI	3.5 UJ	
WP-LK01-A	05/10/2001	6 - 144 in.	ug/Kg		9.5 UJ	9.5 UJ	9.5 UJ	4.7 UJ	95 UI	10 061	95 UJ	95 UJ	95 UJ	95 UJ	95 UJ	9.5 UJ	4.7 UJ	9.5 UJ	4NI. 8.6	5.7 JP	9.5 UJ	9.5 UI	4.7 UJ	4.7 UJ	47 UJ	470 UJ	4.7 UJ	4.7 UJ	4.7 UJ	4.7 UJ	4.7 UJ	4.7 UJ	
Sample ID WP-LK01-A		Sample Depth 0 - 72 in.	Units ug/Kg		13 UJ	13 UJ	13 UJ	6.5 UJ	130 UJ	260 UJ	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ	13 UJ	6.5 UJ	13 UJ	13 UJ	13 UJ	13 UJ	13 UJ	6.5 UJ	6.5 UJ	65 UJ	650 UJ	6.5 UI	6.5 UJ	6.5 UJ	6.5 UJ	6.5 UJ	6.5 UJ	
I position Cr				Compound	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	gamma-BHC (Lindane)	gamma-Chlordane	

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File Number. 10653.27258

Date Printed: 03/08/2005 15:12:44
DBF File: Q\10653 NYSDEC27258 ThreeStarNhaseIRLdbf
FXP File: Q\10653 NYSDEC27258 ThreeStarNpsswsed.prg

U - not detected, J - estimated value, B - blank contamination, P - more than 25% difference between results from the primary and confirmatory chromatographic columns.

NOTES:

Three Star Anodizing Site Wappingers Falls, New York Wappinger Creek Sediment Samples Pesticides/PCB Data DRAFT - Table A-4

WP-	WP-LK01-C	WP-LK01-C	WP-01-A	WP-04.45-9	WP-09A	WP-11A	LG-OUT
05/10/2001	/2001	05/10/2001	05/09/2001	05/09/2001	05/09/2001	05/09/2001	05/09/2001
6 - 144 in. ug/Kg	.ii	26 - 384 in.	0 - 72 in.	0 - 72 in.	0 - 72 in.	0 - 72 in.	0 - 72 in.
, b	•	841/8m	gy/gn	SV/Sn	Syrigh	804 NB	18/NS
8.6 UJ	15	6.9 UJ	4 ()	4411	4311	4511	2970
7.8 J	_	8 JP	4 U	4.4 U	4.3 U	4511	4311
8.6 UJ	5	E9 UI	4 U	6.6 BPJ	4.3 U	4.5 U	S 4 BPIN
4.3 UJ	n n	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.10
86 UJ	15	ID 69	40 U	44 U	43 U	45 U	43 U
170 UJ	fn.	140 UJ	80 U	D 68	N 98	Ω 06	1 S8
86 UJ	JI	M 69	40 U	44 U	43 U	45 U	43 U
86 UJ	J.	IN 69	40 U	44 U	43 U	45 U	43 U
86 UJ	11	1D 69	40 U	44 U	43 U	45 U	43 11
86 UJ	33	ID 69	40 Ū	44 U	43 U	45 U	43 U
86 UJ	J,	ID 69	40 U	44 U	43 U	45 U	43 U
8.6 UJ	II.	6.9 UJ	4 U	4.4 U	6.8 PNJ	4.5 U	43 U
4.3 UJ	11	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.1 U
8.6 UJ	'n	M 6.9	4 U	4.4 U	43 U	4.5 U	4.3 U
8.6	5	M 6.9	4 U	4.4 U	4.3 U	4.5 U	4.3 U
8.6 UJ	11	6.9 UI	4 U	ĸ	α.	4.5 1) ! œ
ద		E.9 UI	4 U	4.4 U	4.3 U	4.5 U	4.3 []
8.6 UJ	5	6.9 UJ	4 U	4.4 U	4.3 U	4.5 U) ! ex
4.3 UJ	5	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.1 U
4.3 UJ	55	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.1 U
43 UJ	J.J.	34 UJ	20 U	22 U	22 UJ	23 UJ	21 U
430 UJ	5	340 UJ	200 U	220 U	220 U	23017	21017
4.3 UJ	5	3.4 UJ	2.U	2.2 U	2.2 U	2,3 U	2.1 U
2.5 JP	£.	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.1 U
4.3 UJ	ß	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.1 U
4.3 UJ	5	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.1 U
4.3 UJ	TC CC	3.4 UJ	2 U	2.2 U	2.2 U	2.3 U	2.1 U
4.3 UJ	J.J	3.4 UJ	2,U	2.2 U	2.2 U	2.3 U	2.1 U

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File Number. 10653.27258

Page

U - not detected, J - estimated value, B - blank contamination, P - more than 25% difference between results from the primary and confirmatory chromatographic columns.

NOTES:

Date Printed: 03/08/2005 15:12:44
DBF File: Q\10653 NYSDEC27258 ThreeStarPhaseIRI dbf
FXP File: Q\10653 NYSDEC27258 ThreeStarPhaseIRI dbf

DRAFT - Table A-4
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Sediment Samples
Pesticides/PCB Data

_				_																													
WP-PL	05/08/2001 0 - 72 in.	ug/Kg		12 JP	12 UJ	12 UJ	6.2 UJ	120 UJ	250 UJ	120 UJ	120 UJ	120 UJ	120 UJ	120 UJ	12 UJ	6.2 UJ	6.8 BJ	12 UJ	· &	12 UJ	7.JP	6.2 UJ	6.2 UJ	62 UJ	170 UJ	6.2 UJ	6.2 UJ	6.2 113	50 III	50 111	62 111	} }	
WP-29	05/09/2001 12 - 216 in.	ug/Kg		5.7 U	5.7 U	5.7 U	2.8 ∪	33 U	67 U	33 U	33 U	33 U	33 U	33 U	5.7 U	2.8 U	6.4 BPJN	5.7 U	5.7 U	5.7 U	32 IN	2.8 U	2.8 U	17 UJ	170 U	2.8 JP	2.8 U	2.8 U	2811	28.5) ; ;	:	
WP-29	05/09/2001 6 - 144 in.	ug/Kg		4.5 U	4.5 U	4.5 U	2.2 U	45 U	0 O O	45 U	45 U	45 U	45 U	45 U	4.5 U	2.2 U	3 BJ	4.5 U	4.5 U	4.5 U	13 P.I	2.2 U	2.2 U	22 UJ	220 U	2.2 U	2.2 U	2.2 U	2211	2211	2.2.11		ú
WP-29	05/09/2001 0 - 72 in.	ug/Kg		0.6 U	0.6 U	0.6 U	3.3 U	N 99	130 U	0 99	0 99 0 0	0 99	O 99	Q 99	0.6 U	3.3 U	0.6 U	6.6 U	6,6 U	6.6 U	€.6 ₪	3.3 U	33 U	66 UJ	099 n	3.3 U	3.3 U	3.3 U	3311	11 2 5	3.3 U		firmatory chromatographic columns
WP-18	05/09/2001 6 - 144 in.	ug/Kg		2.5 JP	3.9 U	3.9 U	2 U	D 68	78 U	39 U	39 U	39 U	39 U	39 U	3.9 U	2 U	3.9 U	3.9 U	3.9 U	3.9 U	4.6 PJN	2 U	1 P	20 U	200 U	2 U	2 U	2 U	2 U	2.11	2 U		results from the primary and conf
WP-18	05/09/2001 0 - 72 in.	ug/Kg		4.9 U	4.9 U	4.9 U	2.5 U	49 U	U 86	49 U	49 U	49 U	49 U	49 U	5.3 JP	2.5 U	4.9 U	4.9 U	3.3 %	4.9 U	4.9 U	2.5 U	2.5 U	25 U	250 U	2.5 U	2.5 U	2.5 U	2.5 U	2.511	2.5 U		more than 25% difference between
Sample ID WP-16	Location Cross Reference Sample Date 05/09/2001 Sample Depth 0 - 72 in.			4 U	4 U	4 U	2 U	40 U	N 08	40 U	40 U	40 U	40 U	40 U	4 U	2 U	4 U	υ4	4 Ü	4 U	4 U	2 U	2 U	20 U	200 U	2 U	2 U	2 U	2 U	2 U	2 U		U - not detected, J - estimated value, B - blank contamination, P - more than 25% difference between results from the primary and confirmatory chromatographic columns.
-	<u> </u>		Compound	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	gamma-BHC (Lindane)	gamma-Chlordane		NOTES: U- not detec

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Date Printed: 03/08/2005 15:12:44
DBF File: QA10653 NYSDEC27258 ThreeStar/PhaselRidbf
FXP File: QA10653 NYSDEC27258 ThreeStar/appswsed prg

Three Star Anodizing Site Wappingers Falls, New York Wappinger Creek Sediment Samples Pesticides/PCB Data DRAFT - Table A-4

																														confirmatory chromatographic columns.
																														difference between results from the primary and c
Sample ID WP-PL Tross Reference Sample Date 05/08/2001 Sample Depte 0-132 in. Thirs ug/Kg	8,4 UJ	8.4 UJ	8.4 UJ	4.2 UJ	84 UJ	170 UJ	84 UJ	84 UJ	84 UJ	84 UJ	84 UJ	8.4 UJ	4.2 UJ	4.9 BJP	8.4 UJ	8.4 UJ	8.4 UJ	8.4 UJ	4.2 UJ	4.2 UJ	42 UJ	420 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ		U - not detected, J - estimated value, B - blank contamination, P - more than 25% difference between results from the primary and confirmatory cincomatographic columns.
Sample ID Location Cross Reference Sample Date Sample Date Sample Date I prite	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	gamma-BHC (Lindane)	gamma-Chlordane		NOTES: U - not detected, J - estimated

File Number: 10653,27258

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Date Princet: 03/08/2005 15:12:44

DBF File: QA10653 NYSDEC27228 ThreeStarlPhaseIRI.dbf

FXP File: QA10653_NYSDEC2728_ThreeStarlappswsed.prg

DRAFT - Table A-5
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Surface Water Samples
Volatile Organic Compound Data

Loca	Sample ID Location Cross Reference	wappingers Lake Route 9D	Sife Bridge I WP5-SW	WP10-SW	WP13-5W	WP18-SW	WP35-5W
	Sample Date	07/12/2001	07/12/2001	07/12/2001	07/12/2001	07/12/2001	07/12/2001
	Sample Depth Units	ug/L	ng/L	1/gn	T/Sn	ng/L	ug/L
Сопроцид							
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride		10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 10
Methylene chloride		10 U	10 U	10 0	10.0	10 ft	101
Acetone		10 U	3.1	100	10 01	£ 61	1101
Carbon disulfide		1101	1011	2101	1101	1101	1101
1 1-Dichlomethene		1101	1101		1001		101
1 1-Dichloroethane		1011	120	2 1	5 5		1,01
cis-1 2-Dichlornethene		200				5 1	100
trans-12-Dichloroothana		2				0.01	0.01
Summoround 2, 1-chan					0 ;	0.01	0.01
Caloronorm		001	0.01	0.01	10 0	10 0	10 U
1,2-Dichloroethane		100	10 U	10 U	10 U	10 U	10 U
2-Butanone (MEK)		101	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride		10 U	10 U	10 U	10 U	1001	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropylene		10 U	100	19 U	1001	1101	1101
Trichloroethene		10 0	101	101	1101	1101	101
Benzene		1101	101	1101	110	201	
Dibromochloromethane		101	1102				100
trans_1 3_Dichloronronene		501			200	001	0.01
1 1 2 Tribility of) ;	0.01	001	0.01	16 U	10 U
1,1,2-1 renioroemane		D 01	19.0	10.0	100	10 U	10 U
Вготогот		101	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	K)	10 U	101	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U	10 U	10 C	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 0	10 U	10 U	10 U
Toluene		10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 U	100	10 U	10 U	100
Ethylbenzene		10 U	100	10 U	10 U	100	101
Styrene		10 U	100	10 U	10 U	100	1017
Xylene (total)		10 U	101	101	1101	1101	1101
		1) }	2	2	
NOTES: II - not detected	II - not detected I - ectimated walne						
	Cd, J - command value.						

File Number: 10653.27258

Page l of l

DRAFT - Table A-6
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Surface Water Samples
Semi-Volatile Organic Compound Data

	Г	:			*****	
Sample ID Location Cross Reference	le ID wappingers Lake	Site Bridge 1 WP5-SW	Site Bridge 2 WP10-SW	WP13-SW	WF18-5W	WESSERW
Sample Date	~	07/12/2001	07/12/2001	07/12/2001	07/12/2001	07/12/2001
Sample Depth Units	Jeptn Units ug/L	T/Sn	T/gn	ug/L	ug/L	ug/L
Compound						
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 C	10 U
Phenol	10 U	10 U	100	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	100
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 T	100	100
Bis(2-chloroisopropyl) ether	10 U	10 U	10 U	10 U	10 01	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 01	10 U	200	100
N-Nitrosodipropylamine	10 U	10 U	10 01	10 17	10 U	100
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 0	100	100	100
2.4-Dimethylphenol	10 U	not	100	10.0	Dot	100
Bis(2-chloroethoxy)methane	1101	101	101	1201	1101	1101
2.4-Dichloropenol	1201	501) []		200	1101
1.2.4 Trichlomokanana	200		200	200	501	
1,4,4-1,4 - 1 and to contact the			2.		0::	
Naphthalene	0 0 0	0.01	0 0 0	0 0 0	000	0.01
4-Chloroaniline	10 U	10 U	10 C	100	100	10 U
Hexachlorobutadiene	10 U	10 U	10 C	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	100	10 C	10 U	10 U
2-Methylnaphthalene	10 U	10 U	100	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 C	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	100	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	D 01	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U	25 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	100
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	101	10 U	TOT	10 U
4-Nitrophenol	25 U	25 U	25 U	25 U	25 U	25 U
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	100
NOTES: U - not detected, J - estimated value.	luc.					

File Number: 10653.27258

1 of 1

DRAFT - Table A-6
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Surface Water Samples
Semi-Volatile Organic Compound Data

File Number: 10653,27258

Date Printed: 03/08/2005 15:12:31
DBF File: Q\10653 NYSDEC27238 ThreeStartPhaseIRI dbf
FXP File: Q\10653 NYSDEC27258 ThreeStartapswsed.prg

DRAFT - Table A-7
Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Surface Water Samples
Pesticides/PCB Data

	Sample ID	Wappingers Lake	Site Bridge 1	Site Bridge 2	WP13-SW	WP18-SW	WP35-SW
	Location Cross Reference Sample Date	07/12/2001	07/12/2001	07/12/2001	07/12/2001	07/12/2001	07/12/2001
	Sample Depth Units	ug/L	ng/L	ng/L	7/8n	ng/L	ug/L
Compound							
4,4'-DDD		0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE		0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT		0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
Aroclor 1016		1.1 U	1 U	10	1 U	10	10
Aroclor 1221		2.2 U	2 U	20	2 U	2 U	2U
Aroclor 1232		1.1 U	1 U	10	1 U	ıu	lU
Aroclor 1242		1.1 U	1 U	ם ז	10	10	10
Aroclor 1248		1.1 U	1 U	1 U	10	1.0	lU
Aroclor 1254		υ.ι.υ	1.0	ΩI	10	1 U	10
Aroclor 1260		1.1 U	10	1.0	10	1 U	10
Dieldrin		0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
Endosulfan II		0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan sulfate		9.11 U	0.10	0.1 U	0.10	0.1 U	0.10
Endrin		0.11 U	0.10	0.1 U	0.10) II O	0.1 U
Endrin aldehode		0 11 11	0.11	11.0	2 11	11.0	0.111
Endrin ketone		0110) I		0.1.0	
Hentachlor		0.05611	0.05 11	0.05	0.0511	0.0511	0.05111
Toptachler meride		0.000	9 50:0	0.50.0	0 500	0.000	0 150:0
replacifior epoxide		0.050 U	0.05 0	0.63.0	0.00	0.03 U	0.150.0
Memoxychior		0.56 U	0.5 0	0.5 U	0.5 U	0.5.0	0.51.0
Toxaphene		5.6 U	5.0	5 U	2.0	S U	S.1 U
alpha-BHC		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
alpha-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
beta-BHC		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
delta-BHC		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
gamma-BHC (Lindane)	ne)	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
gamma-Chlordane	•	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.051 U
NOTES: U-r	U - not detected, J - estimated value, B - blank contamination, P - more than 25% difference between results from the primary and confirmatory chromatographic columns.	- blank contamination, P - more th	han 25% difference between result	s from the primary and confirmat	ory chromatographic columns.		
							Page 1 of 1

File Number. 10653.27258

APPENDIX F

Tentatively identified compounds (not included with the draft Creek RI report)

APPENDIX G

Sediment physical parameter data



PW LABORATORIES INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

September 8, 2003

Mr. William Ayling O'Brien & Gere Laboratories, Inc. 5000 Brittonfield Parkway East Syracuse, New York 13057

Re:

L-03058

Laboratory Testing Wappingers Creek Sediment Investigation Job No. 10653/27258

Dear Mr. Ayling:

Enclosed are the results of laboratory testing performed at your request on four tube sediment samples delivered to our laboratory on May 28, 2003 for the above referenced project. Results include:

 Sieve Analysis ASTM D422 & D1140 Laboratory I.D. #17193- 17196

4 each

2. Hydrometer Analysis ASTM D422 Laboratory I.D. #17193- 17196

4 each

All requested tests have been completed on the previously received sample(s) for the above project. All sample remains are scheduled to be disposed of on October 8, 2003. Please notify PW Laboratories, Inc. by letter or telephone prior to October 8, 2003 if you would prefer to pick up the sample(s) or that the sample(s) be retained by PW Laboratories, Inc. for an additional period of time.

Thank you for this opportunity to work with you.

Very truly yours,

PW LABORATORIES, INC.

Virginia J. Thoma

Manager - Laboratory Services

VJT/klw

encs:

SIEVE ANALYSIS OF SOIL / AGGREGATE

Testing	s Creek	Sediment Investigation	Job No. 10653/27258
Laboratory Testing	Wappingers Creek	Sediment I	Job No. 10
PROJECT TITLE			I 1

September 8, 2003

REPORT DATE

TEST METHOD ASTM D422 & D1140

PROJECT # L-03058

REPORT #

#200 44.2 32.3 30.7 17.4 #100 22.0 57.4 48.8 50.2 6.99 64.1 74.0 26.4 99# 76.8 31.8 74.4 84.7 #40 Sieve Size - Percent Passing Sieve 78.3 82.3 38.1 35.8 #30 96.1 99.0 98.4 53.4 #10 97.4 99,9 99.2 58.6 # 97.8 62.3 99.4 1/4" 100 68.5 98.6 99.4 3/8" ł 9.97 99.2 99.4 1/2" ; 99.4 99.4 91.2 3/4" ł 91.5 100 90 <u>_</u> 1 1/2" 100 ł 1 ţ Depth (inches) 0.0-6.0 0.0-6.0 0.0-6.0 0.0-6.0 Sami le SED Core 3 SED Core 2 SED Core 4 WP- T3A Lab I.D. # 17193 17194 17195 17196

Sample mass, as received, meets minimum mass requirements of test method: Yes X No	Prewashed:	Yes X No
Remarks:	Performed By:	
	Checked By:	V.J. Thoma

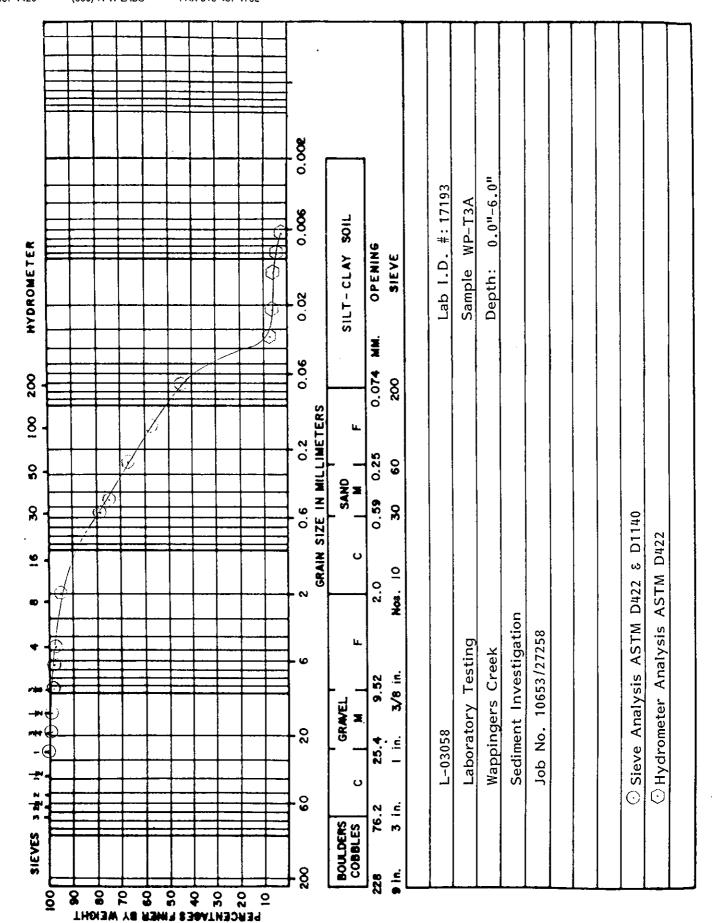


GRAIN SIZE ANALYSIS

PW LABORATORIES INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

Job No.: <u>L-03058</u>

Report No: 1

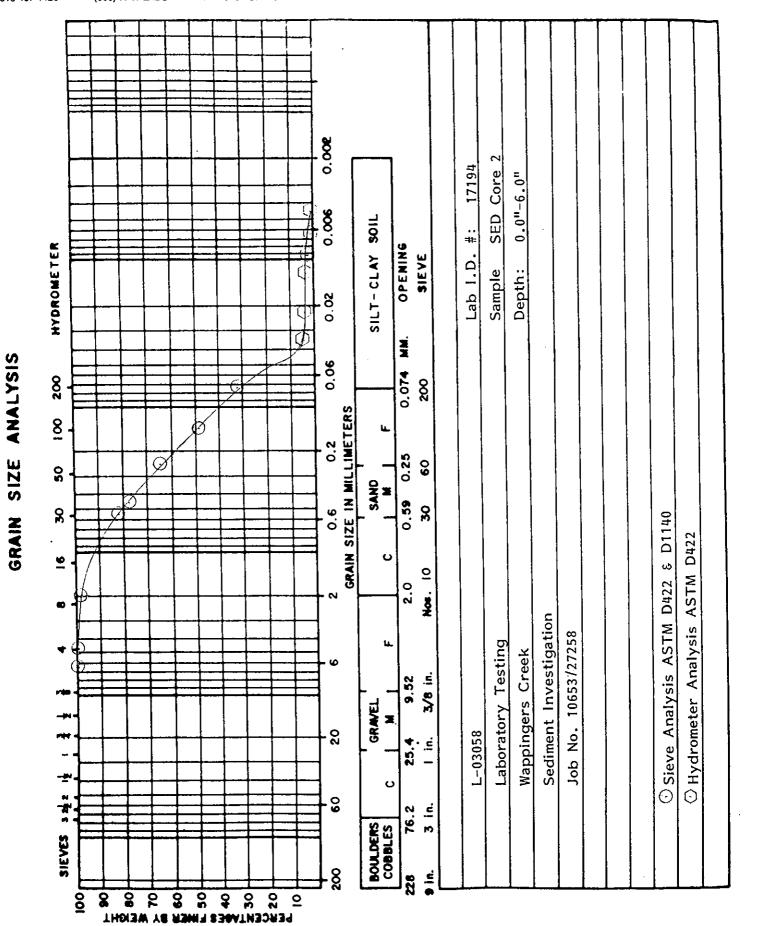




PW LABORATORIES INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

Job No.: <u>L-03058</u>

Report No: 2

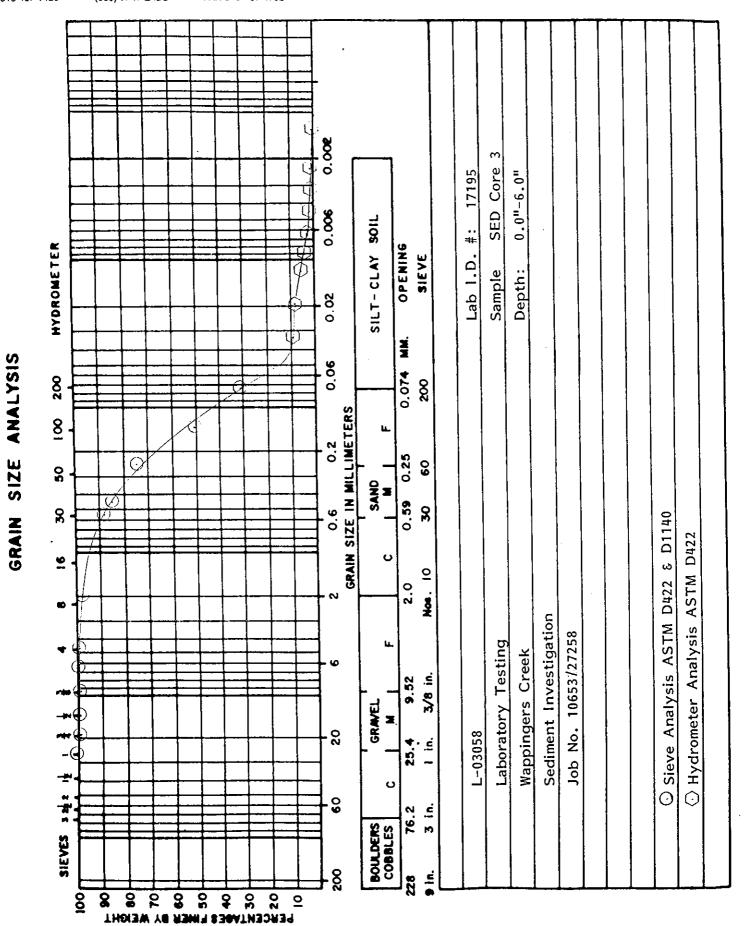




PW LABORATORIES INC.
P.O. 80X 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 • (866) 7PW-LABS • FAX 315-437-1752

Job No.: <u>L-03058</u>

Report No: <u>3</u>

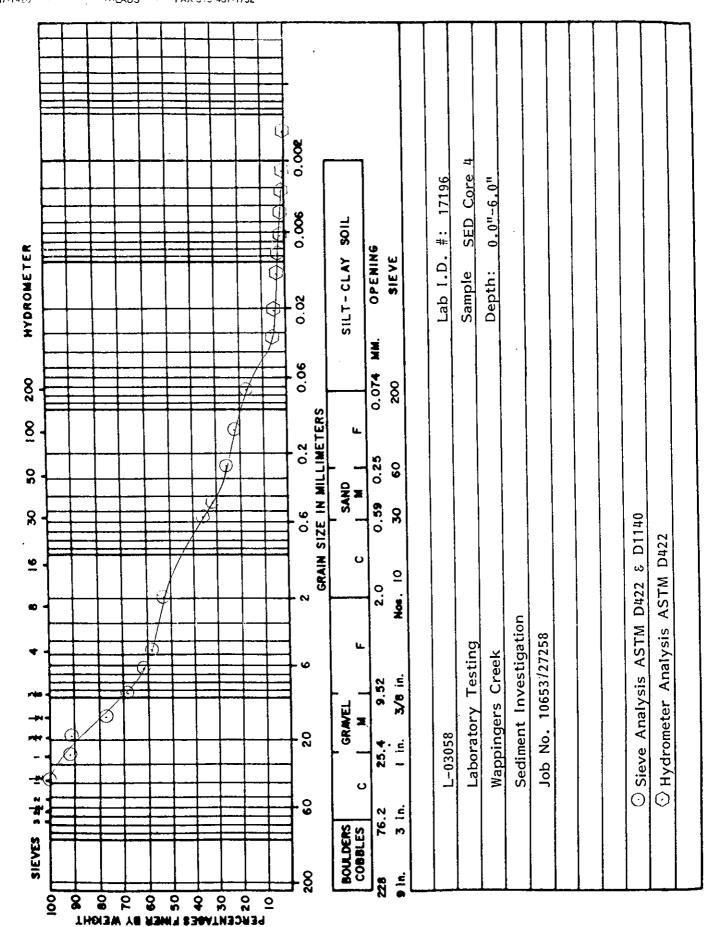




GRAIN SIZE ANALYSIS

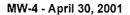
PW LABORATORIES INC.
P.O. BOX 56, 5879 FISHER ROAD, EAST SYRACUSE, NY 13057
315-437-1420 - 1992 TOW-LABS - FAX 315-437-1752

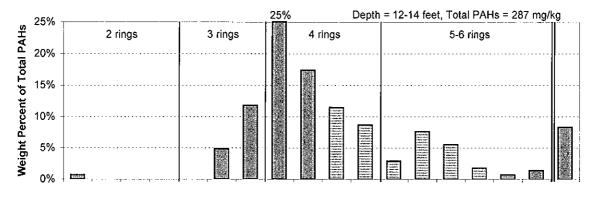
Job No.: <u>L-03058</u> Report No: <u>4</u>

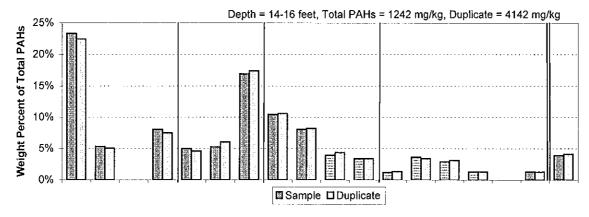


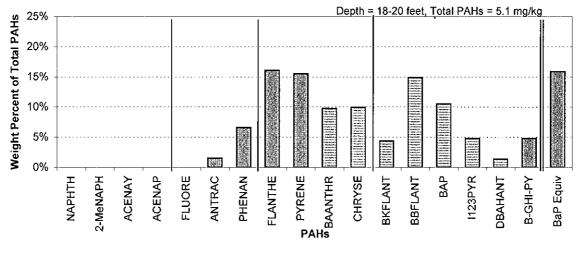
APPENDIX H

PAH Composition Evaluation



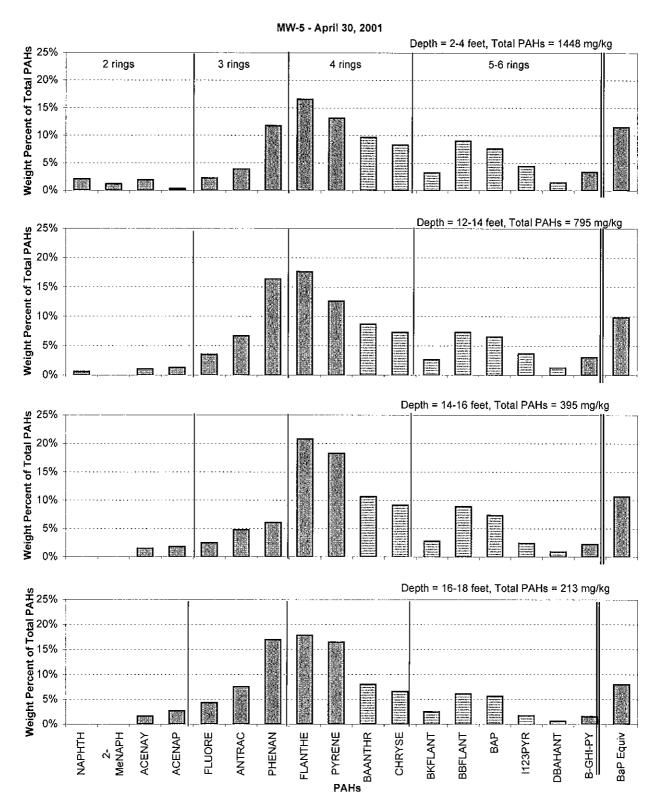






Abbreviations are defined in the text accompanying this graphic.

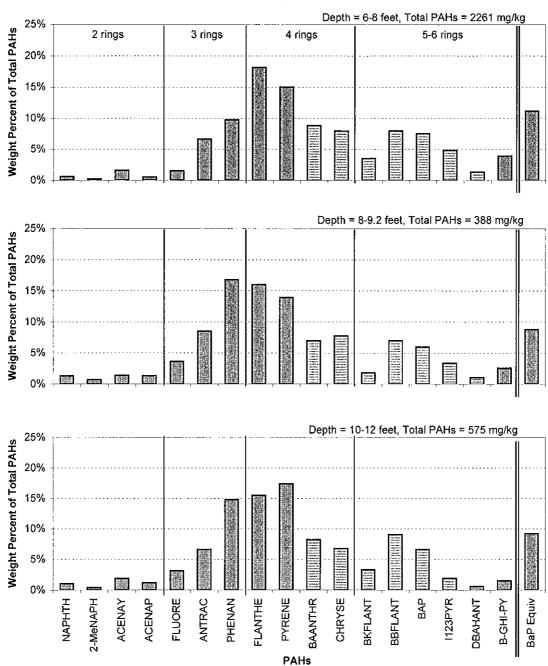
Data bars with horizontal pattern represent carcinogenic PAHs.



Abbreviations are defined in the text accompanying this graphic.

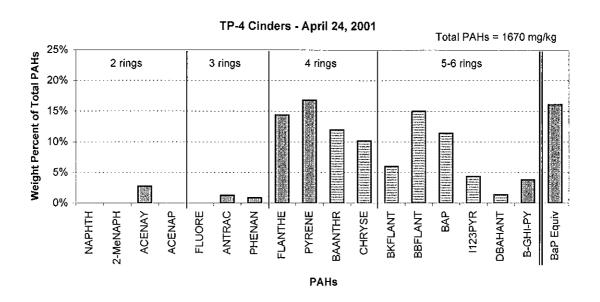
Data bars with horizontal pattern represent carcinogenic PAHs.





Abbreviations are defined in the text accompanying this graphic.

Data bars with horizontal pattern represent carcinogenic PAHs.

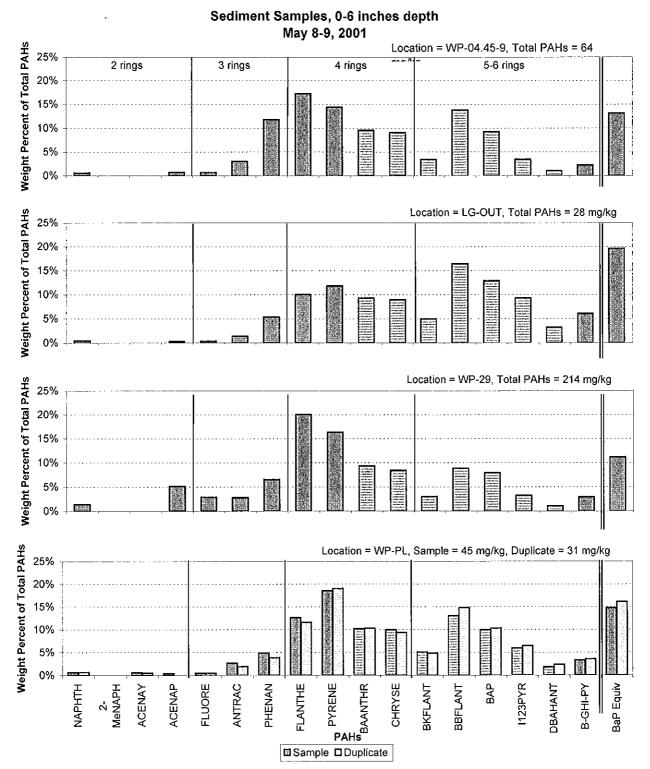


Abbreviations are defined in the text accompanying this graphic.

Data bars with horizontal pattern represent carcinogenic PAHs.



PAH Composition Evaluation: Surface sediment



Abbreviations are defined in the text accompanying this graphic.

Data bars with horizontal pattern represent carcinogenic PAHs.

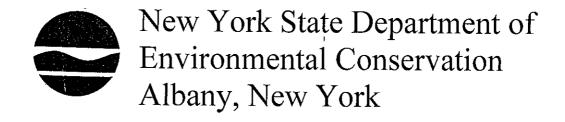
PAH Composition Evaluation: Deeper sediment

APPENDIX I

Screening Level Ecological Risk Assessment Report

REVISED DRAFT REPORT

Fish and Wildlife Impact Analysis Step IIC - Wappingers Creek Three Star Anodizing Site Wappingers Falls, New York



February 2007

REVISED DRAFT REPORT

Fish and Wildlife Impact Analysis
Step IIC - Wappingers Creek
Three Star Anodizing Site
Wappingers Falls, New York

New York State Department of Environmental Conservation Albany, New York

> Chief Scientist O'Brien & Gere Engineers, Inc.

> > February 2007



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ii

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1-1 Site location map.

List of Attachments

1 Step 1 FWIA



1. Introduction

This report presents the results of a Step IIC Fish and Wildlife Impact Analysis (FWIA) completed for Wappingers Creek by O'Brien & Gere Engineers, Inc. (O'Brien & Gere). This FWIA of Wappingers Creek is associated with the Remedial Investigation (RI) of the Three Star Anodizing Site (Three Star Site). This FWIA report is presented as an appendix to the RI report for Wappingers Creek (Creek RI). The results of on-site investigation of the Three Star Site and FWIA are reported in a separate RI report (O'Brien & Gere 2007a).

The FWIA was conducted according to the New York State Department of Environmental Conservation (NYSDEC) protocols, appearing in the document entitled *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites* (NYSDEC 1994; FWIA Guidance). Step I of a FWIA consists of a description of the physical and biological features of a site. Results of the Step I FWIA for Wappingers Creek, completed in 2002, are presented in Attachment 1. The purpose of this Step IIC Report is to evaluate the potential impacts of site-related constituents on fish and wildlife resources in a *Toxic Effects Analysis*. Therefore, the specific objectives of this Step IIC FWIA are to:

- identify potentially complete pathways between site-related constituents and fish and wildlife resources
- compare site chemical data to applicable ecologically-based criteria or screening values
- evaluate potential risk to ecological receptors via screening-level risk calculations.

1.1. FWIA Project Background

The RI for the Three Star Site, which included the RI of Wappingers Creek, was completed in two phases. Following the NYSDEC's review and comment on the Draft Phase I RI Report (O'Brien & Gere 2002a), which included the FWIA Step I report, discussions were held between the NYSDEC and O'Brien & Gere concerning the performance of additional steps of the FWIA. Based on these discussions, a streamlined FWIA Step II approach was prepared and presented to the NYSDEC for review in the Phase II RI Work Plan Addendum (O'Brien & Gere 2002b). This report presents the results of the Step II FWIA evaluation of Wappingers Creek, and utilizes surface water and sediment data collected for the RI.

As detailed in the final Phase II RI Work Plan Addendum (O'Brien & Gere 2002b), the FWIA Step II performed for the creek consists of a streamlined screening-level ecological risk assessment (SLERA). The SLERA presents a comparison of site media data to ecologically-based screening values to identify constituents of potential ecological concern (COPEC). Following the screening step, risk calculations are performed to estimate a receptor's exposure to the COPEC. Subsequent sections of this report present additional details concerning the SLERA approach. The same approach was used to complete the SLERA for the Three Star Site (O'Brien & Gere 2007a).

1.2. Report Organization

The Step II FWIA/SLERA is organized into the following sections:

1. Introduction. This section presents general information about the performance of the FWIA, the objectives of the study and the format of the report.



- 2. Study area characterization. This section presents a summary of the FWIA Step I findings related to fish and wildlife resources of the site and vicinity and describes the site areas within the scope of this study. An exposure pathway assessment is also presented.
- 3. Comparison of site data to screening values. This section presents the results of comparisons of site media data to regulatory and ecologically-based screening criteria and/or benchmark values.
- 4. Screening-level risk calculation. This section presents the methods and results of conservative risk calculations prepared to evaluate potential site risk to upper trophic level receptors potentially utilizing the site.
- 5. Conclusions. This section presents the FWIA Step II conclusions regarding the screening-level risk assessment.

2. Study Area Characterization

This section summarizes the physical and biological components of the site and study area under current conditions. A detailed characterization of the physical and biological components of the study area was provided in the Step I FWIA (Attachment 1).

2.1. Site Description

The tidal portion of Wappingers Creek (tidal creek) is the subject of this FWIA and comprises the approximately 1.5 mile length between the Site and the Hudson River (Figure 1-1). Upstream of the tidal creek is Wappingers Falls and Wappingers Lake. At the downstream of end of the tidal creek is the confluence with the Hudson River. The Three Star Site is located on an oxbow of the tidal creek and consists of an 8.5 acre industrial facility on the south bank of Wappingers Creek, approximately 1,000 feet downstream of Wappingers Falls. In the vicinity of the Three Star Site, the creek is generally less than 100 feet wide. Downstream of the Three Star Site, the creek widens and typically ranges from 250 to 750 feet wide. A backwater area with a shoal is located along the south shore of the creek, approximately 1,000 feet downstream of the Three Star Site. An embayment that is approximately 300 feet in diameter is located on the north side of the creek, approximately 2,000 feet downstream of the Three Star Site.

The Three Star Site is located on the 100-year flood and primarily consists of two buildings, paved parking areas, and access roadways. Additional buildings that were on the Three Star Site were destroyed by a fire that occurred in May 2004. The Three Star Site was the location of industrial activities for over 150 years. For the RI, it is operationally divided into two areas consisting of the Main Site and the former manufactured gas plant site (MGP site). Primary past uses of the Main Site included dye operations, metal plating and a number of other smaller industrial activities. The MGP site is located along the west portion of the Three Star Site. In general, most of the on-site areas do not support large or diverse wildlife communities, due to the amount of development and/or their proximity to anthropogenic disturbances.

A former raceway currently contains a pipe used to convey stormwater runoff from the Village of Wappingers Falls to an on-site lagoon that discharges to Wappingers Creek. The lagoon bisects the site with the Main Site located west of it and the MGP site located to the east. As described in the RI Report, the lagoon is reportedly unlined and covers approximately 0.5 acres. During operation of dye manufacturing facility and Three Star Anodizing Company, the lagoon/raceway reportedly received industrial wastes. Wastes from other industrial operations that have taken place at the Three Star Site may have also drained in the direction of the lagoon and the creek.

2.2. Study Area Description

Consistent with the FWIA Guidance, the study area evaluated for the Creek FWIA included in the description of cover types is defined as the Three Star Site property and the area within a half-mile radius of the Three Star Site. In addition to the half-mile radius around the Three Star Site that was evaluated for cover type descriptions, the Creek RI included sampling of representative locations throughout the 1.5 mile length of the tidal creek.



Natural and cultural covertypes exist within the study area. The cultural designation reflects the extent of human disturbance to the study area for land uses such as roadways, railroad beds, commercial businesses, industrial facilities, residences, and parks. In general, these areas do not support large or diverse wildlife communities due to their proximity to anthropogenic disturbances. The natural terrestrial covertypes of the study area, existing primarily west of the Three Star Site, are representative of forested communities. The tidal creek represents a deepwater estuarine habitat that bisects a major portion of the study area as it flows from northeast to southwest.

Other water bodies located in the vicinity of the Three Star Site provide additional open water aquatic habitat. Wappingers Lake is located approximately 1,500 feet upstream of the Three Star Site. For the Creek RI, surface water and sediment samples were collected from the lake to represent background conditions for the creek. In addition, there is a stream located in Reese Park located approximately 2000 feet southwest of the Three Star Site, and numerous wetland habitats exist at multiple locations within in the study area.

2.3. Exposure Pathway Summary

This exposure pathway summary was completed according to FWIA Guidance for Step IIA, Exposure Pathway Analysis (NYSDEC 1994). This subsection discusses potential routes of exposure to site-related contaminants for wildlife receptors along the creek. Exposure is the contact of a receptor (e.g., flora and fauna inhabiting or utilizing the site) with a chemical or physical agent. An exposure pathway is a mechanism by which a receptor may be exposed to a chemical or physical agent at, or originating from, a source. The three primary potential routes of exposure are inhalation, ingestion, and dermal contact.

Exposure pathways may be classified as either *complete* or *incomplete*. An exposure pathway is *complete* when receptors exist that could contact a physical or chemical agent under specified conditions. An *incomplete* pathway exists if there are no receptors or no exposures that could occur under the specified conditions. For *complete* exposure pathways, further evaluation is required.

Sampling and analyses completed for the Creek RI identified chemical constituents in surface water and sediment. Therefore, complete exposure pathways potentially exist for terrestrial and aquatic receptors inhabiting and/or utilizing these media from the creek. Potentially complete exposures exist via direct contact and via the food chain for wildlife foraging from the sample areas, potentially exposed ecological receptors include, but are not limited to benthic invertebrates, fish, predatory birds, small mammals, songbirds, reptiles and amphibians. The conclusion section of this study presents the potential significance of the FWIA screening in terms of ecological risk.

3. Comparison of Site Data to Screening Values

This section presents the comparison of site chemical data to regulatory and ecologically-based criteria and/or screening values corresponding to Step IIB (Criteria Specific Analysis) of the FWIA Guidance (NYSDEC 1994). Both the methods used for the comparison and the results of the comparison are presented. Constituents that were detected at concentrations above the applicable screening values are identified as COPEC and are evaluated further via a screening-level risk calculation (Section 4). Although background media data were collected for the Creek RI, comparisons of tidal creek data to the background data were not performed as part of the COPEC selection process. Presented in the following subsections are descriptions of the creek data (surface water and sediment), sources of screening values, and the COPEC selection process.

3.1. Creek Data

Data utilized for the FWIA comparisons consist of surface water and sediment samples collected by O'Brien & Gere during field efforts related to the RI, as summarized in Section 2 of the Creek RI Report (O'Brien & Gere 2007b). The concentrations of VOCs, SVOCs, and inorganic constituents that were detected in sediment samples collected from the creek are presented in Tables 3-1, 3-2, and 3-3, respectively. For the purposes of this study, sediment samples that included the zero- to six-inch depth interval were evaluated in the screening process as the sedimentary zone of highest ecological importance. The concentrations of VOCs and SVOCs, and inorganic constituents detected in the surface water of the creek are present in Tables 3-4 and 3-5, respectively.

3.2. Screening Methods and Values

In accordance with Step IIB of the FWIA Guidance, the identification of COPEC for the site is based on comparisons of maximum detected concentrations to conservative ecologically-based screening criteria. Presented in the following subsections is a discussion of the media-specific screening values utilized in the COPEC identification process. Table 3-6 presents a summary of the sources of the screening values referenced in this report.

3.2.1. Surface Water Screening Comparison

The maximum concentrations of constituents detected in the surface water of Wappingers Creek were compared to the screening values presented in the *Technical and Operational Guidance Series Number 1.1.1. New York State Ambient Water Quality Standards and Guidance Values* (NYSDEC 1998) and the *National Recommended Ambient Water Quality* (USEPA 2002). The screening values presented in these references are described in Table 3-6. If a detected constituent concentration exceeded either the NYSDEC or the USEPA screening value, then it was selected as a COPEC. Additionally, detected constituents without available screening values were also selected as COPEC.

3.2.2. Sediment Screening Comparison

As described in the Creek RI report, the maximum concentrations of constituents detected in sediment samples collected from the bed of Wappingers Creek were compared to the screening values presented in *Technical Guidance for Screening Contaminated Sediments* (NYSDEC 1999). The screening values presented in the NYSDEC sediment document are included in Table 3-6.



As a conservative measure, the NYSDEC lowest effect level (LEL) was selected as the screening value for this study. For constituents without NYSDEC screening values, alternative screening values were researched and summarized from the available literature. The primary source of alternative sediment screening values is the USEPA Assessment and Remediation of Contaminated Sediment Program (ARCS) database accessed from the Oak Ridge National Laboratory web site (ORNL 2002). For constituents without NYSDEC guidance values, the *No Effects* concentration presented in the ARCS database was selected as the alternative screening value for this study, as a conservative measure.

If a concentration of detected constituent exceeded the NYSDEC or the alternative ecological screening value, then the constituent was selected as a COPEC. Additionally, detected constituents without NYSDEC or alternative ecological screening values were selected as COPEC.

3.3. COPEC Summary

The objective of COPEC identification process is to identify the specific constituents in the environmental media that are present at concentrations that exceed conservative screening values and, therefore, may require further evaluation as part of additional FWIA tasks. As described above, the identification of COPEC for the site was based on comparisons of maximum concentrations of constituents detected in a given media to NYSDEC or ecologically-based screening values. If the maximum concentration of a constituent in a given medium exceeded the lowest screening value, the constituent was identified as a COPEC. In addition, consistent with the FWIA Guidance, constituents for which screening values do not exist were included as COPEC. It should be recognized that evaluation of site data for exceedance of the screening values is the first step in the screening process. Exceedence of screening values does not, in itself, indicate a risk to wildlife, but suggests that further evaluation of potential exposures to those constituents may be necessary.

The results of the screening process completed in the Creek RI identified the COPEC for surface water and sediment through bracketing of the constituent concentrations presented in data summary tables (Tables 3-1 through 3-5). For sediment, organic constituents consisting of polycyclic aromatic hydrocarbons (PAHs) and dibenzofuran, and 11 inorganic constituents were identified as COPEC (Tables 3-1 through 3-3). For surface water, background levels of aluminum, iron, and silver detected during storm event sampling were identified as COPEC (Table 3-5). As presented in Section 3.2 previously, the maximum detected COPEC concentrations were selected for the FWIA risk evaluation process that is discussed in Section 4.

4. Screening Level Risk Calculations

The identification of COPEC for the creek, as presented in Section 3, included the comparison of constituent concentrations detected in creek media to applicable ecological screening values. Exceedence of a screening value indicates that a constituent requires further consideration of potential impacts to ecological receptors from direct contact exposures. In addition to direct contact exposures, exposures to site-related constituents by upper trophic level receptors may occur via ingestion of COPEC in forage. Therefore, constituents exceeding direct contact screening values were also evaluated for their potential to bioaccumulate and cause ecological effects to higher trophic level receptors.

Food chain models provide a simplified approach for assessing the transfer of COPEC from a source to receptors representing different trophic levels. The body burden of chemical via feeding and direct contact is estimated as the total daily intake (TDI, mg/kg/day). In food chain modeling, TDI of COPEC by the selected receptors is estimated based on site specific data and receptor specific information (such as feeding habits, habitat utilization, life history information). The site specific data typically consist of constituent concentrations present in media such as soil or sediment, water, or food base (forage) to which the selected receptors may be exposed. For this study, maximum concentrations of sediment and surface water data from the creek were used in the model. To estimate the levels present in forage, conservative, literature-derived, biota-sediment accumulation factors (BSAFs), bioaccumulation factors (BAFs), or bio-concentration factors were applied.

The output of the food chain model is a hazard quotient (HQ). To derive a HQ, the receptor's TDI is compared to conservative toxicity reference values (TRVs, mg/kg/day). The HQ is a unitless ratio of a receptor's TDI to the TRV. A HQ less than one indicates that adverse effects are not likely to the receptor. A HQ of one or greater does not necessarily indicate ecological impact, but suggests that the exposure pathway requires further evaluation. The derivations of the TDIs and TRVs used in the food chain model are presented below:

- TDI is the sum of potential exposures via ingestion from surface water, sediment, and forage. For the receptors selected for this study (mink and great blue heron), forage considered in the model included exclusively trophic level 4 fish.
- The TRVs used in the food chain model are conservative literature-derived toxicologic effect concentrations referred to as no observed adverse effect levels (NOAELs). The NOAELs are chemical and organism specific and typically based on laboratory toxicity studies. For the food chain model presented in this FWIA, literature research conducted by Oak Ridge National Laboratory, and summarized by Sample et al. (1996), was the primary reference for the NOAELs selected as TRVs. Sample et al. (1996) presents data related to the toxicity of chemicals to wildlife, including the extrapolation of laboratory-derived values for a specific species to a variety of other wildlife species. The TRV extrapolations presented in Sample et al. (1996) were based on ratios of body size, water ingestion, and food consumption.

In performing the food chain calculations, the maximum constituent concentration detected in sediment and surface water was applied to model potential exposures. The media concentrations were multiplied by biota uptake factors to estimate constituent specific concentrations in the forage. The biota uptake factors were compiled from literature sources or available databases. Conservative



life history parameters (e.g. highest ingestion rates, lowest body weights), as presented in Wildlife Exposure Factors Handbook (USEPA 1993) were also utilized in the screening risk calculation.

For this report, a food chain model was developed for an aquatic ecosystem in two steps. First, the constituent concentrations in the forage were estimated for benthic invertebrates and piscivorous fish. Then, the forage estimates were incorporated into food chain models for the selected upper trophic level ecological receptors, as described below.

4.1. Selected Ecological Receptors

Ecological receptors evaluated for the FWIA of the creek consisted of the mink and the great blue heron as described in the following subsections.

4.1.1. Mink

The mink (Mustela vison) is a small nocturnal mammal that lives along rivers, creeks, lakes, ponds and marshes. The mink may use old muskrat burrows, abandoned beaver dens or hollow logs for dens. Mink may also dig out its own den along stream banks (Whitaker 1980). Mink hunt in and along the water and kill their prey by biting the neck (Whitaker 1980). The preferred food of mink is muskrats, but they also eat fish, frogs, young snapping turtles, snakes, small mammals, and marsh-dwelling birds. Mink may eat their prey on the spot or cache excess prey in their den (Whitaker 1980). The home range of the mink has been estimated to range between eight to 20 hectares in Montana rivers and from one to five kilometers along streams in Sweden (USEPA 1993).

Although no mink or indicators of their presence were observed during the wildlife survey of the study area, mink likely utilize the aquatic habitats in the vicinity of the creek. Selection of mink as a representative mammal provides a conservative evaluation for mammalian exposures to site COPECs. The mink is thought to be one of the most sensitive mammals to certain COPEC exposures. The mink was selected for the FWIA to evaluate food chain exposures to predactious mammals potentially utilizing the site.

4.1.2. Great Blue Heron

Great blue heron (Ardea herodias) are the most widespread of all the North American herons. They live in both salt water and fresh water and tend to frequent shallow waters of lakeshores, ponds, bays, oceans, marshes, tidal flats, sandbars, and streams (Terres 1980). Great blue heron perch and nest in trees, but spend the majority of time ashore or in shallow water. The great blue heron lives separate from other herons, except for when it nests communally in rookeries during breeding.

Great blue heron have been observed foraging up to 24 kilometers from their nest site (USEPA 1993). Herons prefer to fish just before dawn and dusk. This is accomplished by standing in shallow water or a perch and waiting for prey to come within striking distance or dropping into deep water to strike at schools of fish (Terres 1980). Small fish are swallowed whole and large fish are speared and swallowed.

Herons may also hunt in meadows and fields. Besides fish, the great blue heron will eat frogs, salamanders, snakes, shrimp, crabs, crayfish, grasshoppers, dragonflies, aquatic insects, small mammals, and the occasional rail and phalarope (Terres 1980).



4.2. Hazard Quotient Summary

Hazard quotient estimates calculated from the food chain model for Wappingers Creek are presented in Table 4-1. The table below summarizes the HQ ranges estimated for COPEC of the mink and great blue heron.

HQ ranges estimated for COPEC of the mink and great blue heron.

HQ	Mink	Great Blue Heron
1 to 10	chromium thallium zinc 2,4-dimethylphenol fluorene	cadmium chromium cyanide zinc 2,4-dimethylphenol phenol
10 to 100	aluminum antimony arsenic cadmium selenium phenol pyrene	mercury
Greater than 100	mercury benzo(a)pyrene benzo(b)fluoranthene chrysene Indeno(1,2,3-c,d)pyrene	antimony benzo(b)fluoranthene chrysene pyrene

Source: O'Brien & Gere Engineers, Inc.

The HQ values, estimated using conservative exposure estimates, and toxicity values provide a mechanism to assess if additional evaluation is necessary to estimate actual adverse impacts to exposed receptors. The interpretation of HQ results was presented previously in this Section. In most cases, there is insufficient dose-response data to directly compare HQs associated with different constituents. Therefore, it is not reasonable to infer that the constituent with an HQ of 100 is associated with ten times more risk than the HQ of ten. The numerical designation is a convention designed to facilitate evaluation of potential effect. In fact, the relative risk is not known and can not be directly correlated with the magnitude of the HQ.

Based on the screening-level HQ estimates, the COPEC identified above may require further evaluation as part of additional FWIA tasks, due to their potential for food chain exposures to the identified receptors. The other constituents identified on Table 4-1 resulted in HQs less than one. As shown on that table, TRVs were unavailable in the reviewed literature for cobalt, iron, magnesium, sodium, dibenzo (a,h)anthracene and carbazole. Therefore, HQs could not be calculated for those constituents.

5. Summary and Conclusions

This FWIA evaluated the physical and biological characteristics, potential ecological exposure pathways, and potential risks to selected receptors of Wappingers Creek. Results of Step I of the FWIA are presented elsewhere in this appendix. This report presents the methods and findings of the Step II FWIA through Step IIC, the *Toxic Effects Analysis*. This report was prepared as a streamlined screening level assessment incorporating maximum concentrations of constituents detected in surface water and sediment to conservatively estimate potential exposure of selected receptors.

A summary of the results of this analysis along with the conclusions of this assessment as they pertain to Wappingers Creek are presented below:

- Wappingers Creek provides aquatic/wetland habitats.
- Maximum concentrations of chemical constituents in creek media (surface water and sediment) were detected above conservative, ecologically-based screening values.
- Benthic macroinvertebrates and water column organisms may be exposed to COPEC where maximum concentrations of constituents occur in sediment.
- Higher trophic level organisms may also be exposed to COPEC by indirect accumulation of constituents via the food chain.
- The exposure concentrations for sediment were generally much higher than those for surface water indicating that sediment concentrations were primarily responsible for elevated HQs that were observed.
- Sediment COPEC resulting in HQ's greater than one consisted of SVOCs and inorganic
 constituents. Specifically, the SVOCs consisted of 2-dimethylphenol, phenol, and PAHs; the
 inorganic constituents primarily consisted of antimony, cadmium, chromium, mercury, and zinc.
 Additional inorganic constituents were also identified as COPEC for the individual species (mink
 or great blue heron).
- For both the mink and great blue heron, the maximum HQs were associated with potential exposure to PAHs.
- Inorganic COPEC that resulted in the highest calculated HQs values were mercury (mink) and antimony (great blue heron).



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DRAFT Table 3-1

Three Star Anodizing Site

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS Sediment	WP-LK01-A	(01-A	WP-LK01-A	K-102	WP-LK01-A	A-102	WP-L)	WP-LK01-B	WP-LK01-B	(01-B
	Sample Date	Values	05/10/2001 0 - 6 in.	2001 in.	05/10/2001 6 - 12 in.	2001	05/10/2001 19 - 25 in.	2001 5 in.	05/10/2001 0 - 6 ia.	/2001 5 in.	05/10/2001 6 - 12 in	2001 in
Compound		ug/g OC	C mg/Kg	SC SC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C C mg/Kg	SC ug/gOC
4-butanone (MEK) Acetone			0.02 J	0.2	0.02 J	63	0.03 J	0.8	0.01 J	0.2	0.03 J	0.5
Carbon disulfide			0.005 J	0.05	e E		- / / / -	- 7. I		1	1000	1.0
Curoromenane Methylene chloride									1		0.01 1	0.7
Tetrachloroethene		Tetraciloroethene		1	1	1 :	0.01 J	[0.3]	: : 1		1	
Toluene		49		ी । -				1	I.			
Trichloroethene		Trichloroethere						1 1		्र । ्री	1 4	1
cis-1,2-Dichloroethene		Ayene (total) 92 css122-Dichlorochiene	19	1	1	1	:	.	6 2 1 1		 (*) (*)	; []
trans-1,2-Dichloroethene						1		1				1
ija Sasti		1100		1 88	1	 	1	1	10	1	1	
Total BTEX		SN	1	1			1 1 1 1 1	1	() () () () ()			
Total VOCs		NA.		1.3			0.01	0.3				1 #
Total organic carbon (mg/Kg)		NA CONTRACTOR OF THE CONTRACTO	00.02		0.02 47000	0.4	0.1	m .	0.01	0.1	0.05	0.8
% TOC		NA	21	: -	4.7		3.4		00800 6.7		62000	ľ
			22		35		94	1	22	Į,	33	
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										7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		
INO LES: J - estimated value, NS - n When AS>=5%, e=5%; w	no screening value, NA - not then AS<5%, e=AS TOC%.	t applicable, analyte not detected, []- concentration ab Samples analyzed by methods NV 4 820 64 1 NV 6 2	ncentration above screening value. e - estimated concentration using TOC data from another sample (AS) collected at the same location.	uc c - estimated	concentration usi	ing TOC data fro	m another sampl	c (AS) collected	at the same locat	jon		
Screening values are ecole * Screening concentration	ogical values except as noted (SC) calculated as concentration	Screening values are ecological values except as noted: H = human exposure by fish consumption, W = drinking. * Screening concentration (SC) calculated as concentration (C) / fraction of organic early (for) in mire of mire?	NASS Sequencial Societing Values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999). Hinter of triangles of Contaminated Sediment (NYSDEC 1998, 1999).	es are guidance v	alues obtained fr	rom Technical Gr	idance for Scree	ning Contaminat	ed Sediment (N)	YSDEC 1998,19	(66	
for %TOC outside that range (not caic.).	nge (not calc.).	4 4	UC. 50 GGIVE 10	r seument with	A LOC ranging o	ctween 0.2% and	12%. SC was n	ot calculated	Page	1 of 4		

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Three Star Anodizing Site

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS Sediment	WP-LK01-B DUP	-B DUP	WP-LK01-B	K01-B	WP-LK01-C	O1-C	WP-LK01-C	01-C	WP-LK01-C)-C
	Sample Date	Values	05/10/2001 6 - 12 in.	2001	05/10/2001 25 - 31 in.	2001 1 in.	05/10/2001 0 - 6 in.	2001 in.	05/10/2001 6 - 12 in.	2001 in.	05/10/2001 26 - 32 in	001 in
Compound		ug/g OC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	OS/Sn OS	C C mg/Kg	SC ug/goc
2-Butanone (MEK) Acetone		SN SN	0.04 J	0.7	0.02 J	0.3	0.02 J	0.3	0.04 J	9.0	0.03 J	9.0
Carbon disulfide		NS NS NS NS NS NS NS NS NS NS NS NS NS N	0.006 J	l 70	0.004 J	0.07	1) 	0.1.1	[2]	[[[2]
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trans-1,2-Dichloroethene		0.0)] - -	<u> </u>				1		ľ
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Total VOCs	24 - 14 - 15 - 15 - 15 - 15 - 15 - 15 - 1	NS NS NS NS NS NS NS NS NS NS NS NS NS N	0.05 0.05	- - - - - - - - - - - - - - - - - - -	 - - -	1 0	- 00	ا د	. 0003 0-7	9.05		
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NOTES: J - estimated value, NS -	no serecomo value NA - 200 a	The second secon										
	when AS<5%, e=AS TOC%. S logical values except as noted:	When AS>=5%, e=5%, when AS<5% TOC%. Samples and year by fish postulation and a drinking values are ecological values except as noted; H= human exocour by fish consumption. W= drinking values are ecological values except as noted; H= human exocour by fish consumption. W= drinking	5 × 3	uc. c estimated tes are guidance y	concentration us	Sedeching value, e - estimated concentration using TOC data from another sample (AS) collected at the same location. screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999). server of the same server of the ser	on another sampl uidance for Scree	e (AS) collected ming Contaminat	at the same locati ed Sediment (NY	on. 'SDEC 1998,19	. (66)	
* Screening concentration (SC) calculate for %TOC outside that range (not calc.).	on (SC) calculated as concentrationage (not calc.).		units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated	or sediment with	%TOC ranging l	between 0.2% and	112%. SC was n	ot calculated	Page	2 of 4		

for %17OC outside that range (not eale.)

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Three Star Anodizing Site

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS Sediment		97	LG-OUT	WP-LGOUT2	OUT2	WP-16	-16	WP-18	81	I M	WP-18
	Sample Date	Values		05/0	05/09/2001 0 - 6 in.	05/13/2003 0 - 6 in.	2003 in.	05/09/2001 0 - 6 in.	/2001 in.	05/09/2001 0 - 6 in	2001	05/09/200 G: 121-3	05/09/2001 6 - 17 is
Compound		ng/g OC		C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	С mg/Kg	SC ug/goC	C mg/Kg	SC ug/goc	C C mg/Kg	SC SC wg/gOC
2-Sutatione (MEK) Acetone Carbon disulfida	(w) (x0)				1 1					0.008 J	0.3	0.007 J	003
	人名英格兰 医克里氏 医克里氏 医克里氏	S S		1 1				: 		0.005 J	0.2	0.002 л	0.08
		0.09 (W)			1		 	0.002 J	[0.2]	0.004 J	[0.2]	 	
Letrachloroethene		0.8 (H)		0.02	0.4			T			[]		57 4
Trichloroethene 2.0 (H)		2.0 (H)		0.02	1 0	1 000	1000	3 4 11 3	T Å				1,
Xylene (total)		82		0.002 J	0.04	· · ·	}	- - -) 	1 1	 	
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Total organic carbon (mg/Kg)		N N		56000	60	0.004	03	0.002	7	0.02	6.0	0.009	0.4
% TOC		¥.		5.6	· I	1.2.1	.	60	: 	2.3	<u> </u>	2.4	
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NOTES: J - estimated value When AS>=5%, e	c, NS - no screening value, NA - not a ===================================	applicable, — .	J estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above screening value. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS>=5%, e=5, months and another sample (AS) collected at the same location.	ove screening	value e - estimated	concentration usi	ing TOC data fro	om another samp	le (AS) collected	at the same location			
Screening values :	are ecological values except as noted intration (SC) calculated as concentra	H=human e ation (C) / fracti	Screening values are ecological values except as noted: H = human young included it is not a second to be a sec	water source.	14.1.5 securent screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (AYSDEC 1998,1999). W = drinking water source are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (AYSDEC 1998,1999). Hits of tailor C SC drinking for confirment with WTOC manifest the seminated for the seminated	values obtained fr	om Technical G	uidance for Scree	ening Contamina	ted Sediment (NY)	SDEC 1998,195	.66	
for %TOC outside	for %TOC outside that range (not cale.).		39.0		ממווומיור אודו	o Singing o	ctwccn 0.2% an	1 12%. SC was r	not calculated	Page	3 of 4		•••
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Three Star Anodizing Site

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Volatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	SXN	WP-29	59	WP-29	29	WP-29	9.	Td-dM			
	Sample Date	Sediment Values	05/09/2001	1001	05/09/2001	2001	05/09/2001	100	05/08/2001	100		
Commoning		ng/g OC	0-6 in. C mg/K9	SC SC	6-12 in. C me/Ko	ii. SC	2 - 18	SC SC	i-11 i	SC.	ပ	သွ
(MEK		NS	0.008 J	0.4	0.03 J	ug/goc 5	0.08 T	DOS/gu	mg/kg	ng/goc	mg/Kg	ng/gOC
		**************************************		I	0.09 J	[12]		•	0.06.1	10.71		
Carbon disulfide	A COLUMN TO THE COUNTY OF THE COUNTY	í		1	0.003 J	0.4	0.01 J	0.1	6 2 4 3	<u> </u>		
ਂ .ਤੁ	STREET, STREET	CW) 00 0		i	1 .			T.				
Tetrachloroethene		(0.8(H)	1)		0.02	<u> </u>			1	1	:	:
Toluene	3 5 5 3 3			: 				<u> </u>		1		
Trichliorocthene		2.0(H)		1						1		
Xylene (total)		1.0	1 .	1 :	1	1	. 1 :	1	1	1		
rans-1,2-Dichloroethene	(w) 0.0 0.6	b(w) 0.6	1 1	; ; ;)	1		1		
		· · · · · · · · · · · · · · · · · · ·							r B			
Total BTEX		SN	1	1	1		1 [: ;		1		
Total VOCs		S X		1 2	0.02	ر ۲	1 8	1 8		<u>.</u>		
Total organic carbon (mg/Kg)		W. Company of the Com	21700	* A	7330	<u> </u>	105000	 } }:	60:0 1	-		7
% TOC	:		2.2	1	0.7		11		:	: ;		
Percent solids (%)		ANA CANAN	56	ſ	62	1			4	-		
では、1912年の1912年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の												
											\$ 1 S	5
金の大学の行為というといわれるとの意味を開発を表現のような教育を表現の意味を表現し												
		1										
						8 20 20						
10多数10000000000000000000000000000000000												Á
								35 35 33				
				<u> </u>		<u> </u>						
NOTES: 1. ceimated value NS	stimated value NS and engagement and and and and and and and and and and											
	when AS<5%, e=AS TOC%.	When AS>=5%, e=5%, when AS<5%, e=570C%. Samples analyze to uservice, 1 - concentration above screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999). Screening values are coological values except as noted: H = human exposure by fish consumption; W = drinking water source.	ove screening valuent screening values, water source.	ue, e - estimated es are guidance	concentration us values obtained f	ang TOC data fa rom Technical G	om another sample uidance for Screen	(AS) collected a	at the same location of Sediment (NYS	n. SDEC 1998,19	.(66	_
Screening concentration (SC) calculate for %TOC outside that range (not calc.) Date better	ion (SC) calculated as concentra range (not calc.).	ation (C) / fraction of organic carbon (foc) in units of ug/gO	C. SC derived fo	r sediment with	%TOC ranging b	octween 0.2% an	d 12%. SC was no	or calculated	Page 4	t of 4		

Three Star Anodizing Site Wappingers Falls, New York

Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

San	Sample ID	NYS	Ecological	WP-LK	LKI	WP-LK2	LK2	WP-LK3	LK3	WP-	WP-LK4	WP-LK5	KS
San	Sample Date	Values	Screening Values	05/12	05/12/2003	05/12/2003	2003	05/12	05/12/2003	05/12,	05/12/2003	05/12/2003	2003
				0 - 6 in.	S in.	0 - 6 in.	ä.	0 - 6 in.	ii.	0 - 6 in.	in.		i,
Compound		ug/g OC	rng/kg	C mg/Kg	SC пв/80С	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	С mg/Kg	SC ug/gOC
	:	12		1	:							1	
1.3 - Dichlorobenzene		12			1:		1		1		ा .)		
2-Wethylnanhthalene			1 2		1	1	1 5		1:	1	1	1	1
		SN)	i	i. 1	: · -	1		1		
	SN	SN		1	:				* 	 		ij	
		NS	1	·	;			.; }	: : 1				
lene		È.		ļ. 1									
			1	1	1		. 1		-		1	. [: 1
Benzo(a)anthracene		12				l	, 1	0.3 J	4	0.2 J	5	0.3 J	7
Benzola pyrene			0.44 (1)	0.2.1	<u>[</u>	 	1 4	0.3 J		0.2 J		0.4 J	<u>®</u>
		(H) (H) (N)	4.0(1) 3.8(1)	0.4	2.	0.4 J	4	0.5 J	[6]	1 70	[6]	0.6.1	[13]
2	(H)(E)(1)(A)(A)(A)(A)(A)(A)(A)(A)(A)(A)(A)(A)(A)	(H) (H)	4.0(1)	 	- 	: ا ا ك		:: 	1 1	0.2.)	4 :	0.2 J	ر ک
		NS	NS	· 1	· 1		- 	. 1	1	1	: 	ं हे हे	् इ. ।
				03.1	£	0.3 J	<u></u>	0.4 J	[9]	0.3 J		0.4 J	501
Di-n-butyl phthalate		SN	1	1	1	1.	1	ı	:	1		1	· • 1
		NS -		1				y J	1				
4				11	1]	: () ()	1	: 1 :	1	13	}	1	1 8 1 1 1
		1020		0.4)	4	0.5 J	۸ (0.61	0	150	; =	07.1	1 5
				Î				1			: .i		1. 1
		1.3 (H)		ı	1		1	ı		0.2 J	<u>.</u>	0.2 J	[2]
Naphratene		30		T T	ı				1				
Phenol Present Company (120)		0.5 m		1 :		1 1			1	0.2 J	₹ .	0.2 J	ς,
Pyrene		961	1	0.4 J	4	0.5.1	"	190	2 ا	- 50	ļ, F	1 0	ן נ
Bis(2-ethylhexyl)phthalate (BEHP)		200			1		Í		: 1	3	: 1	§ 1	: :
Total creamic carbon (mo/Ke).		N.A.		100001		. 00/10							
% TOC				10.1	I I	9.2.1		63.1	1 1	421003)	46100.1	ì
Percent solids (%)		A CONTRACTOR OF THE SECOND STATE OF THE SECOND		18	ì	12		41		25		36	
Total PAHs (mg/Kg)		4.0 (L)	85(1)		:::	1.7	7 Y	٧,		, u			
Total Carcinogenic PAHs		SN	SN	6.0	: :	0.7	[]	1.5] [2	1 1	[4.1] 2.2	!
				1.7	1	1,7	1	2.6	1	2.5	1	4.1	
		1.3 (H)	NS	0.3	<u></u> E	0.04	0.4	0.4	[9]	0.3	Ε	0.5	[11]
							6 F					i B	
				A 24 25 26 18									
NOTES: J - estimated value, NS - no screening value, NA - not applicable, analyte not detected.	creening value, NA	- not applicable, analyte	- concentrat	sbove sedim	ent screening value. {	} - concentration	concentration exceeds ecologi	cal screening val	uc. c - estimated	concentration using TOC data from	ing TOC data fr	E.	
another sample (As) collected at the same location. When AS>=3%, when AS>=3%, when AS>=3%, e-k Contaminated Sediment (VNSDEC 1998, 1999): I = screening stude for total unchloinfated ph	SDEC 1998,1999);	on. When A5>=5%, c=5%; v t = screening value for total	when AS<5%, e=AS TOC%. Sam unchlorinated phenols. Screening	npies analyzed by g values are ecolog	method NY ASP sical values exce	95-2 NYS sedim pt as noted: H = h	nent screening v human exposure	I screening values are guidance values ian exposure by fish consumption; W	tion; W = drinkir	obtained from Technical Guidance = drinking water source protection;	Guidance for Screening protection;	rcening	
Screening concentration (SC)	ocological screening) calculated as conce	; values are: (1) EPA ARCS N entration (C)/fraction of organ	to Effects concentrations; (2) NOA.		threshold concern	A upper effects threshold concentration (1999). So derived for exclinent with \$2.700 maintain between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintain between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132%. SO ment of the exclinent with \$2.700 maintains between 0.3% and 132% and 1	797 C Company		والمركم المراسية المراد	Page	1 of 17		
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Wappingers Falls, New York Three Star Anodizing Site

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

					į								
	Sample ID	NYS	Ecological	WP-LI	WP-LK01-A	WP-L!	WP-LK01-A	WP-LK01-A	01-A	WP-LK01-B	CO1-B	I-dW	WP-LK01-B
	Sample Date	Sediment Values	Screening Values	05/10/2001	12001	05/10/2001	/2001	05/10/2001	2001	05/10/2001	2001	08/10	05/10/2001
				0 - 6 in.	ii.		2 in.	19 - 25 in.	.E	0 - 6 in.	in.	6 - 1	6 - 12 in.
Compound		ug/g OC	mg/kg	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC
1,2-Dichlorobenzene		12 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	1.0000000000000000000000000000000000000		-		1		1 :				
1,4-Dichlorobenzene		12			1		1 1	1	1		1	1	;) :
2-Methylnaphthalene		100mm 100m				1	ं - -	1 .1	1 1		l :	1	}
14		NS	1	1		1	1		:			[LI
4-Methylphenol		NS			· I	1		1	ı				1.
Acenaphthylene		SN			1 1	; ·	1		1 :	1	1	1	. 1 .
Anthracene		107] 	1	F.		 	in in the second			
Benzo(a)anthracene				. 0.4 J	4	0.2 J	4		4	100	1 4	0.3 %	
Benzo[a]pyrene		1.3 (H)	0.44(1)	{0.5 J}	· (S)	0.2 J	4	0.11	- 6	(0.5 J)	> [~	0.3 J	† 4
Benzo(b)fluoranthene		13 (H) 1 (H)	4.0(1)	1.0.1	[01]	0.4.1	6	0.2 J		0.8 J	[12]	0.53	- [6]
Benzo(ghi)perylene			3.8(1)	} .	}	1	: : I	1	. I	0.2 J	7 2	1	21
Benzo(k)Huoranthene		13 (H)	4.0(1)	0.3 J	33		1	0.08 J	[3]	0.3 J	[5]	0.2.)	(3)
Caroazole		NS	SN		1	1	!	: 1	: 1	; ; f	. 1) I
Carlo Restal attendants		(H)(H)	J	0.6 J	<u> </u>	0,3 J	(<u>6</u>	0.2.1	<u>(5)</u>	0.6 J	[6]	0.3.1	[2]
Diensoctyl phulalate		S S S	1	10	1 :	}		١,	1	1	. 1		: :
Dibenzo(a, h)anthracene		16		Į.	i.		1	ľ	1		ſ	1	
Dibenzofuran		CI SN		 	1	1	1		1	}	1	1	}
Fluoranthene				101	1 9	. T V	} •	100	; (· :		
Fluorene					: 1	; ;	\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.	\$ 100 S	* 1 i			(co	on :
র্		1.3 (H)		•		1	1	1		03.1	1 3		i I
Naphthalene						1	1		1.				
r nenanurene Phenot		120		0.4 J	4	0.2 J	2	0.13	4	0.5 J	7	0.3 J	. 4
Pyrene		961		- - - -	=	190	1 =	1 2	1 5				
Bis(2-ethylbexyl)phthalate (BEHP)		200		1113	1	0.5 J	: =	0.3 J	2 0	0.6 J	° %	0.8 J	J 4
Total organic carbon (mo/K o)		No. 1 NTA						:					
% Toc		AN AND THE RESERVE TO		00166	1	47000	1	33800	T	00899		62000	
Percent solids (%)		NAME OF THE PROPERTY OF THE PR		22		35	1	3.4	1	6.7	1 1	6.2	1
						}		ř	1	67]	32	
Total PAHs (mg/Kg)			(1) 58	[5.4]	}	2.4		1.4		[5:3]		3.2	
Total SVOCs		NN	S	2.7	1	=	1	0.7		2.8	1	1.6	1
្ន		13 E	1 2	6.3	{	2.9		1.7	<u></u>	1.9		3.6	1:
		-00	Q.	9	[9]	0.3	<u> </u>	0.1	[6]	9.0	<u></u>	0.4	<u></u>

1- estimated value, NS - no sercenting value, NA - not applicable, — - analyte not detected. [] - concentration above sediment sercenting value, AS - sequence of the same location. When AS=5%, e=5%, when AS=5%, e=6 TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment sercenting value, a eagurance values obtained from Technical Guidance for another sample (AS) collected at the same location. When AS=5%, e=5%, when AS=5%, e=6 TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment sercenting values are guidance values obtained from Technical Guidance for Sercenting values are collected and unchlorinated planels. Servening values are collected and unchlorinated planels. Servening values are equipment of the same of the same specific accountance of the same of the same value of the same of the same value of the same of the same value of the NOTES:

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Three Star Anodizing Site

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

ple Date cening value, NA - not ap and yealue, NA - not ap and the stream of the stre	Sample ID		NYS Sediment	Ecological	WP-LK01-B DUP	8 DUP	WP-LK01-B	01-B	WP-LK01-C	.01-C	WP-L	WP-LK01-C	WP-LK01-C	OI-C
## 10 10 10 10 10 10 10 10	Samp		'alues	Values	05/10/20	201	05/10/2	1001	05/10/	1002	05/10	/2001	/01/50	1001
## CAC mayks with the control of the												2 in.		
12	Compound	ซิก	/g OC	mg/kg		ug/gOC	mg/Kg	ng/goc	mg/Kg	JOS/Sn	mg/Kg	SC ng/gOC	mg/Kg	SC ug/goc
13 14 15 15 15 15 15 15 15	1,3-Dichlorobenzene		12 12			1		1 :				1	1	
NS NS NS NS NS NS NS NS NS NS NS NS NS N	1,4-Dichlorobenzene		12				!	•	1	1	•			1
NSS	2-Methylnaphthalene		34							1 1		1 1		1 d
NS NS NS NS NS NS NS NS NS NS NS NS NS N	4-Methylphenol		SN Si	1	1	1		; ; ; [1	· I	. 1	:: :: ::		i I
12 12 12 13 14 15 15 15 15 15 15 15	Acenaphthene		2 N		-	ı	1			1.		ì		i
10 10 10 10 10 10 10 10	Acenaphthyfene		S		 	- - - -		1	1 :	1	l	1	1	1
13(H)	Anthracene	1	07		1	.			•	 	i.	j.		
13(H)	Benzo(a)anthracene		1.5		0.3 J	۲,	0.09 J	2	0,4.3	7	.02.1	4) 	•
1.3 (H)	Benzo(A)Microsoft	30			0.3 J	[5]	0.09 J	[2]	0.4 J		0.2 J	. <u>4</u>	0.2 J	, <u>(</u>
13 (Fig. 1974) 1.0 (Fig. 1	Benzo(ghi)pervlene				0.5 J	<u>6</u>	0.2 J	(3)	0.8 J	[14]	0.4 J	Ε	0.2.5	<u>.</u>
13(ft)	Benzo(k)fluoranthene		2 €	3.8(1)	1.00	! [1	1	0.2 J	m	0.1 J	2	0.4 J	10
13 (ft)	Carbazole	. ~	(S)	NS (2)	[7] 	<u> </u>		1.	0.3 J	[2]	0.1.1	[2]		
NS 5.1(2)	Chrysene				0,4 J	[7]	0.1 J	<u> </u>	0.61	1	. 0.4°	9	100	1 [5
18 18 18 18 18 18 18 18	Di-n-butyl phthalate	~ ,	Š	-	1		1		1	<u>:</u> : {} {} (2.	Σ I	, k	<u> </u>
Nat	Dihenzo(a hlanthracene		2			Ţ	Ì	<u> </u>				j.		
1020	Dibenzofuran		S			1	1	1	1:	1	1	!	: }	. 1
13 (H)	Fluoranthene	01	720		0.6 J	, 0	0.2.1	~	100	1 4	1 70			
1.3 (H)					· 等等		1		` }	?		•	(£.0	
120	Indeno(1,2,3-cd)pyrene	£1	Œ)			1		1	0.3 J	5	0.1 J	[2	0.1 J	1 5
0.5 (1)	Phenanthrene	7 : 1 : : : : : : : : : : : : : : : : : :				; ф.,	1	ì						
961 10 17 13 13 13 15 10 17 17 15 17 17 17 17 17	Pheno!	96 44	ji J		0.3 J	5	0.1 J	2	0.4 J		0.2.3	4	0.2 J	4
NA	Pyrene	1. 5	51		0.7 J		110	•	1 2	:	1 5			ī
NA	Bis(2-ethylhexyl)phthalate (BEHP))	00	1 1	0.5 J	· · ·	0.2 J	, ea	0.5 J	<u></u>	03.1	٠,	0.4.1	0 4
NA NA A (0 (1)	Total organic carbon (mg/Kg)		A ************************************		55200	•	54700	-	00285		55500			
NA	% 10C			:	5.5		5.5	1	5.9) 	26	•	38800	1
NS	referent souds (%)	Z		11.7	34		48		23	1	36		ે જ	
NS NS 1.5 6.5 15.4 2.6 2.0	Total PAHs (mg/Kg)	4.0		85 (1)			ć							} :-
NS 13 (H) NS 0.3 [5] 0.1 [2] 0.6 [10] 0.3 [5] 0.1 [2] 0.6 [10] 0.3 [5] 0.2 Cerling value, NA - not applicable, — - analyte not detected. [1 - concentration above sediment screening value. [3 - concentration using TOC data from DEC 1999, 1999, 1 - screening value for rocal unchlorinated phenols. Screening values are cological screening values are cological surrening value. [4 - concentration (1999, 1999), 1 - screening value for rocal unchlorinated phenols. Screening values are cological screening values are (1) EPA ARCS No Effects concentrations; (2) NOAA upper effects threshold concentration (1999). Page 3 of 17 and 12%. SC vas not calculated for varior outside that range (not calc.)	Total Carcinogenic PAHs	Z		SN	1.5	:	0.5		2.8		2,6		2,0	
1.3 (H) NS 0.3 (5) 0.1 (2) 0.6 (10) 0.3 (5) 0.2 (2) 0.1 (2) 0.6 (10) 0.3 (5) 0.2 (2) 0.1 (2) 0.6 (10) 0.3 (5) 0.2 (2) 0.2 (2) 0.2 (2) 0.3 (2) 0.2 (2) 0.3 (2) 0.3 (3) 0.3 (4)			S	100	3.5	J.	1.2	į.	5.9		2.9		0.9	1
eming value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds ecological screening value. e - estimated concentration using TOC data from DEC 1998,1999). L= screening value for rocal unchlorinated plenols. Screening values are ecological values except as noted. H= human exposure by fish consumption; W= drinking water source protection; ological screening values are ecological value values are ecological values are ecological v			(F)	SN	0.3	[5]	0.1	[2]	9.0	[10]	0.3	[2]	0.2	[5]
cening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds ecological screening value. e - estimated concentration using the 1984 1995 - concentration with the 185-87% e^-AS TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment screening values are guidance values obtained from Technical of 1988, 1999;	4													
ecning value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value. { } - concentration exceeds ecological screening value. e - estimated concentration using the 1984 ps. b. when ASS-85%, estimated properties and properties are estimated by the 1984 ps. p. p. p. p. p. p. p. p. p. p. p. p. p.									7 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
att 19 seam botation. When AS>=9%, when AS<5%, e=AS TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment secure congent astronum yature. — teatmate to tooleration using the 19 sequence of the proper as rock of the human exposure by fish consumption; W = drinking water source prological screening values are: (1) EPA ARCS No Effects concernations; (2) NOAA upper effects threshold concernation (1994). — Imman exposure by fish consumption; W = drinking water source prological screening values are: (1) EPA ARCS No Effects concernations; (2) NOAA upper effects threshold concernation (1994). — Page alone of organic carbon (60-) in units of ug/gOC. SC derived for sediment with %TOC maging between 0.2% and 12%. SC was not calculated for %TOC outside that		ening value, NA - not applic	cable, analyte not dete	cted. [] - concentration abo	ove sediment screen	ing value () -	Concentration	conde acologica						
ological screening values are: (1) EPA ARCS No Effects concentrations; (2) NOAA upper effects threshold concentration (1999). alculated as concentration (C)/fraction of organic carbon (fee) in units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 1.2%.	another sample (AS) collected an Contaminated Sediment (NYSD)	the same location. When A EC 1998, 1999): 1 = screeni	AS>=5%, c=5%, when AS ng value for total unchloris	<5%, e=AS TOC%. Sample nated obenols. Screening v	les analyzed by meth	od NY ASP 95	-2. NYS sedimer	of screening val	ics are guidance	values obtained o	~ .⊻	ng TOC data fro Suidance for Scr	ım reening	
Committee of the second control of the secon		ogical screening values are: Iculated as concentration (C	(1) EPA ARCS No Effect	ions; (2) NO	A upper effects thres	hold concentra	tion (1999).	name exposure o	y iish consumpti	on; w = drakinį	g water source p Page	otection; 3 of 17		
	03/11/		Some and some some some some some some some some		SC UCHYCL IOT SCI	ument with % I	OC ranging betwo	een 0.2% and 1.	%. SC was not	atculated for %1	TOC ourside tha	range (not cale.	ó	

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Three Star Anodizing Site Wappingers Falls, New York

Wappinger Creek Investigation - Sediment Samples
Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Jedinient Values ug/g OC 12 12 13 NS NS NS NS NS NS NS NS NS N	Values Values mg/kg	05/09/2001 0 - 6 in. C S mg/Kg ugy	208/200C	05/09/2001 0 - 6 in. C (2001 in. SC ug/gOC	05/09/2001 0 - 6 in. C S	2001 in.	05/09/2001 0 - 6 in.	2001 in.	05/09/2001	2001 in. S.C
Compound 1.2-Dichlorobenzene 1.3-Dichlorobenzene 1.4-Dichlorobenzene 1.4-Dichlorobenzene 2-Mettylinaphthalene 4-Choroaniline 4-Choroaniline Acenaphthene Acenaphthene Acenaphthene Benzolaphtracene Benzolaphtracene Benzolaphtracene Benzolchfluoranthene Benzolchfluoranthene Carbazole	12 12 12 13 14 NS NS NS NS NS NS NS NS NS NS NS NS NS		0 - 6 in	%	0.6ii C mg/Kg	n. SC ug/gOC	0-6i	.si	0-6	ii.	9-6	.ii
Compound 1.2-Dichlorobenzene 1.3-Dichlorobenzene 1.4-Dichlorobenzene 2-Methyinaphthalene 4-Chloroaniline 4-Wethyiphenol Acenaphthene Anthracene Benzo(alpyrene Benzo(alpyrene Benzo(alpyrene Benzo(chitogranthene Benzo(chitogranthene Benzo(chitogranthene Benzo(chitogranthene Benzo(chitogranthene Benzo(chitogranthene Benzo(chitogranthene Benzo(chitogranthene Benzo(chitogranthene) Carbazole	ug/g OC 12 12 12 12 13 14 NS NS NS NS NS 107 1107 113 113 113 113 113 113 113 113 113 11			OS/800 1 1 1 1 1 1 1 1 1	C mg/Kg	SC ng/goC	C		C		2 2	ن
12-Dichlorobemzene 1.3-Dichlorobemzene 1.4-Dichlorobemzene 1.4-Dichloroaniline 2-Methyliphenol 4-Chloroaniline 4-Cenaphthylene Acernaphthylene Acernaphthylene Anthracene Benzo(a)anthracene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Carbazole Carbazole	12 12 13 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16						mg/rg	SC ug/gOC	mg/Kg	SC M/20C	C mg/Kg	ug/gOC
1,4-Dichlorobenzene 2-Methyliaphtalene 4-Chloroaniline 4-Chloroaniline 4-Cheraphthene Acenaphthene Acenaphthene Anthracene Benzo(a)anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(k)fluoranthene Carbazole	12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15]				0.1.0	3
2-Methylnaphthalene 4-Chloroanline 4-Chloroanline 4-Kethylphenol Acenaphthene Acenaphthacene Acenaphthacene Berzo(a)anthracene Berzo(a)anthracene Berzo(b)fhoranthene Berzo(k)fluoranthene Berzo(k)fluoranthene Carbazole		그림 그림은 얼마 사람이 많은 사는 사람이다.			}			**************************************		i.	I.	
4-Chloroaniline 4-Wethylphenol Acenaphthene Acenaphthylene Anthracene Berizo(a)anthracene Berizo(a)anthracene Berizo(b)fluoranthene Berizo(k)fluoranthene Berizo(k)fluoranthene Carbazole) 		1	1 4	1	1	1	
4 Wethylphenol Acenaphthene Acenaphthylene Antiracene Berizo(a)antiracene Berizo(a)antiracene Berizo(b)fluoranthene Berizo(k)fluoranthene Berizo(k)fluoranthene Carbazole		유민 유기 원인 왕의 기는 네트				 	J.			1. 1.	k k	į.
Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(b)fluoranthene Carbazole							1 1	1 1	I Š		1	
y jene e uthracene yrene luoranthene uoranthene				-	0.4 J	6				 	110	(
e auhracene yrene horjanthene uoranthene			1 J			I.		:1			3	7
veriacture yrene Tiojranthénie Derylene tioranthene			•	: 1	193	98	0.1.3	2	6 6 6 ! 5 !	1	0.4 J	7
Togranthène Derylene Kignanthène				;	6.1	[276]	0.3 J	4	0.3.1	4	2.6	146
(Voraithing)		4,0(1) 3.8(1) 4,0(1) NS NS	1	1	(5.9)	[267]	0.3 J	4	0.4 J	[5]	{3.6}	<u>_</u>
tionautiene.		3.8(1) 4.0(1) NS NS	0.05 J	[3]	(8.8)	[368]	0.5	E	0.5	(9)	(4.6)	[82]
		SZ I I	17	1	1.4 J	63	0.1.0	2	0.2 J	ю	1.7	39,
		1 1	1	i I	2.2	<u>[</u>]	0.2 J	2	0.2 J	[2]	1.4	[25]
		. 1		10 <u>.</u> 11.	1.2)	24	0.05 J	8.0		1	0.2 J	4
	-				0.	12021	0,4,1	ō	770	[4]	2.5	[45] [2
Di-n-octy/phthalate								1	1	11.	1 1	
		1	}		0.7.1	[30]		<u> </u>	V. V.	F.		
Dibenzofurza, Personal Programme	NS	\$1(2)		: :	0.5.1	21.					6.0	[6]
		1	0.05 J	m	=	498	9.0	2	0.5	9	2.8	9
FileOCGIRGORIA CONTROLLO C					0.4.7	[61]	0.05 I	8:0			0.13	2
Naphthalene	1.3 (H) 20	1	1	1	2.2 J	[100]	0.2.5	<u>@</u>	0.3 J	[3]	2.6	[46]
	120				0:4 J	17		1			0.1.5	2
			1	1	7.5	[339]	9.0	٠.	0.2 J	. 2	1.5	27
Pyrene			0.05 J		 6	1 4	1 8	 - -	1 6	1 1	1;	
Bis(2-ethythexyl)phthalate (BEHP)	200		0.1 J				0.5	· -	 	,	5.3	66
Total organic carbon (malket										•	2	2
%TOC NA	AN AN AN AN AN AN		18600		22100	1	65500		76500	1.	26000	
Percent solids (%)); 		22 7.1	1	0.0	1	7.7	1	5.6	
					: : : :	í.	3		G	<u> </u>	<i>H</i>	
Total Caming coming DA Lis		85(1)	0.2	ŀ	[64.]	1	4.0		3.4		[28]	
Total Carcinogenic rAtis	SZ	NS	0.05		32	1	8.1		2.0		18	
Bap Equivalents		1012	0.00		99		4.6		3.6		29	i
	(m) 21	2	0,000	0.3	4.4	[380]	6.4	[9]	0.5	[2]	5.5	[86]
				<u>A.</u>		。 5 点 数						
								18. 18. 18. 18. 18. 18.				1 1 2
NOTES: 1-estimated value, NS-no screening value, NA-not applicable, analyte not detected []	applicable, analyte not det	ected. [] - concentration abo	ove sediment screen	ing value. { } -	concentration ex	coreds ecolopics	I screening value	o perimore		9 - F JOE		

Screening concentration (SC) calculated as concentration (C)/fraction of organic carbon (foc) in units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.) Date Printed: 03/11/2005 09.44.56 DBF File: Q:\10653_NYSDEC\27258_ThreeStar\CreekTables.dbf FXP File: Q:\10653_NYSDEC\27258_ThreeStar\CreekEvalTabs.prg

Three Star Anodizing Site

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	MP-L	WP-LGOUT2	WP-1	WP-MW4	WP-MW4 DUP	4 DUP	WP-16	-16	WP	WP-18
	Sample Date	Sediment Values	Screening Values	05/13	05/13/2003	05/13	05/13/2003	05/13/2003	,2003	1002/60/500	72001	60/50	05/09/2001
				0	0 - 6 in.	9-0	0 - 6 in.	0 - 6 in.	іі.	0 - 6 in.	.si	0 - 6 in.	ii.
Compound		ng/g OC	mg/kg	C mg/Kg	SC ug/goc	. C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC
1,2-Dichlorobenzene		12		0.07 J	s		1	0.2 J	[91]	0.05 J	5		
				ं । अ		: : :: :::::::::::::::::::::::::::::::	•						1
1,4-Dicalorobenzene	A-01001111 A-01-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	12	1	1 3	1	}	;	0.09 J	∞ :	1	1	1 :	1
A Chlorocalline						0.05.3	5	0.1 J	12	j.			ľ
4-Cuoloanime		SN SIG	1 3	1	1	0.05 J	7	1	1			1	!
A consultation		CNI Z			1	į	۱,					1	Ţ:
Accraphinene		N N	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 3	1 .	0.04 J	2	0.2 J	5:	0.09 J	2	0.1 J	φ,
Anthracene		201		0.0	1 2	60		0.4	100	1 ;] ;		
Benzo(a)anthracene				0.7	[52]	387	. ri 501	1.2 47.D	13881	() () () () () () () () () ()	51	(S)	. (A13
Benzo[a]pyrene			0.44 (1)	{0.7 }	[52]	(3.7 D)	[146]	(4.5.D)	[372]	(0.7)	7 (9) 2 (2)	5.7	[41]
Benzo(b)fluoranthene 1.3 (H)		1.3 (H)	4.0(1)	0.8	[65]	(4.5 D)	1221	(62 D)	[512]	60	[105]		[74]
Benzo(ghi)perylene			3.8 (1)	0.3 J	26	1.2	47	1.5	124	0.3 J	33	0.2 J	2 2
Benzo(k) fluoranthene		13(ft)	•	0.3.1	[23]	1.4	[55]	2.0	[165]	0.3 J	[35]	0.4 J	1151
Carbazole			NS	0.09 J	7	0.1 J	9	0.4 J	35	0.1 J	4	·	; ;
Congression 113 (H) to the control of the control o		1.3 (H)		9.0	[48]	2.9	[114]	42D	[347]	8.0	[16]	8.0	[36]
Dit cond obtains	3 1 A 1 1 A 1 1 A 1 1 A 1 1 A 1 1 A 1 1 A 1 1 A 1 1 A 1 1 A 1 A 1 1 A			I	1	1	1	1		i,	1	1	1
Districtly blundaid		2		1;	! :								
C)					01	9.0	[2] [2]	0.7	[57]	0.2 J	[18]	0.1 J	\$
Fluoranthene		1020	(7) T.C	1 :	, °	0.11	\$ 650	0.3 J	21	0.06 J	7		
Fluorene		14		2 1	° '	0.4 0.4	767	7 20.0	1751		1/1	1.7 1.00 miles (1.00 miles)	2 2
				0.4 J	[29]	1.6	(63)	7 6 L	1531		[14] [52]	03.	1 5
Naphthalene		4:		0.05 J	4	0.2.1		10	1361				:
Phenanthrene			1	9.0	52	2.4	46	4.4 D	[364]	1.3	[148]	9.0	24
Phenot					1			al de	1				
Pyrene		961	1	1:1	68	5.4 D	213	7.2 D	595	1.5	171	1.6	. 89
Esist.com/unexy/upuntalate (BEHL)		200	¥.	J	 	1	i i	1		0.3.1	29	0.2.)	7
Total organic carbon (mg/Kg)		NA		12400 J	ı	25400		12100	1	8770		23,800	
% TOC		Ϋ́		1.2.1	}	2.5		1.2	1	6.0		23	
Percent solids (%)		Ž.		7.5	1	81	1	- 26		79		8	1
Total PA Hs (mork e)			(1) 30	1 1 23									
Fotal Carcinogenic PAHs		No.	(L) Co		ļ	[7]	1	[/ .x]	1	[9.2]	1	[8.9]	
Total SVOCs			- 40	69		12	1 1	4 0 0 L	1 1	2.0	1	ر دن و	1
BaP Equivalents		1.3 (H)		1.0	[81]	8.0	[31]	6.0	- - -		11251) - -	1 5
												: : ! : }:	Ē
								: .	:				
NOTES: 1 - estimated value NS -	no sorcement and NA	able analys											
	lected at the same location	another sample (AS) collected at the same location. When AS>=5%, c=5%, when AS<5%, c=6	S TOC%.	ples analyzed by	method NY ASP	y - concentration 95-2. NYS sedii	n exceeds ecologi ment screening v	ical screening val alues are guidano	ue. e - estimated e values obtaine	stimated concentration using TOC data from obtained from Technical Guidance for Screening	concentration using TOC data from I from Technical Guidance for Seres	om reening	
Contamnated Segrences L = Long & Morgan 195	(NYSDEC 1998,1999): O. Ecological screening	Contaminated Sediment (NYSDEC 1998, 1999): t = screening value for total unchlorinated phe L = Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concent	lorinated phenois. Screening varieties concentrations; (2) NOAA	y values are ecold	ogical values exce threshold concen	pt as noted: H = tration (1999).	human exposure	n exposure by fish consumption; W	nion; W = drinki	drinking water source protection,	Stotection,	0	
Screening concentration	(SC) calculated as conce	Screening concentration (SC) calculated as concentration (C)/fraction of organic carbon (foc) in		C. SC derived for	SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.)	6TOC ranging be	etween 0.2% and	12%. SC was no	t calculated for 9	rage %TOC outside tha	J OI 17 at range (not calc	ć	
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Three Star Anodizing Site Wappingers Falls, New York

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

Samj	•	Station	Ecological	WF	WP-18	WP-M2	M2	WF	wP-M2	WP	WP-M2	WP	WP-M3
	Sample Date	Values	Screening Values	05/09/2001	/2001	05/14/2003	2003	05/14	05/14/2003	05/14	05/14/2003	05/14/2003	2003
				6 - 12.in.	2.in.		ü	6 - 12 in.	2 in.	. 12 - 17 in.	7 in.	02/14/200 0 - 6 in.	in.
Compound		ng/g OC	mg/kg	C mg/Kg	SC ng/goc	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC
1,2-Dichlorobenzene		21					;					,	1
1,4-Dichlorobenzene				1	1		1	1		ı	1		1
2-Wethylnaphthalene						1	1	: 	1	ı	1	.	1
4-Chloroaniline		SX						ľ	1.		E.	1	1
#Wethylphenol		SN			ं । ्री			1 1 1 2	1	1 00	1 :	1	1
Acenaphthene		NS				-		T	2	0.04.1	4 8		1.
Acenaphthylene								173	150	0.2 J	30	1 T O	- r
Anutacene Benzo(e)anthrogane		107	-	1	1	0.3 J	30	5.8	[513]	0.1		0.3 J	4 v
Benzo/alpyrene		12 n n n n		0.083	e (14.	[124]	17	[1504]	42D	[372]	13	[20]
Benzo(b)fluoranthene			40(1)	0.07	<u> </u>	(1.1.)	[67]	(1 1 1 1 1 1 1 1 1 1	[1239]	{3.6 D}	[319]	{1.2}	[6]
Benzo(ghi)perylene		NS	3.8(1)	; ; ;	<u>.</u> ∑	0.7 J	58	(4.3 E	1504]	(4.4 D)	[389]	8.7	[28]
Benzo(k) fluoranthene		L3 (H)	4.0(1)	1	1	0.63	[52]	{6.8}	[602]	U. 7.11	100	0.0	2 E
Chrysens			SN	1		1	: 1	. 1		0.2 J	2 2		- - - -
Di-n-butyl phthalate				0.09 3	₹.	1.2.J	[106]	. 1	[1239]	3.7.D	[327]	1.5	[24]
Di-ni-octyl phitialate		SNS		: : ! .!	1 (J	l .	1.	1 ;	1 :	1 .	1		. 1
Dibenzo(a,h)anthracene		15	1			0.2.1	[02]	101	1 (8)	É			
Discretizan El contrar		(2) (2)	5.1(2)				[]	0.73	601 601	0.510	(4/ (0)	0.2.0	4
Fluorene		1020	1	0.2 J	∞ :	2.4	212	33	[2920]	8.4 D	743	2.4	
Indeno(1,2,3-cd)pyrene			1	-	1			1.6.1	[142]	0.5	[45]		
Naphtiniene 30		30.			1	0.7]	. [28]	5.1 J	[451]	1.4 JD	[124]	0.6 J	[01]
Phenanthrene		120	1	0.06 J	7	0.8 J	74	77	[106]	03.5	œ (;	1	
							: }	ं बि	<u> </u>	0.1.0	[142]	1.0	16
Pyrene Bie O achiel beneden the contrant		961	1	0.3 J	12	2.7 J	239	29	[2566]	7.7 D	[A-1]		1 4
		200		0.13	9	主主	1						} {
Total organic carbon (mg/Kg)		NA		24400		11300 e BI	1	11300 A BI		113000	-		
% TOC		Ϋ́	1	2.4	1	1.1 e BJ		1.1 eBJ	1	11 BI	1 1	63800 BJ	1.
SECOND SOURCE (NOT THE SECOND SOURCE SECOND		NA	1	54		28	1	99		- 79			
		(D) (P)	85(1)	0.0		76							
genic PAHs			NS) 4 4.0	: : :: 1	7.2	 	[65] 24	j.	[4.7]	1	[9.6]	
Total SVOCs	NS		1,	11	1	3.6		. 166		07 5	1	2.8	1
y :		1.3 (H)	NS	0.09	4	1.8	[159]	20	[1770]	5.2	[460]	o. c	1 8
											5	:	7
													:
NOTES: J - estimated value, NS - no scre	cening value, NA - no	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - co		centration above sediment screening value	cening value (}	- concentration e	xconde ecotogic	exceeds ecological consumation and					
another sample (AS) collected a Contaminated Sediment (NYSE	at the same location. NOTEC 1998, 1999): $t=s$	another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS<5%, e=AS 1 Contaminated Sediment (NYSDEC 1998, 1999): t = screening value for total unchlorinated phenol	5 %	OC%. Samples analyzed by method NY ASP S. Screening values are ecological values except	-0-2		ent screening va	ent screening values are guidance	c e estimated e values obtained	concentration usi from Technical	 e - estimated concentration using TOC data from values obtained from Technical Guidance for Screening 	rm reening	_
	ological screening valual culated as concentra	ues are: (1) EPA ARCS No Effects stion (C)/fraction of organic carbon	concentrations; (2) NOA.	A upper effects the	reshold concert	ons. (2) NOAA upper effects threshold concentration (1999).	mental exposure	oy usa consumpt	100; W = drinkin	unian exposure of its consumption; W = dinking water source protection Page 6 of	rotection; 6 of 17		
Date Printed: 03/11/2005 09:44:56 DBF File: O 10653 NVSDEC12756			-0.0		Seddingun with ye	וטר ומוצוווצ טביי	veen v.2% and	2%. SC was not	calculated for %	TOC outside tha	SC was not calculated for %TOC outside that range (not calc.)	(-)	

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Three Star Anodizing Site Wappingers Falls, New York

Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

Sediment Sample Date Values Compound 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,2-Methyhaphtalene 2-Methyhaphtalene 2-Methyhaphtalene 3-4 4-Chloroaniline 1,2 3-4 5-Chloroaniline 1,2 3-4 5-Chloroaniline 1,2 3-4 5-Chloroaniline 1,2 3-4 5-Chloroaniline 1,2 3-4 5-Chloroaniline 1,2 3-4 5-Chloroaniline 1,2 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene 1,3 8-Enzo(alpyrene) 1,3 8-Enzo(alpy	Sediment Screening Values Values Values ug/g OC mg/kg 12 12 13 NS NS NS NS NS NS NS NS NS N	05/14/2003 6 - 12 in. C SC mg/kg ug/gOC	05/14/2003 0 - 6 in. C C S mg/Kg ug, 	200 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	WF-DO1 05/14/2003 6 - 12 in. C SC mg/Kg ug/gOC	003 02 n. SC C wg/gOC mg/Kg	WF-DOI 05/14/2003 12 - 18 in. SC 8 ug/gOC	WP-29A 05/14/2003 0-6 in. C mg/Kg ug/	9A 2003 in. SC ug/gOC
Compound ug/g OC 1,2-Dichlorobenzene 12 12 12 12 12 12 12 1		11.1	0 mg/K	26 () () () () () () () () () (5-12 ii	C mg/K	2 - 18 i	05/14/ 0 - 6 C mg/Kg 1.4	2003 in. SC ug/gOC
Compound 1.2-Dichlorobenzene 1.3-Dichlorobenzene 1.4-Dichlorobenzene 1.2-Methynaphtralene 2-Methynaphtralene 1.2-Methynaphtralene 1.2-Methynaphtralene 1.2-Methynaphtralene 1.3-		医骨髓膜 医加斯氏菌虫	12 (10) (10) (12) (12) (13) (14) (15) (15) (16) (16) (16) (16) (16) (16) (16) (16	SC		m mg/K		C mg/Kg 1.4	SC ug/gOC
1,2-Dichlorobenzene 12 1,3-Dichlorobenzene 12 1,4-Dichlorobenzene 12 2-Methymaphthälene 34 4-Chloroanline NS 4-Methyphenol NS Acenaphthene NS Acenaphthylene				 				1.4	-F-600
1.3-Dichlorobenzene 12 1.4-Dichlorobenzene 12 2.Methylnaphthälene 34 4-Chloroaniline NS 4-Chloroaniline NS Acenaphthone NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene 13 Benzo(a) antinacene 13 Benzo(a) abyzene			12.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.					0.01	[26]
1.4-Dichlorobenzene 12 2-Methylnaphthälene 34 4-Chloroaniline NS 4-Chloroaniline NS Acenaphthone NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene NS Acenaphthylene 13 Berzo(a)ahthracene 13 Berzo(a)ahthracene 13 Berzo(b)fluoranthene NS NS			1221 1231 133 133 1401 1401						[07]
날리 그 그를 가꾸 깎다			(12) (12) (12) (13) (14) (12) (14)				1	13	[26]
	The state of the s		1121 1221 1451 1633 1633 1603 1603 1603 1603 1603 160				1		
NS NS NS 107 13 (H) 13 (H) NS NS	The state of the s		(127 4.5.5 (13) (10) (12) (12) 2.8.1 4.6.1			;	-	i. i	,
Acenaphtholine NS Acenaphthylene NS Antiracene 107 Benzo(a)antiracene 12. Benzo(a)burene 13 (H) Benzo(b)thoranthene NS	the state of the s		123 4 5 J 13 (10) (10) (2.8 J 4.0 J				1	1	- 1
Antivacene 107 Benzo(a) antivacene 12. Benzo(a) pyrene 13 (H) Benzo(b) fluoranthene 13 (H) Benzo(e hi) porviene NS	5		1221 4.5.1 (10) (12) 2.8.1 4.0.1			366 6.6 J	493	0.3 J	. 5
Benzo(a) antiraceue 13 (H) Benzo(b) fuorantiene 13 (H) Benzo(failporentiene 13 (H) Benzo(failporentiene NS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		4.5.J (13) (10) (2.8.J 4.0.J				-1	0.3 J	9
Berzofaljyrene Berzofaljwaniene 13 (H) Berzofaniene NS			(10) (12) 2.8.1 4.0.1			-	[2313]	1.13	. 22
À.,			(10 } (12 } 2.8 J 4.0 J				[2015]	3.8	[26]
	1.01		((2') 2.8 J 4.0 J				[1567]	(3.6 DJ)	[72]
	1 1		707 104			1. M	[1791]	(4.7 DI)	[94]
			1 5	<u> </u>	4	+	522	1.1 DJ	77
Carbazole					[c/c] [c//)	(r. 8) —		180	[9]
	11			174K1		16421	1 22.5	1 ?	
Di-n-butyl phthalate NS		81	\			· .	11(21)	†	[8 6]
Di-m-ocy/ phrhalate	· · · · · · · · · · · · · · · · · · ·			-					
Dibenzo(a,h)anthracene		1.2 J [24]	1.2 J	[06]	3.6 J [269]	59] 2.8 J	(209)	0.5 D.	. 0
	54 (2)			1 19 1		50 50 50 50 50	231	0.13	
1020	i		24	[1791]	61 [4552]	:	[4851]	6.0	120
		3	0.6 J	<u>.</u>			[687]	0.3 J	9
(w) (**)	1		3.6 J				[267]	1.2 DJ	[54]
		[52]	0.5 J			N.	[194]	03.1	7
			6.0	[515]	45 [3358]	80	[2670]	2.4	48
Pyrene 961		300] <u> </u>	[1403]	170357	. 5	1 25		1 .
Bis(2-ethythexy))phthalate (BEHP)		187 - \$7 - 17				;	oco+) (1) (2)	07]
The second secon									
% TOC		63800 e BJ	13400 BJ	134	3400 e BJ	13400 e B.	1	62900 e BJ	: :1
(%) spilos	NA THE PROPERTY OF THE PROPERT	6.4 e BJ	1.3 BJ	-	13cBJ	- 1.3 eBJ		6.3 e BJ	1
						2	:	6	1
	85(1)	[106]	[114]		[308]	- [370:1	1	F24 3	
	SN		54			115	1	7.2	
			114	:	310			27	1
13(H) 13(H)	SN	12 [240]	7	[1045]	30 [2239]	30	[2239]	0.4	<u>@</u>
						与 <u>全</u> .			
						- 1			
NOTES: J - estimated value, NS - no screening value, NA - not applicable analyte not detected (11, concentration above exprises).	analyte not detected [] - concentration alv	endiment committee	,						

Contaminated Sediment (NYSDEC 1998, 1999): 1 a serecting value for rotal unchlorinated phenols. Starting values are cological screening value. 2 - concentration exceeds ecological screening value for rotal unchlorinated phenols. Screening values are cological values are guidance values obtained from Technical Guidance for Screening Values are cological values are

Three Star Anodizing Site

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples

S	Sample ID	SAN	Ecological	WP.	WP-29A	WP-29A DITE	A DITE	WP.294	29.A		90 000		
Š	Sample Date	Sediment Values	Screening Values	05/14	05/14/2003	05/14/2003	7,003	05/14/2003	2003	00,30			67-14
				6 - 12 in.	2 in.	6 - 12 in.	2 in.	12 - 17 in.	7 in.	03/09/20 0 - 6 in.	//2001 5 in.	0/50	05/09/2001 6 - 12 in.
Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC SC SC SC	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goc
1,2-Dichlorobenzene		12		1	1	1			, 1			, ,	
		12		1	I	1		1					
2-Methylnaphthalene				1 91	1 8	1	1 8	1	1	1	1	1	1
4-Chloroaniline				(k.)	OC.	77.1			l.	1		1.1.1	[150]
+Methylphenol		NS		् (()				# *	1	1 1		1 -	:
Acenaphthene		SN	- - - - - - -	99	105	12.1		967	6		5) - -	
Acenaphthylene		NS		0.8 J	£		:1		2		: ا ۵	, ,	1241
Anthracene		107		4	[223]	32	[456]	29	[580]	6.0 J	[376]	15	[2046]
Denzo(a)antitacene Benzo(a)avrana				19	[302]	33	[471]	30	[009]	20 J	[922]	13	11774
Benzo(b)fluoranthene		1.3(H)	0.44 (1)	(91)	[254]	{27 }	[385]	(23)	[460]	{17.1}	[783]	(9.3 }	[1269]
Benzo(ghi)perylene			3.8(1)	{20 } {4 2 I!	[815]	{ 29 }	[414]	{28 }	[260]	(19.1)	[876]	(11)	[1501]
Benzo(k)fluoranthene		1.3 (H)	4.0(1)	(8.1.)	[129]	(13.13	136	(47.7) (8.0.13	144	{6.2.J} 66.€ TC	286	2.6 J	355
		SN	NS	1			1		- - -	16.501 5.7.1	240		[coc]
Chrysene De a huntel abshales		1.3 (H)	1	18	[286]	31	[442]	25	[500]	181	[829]	1 . =	
		SS	1]		1	;	1)	. 1		: : 1	
Dibenzo(a.h)anthracene		S			T		76 16 34	1	1				
Dibenzofuran		31 -		1.9.1	[30]	3.8 J	[54]	3.1 J	[62]	2.3 J	[106]	1.7 J	[232]
Fluoranthene		1020	2,1 (2)	ر دی در	216	(6.0 J) 7:	98	3.7.1	74	2.3 J	106	(5.4.1)	737
		80		179	[66]	/1	1013	72	[1440]	43.3	[1982]	34	[4638]
Indeno(1,2,3-cd)pyrene			1	5.3 J	[84]	10 J	143	. 0.6 1.0.6	[077]	69.	[286]	89.	[1214]
Naphibalene				5.5 J	[87]	6.8.1	[67]	2.6 J	[52]	3.1.1	[143]		[041]
Pieno		120	1 1 1	44	[004]	98	[1227]	87	[1740]	14.5	[645]	42	[5730]
Pyrene		961		1 %	{	1;		ï				1	
Bis(2-ethythexyl)phthalate (BEHP)				ና	7/5	3	913	89	[1180]	35 J	[1613]	28	[3820]
	:							1 1 1	Î	l.	j	I	1
lotal organic carbon (mg/Kg)		NA		62900 BJ	1	70100 BJ	i	62900 e.BJ		21700		7330	
(%) spijos		NA NA		6.3 BJ	1	7.0 BJ	1	6.3 e BJ		2.2	1	0.7	1
i	-:			3	1	cc	•	3	1	56		62	
		4.0 (L)	85 (1)	[253]	1	[445]		[404]		[2]4]		1.001	
Total Carcinogenic PAHS		SN	SN	88	ŀ	147	1	126	1	88	1	2. 22	
BaP Bouivalents		NS -		255	ì	451	İ	407	Î	221	1	203	
		(m)	QN.	77	[366]	38	[542]	. 33	[099]	24	[1106]	14	[1910]
			ų.										¥.
								20	- 63				-
INO LES: J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - c another sample (AS) collected at the same location. When AS>=5% ==5% when A S<64% == 8	screening value, NA - no ed at the same location	ot applicable, analyte ne When AS>=5% e=5% who	oncentrati	Š	screening value. {	concentration	exceeds ecologic	concentration exceeds coological screening value.	2	e - estimated concentration using TOC data from	ing TOC data fro	ci;	
Contaminated Sediment (NYSDEC 1998,1999): 1 = screening value for total unchlorinated pheny. L = Long & Morgan 1990. Ecological screening values are: (1) FPA & RPC No Effects.	r/SDEC 1998,1999): 1 = Ecological screening val	screening value for total un	chlorinated phenols. Screening	ming values are ecolog	gical values excep	ies atalyzeu uy metioa n.t. A.S.F.95-2. NYS sediment screening values are guidance values obtained from Technical Guidance values are ecological values except as noted. H = human exposure by fish consumption; W = drinking water source protection;	ient screening va iuman exposure	2-2. N Y S sediment screening values are guidance values obta t as noted: H = human exposure by fish consumption; W = dri	: values obtained ion; W = drinkin	ed from Technical Guidance for Screening ing water source protection;	Guidance for Sc rotection;	recning	
Screening concentration (St	calculated as concentr	ation (C)/fraction of organic	carbon (foc) in units of ug/gOC	۹	reshold concent sediment with %	upper effects threshold concentration (1999). SC derived for sediment with %TOC ranging between 0.2% and 1.2% SC was not colourland for w.T.O.C. will 1.1.	ween 0.2% and 1	2% SC was not	20 vol peed for 62	Page	8 of 17	,	
Date Printed: 03/11/2005 09:44:56						0		A /8. CO 1144 1104	כקורמושורה והו יי	1 OC oursing and	t range (not care	÷	

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Three Star Anodizing Site Wappingers Falls, New York

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	NYS	Ecological	WP-29	-29	WP-CKOUT	:our	WP-OD3	DD3	MP-	WP-OD3	ia dw	
	Sample Date	Sediment Values	Screening	100/30									<u>.</u>
		0	values	05/09/2001 12 - 18 in.	2001 8 in.	05/14/2003 0 - 6 in.	2003 in.	05/14/2003 0 - 6 in.	2003 in.	05/14/200 6 - 12 in.	05/14/2003 6 - 12 in.	05/08/2001 0 - 6 in	2001
Compound		ng/g OC	mg/kg	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC us/90C	C mg/Kg	SC SC	C C	SC SC
			1	1			,		2294		200	9.1.9	ng/goc
14.5-Litchlorobenzene		12			1	: ·							l i
7. Morthylmanhithalana		12	1		1			: :	. 1			4 2 2 2 1 2 1	. 1
4-Chlomaniline		4. 2.7			J				1	0.1 J	4		ļ
4-Methylphenol		SN.	1	1.	1	1.	1	.	:	0.2 J	7		. (
Acenaphthene		S. N.		l ş			1			0.07 J	7		1
Acenaphthylene		SN		Q	458	 0.06 T	; .e	0.1.0	4	0.3 J	20	0.2 J	_
Anthracene		107		98	[618]	0.00	4 4	 	2 6		26	03)	2
Benzo(a)anthracene		12	i.	84	[800]	6.0	1261	4.6 DJ	11511	11.0	[361]	1.4.1	10
Benzo(h) from the		1.3 (H)	0.44(1)	{ 64 }	[019]	{ 6.0}	[56]	(4 0 DJ)	[131]	(9.1 DJ)	[298]	(4.5.1)	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Benzo(ehi)nervlene		(3)(H)	4.0(1)	{74}	[705]	1.4	[39]	{53 DI}	[174]	(11 DI)	[361]	(1.65)	[5]
ŭ		NS TO STEE	3.8(1)	{15J}	143	0.3 J	۲	0.9 J	31	1.9.1	62	1,5 J	
Carbazole		SN	(1) ort	(36.3)	505	9.0		2.2.)	[2]	3.5.]	[115]	2.3.J	[20]
Chrysene		-	2 1		17331		غ ا	1 9	1 3	0.1.5	v,	1	
Di-n-butyl phthalate			. 1	1	[667]	ø 2	[17]	8.7	[35]	10 D	[328]	4.5.1	[39]
Di-m-octy/phthalate									1 .	: -	1		1
Dibenzo(a,h)anthracene			1	9.8 J	[63]	0.1 J	- -	0.3.1	=	180] [100	.
Clorenzouran Company		NS	5.1(2)	{30.1}	286			0.07 1	2	0.2.1		0.03	1.1 1.1 1.1 1.1
Fluorene		1020		180	[1714]	2.0	56	7.3 D	239	17 D	557	5.7 J	
2,3-cd)pyrene). (E)		46 J	[438]		1	0.2.1	9	0.53	[51]	0.2.J	7
Naphthalene				「	[267]	0.3 J	<u>S</u>	1.13	[36]	2.2 J	[72]	2.7 J	[23]
Phenandhrene		120		210	[2000]	0.07	~ ~! .	0.1.J	y S	8.0	25	0.3 J	2
	0.5 (0.5)	0.5 (t)	T.			1	- 1) 	<u>.</u>	0.08.1	[233] [133 [13]	2.2 J	61 5
Eyrene Bist2-effivlhexvl/mhtfs/are (BEHP)		961	1	140	[1333]	1.6	45	82D	269	20 D	656 656	8.4 J	- 2
		700	1	1	1,	1	J	1	1			0.7.1	9
Total organic carbon (mg/Kg)		NA		105000	J	35900	-	30500 €		30500		11 5000	:
spijds (%)		NA NA	1	=	1	3.6	ı	3.1 e	·	3.1		12	- :
			, , , , , , , , , , , , , , , , , , ,	28	ľ	20	1	2	ı	89		26	-
1 3 1.8	4.0 (T) % (T) % (T) % (T) % (T)	4.0 (L)	85 (1)	[1092]	1	[9.51]		ा ।	•	: U40		1,000	
10tal Carcinogenic PAHs		SN	SN	369		5.0	1	6.4	1	6.5	 - -	[+ 5]	-
.		2.09		1122		9.5	1	13		. 15		46	
		(m) (m)	S.	93	[988]	1.3	[36]	0.5	[16]	=	[36]	6.7	[58]
		:											
NOTES.													-
	- no screening value, NA - no	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - cor	ed. [] - concentration abo	ocentration above sediment screening value.	ening value. { }	- concentration c	xceeds ecologica	al sercentine value	o perimated o	in contemporary	700 data 600		T

1-estimated value, NS- no screening value, NA- not applicable, — - analyte not detected. [] - concentration above sediment screening value, (AS) collected at the same location. When ASS-5%, e-5%, when ASS-5%, e-AS TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment screening values are guidance values obtained from Technical Guidance for Screening values are collected at the same location. When ASS-5%, e-6% TOC%. Samples analyzed by method NY ASP 95-2. NYS sediment screening values are guidance values obtained from Technical Guidance for Screening values are collegical values except as noted. H = human exposure by fish consumption; W = drinking water source protection:

L = Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concentrations; (2) NOAA upper effects threshold concentration (1999).

Screening concentration (SC) calculated as concentration (C) fraction of organic carbon (6c) in units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.). Date Printed: 03/11/2005 09-44-56
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FXP File: QAJ0653_NYSDEC/27258_ThreeStarCreekEvalTabs.prg

Three Star Anodizing Site

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples

-	Sample ID	NYS Sediment	Ecological Sersenting	d-dM	WP-PL DUP	WP-PL	Pi.	Td-dM	PL.1	WP	WP-PL1	(Td-dM	PL1
	Sample Date	Values	Values	10/50	05/08/2001	05/08/2001	2001	05/13/2003	2003	05/13	05/13/2003	05/13/2003	2003
				· (0 - 6 in.	6 - 11 in.		0 - 6 in.			6 - 12 in.	12 - 18 in.	8 in.
Compound		ug/g OC	mg/kg	mg/Kg	SC ug/goC	C mg/Kg	SC ug/goc	C mg/Kg	SC SC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC
1,2-Dichlorobenzene		12	1		1	1		1	1	1		1	1
1,4-Dichlorobenzene		12					1	1	į.		1		
2-Wethylnaphthalene		34			ļ	0.13	~			; :		1	١,
4-Chloroaniline		NS		1	1	1							
		NS											
Acenaphthene Acenaphthylene		SN		1	1	0.1 J		1	1	1	1		
		107		0.2 J	- ·	0.13		0.1.5		1	1:		
Benzo(a)anthracene				321	7281	2.6]	[32]	2.2.1	ر ان	1 70	ام		1
Benzo[a]pyrene		1.3 (H)	0.44 (1)	(3.2.1)	[28]	(2.5 J)] <u>:</u> [[0]	0.3 J	າ ຕົ)
Benzo(b) il noranthene Benzo(ghi) nerviene		1.3 (H) NS	4.0(1)	{4.6.3}	[40]	4.0 J	[49]	2.4.1	[22]	0.4.1	S.		
Benzo(k)fluoranthene				1.1	10	1.2.)	15	0.5 J	۰	0.08 J	-	1	
Carbazole			SN SN	֓֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞	[613 	fo:	[7]	1.2 J	Ē	0.2 J	2		
Chrysene 1.3 (R)		1.3(H)	4.	2.9 J	[25]	2.7.3	[33]	2.1.1	- 61	1.50	1 3	1	1 1
Di-n-butyl phthalate	3	SN	1	: 1	.	1]	1	<u> </u>	<u>}.</u> {	ΕΙ	[-	1 1
EXT. 1		SN		1	1.		J.						
Dibenzo(a,h)anthracene			1	0.7 J	9	0.6 J	7	0.3 J	7	. 1	1	1	 - - -
SOURCE DIMENSION OF THE STATE O			5.1 (2)			0.3 J			1				1
- 65		0701	1:1	3.6 J	3.	4.2 J	21	4.0 J	37	0.6 J	7	1	1
Indeno(1,2,3-cd)pyrene		(H) (F)		2.0]	- - - - -	18-	- <u>- 2</u>	120	1 3		1 -		
Naphthalene		30		0.2.3	2	0.3.5	<u>.</u> 4	3	Ξ	5	- :)		1 4
Phenanthrene		120	1	1.2 J	10	1.13	13	1.2.5	-	0.1 J	-		1 1
Persons			F	1	1	I.	1		ķ	1	1		
Bis(2-ethylhexyl)phthalate (BEHP)		200		166	Şī	5.6 J	88	3.5 J	32	0.6 J	7		 I
				700		{ } 		ŀ	1.	}			
Total organic carbon (mg/Kg)				115000	1,	82300	-	108000 J		80500 J		51700	
Percent solids (%)		AN AN AN AN AN AN AN AN AN AN AN AN AN A	1 1	12	1	8.2	1	11.7	1	8.1 J	1	5.2	
		į		9	1	9	1	29		43	1	- 56	1
			85(1)	[31]		[29]		[20]	j	8	100		
Lotal Carcinogenic PAHs		SN	NS		: 1	. 15	1	9.9		1.5	1) - - - -	1 1
Bab Foundahre				32	ľ	29	1	20		2.8	1		1
			SS	2.0	[43]	4.0	[48]	6.1	[18]	0.3	4		-
							14 14 14 17 17						
NOTES: J - estimated value, NS	- no screening value, NA - n	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - co	ected [] - concentration a	ove sediment so	reening value. { }	- concentration e	xceeds ecologic	concentration exceeds ecological screening valu	c. e - estimated c	Concentration us	- estimated concentration using TOC data from	ş	
Contaminated Sedime	ollected at the same location. nt (NYSDEC 1998,1999): t =	anound sample (AS) confected at the same location. When AS>=3%, e=3%, when AS<5%, e=AS' c=AS' contaminated Sediment (NYSDEC 1998, 1999): t = screening value for rotal unchlorinated pheno	\$<5%, e=AS TOC%. Samplinated phenols. Screening	oles analyzed by values are ecolo	method NY ASP 9 gical values excep	NY ASP 95-2. NYS sediment screening ues except as noted: H = human exposul	ant screening val	values are guidance	val		cal Guidance for Screening	recning	
	990. Ecological screening va on (SC) calculated as concent	ze – Louig oz miorgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concentral Screening concentration (SC) calculated as concentration (C)/fraction of organic earbon (foc) in ur	ions; (2) NO.	< .	AA upper effects threshold concentration (1999) C. SC derived for sediment with %TOC concine	ation (1999). FOC conting between	1 Page 790 Compa			Page	Page 10 of 17		
Date Printed: 03/11/2005 09:44:56					So delived to seculate with % LOC ranging between 0.2% and 1.2%.	OC IZIBIIIS Dei	/ccn v.2% and r		calculated for %	TOC outside the	at range (not calc	Ó	

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FXP File: Q:\10653_NYSDEC\2775\8 ThreeStanCreekEvalTabs prg

Wappinger Creek Investigation - Sediment Samples Wappingers Falls, New York Three Star Anodizing Site

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS	Ecological	[W	WP-PL2	WP-PL2	,L2	WP-PL2	PL2	WP-	WP-PL3	WP	WP-PL3
	Sample Date	Values	Screening Values	1/50	05/13/2003	05/13/2003	2003	05/13/2003	/2003	05/13	05/13/2003	05/13	05/13/2003
				0	0 - 6 in.	6 - 12 in.	. <u>E</u>	12 - 24 in.	4 in.	0 - 6 in.	5 in.	6-1	6 - 12 in.
Compound		ug/g OC	mg/kg	C mg/Kg	OS/8n	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/gOC
1,2-Dichlorobenzene		2 2	1	****	-	1	1	1	,	!			
1.4-Dichlorobenzene					i i	1	-	•			-	1	
Z-Wethylnaphthalene		34				1.	1 ,	1	1	1	i	}	; I
4-Chloroaniline		SN.					l	1			1	ı	
4-Methylphenol								1	l	1	1		1
Acenaphthene				. 1	1	1	\		i: 1		l	ļ	
Acenaphthylene		NS	1	0.2 J	ñ	0.13	7				; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	110	
.:		107	1	0.7 J	12	0.3 J	'n	0.2 J	7	0.2 J	2	0.2 J	:: : : :
Benzofaltwene		12 1 2 /UN	1	2.6 J	[44]	1.5.1	[23]	0.9 J	12	0.8 J	∞	1.13	6
Benzo(b)fluoranthene		1.3 (H)	0.44(1)	{1.2 J}	[20]	(0.8.1)	[13]	(0.8.1)	Ξ	(0.5 J)	[9]	(1.0.1)	Œ
		NS	3.8 (1)	0.7 J	12	0.5 J	- * * *	0.3.1	- 4	0.91	<u>.</u> <u>6</u> ,		[15]
Benzo(k)fluoranthene			4.0 (1)	101	[61]	0.8.1	[12]	0.5.1	- [5	0.4 J	7 [5]	0.61	4 8
Chroche		NS	NS	1	i	1	1	1	1	1	[]	0.13	0.0
City Cont. Di-n-butyl phthalate		1.3 (Ħ) NG		2.1 J	[36]	1,4 J	[22]	0.9 J	[11]	0.8.1	: [8]	131	T.L.
Di-n-octy) phthalate		SN	1 1		1 :	1	1	1.	1	0.2 J	2	. !	
Dibenzo(a,h)anthracene		15	1	0.3.1		0.2.1	"	[ļ (ļ.	1 ;	
Dibenzofuran			5.1 (2)		, ,		٠ ,		7		1	0.23	- 6
Fluoranthene			1	4.5 J	- 77	2.2 J	34	1.5.1	19	1.4 J	15	251	S
DIVIEND				0.2.J	8,		THE		1			0.1.5	
Naphthalene		30 (H)		0.9 J	[14]	0.6 J	[6]	0.4 J	<u>S</u>	0.2 J	[2]	0.5 J	<u>4</u>
Phenanthrene				1 5	- 72	1 80	5	0.1:1	<u>.</u>			0.2.3	2
Phenol		+			3	6 1	71	Q -	v	0.5 J	9	1.2 J	2
Pyrene Delos contractions contractions		1961	1	4.3 J	73	2.4 J	37	1.6 J	717	1.2 J	- 2	23.1	º
Construction of the contract o		200		T.		1	1		1				• []
Total organic carbon (mg/Kg)		NA		58700 BJ		64200 BJ	ŀ	77000 B.T		93900 PT		10 0000	
% I O C		ΨN	. !	5.9 BJ	1	6.4 BJ	1	7.7 BJ	1	94BI		11 50 U.B.)	
FECTORIES (%) THE REPORT OF THE PROPERTY OF TH		NA CONTRACTOR OF THE CONTRACTO		26	l.	34	Ĭ.	43		24	1	35	
Total PAHs (mg/Kg)		4	85 (1)	[24]		[14]	ŀ	(8.8.)			- i		
Lotal Carcinogenic PAHs		NS	SN	12	;	7.5	: 1	4.7	1	3.6	 -	6.4	
TOTAL SYCUES Rap Formvalents			4.	24		14		8.8		73		1.4	
		์ ว	SZ	2.2	[37]	1.5	[53]	1.2	[16]	0.7	E	1.5	[13]
											William Co.		
NOTES: J - estimated value, NS - n	io screening value, NA - noi	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected [] - co	ted. []-concentration ab	ove sediment s	creening value. { }	- concentration exceeds ecological screening	xceeds ecologic	al screening value	e e-estimated	concentration us	morne TOC data from		
Contaminated Sediment (NYSDEC 1998,1999); t = s	anounce sample (A.s.) confected at the same location. When AS>=5%, e=5%, when AS<5%, Contaminated Sediment (NYSDEC 1998,1999): t = screening value for total unchlorinated	:5%, e=AS TOC%. Sampl tated phenols. Screening	iles analyzed by values are ecolo	y method NY ASP 95-2. NYS sediment screening values are guidance values obtained from Technical Guidance optical values except as noted: H = human exposure by fish consumation: W = dription was some	5-2. NYS sedime as noted: H = hu	ant screening va	NYS sediment screening values are guidance noted: H = human exposure by fish consumers	values obtained	ed from Technical	Guidance for Screening	cening	
L = Long & Morgan 1990. Screening concentration (;	 Ecological screening valu Calculated as concentra 	L = Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concentrati Screening concentration (SC) calculated as concentration (CV/fraction of organic carbon (foc) in un	concentrations; (2) NOA.	Α G.C.	upper effects threshold concentration (1999). Reference for concentration (1999). Page 11 of 17	ation (1999).	Amenda I	og usar consenium	non, w - unilikuli	ig water source p Page	11 of 17		
Date Printed: 03/11/2005 09:44:56				3	a scuttlent with 76 i	CC ranging bern	/een 0.2% and 1	Z%. SC was not	calculated for %	TOC outside tha	it range (not cale.		

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Three Star Anodizing Site Wappingers Falls, New York

Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

Sample Date Values	\$\$\text{\$\tex{\$\text{\$\t		Sample ID	NYS Sediment	Ecological Screening	WP-T1A	TIA	WP-	WP-TIA	WP-	WP-T1A	W.	WP-T1C	M	WP-T1C
C mg/kg mg/	Complete Complete		Sample Date	Values	Values	05/14/	2003 in.	05/14	/2003 2 in.	05/14	/2003 /4 in.	05/14	,/2003 5 in	05/1	4/2003
Color Colo	Comparison Com	Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/goc	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C C mg/Kg	SC III/00C
Comparison	Comparison Com			12	1000 0000 0000 0000	1							3 1		2249
Color	Comparison Com	I,4-Dichlorobenzene		12		1 1		ř	1	1	1,		1	į	
Color	Continue	2-Methylnaphthalene		34			.	0.09 1	5	110	1 -	1 9		1	
Color	Control of the cont	4-Chloroaniline		NS	I	1		} }	2	(10)	V 1	600	'n	0.3 J	6
Column	Comparison Com	4-Methylphenol		NS		1	1	0.09 J	2	0.07	80		c	5	1 3
	Comparison Com	Acenaphthelene		SN	1	1	1	0.7 J	4	0.8	, , ,	0.1	n d	0.1.0	4.
1,	Control			Ž S		1	1		12	0.3 J	4	0.09 J	. 6	0.2]	
0.44(1) 0.1 (14) (8.8 D) (176) (8.8 D) (180) (2.2 (71)) (46 D) (180) (180) (176) (180) (18	March Marc			10/		0.2 J	4	3.3 J	99	3.2 DJ	37	6.0	5	2.4	77
40(1) 40(1)	## 19 18 18 18 18 18 18 18	:		13 (H)	ċ	5.0	[4]	8.6 DJ	[172]	6.8 DJ	[80]	22	(71)	4.6 D	[148]
38(1) 0.11 51 (17.1) (2.01) (82) 3.1 DJ (19.0) (5.3 DJ) (38 (1) 0.11 59 (11.24) (2.00) (82) 3.1 DJ (100) (53.5 DJ	;			4.0(1)	0.3	⊙ §	(8.8 DJ)	(176)	(5.8 DJ)	[88]	(2.1 DJ)	[89]	(3.9 DJ)	[125]
49(i) 021 [3] (471) [47] 170 170 170 170 170 170 170 170 170 170	49(1) 0.21 [5] (4.71) [4.4] 1.70 1.22 0.7101 [23] 11.2D) NS — 10.11 [7] (4.51) [7] (4.51) [4.5] 1.7D 1.22 1.1D NS — 10.11 [19] (4.51) [7] (4.51) [7] (4.51) [1.5] 1.1D 1.12	Benzo(ghi)perylene		NS	3.8 (1)	0		. {!!! Ju}} ? 1.[[22b]	(7.0 DJ)	[82]	3.1 DJ	[100]	{5.3 DJ}	[021]
NS — 0.11 2 0.081 1 0.091 1 1 0.091 1	NS — — — — — — — — — — — — — — — — — — —	Benzo(k)fluoranthene		13 (H)	4.0(1)	0.2 J	151	(471)	7+7	U V.I.	27	0.7 DJ	ຊ [1.2 DJ	30
\$51(2) (19] 46J (92) 65 DI (77) 1.6 (51) 2.9 \$51(2) —	1.01			NS	SN			0.1.5	2	0.08	- -		[87]	1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50	[61]
5.1(2) — 0.11 3 0.11 1 — <t< td=""><td>\$\frac{1}{5}(1) = \frac{1}{10} = \fr</td><th></th><td></td><td>1.3 (H)</td><td></td><td>1.0.1</td><td>[19]</td><td>4.6.1</td><td>[62]</td><td>6.6 DJ</td><td>123</td><td>91</td><td>1 5</td><td>20.0</td><td>3</td></t<>	\$\frac{1}{5}(1) = \frac{1}{10} = \fr			1.3 (H)		1.0.1	[19]	4.6.1	[62]	6.6 DJ	123	91	1 5	20.0	3
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	S.1.(2)	Di-n-octyl phinalate		SS ?	1	1	1	0.1.0	9	0.1 J			<u> </u>)	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Since Control of the control of	Dibenzo(a blanthracene		S.		j	1	i i							
121	1.21	Dibenzofuran		LS NS		1		0.8 J	[91]	0.9 DJ	1 1	0.3 DJ		0.6 D.I	120
1.2	1.2 24 15 DJ 300 12 DJ 141 39 D 125 82 D 125 15 DJ 141 39 D 125 82 D 125 141 131 141 121 142 1	Fluoranthene		- CO1	5.1(2)	į.		0.2.J	7	0.3.1	m	0.1 J		0.4.1	12
1,	13 13 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 15	Flaorene		27 ×		1.2.1	24	15 DJ	300	12 DJ	141	3.9 D	125	8.2 D	264
14 14 15 15 15 15 15 15	140	Indeno(1,2,3-cd)pyrene		13 (H)		1 -	1 3	0.5.1	· [1]	9.0	7	0.2.1	9	0.5 J	1171
- 0.4 J 7 6.1 DJ [122] 5.6 DJ 66 2.2 71 4.8 D - - 0.095 J [12] 5.6 DJ 66 2.2 71 4.8 D - 0.095 J [13] 3.09 1.1 1.2 2.2 7.1 4.8 D - 0.095 J [13] 1.2 1.2 1.2 1.2 1.2 1.2 1.2 - 0.095 J [13] 0.095 J [13] 0.085 J 1.2 1.2 1.2 1.2 - 0.095 J 1.1 1.2	13	Naphthalene		30		-	<u></u>	2.3)	[46]	2.2 DJ	[26]	0.8 DJ	[56]	1.4 DJ	[45]
131 151	1.3 26 15 Di 300 12 12 4.8 Di 4.	Phenanthrene		120		0.4 J			. S	0.5.)	; و	0.8	25	60	30
1.3.1 26 15 D1 300 13 D1 152 4.1 D 132 8.8 D 15 D1 152 4.1 D 132 8.8 D 15 D1 152 4.1 D 132 8.8 D 15 D1	1.3.1 26 15 D1 300 13 D1 152 4.1 D 132 8.8 D 13 D1 152 4.1 D 132 8.8 D 13 D1 152 4.1 D 132 8.8 D 13 D1 152 4.1 D 132 8.8 D 13 D1 1	Phenol		0.5 (t)		1	-	1.600	[27]	0.00 1	8 2	2.2	7	4.8 D	[154]
85(4) (5.9] - 22 - 83400 1.1 [22] - 22 884 6.0 1.1 [22] - 2.8 8.4 6.9 6.3 6.	\$5400 e J \$5400 e J \$5400 e J \$5400 e J \$1000 e \$110000 e \$110000	Fyrene Brech atheres Dates des Corress		961	1	1.3 J	26	15 DJ	300	13 DJ	[-]	4 L D	12]	0.08.	군 (
S\$400e1	S\$400 e.f. S\$400 e.f. S\$400 e.f. S\$400 f.f. S\$100 e.f. S\$1100 e.f. S\$1100 e.f. S\$5 e.f. S\$5 e.f. S\$5 e.f. S\$5 e.f. S\$5 e.f. S\$6	week week interest in the manage (Exertic)					1	ï	J) 		ا ا ا	783
85400 85400 31100°c	Saludical Salu	Total organic carbon (mg/Kg)				85400 a.t.	:		:		<u> </u>				1 No. 19 No. 1
85(4) (5.9] — (20) — 3.1 — 7.0	SS SS SS SS SS SS SS S	% roc				85.61		85400 e J 8 5 o T	1	85400 J	3	31100 e	1	31100	
85(1) (5.9] — (20.1) — 2.2 — (8.2.1) — 3.3 — 3.3 — 3.8 — 3.8 — 3.8 — 8.4 — NS 0.5 [10] — 1.1 [22.] 8.4 [98] 0.2 [6]	NS 2.7 2.2 3.3 3.8	Percent solids (%)		NA		34	1	43	l	(c.8	I	3.1 e	1	3.1	: 1
85(1) (5.9] — 2.2 — [8.2] — 3.3 — 3.8 — 3.8 — 3.8 — 3.8 — 3.8 — 8.4 — NS 0.5 [10] 1.1 [22] 8.4 [98] 0.2 [6]	120 22						:. :.	ri L	1	, A	ŀ	0/	1	63	
NS 2.7 — 12 — 33 — 3.8 — 3.8 — 3.8 — 3.8 — 8.4 NS 0.5 [10] 1.1 [22] 8.4 [98] 0.2 [6]	NS 2.7 — 33 — 3.8	Total Carrings Ag)		4.0 (L)	85 (1)	[5.9]	1	[20:]		2.2	-4	[18.9.]		5	:
5.9 — 2.8 — 8.4 NS 0.5 [10] 1.1 [22] 8.4 [98] 0.2 [6]	NS 0.5 [10] 1.1 [22] 8.4 — 8.4 — [6] NS 0.5 [10] 1.1 [22] 8.4 [98] 0.2 [6]	Total SVOCs		S Z	SN	2.7	!	12	1	33	: 1	3.8		[c/]	
0.0 (10) 1.1 (22) 8.4 (98) 0.2 (16) 1.1 (10) 1.1	1.1 [22] 8.4 [98] 0.2 [6] 1.1 [2.1] 8.4 [98] 0.2 [6] 1.1 [2.2] 8.4 [98] 0.2 [6]	BaP Equivalents		N5	1 3	5.9	1	21		2.8	1	*		, 8 	
	able, analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds explosical screening value.				- 11	6.5	<u> </u>	 	[22]	8.4	[86]	0.2	9	0.03	
	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds explosical screening value.								 Si: Bi		AAA				
	an order transmit of successing value, NA - not applicable, analyte not detected. [] - concentration above sediment screening value. {} - concentration exceeds ecological screening value.											2000		3	3

Confirmmated Sediment (NYSDEC 1998,1999): 1 = screening value for total unchlorinated phenols. Screening values are ecological values except as noted: H = human exposure by fish consumption; W = drinking water source protection; L = Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concentration; (2) NOAA upper effects threshold concentration (1999).

Screening concentration (SC) calculated as concentration (C)/fraction of organic carbon (foc) in units of ug/gOC. SC derived for sediment with %10C ranging between 0.2% and 12%. SC was not calculated for %10C outside that range (not calc.).

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EXP File: QA10653_NYSDEC/27258_ThreeStar/CreekEvalTables.prg

Three Star Anodizing Site

Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	cs mg/K	05/14/2003 0 - 6 in. SC g ug/gOC 	05/14/2003 6-12 in. C S mg/Kg ug/	SC C C Mg/Kg	95/14/2003 12 - 22 in. SC SC SC SC SC SC SC SC SC SC SC SC SC	05/13/2003 0-6 in. C S mg/Kg ug/	SC ug/gOC	05/13/2003 6 - 12 in. C 5 mg/Kg ug/	003
12 12 12 12 12 12 12 12 12 12 12 12 12 1	G mg/Kg	SC ug/gOC	6-12 in	0.23 (3.0 D) 1.6 (SC uggeOC C 177 17 17 17 17 17 17 17 17 17 17 17 17	9-6 in	SC Carlos	6 - 12 ii C mg/Kg	
12 12 12 12 12 12 12 12 12 12 12 12 12 1	3	SC ug/goC			SC ugggOC 1 1 1 1 1 1 1 1 1		SC 28/80C	C mg/Kg	.
12 18 18 NS NS NS 107 107 13 (H) NS 13 (H) NS 13 (H) NS 13 (H) NS 13 (H) NS 13 (H) NS 13 (H) NS 13 (H) NS 13 (H) NS 13 (H) NS 14 (H) NS 15 (H) NS 16 (H) NS 16 (H) NS 17 (H) NS 18 (H) NS 18 (H) NS 18 (H) NS 18 (H) NS 19 (H) NS 10 (H) NS					1 1 1 1 1 1 1 1 1 1				SC ug/gOC
12 34 NS NS NS NS 107 13 (H) NS NS NS NS NS NS NS NS NS NS NS NS NS		\$\frac{2}{2} \left[\frac{2}{2} \frac^2 \frac{2}{2} \frac{2}{2} \frac{2}{2} \frac{2}{2} \frac{2}{2} \f			24 27 1 1 1 1 1 2 2 8 8 2 1 1 1 1 1 1 1 1 1 1		1 11 11 11 11 11		3
34 NS NS NS NS 107 13 (H) NS NS NS NS NS NS NS NS NS NS		5 [2] 4 [2] [3] 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1 1 2 3 3 3 4 4 4 4 4 4 4		1		1
3.4 NS NS NS 107 13 (H) 13 (H) NS NS NS NS NS NS NS NS NS NS		5 [1] + 6 [2] 5 1 1 1 1 1 1 1 1 1			24 2 2 2 1 1 2 2 2 1 1 2 2 2 1 1 2 2 2 2				: 1
NS NS NS 107 107 13 (H) NS NS NS NS NS NS NS NS 13 (H) 13 (H) 13 (H) 13 (H) 13 (H) 13 (H) 13 (H) 15 (H) 16 (H) 17 (H) 18 (H) 18 (H) 19		5 × (22) (22) × + + (11) (23) (23) × (11) (23) × (11) (23)			7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1	: [
NS NS NS NS NS NS NS NS NS NS NS NS 13 (H) 13 (H) 13 (H) 13 (H) 13 (H) 13 (H) 13 (H) 15 (H) 16 (H) 17 (H) 18 (H) 18 (H) 19 (H) 1		\$ 2 [1] \$ [2] \$			7.7		1	:	: - [
NS. NS. 107 107 107 13 (H) 13 (H) NS. 13 (H) NS. NS. NS. NS. NS. 1020 120 120 120 120 120 120 120 120 120		5 × 1 (22) (22) (22) (23) (23) (23) (23) (23)			5 8 39 8 17 17 17 17 17 17 17 17 17 17 17 17 17				
107 107 13 (H) 13 (H) NS 13 (H) NS NS NS NS NS 15 15 1020 1020 120 120 120 120 120 120 120 1		5 5 [12] [12] [4.0] 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6			\$ 39 [73] [73] [73] [73] [73] [73] [73] [73]			0.2 J	'Y
1.3 (H) 1.3 (H) NS 1.3 (H) NS 1.3 (H) NS 1.5 (H) 1.3 (H) 1.3 (H) 1.9 (H) 9.5 (H) 9.61		5 [122] [20] 4 4 [21] [21]			39 [73] [73] [92] 24 24 28 [39]			0.2.1	٧٦
13 (#) 13 (#) NS 13 (#) NS NS NS NS NS NS 1020 1020 120 120 120 120 120 120 120 1		[22] [23] [21] [23]			[83] [73] 24 [39]		7	0.7	23
13 (H) NS NS NS NS NS NS NS 13 (H) NS 15 15 1020 120 120 120 120 120 120 120 120 12		[17] 4 70] (29]			[73] [92] 24 [39]		[38]	3.4	[801]
NS NS NS NS NS NS NS 15 NS 1020 8 8 13 (H) 90 120 120 120 120 120 120 120 120 120 12		<u>{</u> + [] [] 1			[92] 24 [39]		[18]	{2.8}	[68]
1.3 (#) NS NS NS NS NS NS 1.5 NS 1.0 NS 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		• [[7]] - [2]			24 [39]		[52]	3.7 D	[118]
NS NS NS NS 15 1020 1020 8 8 13 (F) 13 (F) 96 109		(28)			[8] -		12	6.0	30
1.3 (H) NS NS NS NS 15 15 1020 88 13 (H) 13 (H) 13 (H) 995 (0)		[8]		7	_	0.6 3		1.0	[31]
NS NS 15 1020 1020 8 13 (F) 13 (F) 100 905 (Q)		<u> </u>		i. Li	()		1	1	1
15 15 NS 1020 8 8 1.3 (H) 13 (H) 120 05 (0) 95 (0)		1	` ;	-	[oc])	[28]	2.5	[80]
15 NS 1020 8 8 1.3 (H) 120 120 0.5 (t) 9.5 (t)				7 7 7 7 7 8 8 8 F		1	1 :	1:	1.
NS 1020 8 1.3 (H) 30 120 120 0.5 (t) 951		-			1:		1	E.	ł
1020 8 1.3 (H) 390 120 0.5 (t) 961				0.4 DJ		0.2]	4	0.4 J	= [
8 1.3 (H) 120 120 0.5 (0)	1.9 J	46		67.0	7	3.5.1	{	0.07 J	7
1.3 (H) 30. 120 0.5 (Q) 961					67	7.7	7	4.6 U	<u> </u>
30. 120 0.5.00	0.2 J	<u>-</u>			[26]	¥ 1: 1: 1:	13	U.Z.)	ر م
120 0.5.00			0.09.J	jā.	5] 	1.1	<u>?</u>
961	0.5 J	12		· ·	85			13	
	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	1] [F I
	1.5 J	36	2.2 J 54	54 7.5 D	182	3 : :	09	5.3 D	. 691
The second of th									1
Total organic carbon (mg/Kg)							:		
		*	41100eJ	- 41100 J		49600 BI	<u>ਿ</u>	31400B	j
Percent solids (%)					1		1	3.1B	1
				3	i	77	i.	63	ı.
	(83]	I,	[14]	F121		[16]			
TANTISCANO	:	1	:		1	8.2	<u>:</u>		
	8.3	<u>.</u> 	14	- 12				15	i
		[71]	1.6 [39]	:	[10]	: -	[34]	3.6	[115]
1									," [
			3000						
NOTES: J. estimated value, NS - no secessitie value, NA - not amilieable positioners deserted 11									

Screening concentration (SC) calculated as concentration (C)/fraction of organic carbon (foc) in units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%, SC was not calculated for %TOC outside that range (not calc.). Date Frinted: 03/11/2005 09-44-56
DBF File: Q:\U0653_NYSDEC\27258_ThreeStar\CreekTables.dbf
FXF File: Q:\U0653_NYSDEC\27258_ThreeStar\CreekEvalTabs.prg

Three Star Anodizing Site

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS Sediment	Ecological Screening	WP-T2B	T2B	WP-T2B	T2B	WP-T2B	rzB	W.P.	WP-T2C	WP-T2C	2C
	Sample Date	Values	Values	05/13/2003 0 - 6 in	2003	05/13/2003 6 - 12 in	/2003	05/13/2003	,2003	05/13	05/13/2003	05/13/2003	2003
Compound		ug/g OC	mg/kg	C mg/Kg	SC ug/goC	C C mg/Kg	SC ug/goc	C C mg/Kg	SC ug/goc	C C mg/Kg	SC ug/gOC	6 - 12 m. C mg/Kg	II. SC 119/9OC
1,2-Dichlorobenzene		12		-	ı	1							
1,3-Dichlorobenzene	1. Dichlorobenzene				i i	J							
1,4-Dichlorobenzene		12		1	1				: : : :		: 		F. 1
2-Methylnaphthalene	Z-Weinymaphmatene	34					1				1		-1
4-Chloroantiine		SN	1	1	1		1		. 1	;	: : : :	1	1
Youand themore	+ when y prenone and the second of the secon	NS		1	1								
Acenaphunene	33	SN	1	0.1 5	Ю	0.06 J	7	: {	:			() () () ()	· .
Action	A consultation of the control of the	4		0.1.5	2	0.1.1	4				1	0.8.5	9
Anunacene		107	;	0.6 J	12	0.4 J	41	.	. 1	6.0 J	[133]	6.5 J) [
Benzelalmiracene	Deuzo alanniacene Barrolan ranga	12		1.83	[37]	1.2	[45]	0.1.5		18.1	[400]		[220]
Record Africantiero	Period apprent	(H)	0.44 (1)	(1.6 J)	[33]	{0.9 J}	[34]	0.09 J	4	(15 J)	[333]	{11}	[98]
Benzo(ohi)nervlene		-	4.0 (1)	221	45	1.4.1	[53]	0.1 J	[2]	(20.1)	[444]	(13)	[220]
Q		N2	3.8 (1)	0.5 J	6	0.3 J		1	1	{5.8.1}	129	{4.4 J}	75
Carbazole		(E) CT	4.0(1)	18.0	[91]	0.4 J	[14]	Ì		{6.0.3}	[133]	(43.3)	[73]
		13.7H	2		1		1:	1.		}	·		; ; ;
hthalate		1.5 (n) Mc	1	1.6.1	[33]	6.0	<u>¥</u>	0.09 J	5	15 J	[333]	12	[203]
Di-n-octyl ohthalate		S. S.		1	1	1		ì	1		1		
Dibenzo(a h)anthracene		SS.	1	J	1	ļ	j						
				0.2 J	4	0.1 J	'n	1		2.3 J	[51]	1.8 J	[31]
Fluoranthene			(2)1'c		1	0.05 J	2		1				
		0.201		2.4 J	49	2.0	9/	0.2 J	80	30 J	667	25	424
zd)pvrene		. A.H.		0.1 J	m	0.07.J	m				1		
Naphthalene			The state of the	ر در. در	Ē	0.4 J	[14]			6.9 J	[153]	4.9 J	[83]
Phenanthrene		3 1 1		;	1 8	0.1 J	4		1				
Phenol	Phenot		- 1.	(0.1	07	0.7	27	0.09 J	~ ·	12 J	[267]	4.	[142]
Pyrene		961			 0	1 ;] {		ì	1			1
Bis(2-ethylhexyl)phthalate (B.	Bis(2-ethylbexyl)phthalate (BEHP)				3	7.7	× ×	0.2 J	<u> </u>	29 J	644	50	339
						: :	1			1	1		
Total organic carbon (mg/Kg)	Total organic carbon (mg/Kg)	NA	İ	49000 J		26400 J		19100		ASOLO DY	3000		
))			-	4.9 J	1	2.6 J	1	1.9		4 5 BT		2 000 E	1
reicent solids (%)	receil solids (%)	5.0		33		75		89	-	33)	1
Total PAHs (mg/Ke)	Total PAHs (mg/Ke)	A DOTTA	1,						<u></u>				i L
Total Carcinogenic PAHs		*,0(±) NS	(1) cg		1	[7.8]		9.0		[166]		[125]	
Total SVOCs		SS	2 I	1.1		2.1	1	0.2	1	83	1	9	: 1
BaP Equivalents		1.3 (E)		03	1 3	λ, (1 3	90		166	1.	125	
				7.5	 €	 	₹	0.01	0.5	22	[489]	16	[271]
						•							
NOTES: J - estimated va	J - estimated value, NS - no screening value, NA - not applicable, analyte not detected. [1]-c	ot applicable, analyte no	t detected [] - concentration at	oppenies above sediment screening value	enine value 1 t				51				
another sample Contamnated S	another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS<5%, e=AS Contaminated Sediment (NYSDEC 1998, 1999). r = creeming volum for read unablacted at	When AS>=5%, e=5%; whe	n AS<5%, e=AS TOC%. Samp	Samples analyzed by me	method NY ASP 9	5-2. NYS sedim	i exceeds ecological screening value. e - estimated concentration using TOC data from ment servering values are guidance values obtained from Technical Guidance for Screening	al screening value. Iues are guidance v	c e - estimated c values obtained	concentration us from Technical	using TOC data from	om reening	
L = Long & Mc	organ 1990. Ecological screening val	dues are: (1) EPA ARCS No 1	chlorinated phenois. Screening Effects concentrations: (2) NOA	y values are ecologic	cal values except	1	= human exposure by fish consumption; W = drinking water source protection	y fish consumpt	ion; W = drinking	g water source p	notection;	9,,,,,,,	
Screening cone	centration (SC) calculated as concentr	Pation (C) (fraction of promise	3	יים האמרי מומרים	ובצווסום כמונכנות	ation (1999).				Page	14 of 17		

Screening concentration (SC) calculated as concentration (C) fraction of organic carbon (foc) in units of ug/gOC. SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.). Date Printed: 03/11/2005 09-44; 56
DBF File: Q\10653_NYSDEC/27258_ThreeStar\CreekTables; dbf
FXP File: Q\10653_NYSDEC/27258_ThreeStar\CreekTables; dbf

Wappingers Falls, New York Three Star Anodizing Site

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

National Purple Ost132003	Sample ID	NYS	Ecological	WP-T2C		WP-ODI	īa	WP-OD	100	WP-ODI	IQC	WP-T3A	T3A
Companies Comp	Sample Date	Values	Screening Values	05/13/2003		05/13/2	003	05/13/	5003	05/13/	,2003	05/13	/2003
10 10 10 10 10 10 10 10	Compound	ng/g OC	mg/kg	17.		C C mg/Kg	sc ug/gOC	0 - 12 C mg/Kg	SC ug/gOC	12 - 1: C mg/Kg	SC III.	0-6 C mg/K9	.ii.
Particle Particle		12									200		33,85
No. No.	4.3-Lychloropenzene 1,4-Dichlorobenzene	12 12											
NS NS NS NS NS NS NS NS	2:Wethylnaphthalene	34					 *	: 	 				1 4
NS NS NS NS NS NS NS NS	4-Chloroaniline	SN	****	1			1		- 1	: : 1	1		
Color Colo	4-Methylphenol Acenaphthene	SZ SZ	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1	1 6	'						
100 101	Accepaphthylene	SX	1 1		 : 	0.2.1	4 0			1 -		1	1 3
13 (4)	Anthracene	107	1		1	3.0 J	53	0.3 J	<u>ه</u>	- -		- 10 - 10	- 7
1,000 1,00	Benzo(a)anthracene			1.	1	10 DJ	[17]	1.3	[21]	ľ	ļ	0.5.1	1 0
Colored Colo	Benzo(b)fluoranthene		0.44 (1)		15]	(9.1.)	[161]	{1.1.J}	[18]	- 1		{0.6 J}	
1,3 (Hz)	Benzo(ghi)perylene	1	3.8(1)	1 1		(11 DJ)	(195)	1.5J	[25]	1		0.9 J	[16]
NS	Benzo(k)fluoranthene	1.3 (H)	4.0(1)			3.1 J		0.43	- 12 - 12 - 12			0.3.1	5
Market M	Carbazole	SN	SN		:	0.1 J	7 7	· ·	<u> </u>			Ĉ.	[6]
httpacene NS	Di-n-bityl phthalate	(H) (H)	1	ili E	1	6.8.1	[120]	11	[18]			0.5 J	[6]
htmocrie 15	Di-n-octyl phthalate	c s	:			:	ł		1	· · .	1	1	
December December	Dibenzo(a,h)anthracene	: :	i E			1 =	1 2	7.0	~	Ť	j.	0.1 J	2
1020	Dibenzofuran	N.S.	5.1(2)	4		0.2.7	<u>س</u>		<u>፡</u> ፡፡			7.7	् ह्या इ
1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,	Finorene			1		16 DJ	283	2.0	33		- 1	0.8 J	4
120	Indeno(1.2.3-ed)pyrene			•	 	041	7	0.07 J					
120	Naphthalene				;;; ;;	3.8]	[67]	0.5 J	≤.	13	1	0.3 J	<u>ፍ</u>
15 DJ 265 2.2 36	Phenanthrene	120	1			5.5]	97	0.4 J	7		f I	0.3.[•
15D 265 22 36	Pyrene Dynamics	0,5 (t)			7 (A)		j	1					, i
utbon (mg/Kg) NA 11000 B 56500 B1 60700 B 37600 B 56400 J A) NA 1.1 B 57 BJ 6.1 B 3.8 B 5.6 J A) NA A (0 (L)) 85 (1) 0.5 27 27 6.1 B 3.8 B 5.6 J mic PAHs NS NS NS NS 12.1 12.1 12.1 12.1 12.1 12.5 30.7 S 1.3 (H) NS NS 0.5 1.6 12.0 1.6 1.6 1.6 1.6 0.9 1 - certimated value, NS - no secreening value, NA - not applicable, — - malyze not detected. [] - concentration above sediment screening value, Na - not applicable, — - malyze not detected. [] - concentration above sediment screening value, Na - not applicable, — - malyze not detected. [] - concentration above sediment screening value, Na - not applicable, — - malyze not detected. [] - concentration above sediment screening value, Na - not applicable. — - malyze not detected. [] - concentration above sediment screening value, Na - not applicable. — - malyze not detected. [] - concentration above sediment screening value. [] - concentration and provided to the concentration and provided to the concentration and provided to the concentration and provided to the concentration and provided to the concentration and provided to the concentrati	Bis(2-ethylhexyl)phthalate (BEHP)	200			1 11	15 DJ	265	2.2	36	1	1	0.8 J	7
NA	Trita foreganic condensation (mostle.)										- -	id F	
NA	% TOC	41.	13	11000B		56500 BJ	1	60700 B		37600 B	ļ	56400 J	1
(ES)	Percent solids (%)	NA		70		5.7 EJ	: 	6.1B		3.8 B	- ; 	5.6 J	
137 123	Total DA University					di di				3 1	}	20	i,
13 (H) NS NS 0.5 24 6.1 33 1.3 (H) NS 0.5 (45) 11 (195) 1.6 [26] 5.7 1.4 stiffmed value, NS streaming value, NS malaye not detected. [1- concentration above sediment screening value, NS malaye and detected. [1- concentration above sediment screening value, NS malaye and detected. [1- concentration above sediment screening value, NS malaye and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value, NS malayer and detected. [1- concentration above sediment screening value above sediment screening value above sediment screening value above sediment screening value above sediment screening value above sediment screening value above sediment screening value above screening value above sediment screening value above screening value above screening value above screening value above screening value above screening value above screening value above screening value above screening value above screening value above	14,	- 1	85 (1)	50		[37]	ı	[12]				[5.5]	
1.3 (H) NS 0.5 [45] 11 [195] 1.6 [26] - 0.9 - ceitimated value, NS - no screening value, NA - not applicable, — - analyze not detected. [1- concentration above sediments screening value, NS - no screening value, NA - not applicable, — - analyze not detected. [1- concentration above sediments screening value, NS - no screening value, NA - not applicable, — - analyze not detected. [1- concentration above sediments screening value, NS - no screening value, NA - not applicable, — - analyze not detected. [1- concentration above sediments screening value, NS - no screening value, NA - not applicable, — - analyze not detected. [1- concentration above sediments screening value, NS - no screening value, NS - no screening value, NS - no screening value, NS - not applicable, — - analyze not detected. [1- concentration value, NS - no screening value, NS - no screen		SN SN		50		24		6.1	1 5	1	-	3.3	
J - estimated value, NS - no screening value, NA - not applicable, — analyze not detected. [] - concentration above sediment screening value. () - concentration exceeds confouries contained and the contentration are contentration and contentration are contentration.	BaP Equivalents	1.3 (H)	ġ.		21	; ; =	1951	7 9 1	196		ŀ	5.7	1 2
J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediments externing value, NA - not applicable, — - analyte not detected. [] - concentration excreeds evolvation in large.					15 6 1 • 1								
J - estimated value, NS - no screening value, NA - not applicable, — analyte not detected. [] - concentration above sediment screening value. [] - concentration exceeds conformed conformal concentration.													
		A - not applicable, analyte	not detected. () - concentration al	bove sediment screening) sulea	contemporary	oingle of						

another sample (AS) collected at the same location. When AS>=5%, e=5%, when AS>=5%, e=65%, when AS>=5%, e=65%, when AS>=5%, e=65%, when AS>=5%, e=65%, when AS>=5%, e=65%, when AS>=5%, e=65%, when AS>=5%, e=65%, when AS>=5%, e=65%, when AS>=5%, e=65%, when ASS==5%, e=65%, when ASS==5%, e=6 Date Printed: 03/11/2005 09-44-56
DBF File: QA10653 NYSDEC/27258 ThreeStar/CreekTables dbf
FXF File: QA10653_NYSDEC/27258_ThreeStar/CreekEvalTabs prg

Wappingers Falls, New York Three Star Anodizing Site DRAFT Table 3-2

Wappinger Creek Investigation - Sediment Samples

Compound 1,2-Dichlorobenzene	Sample ID	NYS Sediment	Ecological Screening	WP-T3	WP-T3A DUP	WP	WP-T3A	WP.	WP-T3A	WP	WP-T3B	- AM	WP-T3B
Compound 1,2-Dichlorobenzene	Sample Date	Values	Values	05/13/200 0 - 6 in.	05/13/2003 0 - 6 in.		05/13/2003 6 - 12 in.	05/13	05/13/2003 12 - 24 in.	05/1:	05/13/2003 0 - 6 in.	05/1	05/13/2003 6 - 12 in.
S. S. S. S. S. S. S. S. S. S. S. S. S. S		ng/g OC	mg/kg	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/goC	C mg/Kg	SC UR/POC
L, 2-Liculorobenzene	1.3-Dichlorobenzene	11.7 11.7 11.7		1 [1	1			}) :	
1,4-Dichlorobenzene		12		1			·	- 1 -	1 1	† 			
4-Chloroaniline		34 NS		1.	ŧ		ŀ	0.07 J					
#Wethylphenol		S S		1 .[1 1	1 1	1 1	. 1	1	. -	. !	
Acenaphthylene		s s	1 2	1		1	- 1	0.1 J	7		F 1		E I
Anthracene	6 3 11	ŧ.		02.1	، ا	1.00	-	0.2.5	.		ļ) }	
Benzo(a)anthracene Renzo(a)nvrene		1 :		0.6 J	۰ ۵	0.9 J	ر الخ	1.6	36	1.00	! =	0.09 J	7
Benzo(b)fluoranthene		1.3 (H)	0.44 (1)	0.4 J	9	{6.8.J}	[51]	(2.1)	[48]	0.3 J	<u> </u>	(0.5.J)	
Benzo(ghi)perylene			3.8 (1)	0.3 J	4	1:11 03:1	[6]	2.9	[99]	0.8 J	[61]	0.7 J	[2
Benzo(k)iluoranthene Carhazola		<u></u>	4.0(1)	0.3.5	[4]	0.4 J	• 5	0.5 J	 : : : : : :	0.3 J	7	0.2 J	ν.
Chrysene		SN (#) E I	SN		1	· • • • • • • • • • • • • • • • • • • •	7 1		<u>.</u>	()	<u>~</u> <u>~</u>]	0.2 J	<u>9</u>
Di-n-butyl phthalate		SN		(c)	<u>~~</u> ×2	0.8 J	[13]	2.4	[54]	0.5 J	[14]	0.5.7	[113]
Dien-oct// phthalate Dibenzola handresses		SN		0.2.J	2	1 1	i d		1 1	1	1	. ;	1
Dibenzofuran		25.0	1 3	1	1	0.2 J	٣	0.2 J	8	}		[]	} ~
Fluoranthene		1020	(7) 7:	100	1 2		1 :	0.09.5	2				
Fluorene Indeno(1,2,2,4)		1.5		; }	2		6	4.9	111	0.8 J	61	0.8 J	50
Naphthalene				0.3 J	<u>4</u>	0.4 J	_ E	0.0	+ 11	0.3 J	1 5	0.2 T	1 5
Phenanthrene				1.5	1		1	0.2 J			2 1	; ;	፩
Phenol		0.5(t)		(1)	^	0.5 J	- ∞ ¦	2.0	45	0.3 J	∞	0.2 J	ं य ं य
ryiciie 3is/2-ethylhexylluhrhalate (RFH)				1.0 J	: 4	1.4 J	24	4.0	- &	180	- ;	100	1.8
		2007		1			1)		; ; ; ;	; <u>;</u>	(e)	27
Total organic carbon (mg/Kg)				69300 BJ	1	57700 3		442001		XC 00000			
Percent solids (%)		i V F	4.:	6.9 BJ		5.8 J		4.4]	1	4.0 BJ	1 1	38000 BJ 3.8 BJ	i di I
A fel DA UA Canada A			: '	67		96	ſ	54	1	- 53	1	46	1
Total Carcinogenic PAHs No		4.0 (L) NS	85(1)	3.5		[8.0]	1	[25]	1	[4.7]	1	[4.7.]	
Total SVOCs		SN	2	3.5		5.4.5	1	12	;	2.5		2.7	E, I
Bar Equivalents		1.3 (H)	SN	0.07	-	1.2	[21]	3 2	1999	7.40	- 6	7.7	1 3
					- <u> </u>					}	<u>.</u>	3	8
NOMEO							10 10 10 10 10 10 10 10 10 10 10 10 10 1						
	J - estimated value, NS - no screening value, NA - not applicable, — - analyte not detected. [] another sample (AS) collected at the same (caution. When AS=5%, e=5%, when AS<5%, e=6 Contaminant Assistance, Acceptant to so not a contaminant of the contaminant	not applicable, analyte t When AS>=5%, e=5%; wt	- concentration AS TOC%. San	above sediment scree	cening value. {}	concentration e	concentration exceeds ecological screening	al screening value	c. c - estimated c	oncentration usi	concentration using TOC data from	g	

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Three Star Anodizing Site DRAFT Table 3-2

Wappingers Falls, New York Wappinger Creek Investigation - Sediment Samples

Detected Semivolatile Organic Compound Concentrations Compared to Screening Values Including TOC and Percent Solids Data

	Sample ID	NYS Sediment	Ecological	WP-T3B	3B	WP-T3C	ွင့	WP-T3C	30				
	Sample Date	Values	Values	05/13/2003	2003	05/13/2003	003	05/13/2003	2003				
				12 - 24 in.	·ë	0 - 6 in.		6 - 11 in.	ji,				
Compound		ug/g OC	mg/kg	C mg/Kg	SC ng/goc	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC	C mg/Kg	SC ug/goc	C mg/Kg	SC ug/gOC
1,2-Dichlorobenzene		12		1	1		1))
1,4-Dichlorobenzene	19 19 15	12)		<u>.</u> 1						
2-WettryInaphithalene		34			1				1 1				
4-Chloroaniline		NS	1	1	ı	1	1	1	1				
Acenantihene NS		No.			1	1	1		1				
Acenaphthylene		SX	1		7. 1.1	1 1		1 60 0	+				
Anthracene			1	1	1	1	1	0.2 J	. 7				
Benzola Invene		12		1	-	0.3.1	4	0.7 J	10				1
Benzo(b)fluoranthene		1.3 (A)	0.44(1)	1 1	1 0	(0.5 J)	<u>.</u> 9 <u>9</u>	(0.7.1)	[10]			:	:
Benzo(ghi)perylene			3.8 (1)		 	0.15	2	1.0.1 0.2 J	. 4				
Berzo(k)fluoranthene		13 (H)	4.0(J)		1	0.2 J	[5]	0.3.J	<u> </u>				
Chrysene		NS 1-3-CED	SN	1	1		1	1					
Di-n-butyi phthalate				E I	1	0.4.	<u>c</u>	0.63					
Di-n-octy (phthalate		NS							1		3		1 0 0
Dibenzo(a,h)anthracene				1	}	 	1	0.1.5	-				
Fluoranthene			5.1 (2)		ļ		1	1					
			1 1			0.5 J	7	1.0.1	15				
		1.3 (H)		1	1	0.1.3	2	0.3.1	1 至				
Phenanthrene		30	Î	i,	ŀ			0.1 J	2				
Phenol 6 (0)		0.5 (0)		ŁĴ	1	0.2 J	2	0.4 J	9				
Pyrene				. 1	1	0.6 J		1.2 J	 6				
Bis(2-ethylitexyl)phthalane (BEHP)		200		1	1								
Total organic carbon (mg/Kg)		NA.		19700 B		72000 J		63800 J					
% TOC		NA	1	2.0 B	1	7.2 J	1	6.4 J					
CERCENT SOUNDS NOT A STATE OF THE SOUNDS NOT		NA COLONIA		54	ŀ		k	45	1				
	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		85 (1)			3.2		[6.7.]	 				.:
Total Carcinogenic PAHs			SN	1	·	1,9	. 1	3.6	i				: .
		NS -	1 2	1		3.2	Ť.	6.7	1.				
			ž:	ł 1	1	0.5	<u> </u>	1.0	[16]				
another sample (AS) o	 So screening value, NA - collected at the same location 	1 - Sumated Value, NS - no screening value, NA - not applicable, — - analyte not detected. [] - concentration above sediment screening value, another sample (AS) collected at the same location. When AS>-5%, e=5%, when AS<5%, e=AS TOC%. Samples analyzed by method NY A.	ed. []-concentration ab	in above sediment sere amples analyzed by m	\$\$	- concentration exceeds ecological sereening value.	cceds ecologica	screening values	c. c - estimated c	concentration exceeds ecological sercening value. c - estimated concentration using TOC data from	ng TOC data fro	6	
Contaminated Sedim	ent (NYSDEC 1998,1999): 1 1990. Ecological screening v	Contaminated Sediment (NYSDEC 1998,1999): t = screening value for total unchlorinated pheno. L ** Long & Morgan 1990. Ecological screening values are: (1) EPA ARCS No Effects concentral	آن آت 00	ls. Sercening values are ecological values except as noted: Historical NOAA under effects threshold concernation (1909)	cal values except	Sortening values are coological values except as noted: H = human exposure by fish consumption; W = drinking water source protection; (2) NOAA under effects threshold connemnium (1909)	man exposure 5	fish consumpt	values obtained lon; W = drinking	Form I connical C	Juidance for Scr Otection;	cening	
Screening concentrati	ion (SC) calculated as concer	ntration (C)/fraction of organic carbon	(foc) in units of ug/gOC	SC denved for s	ediment with %T	SC derived for sediment with %TOC ranging between 0.2% and 12%. SC was not calculated for %TOC outside that range (not calc.)	cen 0.2% and 12	%. SC was not	calculated for %	Fage [FOC outside that	7 of 17	_	
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Wappingers Falls, New York Three Star Anodizing Site

Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

	Sample ID Sediment	Codimon					
		Lowest Effect	WF-LNI	WP-LK2	WP-LK3	WP-LK4	WP-LK5
	Sample Date Level (SEL)	Level (LEL)	05/12/2003	05/12/2003	05/12/2003	05/13/2003	
	Sample Depth	ž	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in	05/12/2003
	Onits angles	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	U-6 III. INP/Ke
Compound)	0
Aluminum	NSN	73200 (1)	19200 I	14500 1			
Antimony	25.0 (L)	2.0 (1.)		Concer	14300 J	16000 J	17600 J
Arsenic	33 0 (b)	(i) (i)		11.		!	
Barium	SN SN	0:0 (F)	4.9 BJ	4 BJ	(6.3 BJ)	4.7 BJ	4.7 BI
Berylium	9 9	SN	120 BJ	88 BJ	92 BJ	98 B.I	100.81
Codmins	SN.	SN	0.86 BJ	0.67 BJ	0.64 B.I	0.781	TO DO
Cacinimi	9.0 (P)	0.6 (P)	(1.3 BJ)	(1.4 B.D	(US O)	(a (a (a (a (a (a (a (a (a (a (a (a (a (0.81 BJ
Calcium	SN	NS	10200	1190011	(cd 8.0)	(0.93 BJ)	(1.2 BJ)
Chromium**	110.0 (P)	26.0 (P)	07.0	1 90	18800	11600 J	11100 J
Cobalt	SN	SN	14 DI	707	21.3	22 J	24 J
Copper	(4) 0 0 (1)	(8) (9)	[4 t]	E B.	8.8 BJ	11 BJ	13BJ
Iron	4% (D)	19.0(F)	(r Is)	(600)	(601)	(83.1)	(64 D)
Lead	11000	2% (F)	(3.3.1)	(3.2.1)	(2.7 J)	(3.0 D	(3.3.1)
Magnesium	110:0(L)	31.0 (P)	(66 J)	(187 J*)	(79.T)	(60.5)	(1.5.5)
Magnesium	SZ	NS	8570 J	6950 BI	(6.7.)	(1.66)	(126.3*)
Manganese	1100 (L)	460 (P)	U 707)	C 023)	61303	/310.3	8700 J
Mercury	1.3 (L)	0.15 (1.)	(031)	(1876)	(7 1 5 5)	(10001)	(637.1)
Nickel	50 (T)	(E) (E)	(0.31.3)	(6.57)	(0.29 J)	(0.33 J)	(0.3 J)
Potassium) vz	(E) 01	(33 BJ)	(29 BJ)	(26 BJ)	(26 BJ)	(30.1)
Selenium) V	017	1/40 BJ	1510 BJ	1420 BJ	1350 BJ	1360 BI
Silver	22(2)	200	Į	ŧ	}	į	
Sodium	(T) 7:7	(T) 0'1	i	1	1	į	!
Thallium	S ;	SN	330 BJ	386 BJ	357 RI	19.616	
Venedium	N.	SN	1	1	i	212 20	328 BJ
V Allahimii	SX	SX	29 BJ	38 B.	30 6	;	1
Curc	270 (L)	120 (P/L)	(221 J)	(340 1*)	67.77	77 B)	26 BJ
Cyanide, total	NS	0.1 (Eisler 1991)		(((() () () () () () () ()	(774)	(228 J)	(230 J)
Cyanide, amenable to chlorination	SN	SN		-	I	1	
		?	ł	;	1	1	1
Percent solids (%)	Ϋ́	Ą Z	9	:			
Hd	NA NA	* * Z	91	12	14	25	36
% TOC	SN	S N	:	1	1	!	: 1
Total organic carbon (mg/Kg)	SZ.	S X	f 01	9.2 J	6.3 J	4.2 J	4.6.1
)	S.	102000	91600 Л	63300 J	42100 J	46100 J

J - estimated value, NS = no screening value, NA = not applicable, — no data. B = analyte detected above PQL in Prep Blank, e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%, When AS>=5%, e=AS TOC%. Samples analyzed by methods 7196A/2007/1245.5/335.2/9010B/9014.
Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999).

Second Sediment (NYSDEC 1998, 1999).

* exceeds Sediment (EEL) screening value of the ELD Screening value. It is contaminated to the ELD Screening value of the ELD Screening value. It is contaminated to the ELD Screening value. FXP File: Q:110653_NYSDEC\27258_ThreeStar\CreekEvalTabs.prg

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

WP-LK01-B 05/10/2001 6 - 12 in. mg/Kg (541 J) 0.42 J 5980 J 15 J 6.5 J (30 J) (2.4 J) (41 J) 5720 J (141 J) ---(22 J) 888 J 1.7 J ... 112 J WP-LK01-B 05/10/2001 0 - 6 in. mg/Kg 7.9 J (34 J) (2.7 J) (46 J) 6850 J 0.53 J 7030 J --(24 J) 1110 J (168 J) 145 J WP-LK01-A 05/10/2001 19 - 25 in. mg/Kg (38 J) (2.9 J) (62 J) (63 J) (02 J) (23 J) 932 J 9540 J 18 J (145 J) 0.34 J 0.62 J 9.2 J 1.4 J [69 WP-LK01-A 05/10/2001 6 - 12 in. mg/Kg 1400 J (6.6 J) (2.4 J) (42 J) 5540 J (566 J) 0.53 J 6330 J (136.1) 0.16 J __ (22 J) 852 J (31.1) 9.3 J 1.2.3 82 J 19 J WP-LK01-A 05/10/2001 0 - 6 in. mg/Kg 7600 J (594 J) (25 J) 1090 J (3.0.1) (49 J) 7130 J 20 J (204 J) 0.57 J 8.6 J (37.J)124 J 2.5 J 0.1 (Eisler 1991) NS Sediment Lowest Effect Level (LEL) (20 (P/L) NS 16.0 (P) 26.0 (P) 2% (P) 31.0 (P) NS 0.15 (L) 16 (P) mg/Kg 460 (P) 6.0 (P) NS NS 0.6 (P) NS NS NS 1.0 (L) S S S Sediment Severe Effect Level (SEL) 110.0 (P) 110.0 (L.) NS 110.0 (P) 1100 (L) 1.3 (L) 33.0 (P) NS NS 9.0 (P) NS 4% (P) 50 (L) mg/Kg SZ A S S S Sample ID Sample Date Sample Depth Cyanide, amenable to chlorination Percent solids (%) Calcium Chromium** Cyanide, total Magnesium Manganese Aluminum Potassium Selenium Antimony Beryllium Cadmium Vanadium Arsenic Mercury **Fhallium** Соррег Ватішп Cobalt Sodium pH % TOC Nickel Silver Lead <u>10</u>

J - estimated value, NS = no sercening value, NA = not applicable, — - no data. B = analyte detected above PQL in Prep Blank. c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<=5%, e=AS TOC%. Samples analyzed by methods 7196A200 7/245.5/335.2/9010B/9014. Sediment sercening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud, (1) = EPA ARCS No Effects concentration.

NOTES

Total organic carbon (mg/Kg)

* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected FXP File: Q:\10653_NYSDEC\27258_ThreeStar\CreekEvalTabs.prg

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Wappingers Falls, New York Three Star Anodizing Site DRAFT Table 3-3

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	Sediment	Sediment	WP-I K01-R DITE	d 10/11/W	WB 17/01 C	0.001	
		Severe Effect	Lowest Effect		7-1007-111	7-10VI-1	WF-LNOI-C	WF-LK01-C
	Sample Date	Level (SEL)	Level (LEL)	05/10/2001	05/10/2001	05/10/2001	05/10/2001	100001
				6 - 12 in.	25 - 31 in.	0 - 6 in	6 - 12 in	03/10/2001
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound							•	
Aluminum		SN	73200 (1)	13300 J	131001	14600 1	13200 t	1.0000
Antimony		25.0 (L)	2.0(L)			60001	132003	12900
Arsenic		33.0 (P)	(S) (P)	431	107	7.11		
Barium		SN	() O Y	,	1.00	7.7	4.8	4.3 J
Beryllium		0.2	2 2 2	100	80.3	F06	81 J	18 J
Cadmina		900	() ()	0.53 J	0.55 J	0.57 J	0.55 J	0.53 J
Caumum		9.0 (P)	0.6 (P)	!	0.36 J	1	0.2 J	0.31 J
Calcium		ZS	NS	6640 J	5350 J	7240 J	6750.1	9730 1
Chromium**		110.0 (P)	26.0 (P)	17.3	17 J	181	171	191
Cobalt		NS	NS	7.6 J	8.9 J	8.3.1	851	1 4 8
Copper		110.0 (P)	16.0 (P)	(34.D)	(37 D	(37.0)	3.00	200
Iron		4% (P)	2% (P)	0.70	(5.12) 13.8 D	(6/6)	(343)	(100)
Lead		11000	(2)	(e 1::2)	(5.5)	(1.8.2)	(2./3)	(2.8 J)
Magnesium		110:0(L)	51.0 (F)	(40.1)	(1 65)	(47 J)	(44 J)	(59.1)
IVIABILICATURE		N	SZ	6440 J	£800 J	6990 J	6410 J	6190.1
Manganese		1100 (T)	460 (P)	(640 J)	(616.J)	(569.1)	(613.1)	(666.1)
Mercury		1.3 (L)	0.15 (L)	1	(0.21 J)		· ·	· · · · ·
Nickel		50 (L)	16 (P)	(24 J)	(22 J)	(24 D	(24 h	0.00
Potassium		NS	NS	956 J	888	1140 Ĭ	(7.7)	(6 77)
Selenium		NS	NS	2.1.1	161	2	21	1060
Silver		2.2 (L)	1.0(1.)				î,	1.5.1
Sodium) SN	SI SI	1 00	,		i	!
Thallium			5 N	1087	ſ 79	148 J	176	f 89
Vanadium		0.2	014		1 :	1	1	1
Zinc		2000	200 GG.	22.	18.1	19.3	22 J	18 J
Conide total		2/0(L) 3/5	120 (P/L)	(162 J)	(136 J)	(162 J)	(135.1)	(132 J)
Comittee amount to an attention of		S. S.	0.1 (Eisler 1991)	!	-	(3.2.1)	!	
Cyanice, antenaore to enformation		N.	NZ.		1	-	!	
Persons solida (6/)		;						
retent solids (%)		A'A	NA VA	34	48	29	36	0.5
Hd		NA	NA	7.7	00	7.5	° (0 1
% TOC		SZ	NS	5.5	5.5	0 4	2 4	0.,
Total organic carbon (mg/Kg)		92	37	90033		7:0	0.0	3.9
(9,1,9,1)		2	CV.	00756	54700	58700	55500	38800

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1 - estimated value, NS = no screening value, NA = not applicable, — - no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample at the same location. When ASS—5%, a Sec. Sec. Sec. Sec. Samples analyzed by methods 7196A/200 7/245.5/335.2/9010B/9014. Sediment streening values are guidance values obtained from Technical Guidance for Secreting Commaninated Sediment (NYSDE) 1998,1999. Sediment streening values are guidance values obtained from Technical Guidance for Secreting or Secreting value obtained from Eisler 1991. L = Long & Morgan, P = Persaud; (1) = PRA ARCN No Effects concentration.

- exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. from data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID Sediment	Sediment	WP-01-A	WP-04-45-0	W. 00 A	4 1 1 8 2		
		Lowest Effect	W-10-JA	WF-04.45-9	WF-09A	WF-11A	LG-OUT	
		Level (LEL)	05/09/2001	05/09/2001	05/09/2001	05/09/2001	1002/00/2001	
			0 - 6 in.	0 - 6 in.	0 - 6 in.	0-6 in.	0 - 6 in	
	Units mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Compound								
Aluminum	SN	73200 (1)	10000	10700	7850	4650	7350	T
Antimony	25.0 (L)	2.0 (L)	0.52 JN	1.2 JN	0.51 JN	NI 59.0	Z . 0	
Arsenic	33.0 (P)	6.0 (P)	(6.5)	(8.9)	(61)	(10)	(16.6)	
Barium	SN	NS	54	, 62	(E) 01	28.1	(\(\lambda \)	
Beryllium	SN	SN	0.45 J	0.43 J	0.45 J	9271	1 36 1	
Cadmium	9.0 (P)	0.6 (P)	(1.1)	(1.3.1)	0.34 J	0.54 ĭ	(24)	
Calcium	NS	SN	24900	4140	6120	1460	10800	
Chromium**	110.0 (P)	26.0 (P)	19	26	25.1	26.1	(20)	
Cobalt	NS	SN	7.6 J	7.9 J	167	53.1	(67)	
Copper	110.0 (P)	16.0 (P)	(48)	(91)	(41)	(172 *)	(88)	
Iron	4% (P)	2% (P)	(3.4)	(4.3 *)	(2.8)	, 4.5	(32)	
Lead	110.0 (L)	31.0 (P)	(94)	(152 *)	(73)	(* 500)	(2:1)	
Magnesium	NS	NS	18900	7180	4480	1960	6490	
Manganese	1100 (L)	460 (P)	(912.1)	(1790 J*)	(MI 206)	440 FV	0750 0750	
Mercury	1.3 (L)	0.15 (L)	(0.51)	0.15 J	(0.17 n	(0.44.)	(1)	
Nickel	50 (L)	16 (P)	(22.)	(36)	(17)	13	(111)	
Potassium	SN	SZ	636 J	709 1	759 1	207.	(34)	
Selenium	SN	SN	0.94 I	,		. 6.	f / To	
Silver	2.2 (L)	10(1)		5.1	C: 1	1.2.1	1.1.1	
Sodium) S	(i) SN	109	81.1	1 8	1	1	_
Thallium	v. Z	SX	; ;;	7.50	1 66	84.J	f 06	
Vanadium	NS	SZ	14	! ≃	7		; ;	
Zinc	270 (L)	120 (P/L)	(163.)	(910)	* * * * * * * * * * * * * * * * * * *	(201)	17	
Cyanide, total	SSX	0.1 (Bisler 1991)		(212)	2	(961)	(785.)	-
Cyanide, amenable to chlorination	Z	SNS	!	:	1	(1.1)	•	
	?	0	i	1	;	I	i	•
Percent solids (%)	NA	NA	 000	73	99	. 39	ŗ	
Hd	NA VA	Ϋ́Z	. 00		5 -		11	
% TOC	S Z	2	2 0	- · · ·	8,1	4.8	8.3	
Total organic carbon (mg/K a)	32	914	7:1	7.7	0.0	7.7	5.6	
(Syr/Sur) moores came or came;	CZ.	S.	18600	22100	65500	76500	26000	

J - estimated value, NS = no serreening value, NA = not applicable, --- no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, When AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5%, E=5% when AS>=5% FXP File: Q.\10653_NYSDEC\27258_ThreeStar\CreckEvalTabs.prg

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Three Star Anodizing Site Wappingers Falls, New York

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	Sediment	Sediment	WP-LGOUT2	WP-MW4	WP-MW4 DID	WP_16	W.0 19
		Severe Effect	Lowest Effect				21-11	WF-18
	Sample Date	Level (SEL)	Level (LEL)	05/13/2003	05/13/2003	05/13/2003	05/09/2001	05/09/2001
		2		0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in.	0 - 6 in
		mg/K.g	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound								
Aluminum		SN	73200 (1)	10100	12000	12600	10800	0880
Antimony		25.0 (L)	2.0 (L)	0.9 BNJ	0.87 BNJ	(25 NJ)	N. 78.0	2
Arsenic		33.0 (P)	6.0 (P)	(6.6)	(6.3)	(8.4)		ų
Barium		NS	SN	118	, , ,	74	() () () () () () () () () ()	1.0
Beryllium		NS	NS	0.45 B	0.48 B	0.52 B	0.43.1	51.5
Cadmium		9.0 (P)	0.6 (P)	(1.7)	(1.2.B)	(128)	(01)	0.40
Calcium		NS	SN	13000	€350	(1.2.1)	(8:1)	0.2.0
Chromium**		110.0 (P)	26.0 (P)	23	000	7000	2130	2500
Cobalt		SN	NIV.	7 7 7	0 7	71	17	17
Conner		110.00	10.0 M	13.0	8.4 B	9.5 B	7.3 J	9 3
Iron		110:0 (F)	16.0 (P)	(63)	(53)	(62)	(61)	16
Hon I I		4% (P)	2%(P)	(3.4)	(3.6)	(4.1 *)	(3.3)	(2.7)
Lead		110.0 (L)	31.0 (P)	(141 *)	(130 *)	(1450 *)	(67)	24
Magnesium		NS	SZ	7210	7290	7330	6880	4830
Manganese		1100 (L)	460 (P)	345	(541)	(579)	(489 D	202 T
Mercury		1.3 (L)	0.15 (L)	(0.34)	(0.16)	0.14	(0.17.0)	2525
Nickel		50 (L)	16 (P)	(56 *)	(25)	(96)	(23)	(12)
Potassium		NS	SN	861 B	817B	0015	148.1	(17)
Selenium		NS	SZ	۱ : ا	ì (801/		1180
Silver		2.2 (L)	1.0 (L)	1		1	7	17
Sodium		SN	, vz	200	0		1	!
Thallium		SN) (Z	966	q Q	/4 B	51.5	88 1
Vanadium		SZ	ı v	1 6	<u> </u>	1 5	1	
Zinc		270 (T.)	120.004	27	71	×	16	16
Cvanide total		(1) (17) NG	120 (F/L)	(262)	(231)	(246)	(308 *)	74
Cyanida amanahla ta ahla danah		SNI	0.1 (Eister 1991)	(0.33 BJN)	(0.34 BIN)	(0.35 BJN)	-	1
Cyamire, anticidable to chlorination		NZ.	SZ		!	-	ł	;
Democrate settler								
referit solids (%)		YA:	N.A.	75	81	62	62	89
ud.		NA	NA	1		1	8.2	27
, s		SX	NS	1.2 J	2.5	1.2	ا ا) (
Total organic carbon (mg/Kg)		NS	NS	12400 J	25400	12100	8770	23400

* exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. J estimated value, NS = no sercening value, NA = not applicable, — - no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<=5%, e=6X TOC%. Samples analyzed by methods 7196A/200 7/245 5/335 2/9010B/9014. Sediment sercening values are guidance values obtained from Technical Guidance for Sercening Contaminated Sediment (NYSDEC 1998,1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud, (1) = EPA ARCS No Effects concentration. NOTES:

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Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples Wappingers Falls, New York

	Sample ID Sediment Severe Effect	Sediment Lowest Effect	WP-18	WP-M2	WP-M2	WP-M2	WP-M3	
	Sample Date Level (SEL)	Level (LEL)	05/09/2001	05/14/2003	05/14/2003	200011		
,		(2-2)	6 - 17 in	0.14/2003	03/14/2003	05/14/2003	05/14/2003	
	Units mg/Kg	mg/Kg	me/K s	ma/ko	0 = 12 III.	12 - 17 10.	0 - 6 in.	
7))	0	947,911	MB/A/S	nig/ng	тв/Кв	
nimodina								
Alumnum	SN	73200 (1)	10100	15400 J	10600	10900	1 0050	T
Antimony	25.0 (L)	2.0 (L)	ł	1.7 BNI		20001	r porce	
Arsenic	33.0 (P)	(E) (E)	3,5	(*10.7%)	1		1	
Barium	SZ	SN	2.5	(6.0 EJ")	(f cl)	(14 J)	5.5 J*	
Beryllium	9 2		54.5	93 BJ	46 B	37B	53 BJ	_
- Cardenium	SN.	N.	0.47 J	0.77 BJ	0.45 B	0.45 B	0.5BI	
Cadillian	9.0 (P)	0.6 (P)	0.098 Л	(1.8 BJ)	(2.6)	(178)	ng 7.7	
Calcium	SN	NS	2900	95401	2350	(G 11.1)	(14 b)	
Chromium**	110.0 (P)	26.0 (P)	7	2 7 7 7	0552	11/08	1,7000 J	
Cobalt	SZ	No.		(7.5)	(487 -)	(465 *)	(27.1)	_
Copper	900011	CV .	٠, ١,	14 BJ	10 B	9.4 B	10 BJ	_
Issu	110.0 (F)	16.0 (P)	16	(58.1)	(71)	(51)	J 77	
	4% (P)	2% (P)	(2.7)	(3.6.1)	(90)	(38)	(F/F)	
Lead	110.0 (L)	31.0 (P)	. 02	(130 [*)	(210)	(8:3)	(f £.2)	
Magnesium	SN	SN	4960	(1621)	(210 +)	(174*)	(182 J*)	
Manganese	1100011	460 (3)	0064	8490]	5830	5670	11400 J	
Mercury	1100 (E)	400 (F)	244 J	(874 J)	324	285	(527 I)	
Medical	1.3 (L)	0.15(L)	(0.44 J)	(0.83 J)	(34 *)	(* 89)	(6:20)	_
Nickei	50 (L)	16 (P)	(20)	(32.1)	(24)	(23)	(0.73.1)	_
Potassium	SN	SN	1140.1	1150 BI	(t.z.)	(77)	(747)	
Selenium	SN	V.Z	1 700	fg sci	900/	64 / B	821 BJ	_
Silver	(1) 66	, ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	1 \$6:0	1	i	1	1 4	
Sodium	(7) 7:7	(-) (-)	1	-	1	1	-	
Theiling	S. I	SS	79 J	159 BJ	1		139 151	
, rammen	SZ	SN		1	118	0 50 0	136 DJ	_
Vanadium	SN	SN	16	24 B.I	} ≪	13	1	
Zinc	270 (L)	120 (P/L)	69	(4) 5 (7)	200	CT :	22 BJ	_
Cyanide, total	SN	0.1 (Fisler 1991)	3	(3533)	(386.)	(195)	(294 J*)	_
Cyanide, amenable to chlorination		(ICAI PAIGIGA) IIA	i	(1.3 BJN)	(5.1 JZ)	(Zi.7.12)	!	_
		SZ.	1	1	1		1	
Percent solids (%)	* 2	MA	``	,				
H		WI	40	28	99	79	30	_
- F. F. F. F. F. F. F. F. F. F. F. F. F.	YN :	NA	7.4	!	1	: 1	``	_
301	SZ.	SN	2.4	LieBI	11.001	10.		
Total organic carbon (mg/Kg)	SN	NS	24400	11300 e Br	11200 - 01	1.1 50	6.4 BJ	
			2	TTO COLUMN	11300 e BJ	11300 BJ	63800 BJ	
								-
								_
								-

J - estimated value, NS = no sorteening value, NA = not applicable, —- no data. B = analyte detected above PQL in Prop Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<=5%, e=AS TOC%. Samples analyzed by methods 7196A/200.7/245.5/335.2/9010B/9014.
Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (MYSDEC 1998, 1999), except for the total cyanide screening value obtained from Eister 1991. L = Long & Morgan, P = Persaud; (1) = EPA ARCS No Effects concentration.
* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. () - exceeds Sediment (LEL) screening value.

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Wappingers Falls, New York Three Star Anodizing Site **DRAFT Table 3-3**

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	ł						
	Sample ID Sediment Severe Effect	Sediment	WP-M3	WP-DOT	WP-DOT	WP-DOT	WP-29A
	Sample Date Level (SEL)	Lowest Effect	05/14/2003	05/14/2003	061140003	00000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		(777) 12.22	6 - 12 in.	0 - 6 in.	6-12 in	05/14/2003 12 - 18 in	05/14/2003
	Units mg/Kg	mg/K.g	mg/Kg	mg/Kg	mg/Kg	mg/K.g	0 - 0 m. mg/Kg
Compound						s •	0
Aluminum	SN	73200 (1)	10900	14400	12400	11700	0030
Antimony	25.0 (L)	2.0 (L)	(92 NJ*)	(5.4 BND	(*IN (C)	200	2000 212 DATE
Arsenic	33.0 (P)	6.0 (P)	(33.1)	(0 5 0)	(103 14)	200	(15 BNJ)
Barium	, sz	SN	(6 <u>5 -</u> 5)	32 B	(10,517)	(35 J²)	5.73
Beryllium) v	SN	63	33 B	89	54B	80
Cadmirm	6000	ê Ç	8,00	0.53 B	0.61 B	0.5 B	0.43 B
Calcium	(4) 0.%	0.6 (P)	(23 *)	(4.2)	(53 *)	(7.4)	(3.6)
Calcium	NZ.	SN	13100	3820	4810	2290	4220
Caromium	110.0 (P)	26.0 (P)	(280 *)	(50)	(2270 *)	(2130 *)	(55)
Cobalt	NS	SN	11 B	13 B	9.7B	0 0 B	(Cc) (Cc)
Copper	110.0 (P)	16.0 (P)	(187 *)	(44)	(426 *)	(2.14 *)	971
Iron	4% (P)	2%(P)	(2.5)	(3.6)	(12)	(5.5)	(36)
Lead	110.0 (L)	31.0 (P)	(399*)	(113.4)	(*::)	(453 *)	(7.7)
Magnesium	SN	, SN	620	0968	(605)	(+32 ")	(106)
Manganese	1100 (L)	460 (P)	418	330	330	0820	0/.65
Mercury	1.3 (L)	0.15(1)	(27.4)	(360)	220	677	272
Nickel	50 (1.)	(E) 2111 16 (P)	, (E	(0.80)	(185 +)	(88 *)	(4.6 *)
Potassium	SN SN	(F) OI	(52)	(33)	(22)	(22)	(27)
Selenium	S 22	0.74	1000 B	724 B	937 B	844 B	705 B
Silver	200	,	1.2 B	1	1	1	-
	(T) 7.7	1.0 (L)	-	!		i	1
Socium	SZ	NS	1	1	1		
I hallium	NS	NS	!	13	1 2 B		
Vanadium	NS	SX	16	18	1 V 1	4	97:1
Zinc	270 (L)	120 (P/L)	(1780 *)	(* 624)	(4650 *)	3000	a Cr
Cyanide, total	NSN	0.1 (Eisler 1991)	SEST	(201)	(+020+)	(1210°)	(466 *)
Cyanide, amenable to chlorination	SN	SZ	(100)	(NIEG 7CO)	(Nr 97)	(2.7 JN)	(0.32 BJN)
		!		l	I	i	1
Percent solids (%)	NA AN	Ϋ́Z	65	45	19	5	Ç.
hd	NA	NA VA	}	;	5	(3	AC .
% TOC	SN	SN	6.4 e B.I	1381	13.001	10.00	
Total organic carbon (mg/Kg)	NS	NS	63800 e BJ	13400 BJ	13400 e BJ	13400 P.Y	6.3 ¢ BJ
						6	62300 ¢.50
_							

1-estimated value, NS = no screening value, NA = not applicable, —. no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS>5%, e=AS TOC%. Samples analyzed by methods 7196A/200 7/245.5/335.2/9010B/9014. Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan; P = Persaud; (1) = EPA ARCS No Effects concentration.

• exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. FXP File: Q:\10653_NYSDEC\27258_ThreeStar\CreckEvalTabs.prg

NOTES:

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

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---	---------------------------	---				
05/00/20	6 - 12 in	mg/Kg))		10500	(3 E)

 | (32 *)

 | 2360 | (620 J*) | 6.6 J | (115 *)
 | (2.6) | (321 *) | 5570 | 208 IN | (87.*) | (81) | 1 629
 | 0.49 1 | ;
; ; | 48 J | 1 | 12 J | (2610 *) | (9) | ì
 | | 62 | 7.8 | 0.7 | 7330 |
| 05/09/2001 | 0 - 6 in. | mg/Kg | | 00011 | 11800 | (159 JN*) | (20) | 69 J | 0.53 J

 | (27 *)

 | 5840 | (267 J*) | 11.3 | (154 *)
 | (2.7) | (376 *) | 7320 | 366 JN | (32 *) | (25) | 1000 J
 | 1.4 J | 1 | 112 J | ! | 16.3 | (1980 *) | (28) |
 | | 56 | 8.4 | 2.2 | 21700 |
| 05/14/2003 | 12 - 17 in. | тв/Кв | | 18200 | 20021 | . | (31.1) | 44 B | 0.73 B

 | (2)

 | 2280 | (1040*) | 13 B | (173 *)
 | (4.2 *) | (348 *) | 10600 | 254 | (95 *) | (37) | 883 B
 | ł | ; | ı | 1 | 24 | (926 *) | (6.2 JN) | 1
 | Ş | 09 | 1 3 | 6.3 e BJ | 02900 e BJ |
| 05/14/2003 | 6 - 12 in. | mg/Kg | | 11600 | (*IN \$01) | (Ol Col) | (114 *) | 70 B | 0.6B

 | (* 89)

 | 5380 | (1490 *) | 8.9 B | (391 *)
 | (2.4) | (858 *) | 6410 | 316 | (130 J*) | (20) | 901 B
 | 1.3 B | 1 | ! | 1 | 15B | (5410 *) | (34 JN) | !
 | 33 | cc. | 10, | 70100 BI | 2000 |
| 05/14/2003 | 6 - 12 in. | mg/Kg | | 13000 | (*1×16) | (#1 671) | (-(-201) | 79 | 0.69 B

 | (+ 6/)

 | 6140 | (5000 %) | 1018 | (504 *)
 | (2.7) | (1050 *) | 6910 | 369 | (144 *) | (23) | 1080 B
 | 1 | • | ! . | 8 4:1 . | 1/18 | (6500 *) | (34 JN) | !
 | 53 | 3 } | 63 BI | 62900 BJ | |
| Lowest Effect
Level (LEL) | è | mg/Kg | | 73200 (1) | 2.0 (L) | (8) (8) | () () () () () () () () () () | SIN | NS
O C

 | 0.0 (x)

 | NS
SO SE | 20.0 (F) | (g) (c) 1 | 16.0 (F)
 | 2% (F) | 31.0 (F) | NS
100 (B) | (A) 09 7 | 0.15 (L) | 16 (٢) | 0 C
 | S. C. | 1.0 (L) | S S | SN | 130 (88) | (20 (F/L)
0.1 (F/H) - 10011 | 0.1 (EISIET 1991)
NS | 0
 | Ϋ́ | Ą.Z. | SN | NS | |
| Date Level (SEL) | | | | NS | 25.0 (L) | 33.0 (P) | SN |) (J | (a) () b

 | NS (x)

 | 11000 | C CONT | 110.0(8) | 4% (P)
 | 1100(1) | NS OF | 1100.01 | 13.0 | (T) (F) | (L) | S S S
 | 7.2 (T) | 2.2 (L)
NS | S S | SN | 270 (T.) | (1)
) (2)
(2) | SX | į
 | NA | NA | NS | NS | |
| Sample I | Sample De | ٥ | | | | | | |

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 | nium** | | Ļ | | | | |
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 | | - | g. | mm | | e, total | e, amenable to chlori |
 | solids (%) | | | rganic carbon (mg/K, | |
| | Level (SEL) Level (LEL) 05/14/2003 05/14/2003 05/14/2003 05/14/2003 | Level (SEL) Level (LEL) 05/14/2003 05/14/2003 05/14/2003 05/09/2001 05/09/2001 05-12 in. 6-12 in. 6-12 in. 6-12 in. 6-12 in. | Sample Date Level (SEL) Level (LEL) 05/14/2003 05/14/2003 05/14/2003 05/09/2001 Sample Depth Chiis mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg | Sample Date Level (SEL) Level (LEL) 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/09/2001 Sample Depth Oppith Level (LEL) 6 - 12 in. 6 - 12 in. 12 - 17 in. 0 - 6 in. Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg | Sample Date Level (SEL) Level (LEL) 05/14/2003 05/14/2003 05/09/2001 Sample Date Level (SEL) Level (LEL) 6-12 in. 6-12 in. 12-17 in. 0-6 in. Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg d 73200 (1) 13000 11600 18200 11600 | Sample Date Level (SEL) Level (LEL) 65/14/2003 05/14/2003 05/14/2003 05/09/2001 Sample Depth Onits mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg NS 73200 (1) 13000 11600 18700 11800 25.0 (L) 2.0 (L) (2) (L) (2) (L) (2) (L) (2) (L) | Sample Date Level (SEL) Level (LEL) 05/14/2003 05/14/2003 05/14/2003 05/09/2001 Sample Depth Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg NS 73200 (1) 13000 11600 18700 11800 25.0 (L) 2.0 (L) (91 M*) (105 M*) (159 M*) | Sample Depth Level (SEL) Level (LEI) 05/14/2003 05/14/2003 05/09/2001 Ind Sample Depth Level (LEI) 6 - 12 in. 6 - 12 in. 6 - 12 in. 12 - 17 in. 0 - 6 in. Ind Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg Ind NS 73200 (1) 13000 11600 18700 11800 Ind Lo (L) (91 NJ*) (105 NJ*) (114 *) (31 J) (20) | Sample Date Depth Level (SEL) Level (LEI) 65/14/2003 <t< td=""><td>Sample Depth Level (SEL) Level (LE1) 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/09/2001 Mad Units mg/Kg<!--</td--><td>Sample Date Depth Sample Date Sample Date Sample Depth Sample Depth Sample Depth Onits Level (LEL) Level (LEL) (Level (LEL) 6 - 12 in. (6 in. (</td><td>Sample Date Depth Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Date</td><td>Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Depth Office Date</td><td>Sample Date Sample Date Sample Depth Sample Depth Sample Depth and Sample Depth Date Sample Depth And Sample Depth Date Sample Depth</td><td>Sample Date Level (SEL) Level (LEL) 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003
 05/14/2003 05/14/2003</td><td>Sample Date Depth Ones, Eurel (SEL) Lowest (SEL) Level (LEL) 05/14/2003</td><td>Sample Date Acret (SEL) Level (LEL) 65/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/14/2003 05/19/2001</td><td>Sample Date Level (SEL) Level (LEL) Level (LEL) 6-12 in. mg/Kg 05/14/2003 05/14/2003 05/09/2001 und NS 73200 (1) 13000 11600 18700 11800 nm As 73200 (1) 13000 (105 M*) (105 M*) 18700 11800 nm As 73200 (1) 13000 (105 M*) (105 M*) 11800 nm As 73200 (1) (1300) (105 M*) (105 M*) (1180) nm As As (10 M*) (105 M*) (105 M*) (1180) (1180) nm NS NS (60 P) (70 M*) (114 *) (31 J) (20 J) nm NS NS (162 J*) (114 *) (31 J) (20 J) nm NS NS (162 J*) (114 *) (31 J) (32 J) nm NS NS (164 *) (164 *) (164 *) (165 *) nm NS NS (164 *) (164 *)</td><td>Sample Date Level (SEL) Lowest Ellect Lower (LEL) 65.12 in. mg/kg</td><td>Sample Date Sumple Date Sumple Date Sumple Date Sumple Date Level (SEL) Level (LEL) 6-12 in. 6-12 in. 6-12 in. 6-12 in. 6-12 in. 6-12 in. 13-17 in. 0-6 in. num NS 73200 (1) 13000 11600 18700 11800 nn 25.0 (L) (21 Nr) (105 Nr) (105 Nr) (114*) (131) (20) nn 25.0 (L) (21 Nr) (105 Nr) (114*) (131) (20) nn NS NS 82 70B 48B (31) (20) nn NS NS 82 70B 48B (31) (20) nn NS NS 82 70B 48B (31) (20) nn NS NS (105 Nr) (114*) (131) (20) (20) nn NS NS (105 Nr) (114*) (131) (27*) (27*) nn NS NS (1000*) (2000*) (1490*) (1490*)</td><td>Sample Date Level (SEL) Lowest Lited Lower (AEL) 65/12 in.</td><td>Sample Date Deep Sample Date Level (SEL) Lowest filted Level (SEL) Lowest filted Level (SEL) Lowest filted Level (SEL) Lowest filted Level (SEL) Lowest filted Level (SEL) Lowest filted Level (SEL) Lowest filted Level (SEL) Lowest filted Level (SEL) Co. 6 in. Do.
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1-estimated value, NS = no sercening value, NA = not applicable, —- no data. B = analyte detected above PQL in Prop Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%, When AS<=5%, e=AS TOC%. Samples analyzed by methods 7196A700.77245.5/335.29010B/9014.
Sediment screening values are guidance values obtained from Technical Guidance for Sociening Contaminated Sediment (NYSDEC 1998, 1999).
except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan; P = Persaud; (1) = EPA ARCS NO Effects concentration.

*- exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Lond data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. FXP File: Q:\10653_NYSDEC\2728_ThreeStar\CreekEvalTabs.prg

NOTES

DBF File: Q:110653_NYSDEC\27258_ThreeStarkCreekTables.dbf

File Number: 10653.27258 Date Printed: 03/11/2005 09:45:02

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

Severe Effect Level (JEL) Level (JEL) Level (JEL) NS NS NS NS NS NS NS NS NS N		Sample ID Sediment	Sediment	W/P-79	WB CYCI III	um Opes	340		Г
Sample Darb Fact (IEL) Level (IEL) Level (IEL) 0.50%2001 0.514,2003 0.614,4003 0.61	_		Lowest Effect	``` :	TOONS IN	WZ-CD3	wr-OD3	WP-PL	_
Part Part			Level (LEL)	05/09/2001	05/14/2003	05/14/2003	05/14/2003	05/08/2001	_
Outs Righ & may Kg may Kg				12 - 18 in.	0 - 6 in.	0 - 6 in.	6 - 12 in.	0 - 6 in	
1,000,000,000,000,000,000,000,000,000,0			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
March Marc	Compound)	
17 18 17 17 18 17 17 18 17 17	Aluminum	SN	73200 (1)	12800	11400	9310	11300	12600 1	Т
menic 310 (P) 6.6 (P) (44*) (18) (7.2 Mag) time NS 6.6 (P) (44*) (18) (7.2 Mag) (7.3 Mag) time NS 0.6 (P) 0.9 (P) 0.5 (P)	Antimony	25.0 (L)	2.0 (L)	ļ	1.7 BNI	1 7 BNI	OCCI.	£ 00.77	
timm NS NS SI SS S	Arsenic	33.0 (P)	6.0 (P)	(44 *)	(81)	(6.4)	(LVICA 2:2)	(NC 5.0)	
NS NS NS NS NS NS NS NS	Barium	NS	SS X	8	130	(0.4)		([6])	_
minim 9.0 (P) 0.6 (P) (9.9.) (1.3) (1.3) (0.41 B) 0.54 B (2.3) minim NS 3900 3.900 (1.3) (1.3) (0.41 B) 0.54 B (3.3) mint NS 3.900 3.900 1.780 1.880 1.880 mint NS NS 4.41 (64.7) (64.7) (63.9) (1.30.1) <	Beryllium	SZ	SZ	100	050	90	8.86	74 J	_
citm NS NS NS (47) (48) (43)<	Cadmium	(a) 0 6	(9) 9 0	600	0.39 B	0.41 B	0.54 B	0.63 J	_
100 (P) 260 (P) 2500 1780 1880	Calcium	SN	0.8 (F)	(* 6.9)	(1.8)	(1.7)	(2.3)	(8.5 J)	
100 (F)	Chrominm**	(4) 0 0 11	o N	3900	3200	1780	1880	6040 J	
100 (P)	Cobali	(4) 0.0 (F)	26.0 (P)	(4120 J*)	(64)	(48)	(88)	(544 J*)	_
100 (P) 160 (P) (662*) (154*) (68) (104)	1000	0.00	S.Z.	9.4 J	12 B	8.2 B	9.7 B	13.1	
1,00	Copper	110.0 (P)	16.0 (P)	(462 *)	(154 *)	(89)	(104)	(183 1*)	
1100 (L) 110	rton	4% (P)	2% (P)	(3.0)	(3.0)	(2.5)	(33)	7000	
NS	Lead	110.0 (L)	31.0 (P)	(637 *)	(182 *)	(130 *)	(2.2)	(f.8.7)	
100 (L)	Magnesium	SN	SZ	6190	, 4860	\$110	(5+2)	(.5617)	
ceuty 13 (L) 0.15 (L) (118*) (56.5*) (12.5	Manganese	1100 (L)	460 (P)	322 JN	(2390 *)	(490)	227	2007	
sel 50(1) 16 (P) (21) (25) (12,1) (24) ssium NS NS (1180 J 888 B (99 J (247 J) er 2.2 (L) NS 1180 J 888 B 599 B 87 B er 2.2 (L) 1.0 (L) 0.2.1 1.8 — — mm NS NS 98 J — — — lium NS NS 98 J — — — lium NS NS 1.4 B 1.5 B 87 B lium NS NS 1.4 B 1.5 B 1.5 B didium NS 1.6 J 1.3 B 1.5 B 1.5 B addium NS 1.6 J 1.3 B 1.5 B 1.5 B 1.5 B mide, total NS NS NS 1.3 B 1.5 B 1.5 B 1.5 B mide, total NS NS NS NS NS NS NS NS	Mercury	1.3 (L)	0.15 (L)	(118*)	(4) 96)	(22)	1/1	386 JN	
ssium NS NS (187) (87) (22) ssium NS 2.1 188 599 887 87 mider NS NS 2.1 1.8 1.8 87 87 met NS NS 2.1 1.0	Nickel	50 (L)	16(P)	(10)	(35.)	(62.1)	(2.4.3°)	(1/]*)	
mium NS 3.10.5 599.B 887 B er 2.2 (L) 1.0 (L) 0.25 J — — — imm NS NS — — — — imm NS NS — — — — imm NS NS — — — — sdium NS NS 16J 19 15B 15B inde, total NS 16J 19 13B 15 inde, other NS 0.1 (Eisler 1991) (6.1) (0.27 BIN) — — ent solids (%) NA NA NA NA NA — — — OC NA NA NA 7.6 — — — — OC NS NA NA 7.6 — — — — NS NS 11 3.5 0.0 3.5 0.0 3.5	Potassium	SN	S S S	11801	(52)	(61)	(22)	(41.7)	_
er 2.2 (L) 1.0 (L) 0.25 1	Selenium	ı W	S N	11803	8888	599 B	887B	1330 J	
timm NS NS 98 J —	Silver	22(1)	100	7.7	1.8	-	ļ	3.3.3	
High NS	Sodium	ON N	(T) O'I	0.25	i	-	1	(1.2.1)	_
adium NS NS NS NS NS NS NS NS NS N	Thallium	o y	SN SIX	186	1	-	!	I 681	
15 15 15 15 15 15 15 15	Vanadium	o v	2N 2N 2N 2N 2N 2N 2N 2N 2N 2N 2N 2N 2N 2	1 :	2.2 B	1.4 B	1.5 B	i	
inide, total NS 120 (T.L.) (1330 °) (836 °) (344) (307 °) nide, amenable to chlorination NS 0.1 (Eisler 1991) (6.1) (0.27 BM) — (0.28 BM) ent solids (%) NA NA NA 70 — — ent solids (%) NA NA 7.6 — — — OC NS NS 11 3.6 3.1 e 3.1 I organic carbon (mg/Kg) NS NS 105000 35900 30500 e 30500	Zinc	220(3)	SNI SNI SNI SNI SNI SNI SNI SNI SNI SNI	16.1	19	13 B	15	21 J	
inide, amenable to chlorination NS NS NS NS NS NS NS NS NS NS NS NS NS	Cyanide, total	(Z) OLZ NIS	129 (F/L)	(1330 *)	(836 *)	(244)	(307 *)	(825 J*)	
ent solids (%) NA NA NA NA NA NA NA NA NA N	Cyanide, amenable to chlorination	S V	0.1 (Eister 1991)	(6.1)	(0.27 BIN)	!	(0.28 BJN)	(7.3.1)	
ent solids (%) NA NA 75		2	C _N	1	!	1	!	2.2	
OC NA NA 7.6	Percent solids (%)	4 72	δZ	o,	Ç	i			
OC NS NS 1.6	Ha	VIV.	- T.	۱ ۱۵	9	72	89	26	
NS 105000 35900 30500 30500	% TOC	SZ	AN.	9./	!	!	!	7.2	
NS 105000 35900 30500 30500	Total organic carbon (mag(V, a)	92	S. J.	7)	3.6	3.1 e	3.1	12	
	1 Car Organic Car Con (mg/Ag)	Z.	NN N	105000	35900	30500 e	30500	115000	

1-estimated value, NS = no sercening value, NA = not applicable, —- no data. B = analyte detected above PQL in Prep Blank. c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS>5%, e=AS TOC%. Samples analyzed by nesthods 7196A/200 7/245.5/335.2/9010B/9014. Sediment screening values are guidance values obtained from Technical Guidance for Secteming Contaminated Sediment (NYSDEC 1998,1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan; P = Persaud; (1) = EPA ARCS No Effects concentration.

*- exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID S	Sediment	Sediment	WP-PL DUP	WP-PL	WP-PL1	WP-PL1	WP-PL1
		Severe Effect	Lowest Effect	1000.0030				
	Sample Depth	A Y C ((() () () ()	רבאנו (רכד)	0 - 6 in.	05/08/2001 6 - 11 in	05/13/2003 0 - 6 in	05/13/2003 6 - 17 in	05/13/2003 12 - 18 in
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound								
Aluminum		NS	73200 (1)	11900 J	14000 J	16000 J	16700 J	16600
Antimony	- •	25.0 (L)	2.0 (L)	(4.5 JN)	(3.4 JN)	(7.1 BNJ)	(4.7 BNJ)	
Arsenic	•	33.0 (P)	6.0 (P)	(9.6 J)	(105 *)	(13.1)	(28 J)	4.5
Barium	•	NS	NS	107	87.5	90 BJ	106 J	105
Beryllium	•	NS	NS	0.59 J	0.67 J	0.79 BJ	0.83 BJ	0.8 B
Cadmium	,	9.0 (P)	0.6 (P)	(6.4 J)	(16 *)	(4.6 J)	(2.3 BJ)	0.4 B
Calcium		NS	NS	5930 J	4230	7220 J	\$050 J	4340
Chromium**		110.0 (P)	26.0 (P)	(412 J*)	(3760 J*)	(335 J*)	(474)*)	24
Cobalt	ı	NS	NS	12 J	9.6 J	14 BJ	12 BJ	12 B
Copper	,	110.0 (P)	16.0 (P)	(158 J*)	(345 *)	(109.1)	(104 J)	(24)
Iron	*	4%(P)	2% (P)	(2.6 J)	(2.8)	(3.0.1)	(2.6.1)	(2.4)
Lead	- •	110.0 (L)	31.0 (P)	(281 J*)	(629 *)	(181)*)	(213)*)	19
Magnesium	-	NS	NS	5350 J	4990	6570 J	5670 J	5800
Manganese		1100 (L)	460 (P)	408 JN	354 JN	456 J	276 J	299
Mercury		1.3 (L)	0.15 (L)	(9.1*)	(182 *)	(8.5 J*)	(14 J*)	(0.3)
Nickel	-1	50 (L)	16 (P)	(37.1)	(23)	(37.1)	(25.1)	(24)
Potassium	-	NS	NS	1230 J	1140 J	1470 BJ	1170 BJ	1040 B
Selenium		NS	NS	1.7 J	3.5	!	1.4 BJ	1.18
Silver	. 4	2.2 (L)	1.0 (L)	(1.1 J)	0.55 J	1	i :	a :
Sodium	1	NS.	NS	176.5	147 J	185 BJ	133 BJ	100 B
Thallium	-	NS	NS	1		1	1	: ;
Vanadium	1	NS	NS	213	17.1	25 BJ	20 BJ	18
Zinc	• •	270 (L)	120 (P/L)	(654 J*)	(1820 *)	(501 J*)	(275]*)	62
Cyanide, total		SZ	0.1 (Eisler 1991)	1	(42)	(0.87 BJ)	(0.52 BJ)	(0.65 B)
Cyanide, amenable to chlorination		SZ	NS	;	13	. 1	. 1	
Parcent colide (9/)		•	÷	;				•
retreat solids (%)	-	¥Z.	٧Z	25	40	29	43	56
Hd	~	NA	NA	7.7	7.4	1	-	1
S IOC	~	NS	NS	12	8.2	111	8.1 J	5.2
Total organic carbon (mg/Kg)	A	Sz	NS	115000	82300	108000 J	80500 J	51700

J - estimated value, NS = no sorcening value, NA = not applicable, —- no data. B = analyte detected above PQL in Prcp Blank. e - estimated concentration using TOC data from another sample AS oblicated at the same location. When AS>=5%, experience AS = 5% analyzed by methods 7196A/200.7/245.5/335.2/9010B/9014 sampled at the same location. When AS>=5%, experience AS = AS TOC%. Samples analyzed by methods 7196A/200.7/245.5/335.2/9010B/9014 second graduate streaming Confident interactions and the properties obtained from Technical Guidance for Screening Confident and Parallel (1998,1999), except for the total cyanide sorcening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud; (1) = Persaud;

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Wappingers Falls, New York Three Star Anodizing Site

Wappinger Creek Investigation - Sediment Samples Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

		:						
	Sample ID Securioni Severe Effect	Sediment Lowest Effect	WP-PL2	WP-PL2	WP-PL2	WP-PL3	WP-PL3	$\overline{}$
	Sample Date Level (SEL)	Level (LEL)	05/13/2003	05/13/2003	05/13/2003	05/13/2003	05/113/2/003	
		i	0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	6 - 12 in	_
	Units mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Compound	;					.	0	_
Aluminum	SN	73200 (1)	15000 J	15700 1	13200 1	1,50001	,	•
Antimony	25.0 (L)	2.0 (L)			EDOZEI CING 8 L)	f 00661	1/100 J	_
Arsenic	330(P)	(a) 0 y	č	1	(LVIG 6.1)	ł	(21 BNJ)	_
Barium	S S S S S S S S S S S S S S S S S S S	(2) 0:0	5.4 BJ	5.6 8]	(20 J)	4.3 BJ	(34 J*)	
Beryllium	0.4	S. C.	(8 k)	86 BJ	77 BJ	87 BJ	103 BJ	_
Cadmium Cadmium	() o	SZ.	0.74 BJ	0.78 BJ	0.63 BJ	0.79 BJ	0.82 BJ	
Cavellium	9.0 (₽)	0.6 (P)	(4.7 J)	(5.1)	(4.7.J)	(4.9.1)	(891)	
Calcium	NS	NS	6420 J	5450 J	3670 J	1 05.22	53101	_
Chromum**	110.0 (P)	26.0 (P)	(204 3*)	(211.5*)	(574 1*)	(*1 777)	10100	_
Cobalt	SN	SN	13.BJ	13.81	1820	(14.5)	(11/07.1)	
Copper	110.0 (P)	16.0 (P)	(41 C91)	(*1 501)	7.1.23 7.1.0 TeV	14 51	13.83	_
Iron	4% (P)	(a) 700	(5 Za Z	(1521)	(112)	(146.1*)	(225 J*)	
Lead	(1)0011	2.0(F)	(6.7)	(2.7.1)	(2.3 J)	(2.8.J)	(2.8.J)	
Monteodism	(1) 0.011	31.0 (P)	(297 J*)	(405 J*)	(193 J*)	(258 J*)	(435.1*)	
Monageneral	N.	SZ	6200 J	6190 J	4750 J	£ 9659	5940 I	_
Manganese	1100 (L)	460 (P)	335 J	301 J	256 J	349 I	3351	_
Mercury	1.3 (L)	0.15 (L)	(8.1 J*)	(8.5 J*)	(20.1*)	(*1 < 0)	£ 555	
Nickel	50 (L)	16 (P)	(41 D	(36.1)	21.00	(50.7)	(2/37)	_
Potassium	SN	, sz	1490 BT	12605)	(6.12)	(43.1)	(29.1)	_
Selenium	VZ	? <u>S</u>	CT 0011	1550 BJ	954 BJ	1540 BJ	1360 BJ	_
Silver	22.0	SN.	ļ	2 BJ	1	!	1.9 BJ	
Codium	(7) 777	1.0 (L)	!	0.97 BJ	1	!		
Trans.	SS	SN	221 BJ	189 BJ	134 BJ	249 BT	10 001	
וומנווחונו	SN	NS	1	1	1	3.01	10.00	
Vanadium	SN	SZ	22 BJ	25 B.I	1971	1000		_
Zinc	270 (L)	120 (P/L)	(488]*)	(*1515)	7077	(2 CZ)	24 BJ	_
Cyanide, total	SN	0.1 (Fieler 1991)		(5615)	(.F16 +)	(492.1*)	(887 1*)	
Cyanide, amenable to chlorination	or Z	NS		(v.49 EJ)	(R J)	(0.68 BJ)	(11.1)	
)	211	!	l	7.	i		
Percent solids (%)	₹	* Z	ýť	,				
Ha	- N	15.	70	44	43	24	35	_
- L	YN,	AN	1	1	1	1	ļ	_
2010/	N.	SN	5.9 BJ	6.4 BJ	7.7 BJ	9.4 BI	19.61	_
10tal organic carbon (mg/Kg)	NS	NS	58700 BJ	64200 BJ	77000 BJ	93900 BJ	12 B)	
						1	20000	_

J. estimated value, NS = no surrening value, NA = not applicable, --- no data. B = analyte detected above PQL in Prep Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS>=5%, e=AS TOC%. Samples analyzed by methods 7196A/200 71245 5/335.2/9010B/9014. Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud. (1) = EPA ARCS No Effects concentration. NOTES

* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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DRAFT Table 3-3

Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

	Sample ID	Sediment	Sediment	WP-T1A	WP-T1A	WP-T1A	WP-TIC	WP-TIC
	Sample Date	Sevele Ellect Level (SEL)	Lowest Effect Level (LEL)	05/14/2003	05/14/2003	05/14/2003	05/14/2003	061140000
				0 - 6 in.	6 - 12 in.	12 - 24 in.	0 - 6 in.	05/14/2003 6 - 10 in
	Units	mg/k.g	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Compound	i)
Aluminum		SN	73200 (1)	13700 J	12900 J	13500	0696	11500
Antimony		25.0 (L)	2.0 (L)		(3.7 BNJ)	: 1	(40 NI*)	(5) NI#)
Arsenic		33.0 (P)	6.0 (P)	(6.8.1)	(L.8)	(13)	(62)	(323)
Barium		NS	NS	68 BJ	69 BJ	(12.) 57.B	(5.2) 43 B	(22)
Beryllium		NS	NS	0.67 BJ	0.66 BJ	062 B	0.74	Q OD
Cadmium		9.0 (P)	0.6 (P)	(1.9 BJ)	(4.5.D	(1 6 B)	0.40.8	U.38 B
Calcium		NS	NS	5910 J	4730 J	2700	(5.5)	(13 *)
Chromium**		110.0 (P)	26.0 (P)	(53.1)	(148 J*)	(242 *)	(47)	4,000
Cobalt		NS	NS	17 BJ	14 BJ) I II	() ()	(Z)4)
Copper		110.0 (P)	16.0 (P)	(70))	(117 J*)	(48)	(19)	(132#)
Iron		4% (P)	2% (P)	(2.9 J)	(2.6.1)	(26)	(31)	(125.)
Lead		110.0 (L)	31.0 (P)	(87 J)	(210 J*)	(181)	(7:7)	(2.3)
Magnesium		NS	NS	6250 J	5960 J	5920	(27)	(- 057)
Manganese		1100 (L)	460 (P)	(527 J)	351 J	284	363	200
Mercury		1.3 (L)	0.15 (L)	(1.7 J*)	(4.6)*)	(3.1.1*)	(4.8.1*)	300
Nickel		50 (L)	16 (P)	(35 J)	(35.1)	(233)	(13.7)	(20.7.)
Potassium		NS	NS	1190 BJ	1090 BJ	1020 B	(22.) 756.B	(77)
Selenium		NS	NS	:	15BI	G 2201	\$ 00°	Mole
Silver		2.2 (L)	1.0 (L)	1	3	1	i	1
Sodium		NS	NS.	137 BI	102 B1	1	1	1
Thallium		NS	SN	3 3 BI	10.5	1 .	1 :	
Vanadium		NS	S	24 B1	700	1.1B	18	1.5 B
Zinc		270 (L)	120 (P/L)	(240.1)	(457 1*)	801	14 B	15B
Cyanide, total		SN	0.1 (Fieler 1991)	(2000)	((75+)	(761)	(323 *)	(1050 *)
Cyanide, amenable to chlorination			NS	(ca ca.o)	(0.84 BJN)	(0.33 BN)	(Z 6.E)	(4.3 K)
		2	07.	***	1	1	!	-
Percent solids (%)	·	NA	Ϋ́	75	43	ξ	i	
Hd		₹Z	₹ Z	•	÷	80	70	63
% TOC		SN	y Z	- 4 5 &	, - 3 o		1	1
Total organic carbon (mg/Kg)		02) <u>S</u>	00.00	0.0 6.1	6.5	3.1 e	3.1
(9, 0, 1)		2		82400 e J	85400 e J	85400 J	31100 €	31100

J - estimated value, NS = no screening value, NA = not applicable, —- no data. B = analyte detected above PQL in Prep Blank, e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<=5%, e=AS TOC%. Samples analyzed by methods 7196A/200 7/245.5/335.2/9010B/9014.
Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999), except for the total cyanide screening value obtained from Bister 1991. L = Long & Morgan, P = Persaud; (1) = EPA ARCS No Effects concentration.

* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. From data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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Three Star Anodizing Site
Wappingers Falls, New York
Wappinger Creek Investigation - Sediment Samples
Inorganic Concentrations Compared to Screening Values Including p.H., TOC and Percent Solids Data

	!							
	Sample 1D	Severe Effect	Sediment Louiset Effect	WP-OD2	WP-OD2	WP-OD2	WP-T2A	WP-T2A
	Samue Date	Level (SEL)	Lowest Editor	05/11/2003	0000111000	200014		
	Sample Denth	(222) (222)	ביילבו (בבב)	0.5 f in	05/14/2003 6 12 is	US/14/2003	05/13/2003	05/13/2003
	Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ng/Kg	u-om. mg/Kg	6 - 12 m. me/K a
Compound					1	•		9
Aluminum	l	SN	73200 (1)	12600 J	11700 J	12700	13100 J	10300
Antimony		25.0 (L)	2.0 (L)	!	1	: 1		ONG 6 8)
Arsenic		33.0 (P)	6.0 (P)	5.3 BJ	5.1 J	(16)	5 3 BT	(500 (50)
Barium		NS	NS	66 BJ	60 B.I	48 B	30 BI	(7.3)
Beryllium		NS	SN	0.61 BJ	0.54 BJ	0.56R	. 1870	43 B
Cadmium		9.0 (P)	0.6 (P)	(2.3 BJ)	(2.2.D)	(4)	0000	0.44 B
Calcium		NS	NS	5310 J	3120 J	1950	(1.3 EJ) 6070 I	2300
Chromium**		110.0 (P)	26.0 (P)	(68 J)	(78.7)	(351 *)	(58 D	0.677 0.677
Cobalt		NS	NS	14 BJ	12 BJ	(2007) 17 B	(55.5) 14.BI	((((((((((((((((((((
Copper		110.0 (P)	16.0 (P)	(1 69)	(63.1)	(55)	(F 64)	(46)
Iron		4% (P)	2% (P)	(2.5 J)	(2.5.1)	(3.8.)	(2.6.)	(01)
Lead		110.0(L)	31.0 (P)	(96.1)	(111)	(201)	(F.S.7) (86 D)	(2.2)
Magnesium		NS	SN	6150 J	5370.1	5780	(603)	4830
Manganese		1100 (L)	460 (P)	433 J	305 J	284	(633 D	2000
Mercury		1.3 (L)	0.15 (L)	(1.9 J*)	(2.5 J*)	(16 1*)	(14.1*)	\$ 0.50
Nickel		50 (L)	16 (P)	(36.1)	(31.1)	(34)	(27.1) (32.1)	(22)
Potassium		NS	NS	1260 BJ	951 BI	(24) 1080 B	(523) 1400 BI	(11)
Selenium		SZ	SN			7 0801	1400 P2	896 B
Silver		2.2 (L)	1.0 (T)		ł	ł		
Sodium		SZ) SZ	156 B I	1 0			
Thallium		SZ) (V	2 4 BI	600	,	184 BJ	76 B
Vanadium		NS	SZ	24 BI	7 1,	1.0 5	;	1 !
Zinc		270 (L)	120 (P/L)	2,550 1,746 D	2000	901	22.83	13 B
Cyanide, total) V	0.1 (Fieler 1991)	(5007)	(1,012)	(447 +)	(265 J)	(311 *)
Cyanide, amenable to chlorination		No.	NS (CISICI 1991)	!	1	1	:	(0.44 B)
			CNI	!	1	-	!	!
Percent solids (%)		NA	NA	30	70	Q	ŗ	
Hd		A.V.	¥ Z		}	S S	77	63
% TOC		V	· N			!	1	1
Total organic cathon (mar/l/ a)		9 9	0.7	,	4.1 e J	4.1 J	5 BJ	3.1 B
(Sy Am) noons amely the		CNT CNT	S.	41100 e J	41100 e J	41100 J	49600 BJ	31400 B

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

05/13/2003 6 - 12 in. mg/Kg WP-T2C 0.64 B (5.6) 3170 (826 *) 14 B (129 *) (2.8) (287 *) 6280 2390 (33 *) (29) (588 *) (40 *) 60 B 124 B 18 B 05/13/2003 0 - 6 in. mg/Kg WP-T2C (90.1) (2.6.1) (125.1*) (670.1) 421.1 (1.7.1*) (37.1) 1310.BJ 11900 0.61 BJ (7.7.1) (4.6.3) 6760 J 163 BJ $(470 J^*)$ 65 BJ (64 J) 18 BJ 22 BJ 05/13/2003 12 - 24 in. mg/Kg WP-T2B 0.44B 0.56B (0.18) (20) 960 B 41 B (2.3) 26 5240 1.5 BJ 1740 10 B 88 B 247 13 B 7 1 05/13/2003 6 - 12 in. WP-T2B mg/Kg 0.38 B (1.1 B)0.86 BJ 0.33 B) (0.17) (26) 740 B 26400 J (22) (2.7) (2.7) (40) 1630 (155) (27) 248 56 B 13 B ! 05/13/2003 WP-T2B 0 - 6 in. mg/Kg (1.5 BJ) 0.69 BJ (0.46 J) (35 J) 1540 BJ (106 J) 7780 J (6.5.J) 7300 J (506.1) (34 J) 18 BJ (50 J) (3.0 J) 195 BJ 23 BJ (238 J) 49000 J 0.1 (Eisler 1991) Sediment Lowest Effect Level (LEL) 1.0 (L)
NS
NS
NS
NS
NS
NS
NS 26.0 (P) 16.0 (P) 460 (P) 0.15 (L) 16 (P) 2% (P) 31.0 (P) NS mg/Kg 6.0 (P) NS NS NS 0.6 (P) S \$ \$ S S S Sediment Severe Effect Level (SEL) 110.0 (P) 110.0 (P) 9.0 (P) NS mg/Kg Units Sample ID Sample Date Sample Depth Cyanide, amenable to chlorination Fotal organic carbon (mg/Kg) Percent solids (%) Chromium** Cyanide, total Manganese Mercury Magnesium Beryllium Antimony Cadmium Potassium Calcium Vanadium Baríum Selenium Arsenic Thallium Copper Cobalt Nickel Sodium % TOC Silver Lead

1-estimated value, NS = no screening value, NA = not applicable, — no data. B = analyte detected above PQL in Prop Blank. e - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, When AS>5%, e=AS TOC%. Samples analyzed by methods 7196A/200.77245.5/335.2/9010B/9014.
Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999), except for the total cyanide screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud, (1) = EPA ARCS No Effects concentration.

* - exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Into data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. NOTES:

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59000 B

45000 BJ



Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

								-	_																•										
WP-T3A	05/13/2003	0 - 6 in. me/Ke	D	15800 J		(14 t 9)	(6.1 EU)	92.BJ	0.82 DJ	(2.0 D3)	(06.00)	(ron)	1/ B)	(140)	(t.1.5)	(106.1)	80/03	(404)	(1.1.5)	(42 J)	1900 BJ	1		223 B.I	i i	1 35	791	(-F9FC)	!	i	į	30	1	5,6 J	56400 J
WP-OD1	05/13/2003	12 - 19 m. mg/Kg))	15800	1	٠,		0,79 R	0.588	3130	23	12 B	033)	(24)	(2.7)	(00)	0560	±/0	0.11	(26)	1470 B	1	1	165 B	2.2 BJ	22	1 8	*	i	1	63	20	ı	3.8 B	37600 B
WP-OD1	05/13/2003 6 - 12 in	mg/Kg		17000	i	(21)	87	0.83 B	(1.8 B)	3700	(266 *)	14 B	(88)	(60)	(;;) (2)18#)	6320	366	\$ 000 000	(02)	(67)	E 0951	!	1	185 B	1.7 BJ	23	(251)	(4.70)	(0.0.0)	ı	13	1	1	6.1.8	60700 B
WP-OD1	05/13/2003 0 - 6 in	mg/Kg		12200 J	•	(16.J)	67 BJ	0.69 BJ	(5.8.1)	6940 J	(247 J*)	20 BJ	(89))	(2.8.1)	(+1381)	6070 1	450 1	(8.3.1*)	(47.0)	1400 BT	1490 BJ	1	!	222 BJ	3.1 BJ	28 BJ	(611 3*)			ŀ	7.6	;	- A	3.7 BJ	26500 BJ
WP-T2C	05/13/2003 12 - 24 in.	mg/Kg		13400	!	3.8	45 B	0.5 B	0.42 B	1710	(31)	10 B	(18)	(2.6)	(37)	6130	242	0.095	(23)	a 000	9066	1	!	99 B	!	15	73	(0.27 B)		!	70	1	<u>a</u>	J 1:1	11000 B
Sediment Lowest Effect	revei (LEL)	mg/Kg		73200 (1)	2.0 (L)	6.0 (P)	SN	NS	0.6 (P)	SZ	26.0 (P)	SZ	16.0 (P)	2%(P)	31.0 (P)	SN	460 (P)	0.15 (L)	16(P)	SN) v 2	200	(7) (7)	SZ	SZ	SN	120 (P/L)	0.1 (Eisler 1991)	. 92	2	NA	NA	<i>V</i> 2) V	ran
Severe Effect		Units mg/Kg		SS	25.0 (L)	33.0 (P)	NS	NS	9.0 (P)	NS	110.0 (P)	NS	110.0 (P)	4% (P)	(T) 0.011	NS	1100 (L)	1.3 (L)	50 (L)	, SN	y Z	23(1)	(T) 2.7 3.0	S ;	N	SN	270 (L)	NS	SZ	1	NA	NA	SZ	SX	<u>}</u>
Sample ID	Sample Date Sample Depth	n.																											chlorination					(mg/Kg)	ŝ
			Compound	Andminum	Amanicany	Arsenic	Barnum	Beryllium	Cadmum	Calcium	Chromum**	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thalling	Yendin	vanaoum 7:	Zinc	Cyanide, total	Cyanide, amenable to chlorination		Percent solids (%)	ЬН	% TOC	Total organic carbon (mg/Kg)	

1-estimated value, NS = no screening value, NA = not applicable, --- no data. B = analyte detected above PQL in Prop Blank. e -estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<9%, e=AS TOC%. Samples analyzed by methods 7196A/200 7/245.5/335.2/9010B/9014. Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998, 1999), except for the total cyanide screening value obtained from Eisler 1991. L=Long & Morgan, P = Persaud; (1) = EPA ARCS No Effects concentration.

* exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. For data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected.

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NOTES

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DRAFT Table 3-3

Wappingers Falls, New York Three Star Anodizing Site

Wappinger Creek Investigation - Sediment Samples

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data

									•			•				_	•			_					_							_			_						
	WP-T3B	05/13/2003	6 - 12 in	mg/Kg	0		16500 J	ì	(8.4.1)	01.1	0.83 DT	0.62 BJ	(LS EL)	4860 J	(159 J*)	15 BJ	(53.1)	(300)	(5.5.)	(144.)	/110 /	(495 J)	(0.44 J)	(34.1)	1650 B.I		ł	:	144 BJ	2.5 BJ	28 J	(179 J)	,		i	;	04		3.8 BJ	38000 BJ	
	WP-T3B	05/13/2003	0 - 6 in.	mg/Kg			[4500]	!	5 BJ	94 B.I	0.79 RI	1017	(eq./:r)	19961	(44 J)	14 BJ	(56 J)	(3.0.1)	(67.1)	2180.1	1001/	(702.1)	(0.77.9)	(31.1)	1750 BJ	1			195 BJ	2.3 BJ	25 BJ	(222 J)	i	1		oc	67	1	4 BJ	39600 BJ	
100 000	WF-13A	05/13/2003	12 - 24 in.	mg/Kg		00031	0.551	(5.4 BNJ)	(30)	98	0.76B	(53)	4460	200	(325)	13 B	(81)	(2.8)	(160 *)	(222)	400	204	(13.*)	(27)	1610 B	1.1 B	-	000	129 B	***	21	(208 *)	(2.7)			2,5	-	;	4.4	44200 J	
NO TO	HC1-1W	05/13/2003	6 - 12 in.	mg/Kg		1,90001	60001		(10 J)	95 BJ	0.94 BJ	(3.7.1)	102001	0.017	(2011)	19.50	(166)	(3.8 J)	(136 J*)	12900 J	(492.1)	(17.17)	(+(/ -(/ -(/ - / - / - / - / - / - / -	(48 J)	1840 BJ	!	1	180 RI		,	110	(304]*)	-	-		36	į	102	2.03	f 00//c	
WP-T34 DITE	100 001-11	05/13/2003	0 - 6 in,	mg/Kg		14600 1	:	\$ 6	(6.1 BJ)	84 BJ	0.73 BJ	(2.4 BJ)	8110 J	(60.F)	(2-2-)	32.00	(f e/)	(2.8 J)	(94 J)	7860 J	445 J	(13)	(C.C.)	(186)	1 /20 BJ	-	!	207 BJ	:	31 B.	281 (4)	((((((((((((((((((((i	ł		29	!	69 BT	66300 B.	77 0000	
Sediment	Lowest Effect	Level (LEL)		mg/kg		73200 (1)	2.0 (T)	(2)	6.0 (r)	N.	NS	0.6 (P)	NS	26.0 (P)	SZ	16.0 (P)	(1) 0:01	2% (F)	31.0 (P)	NS	460 (P)	0.15 (L)	(2)	Six	SN	S.Z.	1.0 (L)	NS	SN	SN	120,021	(2/2)	0.1 (Elsiel 1991)	NZ.		Y.Z	NA VA	SZ	SN	!	
Sediment		e Level (SEL)	n mo/Ko			SN	25.0 (L)	33.0.(P)	N. S. S. S. S. S. S. S. S. S. S. S. S. S.	2	Z ·	9.0 (P)	SN	110.0 (P)	NS	110.0 (P)	4% (P)	11000	110.0 (L)	SZ	1100 (L)	1.3 (L)	50 (L.)	SN SN	SN	SNI C	2.2 (L)	SZ	NS	SN	279 (L)	, V	0 2	CNI		NA NA	ZA	SN	NS		
Sample 1D	-	Sample Date	Sample Depur	Ching																													ration	MARCH							
		····			Compound	Aluminum	Antimony	Arsenic	Barium	Boxellina	Cadmin	Cadminum	Calcium	Chromium**	Cobalt	Copper	Iron	Lead	Managaine	W44girestum	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Codi	Soundin	Thallium	Vanadium	Zinc	Cyanide, total	Cvanide, amenable to chlorination		Demonstration (9/)	referred solids (%)	hd	%TOC	Total organic carbon (mg/Kg)		

NOTES:

1- estimated value, NS = no serreening value, NA = not applicable, —... no data. B = analyte detected above PQL in Prep Blank. c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS>=5%, e=AS TOC%. Samples analyzed by methods 7196A/200 7/245.57315 2/9010B/9014.
Sediment screening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (NYSDEC 1998,1999),
except for the total cyanide sorrecting value obtained from Eisler 1991. L = Long & Morgan, P = Persaud, (1) = EPA ARCS No Effects concentration.

*- exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. Iron data are shown as percent. ** Hexavalent Chromium was also analyzed, but not detected. FXP File: Q:\10653_NYSDEC\27258_ThreeStar\CreekEvalTabs.prg

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Wappingers Falls, New York Three Star Anodizing Site

Inorganic Concentrations Compared to Screening Values Including pH, TOC and Percent Solids Data Wappinger Creek Investigation - Sediment Samples

WP-T3C 05/13/2003 6 - 11 in. mg/Kg	13 BNJ (9.3 J) 91 J 0.81 BJ (3.4 J) 5800 J (115 J*) (115 J*) (466 J) (466 J) (466 J) (466 J) (466 J) (49 J*) (33 J) 1590 BJ 1590 BJ 179 BJ 170 BJ 1
WP-T3C 05/13/2003 0 - 6 in. mg/Kg	15700 J
WP-T3B 05/13/2003 12 - 24 in. mg/Kg	16600 (6.4) 81 0.8 B (0.61 B) 3150 (53) 14 B (29) (39
Sediment Lowest Effect Level (LEL) mg/Kg	73200 (1) 2.0 (L) 6.0 (P) NS NS NS 0.6 (P) NS 16.0 (P) 2% (P) 2% (P) 31.0 (P) 31.0 (P) NS NS NS NS NS NS NS NS NS NS NS NS NS
Sample ID Sediment Severe Effect Sample Date Level (SEL) Sample Depth Units mg/Kg	NS 25.0 (L) 33.0 (P) NS NS NS NS NS 110.0 (P) NS 110.0 (P) NS 110.0 (L) NS NS NS NS NS NS NS NS NS NS NS NS NS
Сопроин	Aluminam Antimony Arsenic Barium Beryllium Cadeimin Calcium Calcium Chromium** Cobalt Copper Iron Lead Magnesium Manganesium Manganesium Manganesium Marganesium Manganesium Varadium Silver Sodium Thallium Varadium Zinc Cyanide, total Cyanide, amenable to chlorination Percent solids (%) pH %, TOC Total organic carbon (mg/Kg)

1 - estimated value, NS = no screening value, NA = not applicable, — no data. B = analyte detected above PQL in Prep Blank. c - estimated concentration using TOC data from another sample (AS) collected at the same location. When AS>=5%, e=5%. When AS<=5%, e=AS TOC%. Samples analyzed by methods 1796A/2007/24.5/335.2/9010B/9014.
Sediment streening values are guidance values obtained from Technical Guidance for Screening Contaminated Sediment (AYSDEC 1998, 1999).

• exceeds Sediment (SEL) screening value obtained from Eisler 1991. L = Long & Morgan, P = Persaud; (1) = EPA ARCS No Effects concentration.

• exceeds Sediment (SEL) screening value. () - exceeds Sediment (LEL) screening value. In or detected. NOTES:

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DRAFT Table 3-4A

Three Star Anodizing Site
Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Low Flow July 2001
Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS Data

Screening Route 50 WPS-SW WPIO-SW WP	Langue Conference Screening Route 90 WFF-55F WFF-65F W			1	Surface Water	Wappingers Lake	Site Bridge 1	Site Bridge 2	Charles Control of the Control of th			
50 CH(WS)	NS 7 5 5 U 5 U 5 U 5 U 5 U 5 U 5 U 5 U 5 U		Location C		Screening Values	Route 9D	WPS-SW	WP10-SW	Site Bridge 2 DUP WP10-SW	WP13-SW	WP18-SW	
300 HWS) 31 50 SU SU SU SU SU SU SU SU SU SU SU SU SU	30 C H(WS) 31				- 41465	07/12/2001	07/12/2001	07/12/2001	07/12/2001	07/12/2001	07/12/2001	
50 G H(WS) 5 U 5 U 5 U 5 U 5 U 5 U 5 U 5 U 5 U	30 CH(WS) 31 50 S S S S S S S S S S S S S S S S S S	Compound										
NS 7 5U 5U Water quality evertuing values obtained from NYSDEC (1999) TOOS 11.1.	NS 7 5U SU SU SU SU SU SU SU SU SU SU SU SU SU	Volatile Organ Acetone	nic Compounds (ug/L)		50 G H(WS)		3.5	; ;	1	1		
NS 7 5U 5U 5U 5U 5U 5U 5U 5U 5U 5U 5U 5U 5U	NS 7 5 U SU SU SU SU SU SU SU SU SU SU SU SU S	Semi-Volatile	Organic Compounds	(None Detected)	_		71.4					
to corcening value, — - no dan, G. guddancs value, H(WS) - health water source. I and NY ASS 95.2. Water quality increasing values obtained from NYSDEC (1998) TOGS 11.1.1.	To streeting value no data, G - guidance value, H(WS) - Ivadh water source 1 and Iv A.59 92 2. Water quality, creating, values obtained from NYSDEC (1998) TOGS 1.1.1. Page 1 of 2	Total suspende	ed solids (mg/L)	(mg/L)	SN	7	5 U	s	n s	ns	s u	
no screening value, —- no data, G. guidance value, HWS) - health water source. 1 and NY ASP 95-2. Warr quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	no screening value, ——no data, G. guidance value, H(WS)Inclith water source. I sad INY ASP 95.2. Water quality screening values obtained from NYSDEC (1998), TOGS 1.1.1. Page 1 of 2											
to screening value, no data, G. guidance value, H(WS). Itealth water source. 1 and NY ASP 95-2. Ware quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	no screening value, no daza, G - guidance value, H(WS) - health water source 1 and NY ASP 95-2. **Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.											
no screening value, no data, G - guidance value, H(WS) - health water source. 1 and NY ASP 95.2. 1. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	os cereating value, — no date, G - guidance value, H(WS) - health water source. 1 and NY ASP 95.2. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.											
no screening value, no data, G - guidance value, H(WS) - health water source. 1 and NY ASP 95.2. . Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	no screening value, no data, G- guidance value, H(WS) - health water source. 1 and NY ASP 95.2. 2. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.											
no screening value, no data, G - guidance value, H(WS) - health water source1 and NY ASP 95-22. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	no screening value, — - no data, G - guidance value, H(WS) - health water source. I and NY ASP 95.2. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.											
no screening value, no data, G - guidance value, H(WS) - health water source. -1 and NY ASP 95-2. :. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	no screening value, no data, G - guidance value, H(WS) - health water source It and NY ASP 95.2 Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.											
no screening value, —- no data, G - guidance value, H(WS) - health water source. -1 and NY ASP 95-2. : Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	no screening value, — - no data, G - guidance value, H(WS) - health water source. I and NY ASP 95.2. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.											
no screening value, no data, G - guidance value, H(WS) - health water source1 and NY ASP 95-21. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.	no screening value, —- no data, G - guidance value, H(WS) - health water source. I and NY ASP 95.2. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1.											
Page 1 of	Page 1 of 2	NOTES:	U - not detected, J - esti Samples analyzed by m [] - exceeds Surface Wa	mated value, NS = 1 ethods NY ASP 95.	no screening value, no data -i and NY ASP 95-2. Water quality screening value	a, G - guidance value, H(WS) - hea	ulth water source. TOGS 1.1.1.					
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DRAFT Table 3-4A

Three Star Anodizing Site
Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Low Flow July 2001
Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS Data

P35-SW 7/12/2001				n						tidance value, H(WS) - health water source.
Surface Water WP35-SW Screening 07/12/2001		50 G H(WS)		NS 5 U						U - not detected, J - estimated value, NS * no screening value, no data, G - guidance value, H(WS) - health water source. Samples analyzed by methods NY ASP 95-1, and NY ASP 95-2.
Sample ID Location Cross Reference Sample Date Sample Depth Units	Compound	Volatile Organic Compounds Acetone (ug/L)	Semi-Volatile Organic Compounds (None Detected)	Total suspended solids (mg/L) (mg/L)						NOTES: U-not detected, J- estimated value, NS = n. Samples analyzed by methods NY ASP 95-1

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DRAFT Table 3-4B

Three Star Anodizing Site
Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Storm Event, May 2002
Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS data

		1	Surface Water		Wappingers Lake DITP	Wanningers I aka	City Deidan	4	
	Location		Screening		WPLKSW-1 DUP	WPLKSW-2	one pringe-1	Site Bridge-2	Lagoon (outlet)
		Sample Date Sample Depth	Values	05/14/2002	05/14/2002	05/15/2002	05/14/2002	05/15/2002	05/15/2002
Compound		OIIIIS							
Volatile Org	Volatile Organic Compounds (None Detected)	ane Detected)							
Semi-Volatil	Semi-Volatile Organic Compounds (None Detected)	ds (None Detected)							
Total suspen	Total suspended solids (mg/L)	(mg/L)	SN	13	∞	9	18	12	
					,				
								,	
NOTES:	U - not detected. NS Samples analyzed by There were no volatile	 no screening value. methods NY ASP 95. e or semivolatile organ 	U - not detected. NS - no screening value. Samples analyzed by methods NY ASP 95-1 and NY ASP 95-2. Water quality screening value obtained from NYSDEC (1998) TOGS 1.1.1. There were no volgitie on semivolatile negative normander detected in these seconds.	y screening value obtained from N	AYSDEC (1998) TOGS 1.1.1.				
		-	זוני במונולותייותי תפופבינים זה חופים א	amples.					

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DRAFT Table 3-4B

Three Star Anodizing Site

Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Storm Event, May 2002
Detected Volatile and Semivolatile Organic Compound Concentrations Compared to Screening Values Including TSS data

Rt. 28 Bridge -2 05/15/2002 Rt. 28 Bridge - 1 05/14/2002 Surface Water Screening Values Sample ID S
Location Cross Reference S
Sample Date V
Sample Depth
Units

Semi-Volatile Organic Compounds (None Detected) Compound Volatile Organic Compounds (None Detected)

Total suspended solids (mg/L)

(mg/L)

SZ

20

18

NOTES:

U - not detected. NS - no screening value.
Samples analyzed by methods NY ASP 95-1 and NY ASP 95-2. Water quality screening value obtained from NYSDEC (1998) TOGS 1.1.1.
There were no volatile or semivolatile organic compounds detected in these samples.

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Three Star Anodizing Site DRAFT Table 3-5A

Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Low Flow, July 2001
Inorganic Data Compared to Screening Values Including TSS and Hardness Data

A 202 - 202		Sample 1D Location Cross Reference	Screening	wapping Rout	wappingers Lake Route 9D	Site E WP	Site Bridge I WP5-SW	Site B WP1	Site Bridge 2 WP10-SW	WP	WP13-SW	Į.W.	WP18-SW	WP	WP35-SW
100 HWS MS 12		Sample Date		71//0	72001	07/1	12/2001	1//20	2/2001	1//20	2/2001	7/1.0	12/2001	1//20	2/2001
100-14/C) 121 141		Omits	T/Sn	สีก					g/L		'g/L		. T/61		Į.,,
14 14 14 14 14 14 14 14	Compound				Hardness A(C)		Hardness A(C)					_	Hardness	3	
14	Antimony		100 t-A(C)	82 J			_	-		28 J	(a)w		A(C)	181	V(C)
100 100	Arsenic		50/150 H/W/SV/4 A/C)	0 1 1		1.4 U		1.4 U		1.4 U		1.4 U		1.4 U	_
3 specific with Control 1100 1100 1101 11	Barium		1000 H/WS)	1.6.1		1.6 U		1.6 U		1.6 U		1.6 U		1.6 U	
No. No.	Beryllium		3 gd-H(WS)/A(C)	0.08 11	110	11.000	90	16.5		15.5		17.1		16 J	
N. S. A. A. A. A. A. A. A. A. A. A. A. A. A.	Cadmium		5/h H(WS)/A(C)	0.2 U	3.0	0.00	3	0.08 U	1100	0.08 U	1100	0.08 U	1100	0.08 U	1100
14 14 14 14 14 14 14 14	Calcium		NS	44800	?	44500	<u></u>	0.2.0	3.2	0.2.0	3.2	0.2 U	3.0	0.2 U	3.2
5 ACO Oxford HWS/ACO Oxford	Chromium		11 dhx-A(C)	1.8 J	109	1.0 J	120	171		121	;	49600		46500	_
2000 A(C) 218 15 15 15 15 15 15 15	Cobalt		5 A(C)	U 6.0		D 6.0	- -	11 60	†	1100	114	191	109	1.7 J	114
100 A(V) 1250 127	-copper		200/h H(WS)/A(C)	1.9 J	13	1.4.5	15	1.4 J	41	1.0.1	7	0.5	-	0.6.0	
Story HW/S) ACCOUNTY ACCOUN	Lead		300 A(C)	278		207		284		173	ţ 	861	c T	(£)	4
1200 1000	Magnesium		50/h H(WS)/A(C)	0.7 U	6.3	0.7 U	7.1	0.7 U	6.7	0.7 U	6.7	0.711	,	751	
1000 101 100 101 100 101 100 101 100 101 100 101 100 101 100 101 100 101 100 101	Manganese		300 E	12500		12300		12400		13000		13600	}	12700	ò
1000 HWWS/A(C) 0.2 U 0.2	Mercury		300 E	_		106		134	_	76		100		00.27	-
100 HWS/ALC) 101 1	Nickel		1001 110110 (1.70)	_		0.2 U		0.2 U		0.2 U	-	0.211		11.00	
1000 1000	Potassium		I UUN H(WS)/A(C)	0.8 J	77	0.7 U	98	0.7 U	81	0.7 U	- - ×	0.11	72	0.2.0	
456 d-A(C) 1.8 U	Selenium		SN	10101		10101		1030 J		10601	; 	10911		1.0.1	×
NS State	Silver		4.6 d-A(C)	1.8 U		1.8 U		1.8 U		181		1011		10/01	
NS 13800 28800 28800 28800 3600 31200 29600	Sodium		0.1 I-A(C)	0.7 U	_	0.7 U		0.7 U		0.7 1		1.50		1.8 U	
0.578 gd-H(WS)A(C) 3.6 U	Thalling		SZ	28800		28400		28800		3000		0.7.0		0.70	
14 A(Q)	Vanadium		0.5/8 gd-H(WS)/A(C)	3.6 U		3.6 U	_	3.6 U		3611		3 € 11		29600	
NS 1.3 1.2 2.1 1.3 1.2 2.1 1.3	Zinc		-14 A(C)	0.4 U	-	0.4 U		0.4 U		0.4 17		3.60		3.6 C	
NS 7 5 U 10.0	Cyanide, total		52 f.4(C)	133	123	2.1 J	136	4.8 J	130	4.7 J	130	5.0]	123), t	130
NS 160 180 5 U 170 170 170 170 170 160 160 160 170 170 170 170 170 170 170 170 170 17			(A) 1	0.00		10.01		10.0 U		10.0 U		10.0 U		10.01	3
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The Printed Anti-Anti-Anti-Anti-Anti-Anti-Anti-Anti-	Samples anal	yzed by methods 7196A/200.7/245 Surface Water Screening Value	5.5/335.2/9010B/9014. Water qu	ality screening valu	ics obtained fro	om NYSDEC (19)	98) TOGS 1.1.1.	rom hardness, i = Beryllium scree	" ionic. Taing value (110	20 no./ Dis based	Hardones con				
	pare Ponted. On the cook on an									nome of the fan on	OI THE MICES CO.	ncentrations exc	mdd C/ guibac		

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FXP File: Q:10653 NYSDEC/27258 ThreeStar/sw.prg



DRAFT Table 3-5B
Three Star Anodizing Site
Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Storm Event, May 2002
Inorganic Data Compared to Screening Values Including TSS and Hardness Data

Units Units Units Sample Date Units Sample Sample Date Units Sample Date Units Sample Date Sample Date Units Sample Date Sample Date Units Sample Date Sample D		Location Cross Reference	Screening	Wappingers Lake WPLKSW-1	ers Lake SW-1	Wappin WPL	Wappingers Lake WPLKSW-2	Site B	Site Bridge-1	Site	Site Bridge-2	Lagoc	Lagoon (outlet)	Rt. 28 1	Rt. 28 Bridge -1
United Weight W		Sample Date	Values	05/14/	2002	05/1	2/2002	05/17	4/2002	1/50	5/2002	750	15/2002	1/50	4/2002
District		Units	ng/L	/8n	Ţ	<u> </u>	s/L	<u> </u>	g/L		16/1.		Ţ/o/		
State Stat	Compound				Hardness A(C)		Hardness A(C)	,						-	
State Stat	Antimony		100 i-A(C) 3 H/wS)	[451]		[256]		[565]		[412]	2	+-	A(C)	1969	V(C)
1000 HW/SS/AC)	Arsenic		50/150 H/WS)/d-A/C)	3311		2.0 0		2.0 U		2.0 U		2.0 U		2.0 U	
3 3 3 4 4 5 5 5 5 5 5 5 5	Barium		1000 H(WS)	17.1		13.1		3.3 U		3.3 U		3.3 U		3.3 U	_
State Markey State Markey State Markey State Markey State Markey State Markey State Markey State Markey State Markey State Markey State Markey State Markey State Markey State Markey	Beryllium		3 gd-H(WS)/A(C)	0.1 U	1100	0111	1100	193	5	15.1	;	18 J		19.1	
NS NS NS NS NS NS NS NS	Cadmium		5/h H(WS)/A(C)	0.4 U	2.3	0.4 U	2.3	0.1.0	1.100 2.100	0.50	2.00	0.1 C	1100	0.1 J	1100
Matheway Mathematical Mathemat	Calctum		SN	30100		30600	<u>'</u>	30700	;	30300	1.7	25.200	2.3	0.4 U	2.3
2000 H(WS)A(C)	Cohair		11 dhx-A(C)	1.2 U	80	1.2 U	80	1.2 U	74	12.0	74	1211	0	30800	
Substituting Subs	Conner		5 A(C)	1.3 U		1.3 U		1.3 U		1.3 U	· -	7 7 7	·	131	<u></u>
Substituting Subs	Iron		200/h H(WS)/A(C)	2.3 J	2	3.4 J	10	1.8 U	9.0	2.1.5	9.0	2.4 J	10	2.1.5	2
Second H(NS)	Lead		50/h H(WS)/A(C)	[610] 0.8.T		[386]		[304]		[185]		281		[834]	:
300 E 300 E 350	Magnesium		35000 H(WS)	7120	1	7130	7.	19.0	3.8	1.1,7	3.8	1.7.1	4.2	0.9 J	4.2
0.000/10.77 d.HC/DA(C) 0.1 U	Manganese		300 E			69		109		/130		8540	_	7570	_
1900 H WOS/A(C) 18 U 56 18 U 56 18 U 56 18 U 50 18 U 50 11 U 50 11 U 50 11 U 50 11 U 50 11 U 50 11 U 50 50 50 50 50 50 50	Mercury		0.0007/0.77 d-H(FC)/A(C)			0.1 U		0.1 U		00		2 2		107	
NS 1350 1350 1350 1350 1350 1350 1350 1350	Potassium		100h H(WS)/A(C)	1.8 U	99	1.8 U	56	1.8 U	52	1.8.1	55	2 1 2 2	33	0.1.0	;
1.9	Selenium		NS Y	1350 J		1320 J	_	1390 J		1260 J)	14103	3	1360 1	8
NS NS NS NS NS NS NS NS	Silver		4.8 d-A(C)	2.9 U		2.9 U		2.9 U		2.9 U		2.9 U		2.9 U	
0.58 gd-H(WS)NA(C) 2.7	Sodium		NS NS	712001		(1.8.)		[1.7.1]		[2.1.3]	-	[2.0.1]		1.5 U	_
14 A(C) 2.2 J	Thallium		0.5/8 gd-H(WS)/A(C)	3.7 U		3.7.11		22400 J		20700 J		25700 J		24600 J	
66 d-A(C) 4.8 J 90 6.8 J 90 7.4 J 83 6.4 J 83 6.5 J 90 7.0 J 5.2 f-A(C) 10.0 U 10.0 U 10.0 U 10.0 U 10.0 U 10.0 U 10.0 U NS	Vanadium		14 A(C)	2.2 J		1.6.1		3.7 U		3.7 U		3.7 U		3.7 U	
S. F. F. A. C. 10.0 U 10	Zmc Crosside Artel		66 d-A(C)	4.8 J	06	6.8 J	06	7.4 J	83	641	63	2.0.3		1.8.3	
NS 113 6 110 120 13U 13U 13U 13U 15U 15U 15U 15U 15U 15U 15U 15U 15U 15	Cydinae, wall		5.2 f-A(C)	10.0 U		10.0 U		10.0 U	}	[20]	3	10.011	3	10.01	8
NS 110 110 110 110 110 110 110 110 110 11	Total suspended solids ((mg/L)	SN	13		,		4		·		•		2	
mated value, NS = no screening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. step of 27196A/2007/1245.5/335.2/9010B/9014. Water quality screening values obtained from NYSDEC (1998) TOGS 1.3.1. Beryllium screening value (1100 ug/L) is based on Hardness concentrations exceeding 75 ppm. Pare 1 of 2	Hardness (mg/L)		NS	110		91.		18		12		su		18	
NOTES: U - not detected. J - estimated value, NS = no screening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(HC) = fish consumption. Evological Screening Values for protection of fish. A(C) = fish propagation. Screening value of ynambods. 71-25.25322.29010B/9014. Water quality screening values from NYSDEC (1998) TOGS 1.1.1. Beryllium screening Values for protection of fish. A(C) = fish propagation. Surples analyzed from NASDEC (1998) TOGS 1.1.1. Beryllium screening Value. Pare 1 of 2						2		202		8		110		110	
NOTES: U - not detected J - estimated value, NS = no screening value, E = aesthetic. Human Health Screening Values. H(WS) = water source, H(PC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Screening value, qualifiers d - distance heaverlant chromium, I = fire cyanide, gd = guidance value, h = site-specific calculated from hardness, 1 = ionic. Samples analyzed by methods 7196A/2001/23532 29010B/9014. Water quality screening value (100 ug/L) is based on Hardness concentrations exceeding 73 ppm. Date Phinnel Annice Annice Water Screening Value. Page 1 of 2															
NOTES: U - not decetted, J - estimated value, NS = no screening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Surples analyzed by methods 7196A/200 77245.51355.29010B/9014. Water quality screening value consumption is incincing. Surples analyzed by methods 7196A/200 77245.51355.29010B/9014. Water quality screening value consumption is passed on Hardness concernments exceeding 75 ppn. Page 1 of 2					_										
1720															
NOTES: U not detected, J : estimated value, NS = no screening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(PC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Screening value qualifiers: d = dissolved, dhx = dissolved becavarlent echornium, f = free eyanide, gd = guidance value, h = site-specific calculated from hardness, i = front. Samples analyzed by methods 7196A/200 77245.5335.29010B/9014. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1. Beryllium screening value, i is based on Hardness concerning 75 ppm. Page 1 of 2								•							
NOTES: U - not detected, J - estimated value, NS = no streening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Sorrecting value quality screening values obtained from NYSDEC (1998) TOGS 1.1.1. Beryllium screening value, ii onic. V - not detected, J - estimated value, NS = no streening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values of propagation. Surples analyzed by methods 7196A,200.77245.5/335.2/9010B/9014. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1. Beryllium screening value (1100 ug/L) is based on Hardness conceeding 75 ppm. Page 1											_				
NOTES: U - not detected, J - estimated value, NS = no streening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Someting value qualifiers: d = dissolved, dhx = dissolved becavalent chromium, f = free eyanide, gd = guidance value, h = site-specific calculated from hardness, i = jonic. Samples analyzed by methods 7196A/200 77245.5/335.2/9010B/9014. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1. Beryllium screening value (1100 ug/L) is based on Hardness concerning 75 pm. Page 1 of 2															
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NOTES: U not detected, J estimated value, NS = no screening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Screening Values to an instance value, b = site-specific calculated from hardness, i = ionic. Samples analyzed by methods 7196A200.77245.5335.29610B/9014. Water quality screening values obtained from NYSDEC (1998) TOGS 1.1.1. Beryllium screening value (1100 ug/L) is based on Hardness concentrations exceeding 75 ppm. Page Of 2				-				•							
NOTES: U - not detected, J - estimated value, NS = no screening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish. A(C) = fish propagation. Screening value qualifiers: d = dissolved, dhx = dissolved hexavalent chromium, f = free cyanide, gd = guidance value, h = site-specific calculated from hardness, i = ionic. Screening value qualifiers: d = dissolved, dhx = dissolved hexavalent chromium, f = free cyanide, gd = guidance value, h = site-specific calculated from hardness, i = ionic. Screening value quality value, and the propagation. Jacobs Surface Water Screening Value. Page 1 of 2	ı				-										
Samples analyzed by methods 7196A/200.77245.5/335.2/9010B/9014. Water quality streeting values obtained from NYSDEC (1998) TOGS 1.1.1. Beryllium screening value (1100 ug/L) is based on Hardness concentrations exceeding 75 ppm. Page 1 of 2		detected, J - estimated value, NS = no se ig value qualifiers: d = dissolved, dhx =	reening value, E = aesthetic. Hurr dissolved bexavalent chromium	ian Health Screenin	g Values: H(V	VS) = water sourc	ce, H(FC) = fish o	consumption. Ec	cological Screen	ning Values for p	rotection of fish:	A(C) = fish pro	Dagation		
Page 1 of Page 1	Samples [] - exce	analyzed by methods 7196A/200.7/24; cods Surface Water Screening Value	5.5/335.2/9010B/9014. Water qu	ality screening valu	es obtained fro	m NYSDEC (199	98) TOGS 1.3.1	om hardness, 1 = Beryllium scree	ionic. nmg value (110	00 ug/L) is based	on Hardness cor	Centrations ave	applied 75 months		
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Three Star Anodizing Site DRAFT Table 3-5B

Wappingers Falls, New York
Wappingers Creek Surface Water Samples - Storm Event, May 2002
Inorganic Data Compared to Screening Values Including TSS and Hardness Data

	*** 0										
Sample ID Location Cross Reference Sample Date	Screening Values	Kt. 28 Bridge - 2 05/15/2002	nage -2 /2002								
Units	ng/L	J/gn	T.				•				
Compound			Hardness A(C)	量 *	Hardness A(C)	Hardness A(C)		Hardness A(C)	Han	Hardness	Hardness
Aluminum	100 i-A(C)	[676]									(A)
Arsenic	50/150 H(WS)/d-A(C)	33.0									
Barium	1000 H(WS)	17.1		_							
Beryllium	3 gd-H(WS)/A(C)	0.1 J	0011							_	
Calcium	S/h H(WS)/A(C) NS	31100	2.4								
Chromium	11 dhx-A(C)	1.2 U	86					_			
Cobalt	5 A(C)	1.3 U	3					_	-		
Copper	200/h H(WS)/A(C)	2.8 3	10								
Iron	300 A(C)	[895]									
Lead	50/h H(WS)/A(C)	2.0 J	4.6								
Magnesium	35000 H(WS)	7290			-						
Manualuse	300 E										
Nickel	0.000 //0. // d-H(FC)/A(C)		;	_							
Potassium	100h H(WS)/A(C)	1.8 U	61		•						
Selenium	(S) = (S) =	13/07							_		
Silver	4.6 d-A(C)	2.9 U		-							
Sodium	0.1 r-A(C)	[1.7.1]			_						
Thelling	NN O CONTRACTOR	21/00 J									
Vanadium	0.5/8 gd-H(WS)/A(C)	3.70						•			
Zinc	14 A(C)	6.3]	20	_					-		
Cyanide, total	5.2 f-A(C)	[10.0]	R								
There is a second to the secon	,										
1 otal suspended solids (mg/L) Hardness (mg/L)	SN	20									
			-						-		
		-			_						
			_								
									. <u>-</u> .		
									<u> </u>		
									<u>-</u>		
NOTES: U. not detected, J. estimated value, NS = no screening value, E = aesthetic. Human Health Screening Values: H(WS) = water source, H(FC) = fish consumption. Ecological Screening Values for protection of fish: A(C) = fish propagation. Screening value qualifiers: d = dissolved, dhx = dhx = d	screening value, E = aesthetic. Hu = dissolved hevavalent chromium	man Health Screen:	ing Values: H(WS)) = water source, H(F	C) = fish consumpt	ion. Ecological Scree	ening Values for pro	otection of fish: A(C	C) = fish propagation		
Samples analyzzed by methods 7196A/200.7/2 [] - exceeds Surface Water Screening Value.	45.5/335.2/9010B/9014. Water qu	uality screening va	lues obtained from	NYSDEC (1998) TO	GS 1.1.1. Berylliu	ress, t = tonic. m screening value (1)	100 ug/L) is based	on Hardness concen	trations exceeding	S ppm.	
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FXP File: Q:\10653_NYSDEC\27258_ThreeStar\swpiiep.prg

Table 3-6
Three Star Anodizing Site – Wappingers Creek
Fish & Wildlife Impact Analysis
Description of Ecological Screening References

Surface Water Surface Water Surface Water Technical and Operational Guidance Series Number 1.1.—New York State Ambient Water Quality Yalues National Recommended USEPA (2002) The NYSDEC surfact identified by the state in placed into regulation substances has not be implications of the state in placed into regulation substances has not be implications of the state in placed into regulation substances has not be implications of the state in placed into regulation substance has not be implications of the state in placed into regulation substance has not be implications of the state in placed into regulation substance has not be implications of the state in placed into regulation substance in placed into regulation substance has not be implications of the state in placed into regulation substances has not be implications of the state in placed into regulation substances has not be implications of the state in placed into regulation substances has not be implications of the state of the state in placed into regulation substances has not be implications of the state of the state in placed into regulation substances has not be implications of the state in placed into regulation substances has not be implicated in placed into regulation substances has not be implicated in placed into regulation substances has not be implicated in placed into regulation substances has not be implicated in placed into regulation substances has not be implicated in placed into regulation substances has not be implicated in placed into regulation substances has not be implicated in placed in placed into regulation substances has not be implicated in placed into regulation substances has not be implicated in placed in placed into regulation substances has not beautiful substances.	The NYSDEC surface water quality standards and guidance values are specific to each "class" of water identified by the state. Standards and guidance values are ambient water quality values derived according to procedures that are in regulation (6 NYCRR Part 702). Standards are values that have been promulgated and placed into regulation. Guidance values may be considered where a standard for a substance or group of substances has not been established for a particular water class and type, but do not have the regulatory implications of the standards. The NYSDEC standards and guidance values derived for the protection of freshwater aquatic life from chronic effects or for protection of wildlife for class "C" waters, were selected as screening values for this study. When a NYSDEC or USEPA ecological value was unavailable for a detected constituent, a human health protection value was selected from this reference as the screening value, as noted on the respective RI data tables. The water quality criteria developed by USEPA under section 304(a) of the Clean Water Act are based on data and scientific judgments about the relationship between chemical concentrations and environmental and human health effects with provision of conservative scaling, or safety factors, to provide an additional margin of safety. National recommended water quality criteria have been developed for 147 constituents. For this study, the continuous chronic criterion was selected as the screening value. When a NYSDEC or USEPA ecological value was unavailable for a detected constituent, a human health protection value was selected from the respective RI data tables.
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Page 1 of 1

Three Star Anodizing Site - Wappingers Creek Fish & Wildlife Impact Analysis Hazard Quotient Calculations for Maximum Exposure Scenario of Wappingers Creek

Table 4-1

	Sediment Maximum	Surface Water Maximum	Surface Water Trophic Level 4 Maximum Fish		Mink		5	Great Blue Heron	
Constituent	Exposure Point Conc. (mg/kg)	Exposure Point Conc. (µg/l)	Exposure Point Conc. (mg/kg)	TDI (mg/kg/day)	TDI TRV (mg/kg/day) (mg/kg/day)	HQ (1)	TDI TRV (mg/kg/day) (mg/kg/day)	TRV (mg/kg/day)	HQ (1)
Alternation	1 905+04	7 OOF-01	1 925+01	2 90F+01	8 03E-01	3.605-01	3 235+00	1 10E+02	2 ant-02
Antimony	1.60€+02	2.00E-03	5.44E+00	6.29E-01	5.20E-02	1.20E+01	7.00E-02	5.20E-04	1.30E+02
Arsenic	1.60E+02	3.30E-03	1.23E+01	1.13E+00	5.20E-02	2.20E+01	1.26E-01	5.10E+00	2.50E-02
Barium	1.30E+02	1.90E-02	3.38E+00	4.35E-01	4.10E+00	1.10E-01	4.84E-02	2.085+01	2.30E-03
Beryllium	8.40E-01	1,205-04	9.40E-04	1.44E-03	5.10E-01	2.80E-03	1.60E-04	5.10E-03	3.10E-02
Cadmium	5.30E+01	3.70E-04	5.97E+02	4.35E+01	7.42E-01	5.90E+01	4.84E+00	1.45E+00	3.30E+00
Calctum	2.50E+04	5.00E+01	8.50E+02	9.82E+01	¥	ž	1.09E+01	¥	ž
Chromium	4.10E+03	1.90E-03	1.21E+02	1.48E+01	2.52E+00	5.90E+00	1.65E+00	1.00E+00	1.60E+00
Cobalt	2.00E+01	1.30E-03	3.62E-01	5.54E-02	ž	ž	8.17E-03	¥	ž
Copper	4.80E+02	2.80E-03	5.35E+01	4.58E+00	1.17E+01	3.90E-01	5.08E-01	4.70E+01	1.10E-02
Cyanide	4.20E+01	2.00E-02	NAP	6.11E-02	4.97E+01	1.20E-03	6.B0E-03	5.30E-03	1.30E+00
<u>6</u>	4.30E+04	9.00E-01	1.13E+02	7.08E+01	ž	ş	7.88E+00	¥	ž
Lead	8.00E+02	2.00E-03	9.84E+00	1.882+00	8.15E+00	3.10E-01	2.09E-01	3.85E+00	5.40E-02
Magnesium	1.90E+04	1,40E+01	6.46E+02	7.46E+01	¥	ž	8.31E+00	₹	≨ Ž
Manganese	2.40E+03	1.30E-01	8.07E+01	1.01E+01	6.80E+01	1.50E-01	1.12E+00	9.97E+02	1.10E-03
Mercury	1.90E+02	1.80E-04	2.14E+03	1.56E+02	1.00E+00	1.50E+02	1.74E+01	4.50E-01	3.90E+01
Z.C.e.	5.80E+01	1.80E-03	2.80E+00	2.85E-01	3.08E+01	9.30E-03	3.18E-02	7.74E+01	4.10E-04
Potassium	2.00E+03	1,40E+00	6.80E+01	7.86E+00	¥	ž	8.75E-01	ş	ş
Selenium	3,50E+00	2.90E-03	5.57E+01	4.06E+00	1.54E-01	2.60E+01	4.52E-01	5.00E-01	9.00E-01
Silver	1.20E+00	2.10E-03	4.08E-02	4.71E-03	1.81E+01	2.80E-04	5.25E-04	1.78E+01	2.90E-05
Sodium	3.80E+02	3.10E+01	1.29E+01	1.50E+00	ž	≨	1.68E-01	¥	ž
Thallium	3.30E+00	3.70E-03	1.12E-01	1.30E-02	6.00E-03	2.20E+00	1.44E-03	9.50E-02	1.50E-02
Vanadium	5.10E+01	2.30E-03	5.36E-01	1.13E-01	1.50E-01	7.50E-01	1.26E-02	1.14E+01	1.10E-03
Zinc	6,50E+03	8.60E-03	4.88E+03	3.64E+02	1.23E+02	3.00E+00	4.05E+01	1.45E+01	2.80E+00
1,4-Dichlorobenzene	5.80E+01	1.00E+01	2.01E+00	2.29E-01	8.57E+00	2.70E-02	2.58E-02	8.57E-01	3.00E-02
2,4-Dimethylphenol	5.60E+01	1.00E+01	2.14E+02	1.56E+01	5.00E+00	3.10E+00	1.74E+00	5.00E-01	3.50E+00
Benzo(a)pyrene	6.40E+01	1.00€+01	4.61E+03	3.35€+02	4.20E-01	8.00E+02	3.73E+01	ž	≨
Benzo(b)fluoranthene	7.40E+01	1.00E+01	3.05E+03	2.22E+02	4.20E-01	5.30E+02	2.47E+01	1.40E-05	1.80E+06
Chrysene	7.70E+01	1.00E+01	1.10E+03	8.01E+01	4.20E-01	1.90E+02	8.92E+00	1.00E-05	8.90E+05
Fluorene	4.60E+01	1.00E+01	1.15E+01	9.07E-01	4.20E-01	2.20E+00	1.01E-01	1.00E+03	1,00E-04
Indeno(1,2,3-cd)pyrene	2.80E+01	1.00E+01	3.43E+03	2.50E+02	4.20E-01	5.90E+02	2.78€+01	¥	ž
Phenol	5.60E+01	1.00E+01	2.14E+02	1.58E+01	6.00E-01	2.60E+01	1.74E+00	6.00E-01	2.90E+00
Pyrene	1.40E+02	1.00E+01	2.70E+02	1.99E+01	4.20E-01	4.70E+01	2.21E+00	1.40E-05	1.60E+05
2-Butanone	7.70E-02	1.00E+01	9.60E-03	1.89E-03	1.38E+03	1.40E-06	5.44E-04	1.36E+01	4.00E-05
Acetone	1.70E-01	1.20E+01	1.70E-02	2.78E-03	7.70E+00	3.60E-04	7.09E-04	7.70E-02	9.20E-03
Carbon disulfide	3.70E-02	1.20£+01	1.30E-01	1.08E-02	1.10E-01	9.80E-02	1.60E-03	1.10E-01	1,50E-02
Chiorobenzene	7.70E-02	1.00E+01	6.32E-01	4.72E-02	1.90E+00	2.50E-02	5.59E-03	1.90E-01	2.90E-02
									_

NOTES:

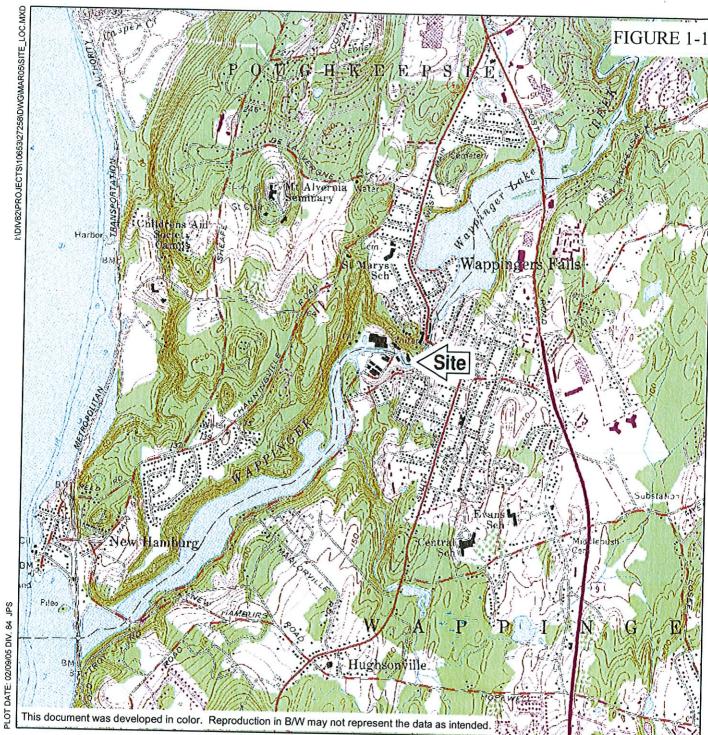
Definitions

NA = not available

NAP = not applicable

HQ = Hazard Quotient TDI ≈ Total Daily Intake TRV ≈ Toxicity Reference Value (No Observed Adverse Effects Level)

(1) Bold values indicate Hazard Quodents greater than 1.



ADAPTED FROM: WAPPINGER FALLS, NY USGS QUADRANGLE



NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
THREE STAR ANODIZING SITE
WAPPINGER FALLS, NEW YORK

SITE LOCATION





10653.27258 MARCH 2005

1:24,000

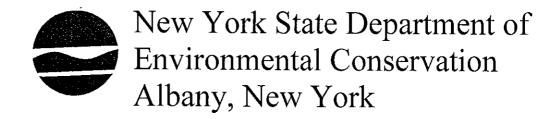


APPENDIX I ATTACHMENT 1

Fish and Wildlife Impact Analysis Step I - Three Star Anodizing Site Wappingers Falls, New York

REVISED DRAFT REPORT

Fish and Wildlife Impact Analysis Step I - Three Star Anodizing Site Wappingers Falls, New York



February 2007

REVISED DRAFT REPORT

Fish and Wildlife Impact Analysis Step I - Three Star Anodizing Site Wappingers Falls, New York

New York State Department of Environmental Conservation Albany, New York

> Chief Scientist O'Brien & Gere Engineers, Inc.

> > February 2007



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3-1. Potential wildlife inhabitants of the identified natural covertypes

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- 2-1 Covertype
- 2-2 Documented natural resources

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A. USFWS and NHP information request letter responses



1. Introduction

This appendix presents the results of a Fish and Wildlife Impact Analysis (FWIA) for the Three Star Site. The FWIA was conducted according to the New York State Department of Environmental Conservation (NYSDEC) document entitled *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites* (NYSDEC 1994; Guidance). Step I - *Site Description* of the NYSDEC document is addressed in this report. The purpose of Step I of an FWIA is to characterize the physical and biological characteristics of a site. The specific objectives of this FWIA are to:

- describe the ecology of the site and surrounding environs within a 0.5 mile radius of the site
- describe fish and wildlife resources including observed vegetation and associated fauna for each covertype within the study area
- identify other resources including NYSDEC significant habitats and endangered, threatened, or species of special concern (ETSC)
- qualitatively describe the value of the identified resources to associated wildlife and humans

The FWIA is organized into five sections:

- 1. Introduction. This section presents general information about the performance of the FWIA, the objectives of the study and the format of the report.
- 2. Study area characterization. This section characterizes the covertypes of the study area based on vegetation, and associates wildlife species with the covertypes. This section also discusses resources other than wildlife, such as NYSDEC significant habitats; ETSC species; surface waters; and freshwater wetlands that exist within a two-mile radius of the site.
- 3. Description of fish and wildlife resources. This section presents a qualitative evaluation of the ability of the study area to provide habitat for wildlife and discusses the value to humans of wildlife resources within the study area.
- 4. Identification of fish and wildlife criteria. This section identifies applicable fish and wildlife regulatory criteria that would be used in additional steps of the FWIA, if conducted.
- 5. Conclusions. This section presents the FWIA conclusions regarding ecological resources within the study area.

2. Study Area Characterization

This subsection describes the physical and biological components of the site and study area under current conditions. In accordance with Step I of the Guidance, this information is used to identify the ecological communities of the study area, associate wildlife species with the communities, evaluate the value of the communities to wildlife and humans, and to provide information necessary for the design of future activities associated with the RI/FS, if required.

2.1. Site Description

As presented in Section 1 and on Figure 1-1 of the RI, the Three Star Site consists an 8.5 acre industrial facility on the south bank of Wappinger Creek. Several buildings, paved parking areas and access roadways are present on the site. The site is located on the 100-year flood plain along an oxbow of Wappinger Creek. The creek discharges to the Hudson River approximately 1.5 miles downstream and it is subjected to tidal influences of the river (NYSDEC 2000). A raceway that is currently used for stormwater runoff from the village and a lagoon on the southeast portion of the site discharge to Wappinger Creek. The site has been the location of industrial activities for over 150 years. Primary past uses of the site included dye operations, manufactured gas plant (MGP) operations, and metal plating (EA 1986). A number of other smaller industrial activities also took place at the site (O'Brien & Gere 2001). A parcel on the north bank is approximately 5 acres and features an old factory building, a large storage tank, an abandoned smoke stack, a new personal storage building, and paved parking areas (NYSDEC 2000).

2.2. Covertype Delineation

Consistent with the Guidance, the study area for the FWIA is defined as the site property and the area within a 0.5 mile radius of the site. The 0.5 mile radius includes the commercial, industrial and residential properties, and terrestrial and aquatic communities. Evaluation of ecological communities (covertypes) in the study area assists in the identification of ecological receptors of the site, which may enter the site from surrounding areas. The following subsections describe the ecological covertypes of the site and study area.

In the context of this report, a "covertype" is defined as an area characterized by a distinct pattern of natural (e.g. forest) or cultural (e.g. residential) land use. Covertypes of the study area were identified based on the physical and vegetative features observed by an O'Brien & Gere biologist during a study area reconnaissance in July 2001 and from interpretations of local mapping and aerial photographs that included the study area. A map indicating the covertypes of the study area is presented as Figure 2-1. Each covertype designation was selected based on a comparison of observed characteristics with the ecological community descriptions presented in the NYSDEC Natural Heritage Program document Ecological Communities of New York State (Reschke 1990).

A total of six covertypes were identified within the study area. Their locations and approximate boundaries are depicted on Figure 2-1. The description of each identified covertype, below, includes a list of dominant woody and herbaceous plant species observed during the study area reconnaissance. Communities within the study area are a mixture of cultural and natural land uses. Roadways, commercial businesses, industrial facilities, recreational parks, and schools comprise the majority of

the cultural areas. Forested areas, palustrine (wetland) habitats and aquatic (open water) communities comprise the natural areas. Descriptions of the identified covertypes are presented below.

2.3. Terrestrial Covertypes

The upland communities within the study area consist of approximately equal portions of natural and cultural covertypes. The cultural designation reflects the extent of human disturbance to the study area for land uses such as roadways, railroad beds, commercial businesses, industrial facilities, residences, and parks. Physical characteristics of the residential areas consist of 0.25 acre to 2 acre lots with interspersed paved driveways and access roads. Commercial businesses, recreational parks, and schools are present in portions of the study area, with essentially the same physical characteristics as the residential areas. In general, these areas do not support large or diverse wildlife communities due to their proximity to anthropogenic disturbances.

The natural terrestrial covertypes of the study area, existing primarily in the western half of the study area, are representative of forested communities and are further described below.

Urban structure exterior. This covertype is characterized by the exterior surfaces of structures such as commercial buildings, apartment buildings, and bridges in an urban or densely populated suburban area (Reschke 1990). The eastern portion of the study area is comprised mostly of this covertype (Figure 2-1). The areas immediately surrounding the site included in this designation consist of industrial buildings associated with the site, and the residential and commercial structures associated with the Village of Wappinger Falls. Also included in this covertype are sub-communities typical of the Mowed lawn/Mowed lawn with trees covertypes. These areas typically contain landscaped areas of ornamental trees, shrubs and grasses.

Northern hardwood forest (NHF). This covertype is characterized by a mixed forest that typically occurs on middle to lower slopes of ravines, mid-elevation slopes, and on moist, well-drained sites (Reschke 1990). Based on the July, 2001 site reconnaissance of this covertype, primarily conducted by vehicle and limited traversing on foot, the NHF area has inclusions of Hemlock-NHF and Maple-basswood rich mesic forest communities. Additionally, relatively small (less than 3 acres) forested and palustrine wetland habitats are also present within the NHF covertype.

The dominant tree species observed in these communities consisted of 8-inch to 24-inch diameter (at breast height) specimens of hemlock (*Tsuga canadensis*), sugar maple (*Acer saccharum*), basswood (*Tilia americana*) and hickories (*Carya* spp.). The shrub layer, sparse in much of the covertype, included: dogwoods (*Cornus* spp.) raspberries (*Rubus* spp.), wild grape (*Vitus* spp.), honeysuckle (*Lonicera* spp.), and saplings of the tree species identified above. Numerous herbaceous species observed, include, but are not limited to, buttercup (*Ranunculus* spp.), cinquefoil (*Potentilla* spp.) and miscellaneous grass species.

2.4. Aquatic and Palustrine Covertypes

Tidal river. Wappinger Creek, from below the dam at Wappinger Lake to the creek's confluence with the Hudson River approximately 1.5 miles downstream of the site, represents a deepwater estuarine habitat identified in Reschke (1990) as a tidal river. The creek dissects a major portion of the study area as it flows from northeast to southwest.



As presented in the RI, Wappinger Creek is approximately 15 to 20 feet wide in the vicinity of the site and is narrow with higher velocity relative to downstream portions. The daily mean flow of Wappinger Creek measured upstream of Wappinger Lake is 84 cfs and ranges from 6.1 to 1,060 cfs based on 71 years of record. Tide water level fluctuates approximately 4 feet during the normal tide cycle.

Due to the relatively higher velocity, the creek nearest the site has little sediment accumulation and, therefore, aquatic vegetation is minimal or non-existent. The creek bed in this area consists primarily of boulders, rocks, cobble and sand. Further downstream, west and south of the site, the creek widens, sediment accumulation is greater and aquatic vegetation is present. Water chestnut (*Trapa natans*) was the primary species observed. Canopy coverage of the creek ranges from approximately 80 percent in the reach upstream of the site, to approximately 5 percent where the creek exits the study area.

Eutrophic dimictic lake / artificial impoundment. Wappinger Lake, existing in and beyond the northeast quadrant of the study area, is representative of a eutrophic dimictic lake community. That is, the lake is nutrient rich, has two periods of mixing or turnover (spring and fall), is thermally stratified in the summer and freezes over in the winter. Additionally, because the lake represents an impounded portion of Wappinger Creek, the artificial impoundment designation of Reschke (1990) also applies to Wappinger Lake. The lake consists primarily of open water with much of the shallow water and shoreline areas containing floating, submerged and emergent aquatic vegetation including, but not limited to, duckweed (Lemna spp.), water chestnut and common reed (Phragmites). The lake was surrounded with human residences and forested areas.

Midreach stream. An open water aquatic community existing in Reese Park located approximately 2000 feet southwest of the site is representative of a midreach stream covertype. As this covertype has been defined in Reschke (1990), this unnamed stream has a well-defined pattern of alternating pool, riffle and run sections. The stream traverses a forested area of the public park, eventually discharging to Wappinger Creek. The channel of the creek is approximately 5 feet wide and contained approximately 6 inches of water at the time of the study area reconnaissance. Emergent vegetation was not observed within the creek. The banks of the creek are approximately 2 feet high and vegetated with goldenrod, purple loosestrife (Lythrum salicaria) and Phragmites.

Palustrine habitats (wetlands). As noted on Figures 2-1 and 2-2, numerous wetland habitats exist in the study area. Most of these wetlands are relatively small (less than 3 acres) and exist within the NHF covertype. The observed wetland habitats are representative of open and forested mineral soil wetlands as classified in Reschke (1990). Generally, these areas consist of open water areas with submerged and aquatic vegetation existing in the shoreline areas. Additional discussion concerning wetlands is presented in Section 3.4.

Two lagoons existing on or adjacent to the site boundaries are identified as wetland habitats on Figures 2-1 and 2-2. The lagoon existing on the west portion of the main site, as described in the RI, is reportedly unlined and covers approximately 0.5 acres of the site. Village storm water drains to the lagoon via the former raceway located along the east boundary of the site. The lagoon reportedly received industrial wastes during operation of Three Star Anodizing Company. Other industrial wastes may have also drained in the direction of the lagoon. At the time of the site reconnaissance, this lagoon contained approximately 3 feet of open water that was covered with duckweed. The substrate, as observed from the eastern shoreline/stonewall was comprised of organic sediment approximately 10 to 24 inches thick and gross organic debris (leaves, sticks and logs). A swale area

was observed leading from this lagoon to Wappinger Creek. The swale did not contain surface water at the time of the site reconnaissance.

A second lagoon, approximately 0.2 acre in size, exists off-site north of Wappinger Creek near the downstream bridge and paved parking lot. The lagoon contained approximately 18 to 24 inches of relatively clear water with a sandy substrate at the time of the site reconnaissance. Submerged vegetation (likely pondweed) existed over approximately one-third of the lagoon area. It appears the lagoon receives runoff from the higher elevations north of the site, and discharges into Wappinger Creek.

3. Description of Fish and Wildlife Resources

The objective of this section is to identify potential ecological receptors of the study area based on observations conducted during the study area reconnaissance or by reasonable association of these resources with the identified covertypes. The results of the tasks performed to meet the objective are discussed in the following subsections.

3.1. Fish and Wildlife of the Study Area

The presence of fish and wildlife in the study area was assessed through contact with regulatory agencies, a literature review, and the study area reconnaissance performed by an O'Brien & Gere biologist in July 2001. During the study area reconnaissance, wildlife were identified based on actual sightings; audible indicators such as bird songs; or other indicators such as tracks, burrows, or scat. A listing of the fish and wildlife species that were either directly observed or concluded to be present based on observed indicators is presented below.

Observed fish and wildlife. Numerous avian species were observed frequenting the site and/or the study area at the time of the site reconnaissance, including, but not limited to: song sparrow (Melospiza melodia), Eastern phoebe (Sayornis phoebe), chimney swift (Chaetura pelagica), cedar waxwing (Bombycilla cedrorum), downy woodpecker (Picoides pubescens), American goldfinch (Carduelis tristis), tree swallow (Tachycineta bicolor), Northern cardinal (Cardinalis cardinalis), American robin (Turdus migratorius), mourning dove (Zenaida macroura), Canada goose (Branta canadensis) and belted kingfisher (Ceryle alcyon).

Additional species observed in the study area include: white-tailed deer (*Odocoileus virginianus*), Eastern gray squirrel (*Sciurus carolinensis*) and green frog (*Rana clamitans*). Numerous attempts were conducted to observe aquatic invertebrates within Wappinger Creek by turning over the cobble and boulders of the substrate. However, aquatic invertebrates were not observed at the time of the site reconnaissance.

3.2. Fauna Expected within each Covertype

In addition to the observed wildlife, a variety of wildlife species typically inhabit the natural communities of the study area. The *northern hardwood forest*, Wappinger Creek, Wappinger Lake and wetland covertypes are likely to contain the most diverse wildlife populations.

Characteristic wildlife of the *northern hardwood forest* community include, but are not limited to various avian species, (songbirds, turkey, partridge, hawks and owls); small mammals (raccoon, fox) and large mammals such as white-tailed deer. The aquatic and palustrine habitats within the study area are likely to support benthic invertebrates, reptiles (snakes and turtles), amphibians (frogs, toads, salamanders), fish, waterfowl (ducks and geese), herons, shorebirds, gulls, kingfishers, and songbirds. Additionally, Wappinger Creek likely supports anadromous fish species such as striped bass (*Morone saxatilis*) and blueback herring (*Alosa aestivalis*). Potential wildlife inhabitants of the study area's natural covertypes are presented in Table 3-1. Additionally, a list of the breeding birds of the site vicinity, as recorded by the New York State Breeding Bird Atlas project, is presented in Attachment A.

3.3. Observation of Stress

During the study area reconnaissance, evidence of stress to flora or fauna related to the site, such as reduced vegetative growth or density, stained soils, leachate seeps, or wildlife mortality, were not observed in the study area.

3.4. Other Resources

Consistent with the FWIA Guidance, Step I includes the identification of other fish and wildlife resources, such as significant wildlife habitats; ETSC species; regulated wetlands; or special surface waters that are present within two miles of the site. Special resources were identified through contact with regulatory agencies and review of New York State Freshwater Wetlands (NYSFW) and National Wetland Inventory (NWI) maps. The results of these efforts are described below.

Significant habitats and endangered, threatened, or species of special concern. The presence of significant habitats and ETSC species in the study area was evaluated through contact with the New York Natural Heritage Program (NYNHP) and the United States Fish and Wildlife Service (USFWS). Letter responses received by O'Brien & Gere from these agencies are included with this report as Attachment A. The approximate location of the identified special resources, relative to the site, is presented on Figure 2-2.

The USFWS indicated that, except for occasional transient individuals, there are no federally-listed or proposed endangered or threatened species in the vicinity of the site.

The NYNHP database has record of the following protected species within two miles of the site: bald eagle (Haliaeetus leucocephalus), shortnose sturgeon (Acipenser brevirostrum), pied-billed grebe (Podilymbus podiceps), spongy arrowhead (Sagittaria calycina var. spongiosa), and estuary beggarticks (Bidens bidentoides). Additionally, the NYNHP identified the following ecological communities in the vicinity of the study area: anadromous fish concentration area, freshwater intertidal mudflats and freshwater tidal marsh. In accordance with NYNHP policy, the exact location of the reported special resources has been omitted from the Attachment.

Wetlands. The potential presence of freshwater wetlands in the study area was evaluated through a review of the Wappinger Falls quadrangle of the NYSFW map and the USFWS NWI map. The NYSFW map presents the boundaries of wetlands regulated and identified by NYSDEC. Seven state regulated wetlands were identified within two miles of the site perimeter (Figure 2-2).

Numerous NWI wetland habitats were identified within two miles of the site perimeter including many in similar locations as the state-regulated wetlands (see Figure 2-2). The NWI map presents wetlands inventoried by USFWS to monitor waterfowl habitat. The NWI maps have no regulatory significance but provide an indication of areas potentially meeting the federal criteria for wetlands regulated by the U.S. Army Corps of Engineers.

Surface waters. Wappinger Creek, Wappinger Lake, the Hudson River and associated tributaries are present within two miles of the site. A description of the creek and lake is presented in Section 2.4. The Hudson River is recognized by multiple federal, state and/or local agencies as valuable habitat for numerous fish and wildlife species.

Wappinger Creek from its mouth (at the Hudson River, approximately 1.5 miles southwest of the site) to Wappinger Lake (approximately 2000 feet northeast of the site) is a Class C water body with a Standard of C(T) (6NYCRR Part 857.2 (h)). Classification C is for waters that are designated to be suitable for fish propagation and survival, and suitable for primary and secondary contact recreation (6NYCRR Part 701.8). Standard T indicates that the water body is designated as trout waters and that the dissolved oxygen specification for trout waters applies (6NYCRR Part 931.2(g)).

Wappinger Lake is identified by NYSDEC's Division of Environmental Permits (www.dec.state.ny.us/website/dcs) as a Critical Environmental Area. Wappinger Lake is designated as a Class B water body, indicating its best use is swimming and other contact recreation, but not for drinking water.

3.5. Description of Fish and Wildlife Resource Value

The value of the covertypes to wildlife and society was evaluated based on habitat requirements of identified wildlife species and potential resource utilization by humans. In accordance with Step I of the Guidance, habitat requirements such as feeding preferences, home range, and cover for species identified in the study area were considered. Field observations used to evaluate habitat quality included: 1) the diversity of observed wildlife, 2) the availability of suitable habitat in the study area, 3) the size of the habitat, and 4) adjacent land use patterns.

3.5.1. Value of Habitat to Associated Fauna

Site. Terrestrial wildlife species identified in the study area were consistent with those expected to inhabit terrestrial and aquatic environments existing in suburban environments. Although some cover is afforded to birds and small mammals on the site, the gravel, asphalt and mowed lawn areas of the upland portions of the site do not provide sufficient food sources or nesting areas to make the site attractive to a high diversity of species. Therefore, the value of the site's upland habitat to wildlife is concluded to be low.

The portion of Wappinger Creek in vicinity of the site provides a foraging area for piscivorous animals frequenting the area and habitat for aquatic species including, but not limited to, warm water fish populations. Additionally, the on-site and off-site lagoons provide marginal habitat for aquatic receptors.

Study area. For the majority of the terrestrial cultural portions of the study area, suitable wildlife habitat to support a diverse or natural wildlife population is limited. These areas have limited vegetation and food sources and, therefore, provide inadequate resources to sustain a healthy and diverse wildlife community because of the high degree of development. Based on these considerations, the wildlife habitat value of the terrestrial cultural areas, including the *urban structure exterior* covertype, was considered to be low.

The northern hardwood forest, aquatic and wetland covertypes of the study area offer the most valuable habitat within the study area. Avian and small mammal species find suitable food and cover in these areas. Indicators of use of this covertype by other mammals such as muskrat (Ondatra zibethicus), beaver (Castor canadensis), fox, and deer were not observed during the study area reconnaissance; however, these species likely inhabit these areas.

Portions of Wappinger Creek and Wappinger Lake within the study area are likely important fish habitat. Additionally, the undeveloped areas surrounding these water bodies likely serve as a forage, nesting and roosting area for local and migratory wildlife.

3.5.2. Value of Resources to Humans

Site. The current character of the undeveloped areas of the site provides little value to humans, due in part to the relatively small size and restricted access.

Study Area. The northern hardwood forest areas of the study area likely provide opportunity for hiking and similar forms of outdoor recreation, including small and large mammal hunting. Similarly, Wappinger Creek and Wappinger Lake provide ample recreation opportunities for the public, including boating and year-round fishing.

The palustrine areas within the study area provide a number of wetland-related values to the public. These values include flood storage capacity, sediment/toxicant retention, productivity, and wildlife habitat. These characteristics assist in maintaining water quality in areas downstream of these habitats.

4. Identification of Applicable Fish and Wildlife Regulatory Criteria

Step I-D of the Guidance identifies contaminant-specific and site-specific criteria that are potentially applicable to the evaluation of fish and wildlife resources. The following sections describe these criteria.

4.1. Contaminant-Specific Criteria

The Guidance identifies New York State Water Quality Standards and Guidance Values, NYSDEC Division of Water Technical and Operational Guidance Series, and NYSDEC Technical Guidance for Screening Contaminated Sediments as examples of contaminant-specific criteria. These criteria, and other potentially applicable comparison values, are listed in the following table.

Environmental Media	Potentially Applicable Criteria, Standards, or Guidance
Soil	- NYSDEC has no established ecologically based criteria for contaminated soils
	- Toxicological Benchmarks (Efroymson <i>et al.</i> 1997a, 1997b)
	- Ecological Soil Screening Level Guidance (USEPA 2000)
Surface Water	 New York State water quality standards for the protection of aquatic life and wildlife (6 NYCRR Part 701) NYSDEC Division of Water TOGS 1.1.1 (1998) USEPA 1999
Sediments	- Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999) - Persaud <i>et al.</i> 1993

4.2. Site-Specific Criteria

Site-specific criteria identified in the FWIA Guidance include the Freshwater Wetlands Act (1975) and its implementing regulations (New York State Environmental Conservation Law [ECL] Article 24, 6 NYCRR Parts 663 and 664), and the laws and regulations governing streams and navigable water bodies (ECL Article 15, 6 NYCRR Part 608).

The Freshwater Wetlands Act (1975) is designed to prevent the destruction of freshwater wetlands by requiring permits for defined activities in wetlands. The Use and Protection of Waters is regulated by a permit system under 6 NYCRR Part 608. The basis for permit issuance is a determination that the proposal is in the public interest by being reasonable and necessary; will not endanger the health, safety, or welfare of the people; and will not cause unreasonable, uncontrolled, or unnecessary damage to the natural resources of the state.

10

5. Conclusions

This FWIA evaluated the physical and biological characteristics and potential ecological receptors at the Three Star Site in Wappinger Falls, New York. Step I of the FWIA Guidance was performed for this assessment. The results and conclusions of this assessment are presented below.

- The terrestrial portion of the site is developed with buildings, asphalt, and/or maintained lawns, which prevent or limit use by transient or residential wildlife species. Ecological receptors are unlikely to utilize the terrestrial portions of the site due to the lack of and/or poor quality habitat.
- Aquatic areas existing on-site include a portion of Wappinger Creek and the on-site and off-site lagoons. The lagoon areas provide limited habitat for foraging and resting for aquatic receptors.
 Wappinger Creek likely provides appropriate habitat for a variety of fish and other wildlife species that frequent aquatic habitats.
- The terrestrial areas surrounding the site and within the study area consist of a mixture of natural
 communities and areas exhibiting urban/suburban land use. The eastern portion of the study area
 is developed and consists of residential and light commercial areas which prevent or limit use by
 transient or residential wildlife species.
- The western portion of the study area consists largely of natural covertypes (northern hardwood forest, freshwater wetland and open water areas) that provide appropriate habitat for a variety of fish and wildlife species.
- Wappinger Creek and Wappinger Lake are located within the study area and likely contain high quality habitat for a variety of small mammal, avian, reptilian, amphibian and fish species.
- The NYSDEC and NYNHP has identified rare and/or protected flora and fauna and significant natural communities within a two-mile radius of the site. The protected species and communities are primarily associated with the aquatic, open water areas including Wappinger Creek, Wappinger Lake and the Hudson River.
- Federal and state wetlands were identified on and in the vicinity of the site. Several state-regulated wetlands and NWI wetland habitats are located within two miles of the site.

Potentially complete exposure pathways to terrestrial and aquatic receptors likely exist at the site. Results of the Phase II RI will be used to plan additional steps of the FWIA process.

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USEPA 1999. National Recommended Water Quality Criteria. Washington, DC.



Tables

Table 3-1. Potential wildlife inhabitants of the identified natural covertypes

AMPHIBIANS

American Toad

Northern Two-lined Salamander

Bullfrog

Pickerel Frog

Eastern Newt

Red back Salamander

Eastern Tiger Salamander

Red-spotted Newt

Four-toed Salamander

Slimy Salamander

Fowler's Toad

Southern Leopard Frog

Gray Treefrog

Spotted Salamander

Green Frog

Tiger Salamander

Jefferson Salamander

Western Chorus Frog

Marbled Salamander

Wood Frog

Mink Frog

•

Mountain Dusky Salamander

Northern Dusky Salamander

Northern Red Salamander

Northern Spring Peeper

Northern Spring Salamander

SOURCES:

Integrating Timber and Wildlife Management. Robert E. Chambers. New York State Department of Environmental Conservation and State University of New York. College of Environmental Science and Forestry. 1983.

Table 3-1. Potential wildlife inhabitants of the identified natural covertypes (Continued)

REPTILES

Black Rat Snake Eastern Worm Snake

Broadhead Skink Five-lined Skink

Coal Skink Ground Skink

Common Garter Snake Milk Snake

Common Kingsnake Northern Black Racer

Common Snapping Turtle Northern Brown Snake

Copperhead Northern Copperhead

Corn Snake Northern Redbelly Snake

Eastern Box Turtle Northern Ringneck Snake

Eastern Garter Snake Northern Water Snake

Eastern Hognose Snake Painted Turtle

Eastern Milk Snake Queen Snake

Eastern Painted Turtle Shorthead Garter Snake

Eastern Ribbon Snake Wood Turtle

Eastern Smooth Green Snake

SOURCES:

Integrating Timber and Wildlife Management. Robert E. Chambers. New York State Department of Environmental Conservation and State University of New York. College of Environmental Science and Forestry. 1983.

BIRDS

Acadian Flycatcher Common Screech Owl
Alder Flycatcher Common Yellowthroat

American Robin European Starling

American Black Duck Field Sparrow

American Crow Grasshopper Sparrow

American Goldfinch Northern Rough-winged Swallow

American Redstart Northern Shrike

American Kestrel Northern Three-toed Woodpecker

Bald Eagle Pine Siskin

Bank Swallow Prairie Warbler

Barn Owl Red-eyed Vireo

Barn Swallow Ring-billed Gull

Barred Owl Yellow-billed Cuckoo

Bay-breasted Warbler Yellow-rumped Warbler

Belted Kingfisher Cape May Warbler

Black Duck Cardinal

Black and White Warbler Chipping Sparrow

Black-billed Cuckoo Cedar Waxwing

Black-capped Chickadee Chestnut-sided Warbler

Black-crowned Night Heron Cerulean Warbler

Black-throated Green Warbler Clay-colored Sparrow

Blackburnian Warbler Cliff Swallow

Blackpoll Warbler Common Crow

Blue Jay Common Flicker

Blue-gray Gnatcatcher Common Grackle

Blue-winged Warbler Common Nighthawk

Boreal Chickadee Common Merganser

Broad-winged Hawk Cooper's Hawk

Brown Thrasher Downy Woodpecker

Brown Creeper Eastern Bluebird

Brown-headed Cowbird Eastern Kingbird

Canada Warbler Eastern Pewee

Great Crested Flycatcher Eastern Phoebe

Great Blue Heron Eastern Screech Owl

Great Horned Owl Eastern Wood-Pewee

Green Heron Evening Grosbeak

Hairy Woodpecker Golden-crowned Kinglet

Hermit Thrush Gray Catbird

Herring Gull Golden-winged Warbler

Hooded Merganser Gray Jay

Hooded Warbler Northern Saw-whet

House sparrow Northern Raven

House Wren Northern Waterthrush

House Finch Orchard Oriole

Indigo Bunting Osprey

Killdeer Ovenbird

Least Flycatcher Philadelphia Vireo

Loggerhead Shrike Pileated Woodpecker

Long-eared Owl Peregrine Falcon

Louisiana Waterthrush Pine Warbler

Mallard Prothonotary Warbler

Mourning Dove Purple Finch

Mourning Warbler Red-bellied Woodpecker

Nashville Warbler Red-breasted Nuthatch

Northern Parula Warbler Red-headed Woodpecker

Northern Parula Red-shouldered Hawk

Northern Oriole Red-tailed Hawk

Northern Mockingbird Red-winged Blackbird

Northern Cardinal Ring-necked Pheasant

Northern Junco Warbling Vireo

Northern Goshawk Whip-poor-will

Northern Flicker White-breasted Nuthatch

Rusty Blackbird White-eyed Vireo

Rufous-sided Towhee White-throated Sparrow

Ruffed Grouse Willow Flycatcher

Ruby-throated Hummingbird Winter Wren

Rock dove Wood Pewee

Ruby-crowned Kinglet Wood Thrush

Rose-breasted Grosbeak Wood Duck

Swainsons Thrush Worm-eating Warbler

Swamp-Sparrow———Yellow-breasted Chat-

Tennessee Warbler Yellow Warbler

Table 3-1. Potential wildlife inhabitants of the identified natural covertypes (Continued)

BIRDS

Tree Swallow

Yellow-bellied Flycatcher

Tufted Titmouse

Yellow-bellied Sapsucker

Turkey Vulture

Yellow-throated Vireo

Upland sandpiper

Veery

SOURCES:

Field Guide to the Birds of North America 2nd Edition. National Geographic Society. 1993. Integrating Timber and Wildlife Management. Robert E. Chambers. New York State Department of Environmental Conservation and State University of New York. College of Environmental Science and Forestry. 1983.

Table 3-1. Potential wildlife inhabitants of the identified natural covertypes (Continued)

MAMMALS

Beaver

New England Cottontail

Big Brown Bat

Northern Flying Squirrel

Boreal Red-backed Vole

Opossum

Cotton Mouse

Pine Vole

Deer Mouse

Porcupine

Eastern Chipmunk

Raccoon

Eastern Cottontail

Red Bat

Eastern Mole

Red Fox

Eastern Pipistrelle

Eastern Spotted Skunk

Red Squirrel

Edotom Opotica okam

River Otter

Eastern Woodrat

Shorttail Shrew

Fox Squirrel

Shorttail Weasel

. ... - - -

Onortian Woader

Gray Fox

Silver-haired Bat

Gray Squirrel

Smoky Shrew

Hairytail Mole

Southern Bog Lemming

Hoary Bat

Southern Flying Squirrel

Indiana Myotis

Starnose Mole

Keen Myotis

Striped Skunk

Least Shrew

Virginia Opossum

Little Brown Myotis

White-footed Mouse

Long-tailed Weasel

White-tailed Deer

Masked Shrew

Woodchuck

Meadow Jumping Mouse

Woodland Jumping Mouse

Meadow Vole

Woodland Vole

Mink

SOURCES:

Field Guide to the Birds of North America 2nd Edition. National Geographic Society. 1993. Integrating Timber and Wildlife Management. Robert E. Chambers. New York State Department of Environmental Conservation and State University of New York. College of Environmental Science and Forestry. 1983.

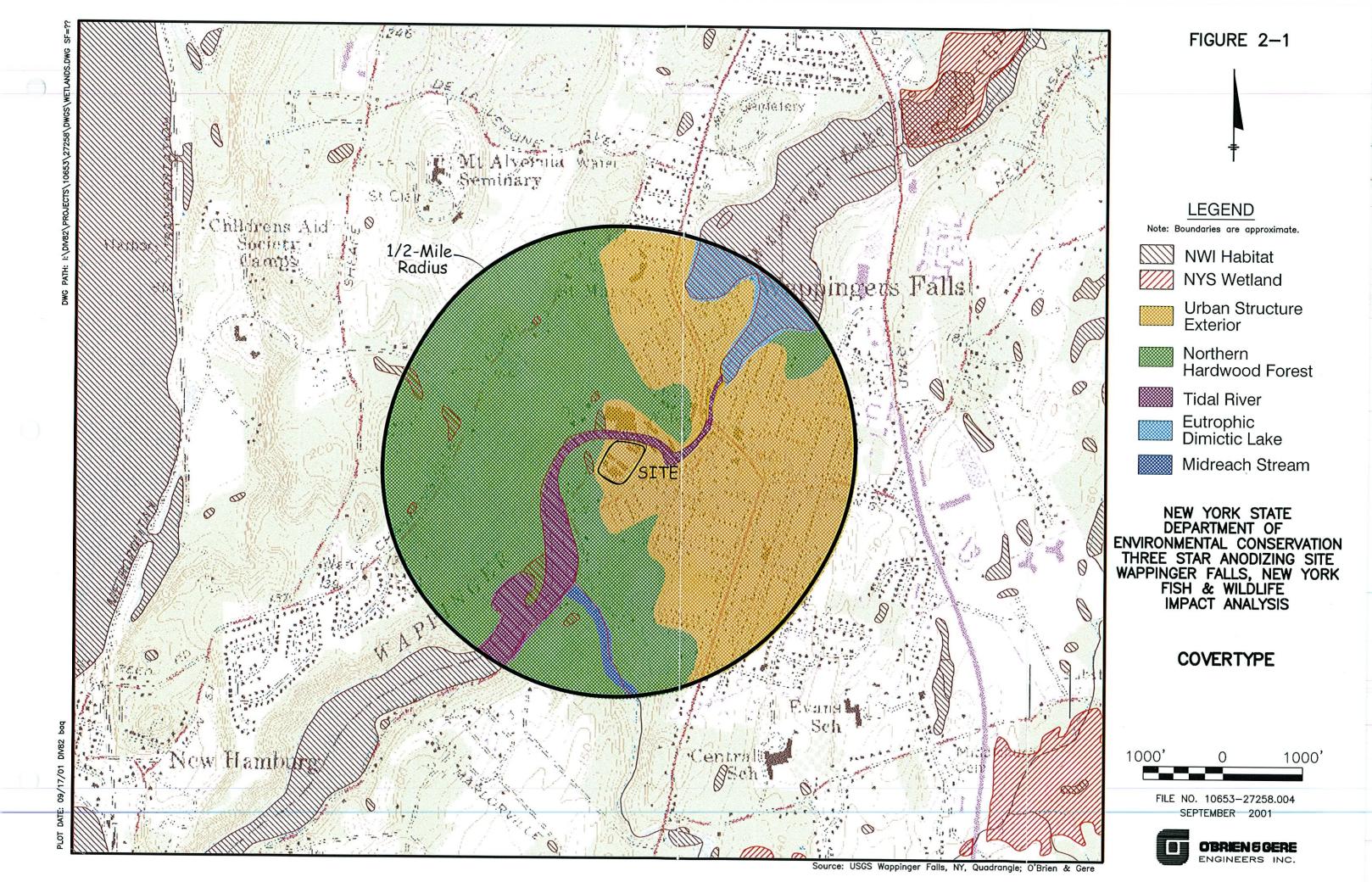


FIGURE 2-2



LEGEND



NWI Habitat



NYS Wetland



Approximate location of NYSDEC Ecological Communities and/or Rare Plants and Animals

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
THREE STAR ANODIZING SITE
WAPPINGER FALLS, NEW YORK
FISH & WILDLIFE
IMPACT ANALYSIS

DOCUMENTED NATURAL RESOURCES



FILE NO. 10653-27258.004 SEPTEMBER 2001



09/17/01 DIV82 baq

Attachment A

USFWS and NHP information request letter responses



United States Department of the Interior

FISH AND WILDLIFE SERVICE 3817 LUKER ROAD CORTLAND, NY 13045

May 31, 2001

Mr. Stephen E. Mooney Project Scientist O'Brien & Gere Engineers, Inc. P.O. Box 4873 Syracuse, NY 13221-4873

Dear Mr. Mooney:

This responds to your letter of April 16, 2001, requesting information on the presence of endangered or threatened species in the vicinity of the Three Star Anodizing Site in the City of Wappingers Falls, Dutchess County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s) as shown on the enclosed map, and:

New York State Department of Environmental Conservation New York Natural Heritage Program-Information Services 625 Broadway Albany, NY 12233 (518) 402-8935

We are not aware of any Federally designated wild, recreational, or scenic rivers at or in the vicinity of the Three Star Anodizing Site. National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or

delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
(607) 255-4864

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s) as shown on the enclosed map.

If you require additional information please contact Michael Stoll at (607) 753-9334.

Sincerely, Mark W. Clough

Acting For David A. Stilwell Field Supervisor

Enclosure

cc: NYSDEC, New Paltz, NY (Environmental Permits) NYSDEC, Albany, NY (Natural Heritage Program) COE, New York, NY

New York State Department of Environmental Conservation

Division of Fish, Wildlife & Marine Resources

Wildlife Resources Center - New York Natural Heritage Program 700 Troy-Schenectady Road, Latham, New York 12110-2400

Phone: (518) 783-3932 FAX: (518) 783-3916



May 15, 2001

Stephen E Mooney O'Brien & Gere Engineers Inc 5000 Brittonfield Pkwy, PO Box 4873 Syracuse, NY 13221

RECEIVED

MAY 13 2001

Dear Mr. Mooney:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to the proposed Remedial Investigation of the Three Star Anodizing Site, area as indicated on the map you provided, including a two-mile radius, located in the Town of Wappingers Falls, Dutchess County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered <u>sensitive</u> and may not be released to the public without permission from the New York Natural Heritage Program.

Your project site is not within or adjacent to a NYS Wildlife Management Area. Please check with local agencies and organizations for any local wildlife preserve areas.

Your project location is within, or adjacent to, a designated Significant Coastal Fish and Wildlife Habitat. This habitat is part of New York State's Coastal Management Program (CMP), which is administered by the NYS Department of State (DOS). Projects which may impact the habitat are reviewed by DOS for consistency with the CMP. For more information regarding this designated habitat and applicable consistency review requirements, please contact:

Greg Capobianco or Steven C. Resler - (518) 474-6000 NYS Department of State Division of Coastal Resources and Waterfront Revitalization 41 State Street, Albany, NY 12231

The presence of rare species may result in your project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should <u>not</u> be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Heidi J. Krahling Information Services

NY Natural Heritage Program

Encs.

cc:

Reg. 3, Wildlife Mgr.

Reg. 3, Fisheries Mgr.

Peter Nye, Endangered Species Unit, Delmar

Pat Festa, Bureau of Fisheries, Albany

PLEASE NOTE:

As of June 1, 2001, our new address will be:

NYS DEC - Information Services NY Natural Heritage Program 625 Broadway, 5th floor Albany, NY 12233-4754 (518) 402-8935

Natural Heritage Report on Rare pecies and Ecological Communities

Prepared 14 May 2001 by NY Natural Heritage Program, NYS DEC, Latham, New York

This report contains SENSITI We do not always provide maj	VE information that ps of locations of sp	: should be treate ecies most vulner	This report contains SENSITIVE information that should be treated in a sensitive manner Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps of locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.	fer to the Users' Guide for explanations of codes, ions and/or extents are not precisely known or a	, ranks, and fields. re too large to display.
* County ** Town Scientife Name, COMMON NAME, & Group Name.	NY Legal Status, He ritage Ranks, & Federal Status	EO Rank, Last Seen, & Acreage	Detailed Location	General Habitat and Quality	Page 1 Office Use
* DUTCHESS ** POUGHKEEPSIE, WAPPINGER Podilymb us po diceps PIED-BULED GREBE Bird	THREATENED G5; S3B,S1N	E 1983 0.00			4107358 ESU
** WAPPINGER, POUGHKEEFSIE ANADROMOUS FISH CONCENTRATION AREA Other	UNPROTECTED ; S3	E 1986 222.00			4107358 S
Bidens bidentoides ESTUARY BEGGAR-TICKS Vascular Plant	RARE G3, S3	D 1985-08-08 1.00			4107358 S
FRESHWATER INTERTIDAL UNPROTECTED MUDFLATS Community	UNPROTECTED G3G4; S2	BC 1988-09-07 2.00			4107358 S

pecies and Ecological Communities Natural Heritage Report on Rar.

Prepared 14 May 2001 by NY Natural Heritage Program, NYS DEC, Latham, New York

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County					Page 2
** Town Scientife Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank, Last Seen, & Acreage	Detailed Location	General Habitat and Quality	Office Use
* DUTCHESS ** WAPPINGER, POUGHKEEPSIE FRESHWATER TIDAL MARSH Community	UNPROTECTED G3G4; S2	C 1988-09-07 5.00			41 07358 S
Sagittaria calpcina var spongiosa SPONGY ARROWHEAD Vascular Plant	THREATENED GST4; S2	A 1985-08-08 11.00			41 07358 S
* DUTCHESS, ULSTER ** CITY OF POUGHKEEPSIE, POUGHKEEPSIE, HYDE PARK, ESOPUS, LLOYD, MARLBOROUGH Acipenser brevirostrum SHORTNOSE STURGEON Fish	ENDANGERED G3; S1 LE	A 1986 4,480.00			4107368 S BOF

^{*} ORANGE, ULSTER ** NEWBURGH, MARLBOROUGH

Natural Heritage Report on Rare pecies and Ecological Communities

Prepared 14 May 2001 by NY Natural Heritage Program, NYS DEC, Latham, New York

We do not always provide maps of locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display. This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields.

EO Rank, Last Seen, & Acresge Detailed Location General Habitat D 1998-01-21 and Quality 300.00 D 1998-01-21 D 1998-01-21 987.00				Page 3
D 1998-01-21 300.00 5 1998-01-21 987.00	NY Legal Status, Heritage Ranks, & Federal Status	Detailed Location	General Habitat and Quality	Orfice Use
D 1998-01-21 987.00	THREATENED G4; S2 S3B, S2 N (PS:LT, PDL)			4107358 S ESU
D 1998-01-21 987.00				
D 1998-01-21 987.00		•		
	THREATENED G4; S2S3B,S2N (PS:LT,PDL)			4107358 S ESU

New York State Breeding Bird Atlas Breeding Species for Block Number(s):

5860A, 5860B, 5860C, 5860

;	į	Breeding		New York	Heritage State Rank
Common Name	Scientific Name	Class	rear	Legal Status	State Ivania
Pied-billed Grebe	Podilymbus podiceps	五	83	Threatened	S3
Great Blue Heron	Ardea herodias	XI	85	Protected	S2
Green Heron	Butorides virescens	FY	84	Protected	SS
Mute Swan	Cygnus olor	图	84	Protected	SE
Canada Goose	Branta canadensis	巴	84	Game Species	SS
Wood Duck	Aix sponsa	FL	84	Game Species	SS
Mallard	Anas platyrhynchos	NY	80	Game Species	SS
Turkey Vulture	Cathartes aura	XI	84	Protected	S4
Broad-winged Hawk	Buteo platypterus	NY	81	Protected	S2
Red-tailed Hawk	Buteo jamaicensis	日	83	Protected	S2
American Kestrel	Falco sparverius	日	83	Protected	S5
Ring-necked Pheasant	Phasianus colchicus	D2	83	Game Species	SE
Ruffed Grouse	Bonasa umbellus	×	2 2	Game Species	S2
American Crow	Corvus brachyrhynchos	N	80	Game Species	S5
Killdeer	Charadrius vociferus	Ŋ	80	Protected	S5
Spotted Sandpiper	Actitis macularia	DD	83	Protected	S5
American Woodcock	Scolopax minor	X	84	Game Species	S2
Rock Dove	Columba livia	巴	82	Unprotected	SE
Mourning Dove	Zenaida macroura	出	82	Protected	S5
Black-billed Cuckoo	Coccyzus erythropthalmus	P2	80	Protected	S2
Yellow-billed Cuckoo	Coccyzus americanus	T2	84	Protected	S2
Eastern Screech-Owl	Otus asio	P2	84	Protected	S\$
Great Horned Owl	Bubo virginianus	P2	84	Protected	SS
Barred Owl	Strix varia	己	84	Protected	SS
Chimney Swift	Chaetura pelagica	ΝŽ	80	Protected	SS
Ruby-throated Hummingbird	Archilochus colubris	T2	84	Protected	S 2
Belted Kingfisher	Ceryle alcyon	ΝΥ	85	Protected	SS
Red-bellied Woodpecker	Melanerpes carolinus	XI	85	Protected	SS
Downy Woodpecker	Picoides pubescens	FY	84	Protected	SS
Hairy Woodpecker	Picoides villosus	FY	83	Protected	S2
Northern Flicker	Colaptes auratus	딢	85	Protected	S2
Pileated Woodpecker	Dryocopus pileatus	丑	83	Protected	S2
Eastern Wood-Pewee	Contopus virens	딮	84	Protected	S5
Least Flycatcher	Empidonax minimus	S2	84	Protected	S2
Eastern Phoebe	Sayornis phoebe	ΝŽ	84	Protected	S5
Great Crested Flycatcher	Myiarchus crimitus	T2	84	Protected	S5
Eastern Kingbird	Tyrannus tyrannus	巴	83	Protected	S 2

Note: For reports covering multiple blocks, only the record containing the most recent year for the highest level of breeding recorded for each species is shown.

Common Name	Scientific Name	Breeding Class	Year	New York Legal Status	Heritage State Rank
Tree Swallow	Tachycineta bicolor	FY	85	Protected	S5
Northern Rough-winged Swallow	Stelgidopteryx serripennis	FS	84	Protected	S5
Bank Swallow	Riparia riparia	X	85	Protected	SS
Barn Swallow	Hirundo rustica	NY	83	Protected	SS
Blue Jay	Cyanocitta cristata	FY	81	Protected	SS
Fish Crow	Corvus ossifragus	孔	85	Protected	S4
Black-capped Chickadee	Poecile atricapillus	Νχ	80	Protected	S5
Tuffed Titmouse	Baeolophus bicolor	FY	83	Protected	S2
White-breasted Nuthatch	Sitta carolinensis	王	85	Protected	S5
Brown Creeper	Certhia americana	XI	85	Protected	S2
Carolina Wren	Thryothorus ludovicianus	岩	80	Protected	S2
House Wren	Troglodytes aedon	χχ	80	Protected	S2
Blue-gray Gnatcatcher	Polioptila caerulea	FY	84	Protected	SS
Eastern Bluebird	Sialia sialis	P2	84	Protected	SS
Veerv	Catharus fuscescens	五	84	Protected	SS
Wood Thrush	Hylocichla mustelina	ΝΥ	80	Protected	SS
American Robin	Turdus migratorius	ΝΥ	83	Protected	SS
Grav Catbird	Dumetella carolinensis	巴	82	Protected	SS
Northern Mockingbird	Mimus polyglottos	巴	80	Protected	SS
Brown Thrasher	Toxostoma rufum	FY	84	Protected	SS
Cedar Waxwing	Bombycilla cedrorum	FY	84	Protected	SS
European Starling	Sturmus vulgaris	NY	82	Unprotected	SE
White-eved Vireo	Vireo griseus	X1	84	Protected	S4
Warbling Vireo	Vireo gilvus	Ŧ	83	Protected	S2
Red-eyed Vireo	Vireo olivaceus	巴	80	Protected	SS
Blue-winged Warbler	Vermivora pinus	FY	85	Protected	S2
Yellow Warbler	Dendroica petechia	FY	83	Protected	S 5
Chestnut-sided Warbler	Dendroica pensylvanica	T2	84	Protected	S5
Prairie Warbler	Dendroica discolor	FY	84	Protected	S2
Black-and-white Warbler	Mniotilta varia	T2	84	Protected	S5
American Redstart	Setophaga ruticilla	FY	84	Protected	S5
Worm-eating Warbler	Helmitheros vermivorus	S2	84	Protected	S4
Ovenbird	Seiurus aurocapillus	FY	83	Protected	S5
Louisiana Waterthrush	Seiurus motacilla	S2	84	Protected	S5
Common Yellowthroat	Geothlypis trichas	NY	84	Protected	S5
Scarlet Tanager	Piranga olivacea	FY	83	Protected	S5
Northern Cardinal	Cardinalis cardinalis	ΝΥ	84	Protected	S5
Rose-breasted Grosbeak	Pheucticus Iudovicianus	五	85	Protected	S5
Indigo Bunting	Passerina cyanea	NY	80	Protected	S5
Eastern Towhee	Pipilo erythrophthalmus	日	84	Protected	SS :
Chipping Sparrow	Spizella passerina	FY	82	Protected	SS
Field Sparrow	Spizella pusilla	出	84	Protected	S

		Breeding		New York	Heritage
Common Name	Scientific Name	Class	Year	<u>Legal Status</u>	State Rank
Song Sparrow	Melospiza melodia	NE	80	Protected	S5
Swamp Sparrow	Melospiza georgiana	民	83	Protected	SS
Red-winged Blackbird	Agelaius phoeniceus	别	82	Protected	SS
Common Grackle	Quiscalus quiscula	FY	85	Protected	SS
Brown-headed Cowbird	Molothrus ater	贸	83	Protected	SS
Baltimore Oriole	Icterus galbula	Νχ	84	Protected	SS
House Finch	Carpodacus mexicanus	NY	83	Protected	SE
American Goldfinch	Carduelis tristis	B2	8	Protected	SS
House Sparrow	Passer domesticus	Ŋ	83	Unprotected	SE

Total Species 88

NEW YORK STATE - BREEDING BIRD ATLAS REPORT

The enclosed data from the New York State Breeding Bird Atlas represents a cumulative effort from 1980-1985. These data are the result of on-site surveys within each block conducted by numerous volunteers. The intensity level and effort in data collecting varies throughout the State. Some blocks have been more thoroughly searched than others. For these reasons, we cannot provide a definitive statement concerning the absence of a breeding record for a species not listed in a block. We can only provide a listing of species known to be breeding or suspected of breeding in each block or set of blocks.

For each species listed, its breeding class code and year, its New York State Legal Status, and its Natural Heritage Program state rarity rank are provided. Explanations of these fields are as follows:

BREEDING CLASS AND YEAR

Indicates the highest class of evidence used to document breeding in that block or set of blocks during the course of the Breeding Bird Atlas Survey, and the year this evidence was recorded. Breeding classes used, and their codes, are listed below, in descending order of breeding confirmation, from strongest evidence of confirmed breeding down to evidence of possible breeding.

Confirmed Breeding:	CODE	DEFINITION OF BREEDING EVIDENCE
C	NY	Nest with young.
	NE	Identifiable nest and eggs, bird sitting on nest or eggs,
		identifiable eggshells found beneath nest, or identifiable dead
		nestling(s).
	FY	Adult(s) with food for young.
	FS	Adult carrying fecal sac.
	ON	Adult(s) entering or leaving nest site in circumstances
		indicating occupied nest.
	FL	Recently fledged young (including downy young of
	Taxo.	precocial species - waterfowl, shorebirds)
	FE	Female with egg in the oviduct.
	UN	Used nest found.
	DD	Distraction display or injury-feigning.
Probable Breeding:		
	B2	Nest building or excavation or a nest hole.
	N2	Visiting probable nest site. Nest building by wrens and
	Da	woodpeckers.
	D2	Courtship and display, agitated behavior or anxiety
		calls from adults suggesting probable presence
		nearby of a nest or young; well-developed broad-
	TPA	patch or cloacal protuberance on trapped adult
	T2	Bird (or pair) apparently holding territory.
	S2	Singing male present (or breeding calls heard) on
	D2	more than one date in the same place.
	P2	Pair observed in suitable habitat in breeding season.
		Continued on next page

X1

Species observed in possible nesting habitat but no other indication of breeding noted, or singing male(s) present (or breeding calls heard), in breeding season (based upon one visit).

NEW YORK STATE LEGAL STATUS - ANIMALS

Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

- E = Endangered Species: any species which meet one of the following criteria:
 - 1) Any native species in imminent danger of extirpation
 - 2) Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.
- T = Threatened Species: any species which meet one of the following criteria:
 - 1) Any native species likely to become an endangered species within the foreseeable future in New York.
 - 2) Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.
- SC = Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).
- P = Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.
- U = Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a licence to take may be required.
- G = Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NY NATURAL HERITAGE PROGRAM STATE RARITY RANKS:

Each species has a state rank, which reflects its rarity within New York State, as determined by the NY Natural Heritage Program. These ranks carry no legal weight.

- S1 = Typically 5 or fewer occurrences in New York State, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
- S2 = Typically 6 to 20 occurrences in New York State, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
- S3 = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
- S4 = Apparently secure in New York State.
- S5 = Demonstrably secure in New York State.
- SH = Historically known from New York State, but not seen in the past 15 years.
- SX = Apparently extirpated from New York State.
- SE = Exotic, not native to New York State
- NR = Not ranked (e.g., hybrids)

Questions concerning these data may be addressed to:

New York Natural Heritage Program
NYS DEC - Wildlife Resources Center
700 Troy-Schenectady Road
Latham, New York 12110-2400

Copies of the published book "The Atlas of Breeding Birds in New York State", Robert F. Andrle and Janet R. Carroll, Editors, may be purchased directly from Cornell University Press. Call phone number 1-800-666-2211 to order.

BaP Equivalents Benzo[g,h,i]perylene Dibenz[a,h]anthracene cq]b\u00e4ue -£,2,1]onebn1 Benzo(a)pyrene Benzo[b]fluoranthene Benzo[k]tluoranthene Chrysene Benzo[a]anthracene Pyrene Fluoranthene Phenanthrene Anthracene Total PAHs = 1092 mg/kg Fluorene Acenaphthene Acenaphthylene 2-Methylnaphthalene Naphthalene 25% 15% 2% % Weight Percent of Total PAHs

(3.**2.3**

WP-29, 12-18 inches May 9, 2001

APPENDIX J

Qualitative Human Health Risk Assessment Report (not included with the draft Creek RI report)

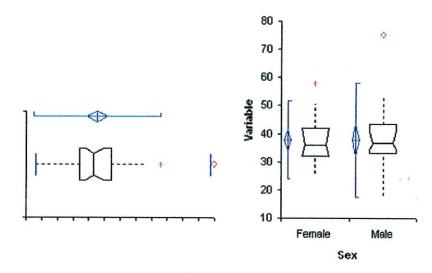
APPENDIX K

Box plot evaluations of spatial trends

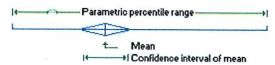
Box-Whisker plots

See also: Normality Test, Frequency histogram.

Box-plots graphically show the **central location** and **scatter/dispersion** of the observations of a sample(s). Single <u>continuous descriptives</u> shows a single horizontal box-plot for the sample. <u>Comparative descriptives</u> shows vertical box-plots for each sample, side-by-side for comparison.

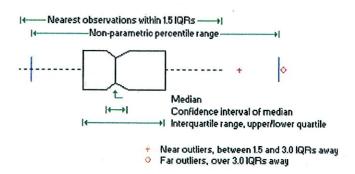


The blue line series shows parametric statistics:



- the blue diamond shows the mean and the requested confidence interval around the mean.
- the blue notched lines show the requested parametric percentile range.

The notched box and whiskers show **non-parametric statistics**:



- the notched box shows the median, lower and upper quartiles, and confidence interval around the median.
- the dotted-line connects the nearest observations within 1.5 IQRs (inter-quartile ranges) of the lower and upper quartiles.
- red crosses (+) and circles (o) indicate possible outliers observations more than 1.5 IQRs (near outliers) and 3.0 IQRs (far outliers) from the quartiles.
- the blue vertical lines show the requested non-parametric percentile range.

Spatial trend analysis: Surface sediment

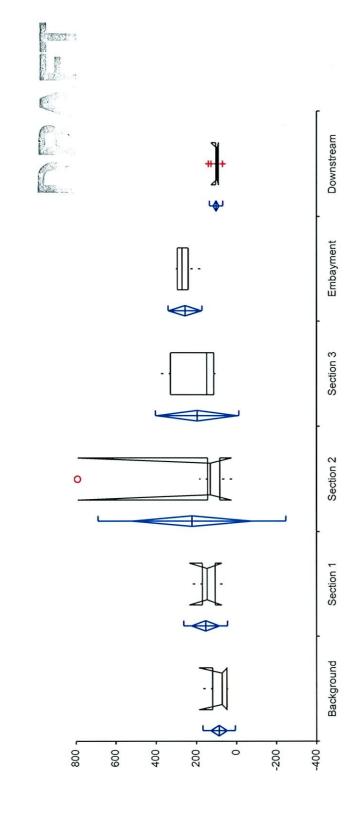
Spatial trend analysis: Surface sediment Statistical analyses

Spatial trend analysis:

Deeper sediment

Statistical analyses

5 November 2003 Date Omparison of lead concentrations in surface sediment Lead: Background, Section 1, Section 2, Section 3, Embayment, Downstream Test | Omparative descriptives Variables Performed by



000	2	Mean	CS.	T C	95% Cl of Mean	Median	NO.	95% Cl of Median
Background	: ~	8	49	17	46 to 128	73	71	46 to 187
Section 1		6 153	99	27	84 to 223	147	65	73 to 235
Section 2		6 220	284	116	-78 to 519	130	61	24 to 790
Section 3	,	194	126	63	-6.1 to 395	148	216	- to -
Embayment	•	4 254	51	26	172 to 336	269	54	- to -
Downstream	7	66 0	20	6.4	85 to 114	95	13	86 to 125

Page 1 of 1

10 November 2003

Date

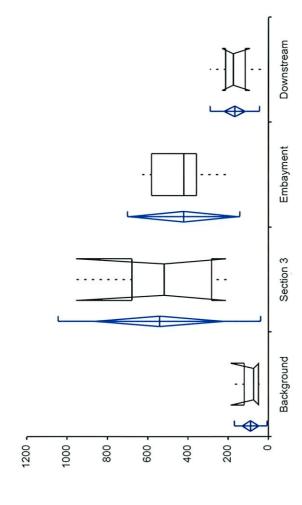
Performed by

Test Omparative descriptives

Omparison of lead concentrations in deeper sediment

Variables Lead: Background, Section 3, Embayment, Downstream





17 46 to 128 73 71 125 220 to 862 518 397 85 150 to 691 420 224 24 113 to 219 174 98	Lead	_	Mean	SD	SE	95% Cl of Mean	Median	IOR	95% CI of Median
306 125 220 to 862 518 397 237 170 85 150 to 691 420 224 75 24 113 to 219 174 98	Background	8	87	49	17	46 to 128	73	71	46 to 187
170 85 150 to 691 420 224 75 24 113 to 219 174 98	Section 3	9	541	306	125	220 to 862	518	397	210 to 955
75 24 113 to 219 174 98	Embayment	4	421	170	85	150 to 691	420	224	- to -
	Downstream	10	166	75	24	113 to 219	174	86	91 to 230

5 November 2003

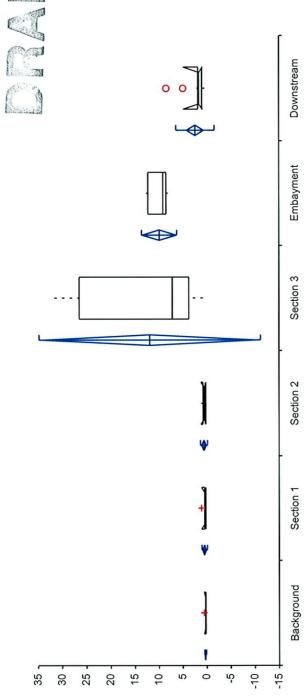
Date

Test | Omparative descriptives

Performed by

Comparison of mercury concentrations in surface sediment

Variables Mercury: Background, Section 1, Section 2, Section 3, Embayment, Downstream



,								
Mercury	c	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background	∞	0.30	0.13	0.04	0.19 to 0.40	0.30	0.13	0.18 to 0.57
Section 1	9	0.45	0.35	0.14	0.09 to 0.82	0.39	0.25	0.15 to 1.1
Section 2	9	0.54	0.45	0.18	0.07 to 1.0	0.45	0.60	0.15 to 1.2
Section 3	4	12	4	7.0	-10 to 34	7.1	23	- to -
Embayment	4	9.8	2.2	1.1	6.2 to 13	0.6	3.7	- to -
Downstream	10	2.3	2.4	0.77	0.57 to 4.0	1.6	0.82	0.77 to 4.8

Page 1 of 1

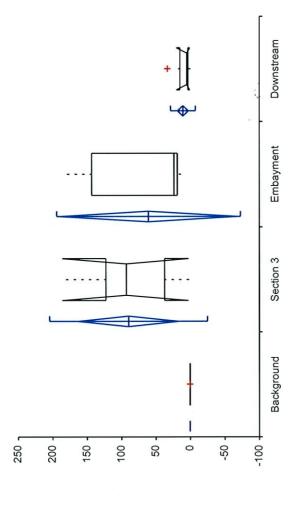
Test | Omparative descriptives | Omparison of mercury concentrations in deeper sediment ables | Mercury: Background, Section 3, Embayment, Downstream

Variables Performed by

10 November 2003

Date





Mercury	-	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background	œ	0:30	0.13	0.04	0.19 to 0.40	0.30	0.13	0.18 to 0.57
Section 3	9	06	70	28	17 to 163	93	98	2.4 to 186
Embayment	4	61	81	41	-68 to 190	24	125	- to -
Downstream	10	10	7	3.4	2.5 to 18	8.4	12	0.4 to 20

5 November 2003

Date

Omparison of zinc concentrations in surface sediment Anc: Background, Section 1, Section 2, Section 3, Embayment, Downstream Test | Omparative descriptives Variables

Performed by

Downstream Embayment Section 3 Section 2 Section 1 Background Ψı ر 2500 -500 2000 1000 200 1500

Zinc	E	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background		8 225	61	21	174 to 275	223	35	162 to 359
Section 1		6 199	74	30	121 to 277	203	52	78 to 285
Section 2		6 247	92	37	151 to 344	269	58	74 to 325
Section 3		4 1004	699	335	-62 to 2069	784	1029	- to -
Embayment		4 555	123	62	359 to 751	497	189	- to -
Downstream	_	10 320	•	39	231 to 409	268	28	238 to 470
		-				Toronto de como		

10 November 2003

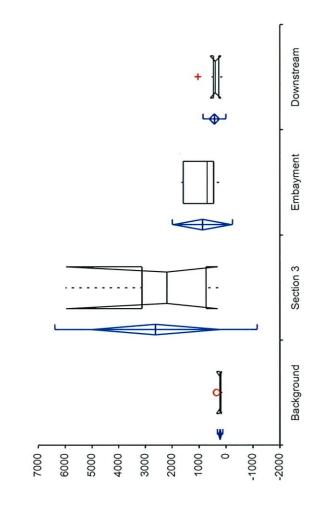
Date

Test Omparative descriptives

Omparison of zinc concentrations in deeper sediment

Variables Anc: Background, Section 3, Embayment, Downstream





Zinc	c	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background	8	225	61	21	174 to 275	223	35	162 to 359
Section 3	9	2616	2291	935	212 to 5021	2195	2378	307 to 5955
Embayment	4	874	629	339	-206 to 1955	701	1132	- to -
Downstream	10	429	260	82	243 to 615	398	200	179 to 588

5 November 2003 Date Test | Omparative descriptives | Omparison of antimony concentrations in surface sediment | Omparison of antimony section 1, Section 2, Section 3, Embayment, Downstream | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omparables | Omp 200 م 0 150 100 20 -20

n Mean SD SE 95% Cl of Mean Median IQR 1 8 0.98 0.52 0.18 0.5 to 1.4 0.75 0.88 6 1.0 0.69 0.28 0.3 to 1.7 0.77 0.43 6 3.0 4.9 2 -2.1 to 8.1 1.3 1.0 7 4 45 76 38 -77 to 166 9.2 118 1 4 3.6 3.2 1.6 -1.5 to 8.6 3.2 5.8 1 4.7 1.2 3.9 -4.2 to 14 0.80 0.10	•				1				
8 0.98 0.52 0.18 0.5 to 1.4 0.75 0.88 6 1.0 0.69 0.28 0.3 to 1.7 0.77 0.43 6 3.0 4.9 2 -2.1 to 8.1 1.3 1.0 1 4 45 76 38 -77 to 166 9.2 118 1 4 3.6 3.2 1.6 -1.5 to 8.6 3.2 5.8 10 4.7 12 3.9 -4.2 to 14 0.80 0.10	Antimony	c	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
6 1.0 0.69 0.28 0.3 to 1.7 0.77 0.43 6 3.0 4.9 2 -2.1 to 8.1 1.3 1.0 4 45 76 38 -77 to 166 9.2 118 4 3.6 3.2 1.6 -1.5 to 8.6 3.2 5.8 10 4.7 12 3.9 -4.2 to 14 0.80 0.10	Background	80	0.98	0.52	0.18	0.5 to 1.4	0.75	0.88	0.55 to 1.9
6 3.0 4.9 2 -2.1 to 8.1 1.3 1.0 4 45 76 38 -77 to 166 9.2 118 4 3.6 3.2 1.6 -1.5 to 8.6 3.2 5.8 10 4.7 12 3.9 -4.2 to 14 0.80 0.10	Section 1	9	1.0	0.69	0.28	0.3 to 1.7	0.77	0.43	0.51 to 2.3
3 4 45 76 38 -77 to 166 9.2 118 1 4 3.6 3.2 1.6 -1.5 to 8.6 3.2 5.8 1 4.7 12 3.9 -4.2 to 14 0.80 0.10	Section 2	9	3.0	4.9	2	-2.1 to 8.1	1.3	1.0	0.20 to 13
3.2 1.6 -1.5 to 8.6 3.2 5.8 12 3.9 -4.2 to 14 0.80 0.10	Section 3	4	45	92	38	-77 to 166	9.2	118	- to -
3.9 -4.2 to 14 0.80 0.10	Embayment	4	3.6	3.2	1.6	-1.5 to 8.6	3.2	5.8	- to -
	Downstream	10	4.7	12	3.9	-4.2 to 14	0.80	0.10	0.70 to 0.80

Downstream

Embayment

Section 3

Section 2

Section 1

Background

-100

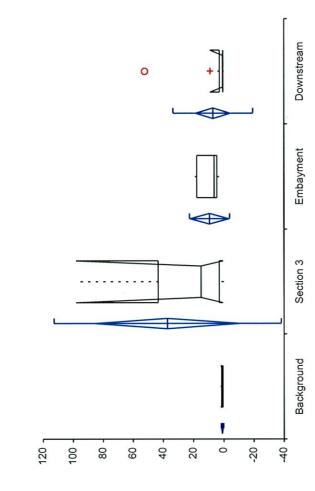
Page 1 of 1

Test Omparative descriptives

Omparison of antimony concentrations in deeper sediment

Variables Antimony: Background, Section 3, Embayment, Downstream

10 November 2003 Date



Antimony	_	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background	8	1.0	0.52	0.18	0.55 to 1.4	0.75	0.88	0.55 to 1.9
Section 3	9	37.2	46	19	-11 to 85	15	40	0.33 to 98
Embayment	4	9.2	8.1	4.0	-3.6 to 22	6.3	13	- to -
Downstream	10	7.0	16	5.1	-4.5 to 18	9.0	2.3	0.40 to 8.9

Test Omparative descriptives

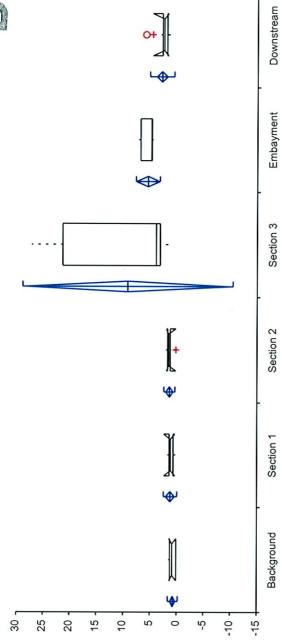
Omparison of cadmium concentrations in surface sediment

Variables Oadmium: Background, Section 1, Section 2, Section 3, Embayment, Downstream

Performed by

5 November 2003

Date



Cadmium	L	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background	8	0.7	0.56	0.20	0.27 to 1.2	0.87	1.2	0.10 to 1.4
Section 1	9	1.2	0.76	0.31	0.41 to 2.0	1.2	0.75	0.34 to 2.4
Section 2	9	1.4	0.63	0.26	0.71 to 2.0	1.6	0.48	0.20 to 1.9
Section 3	4	9.5	12	5.97	-9.9 to 28	3.9	18	- to -
Embayment	4	5.4	1.4	0.68	3.2 to 7.6	4.8	2.1	- to -
Downstream	10	2.8	4.1	0.44	1.8 to 3.8	2.5	0.88	1.7 to 4.6

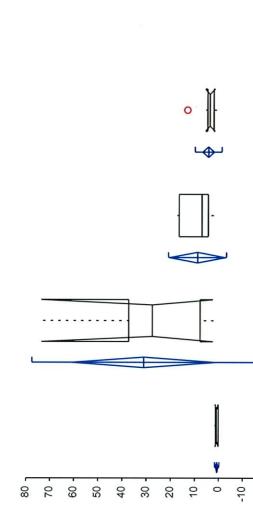
Test | Omparative descriptives

Omparison of cadmium concentrations in deeper sediment

Variables | Odmium: Background, Section 3, Embayment, Downstream

Performed by

10 November 2003 Date



dmium ground ction 3	c ∞ 0 4	Mean 0.74 31 8.8	SD 0.56 28 7.3	0.20 12 3.7	95% Cl of Mean 0.27 to 1.2 1.4 to 61 -2.8 to 20	Median 0.87 28 7.0	1.2 30 12	95% CI of Median 0.10 to 1.4 2.3 to 74 - to -
Ε	10	4.3	3.4		1.8 to 6.8	3.7	2.7	1.5 to 5.6

Downstream

Embayment

Section 3

Background

-20

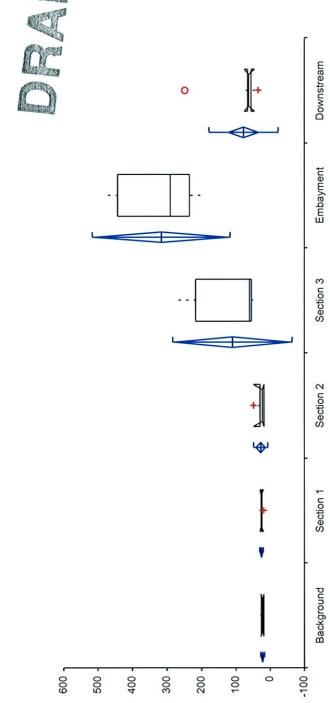
5 November 2003

Date

Test | Omparative descriptives

| Omparison of chromium concentrations in surface sediment Variables | Orromium: Background, Section 1, Section 2, Section 3, Embayment, Downstream

Performed by



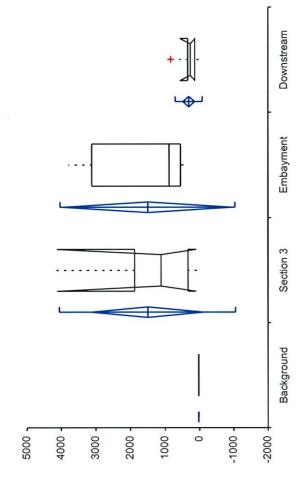
-	-	-	-					
Chromium	c	Mean	SD	SE	95% CI of Mean	Median	IQK	95% CI of Median
Background	8	22	3.6	1.3	19 to 25	21.500	7.1	18 to 27
Section 1	9	25	3.4	1.4	21 to 28	25.500	2.5	19 to 29
Section 2	9	27	12	5.1	14 to 40	22.3	12	17 to 48
Section 3	4	109	105	53	-59 to 277	29.500	163	- to -
Embayment	4	315	122	61	122 to 509	289.500	208	- to -
Downstream	10	77	61	19	33 to 120	61.500	1	44 to 74

Page 1 of 1

Test | Omparative descriptives | Omparison of chromium concentrations in deeper sediment ables | Oromium: Background, Section 3, Embayment, Downstream

Variables Performed by

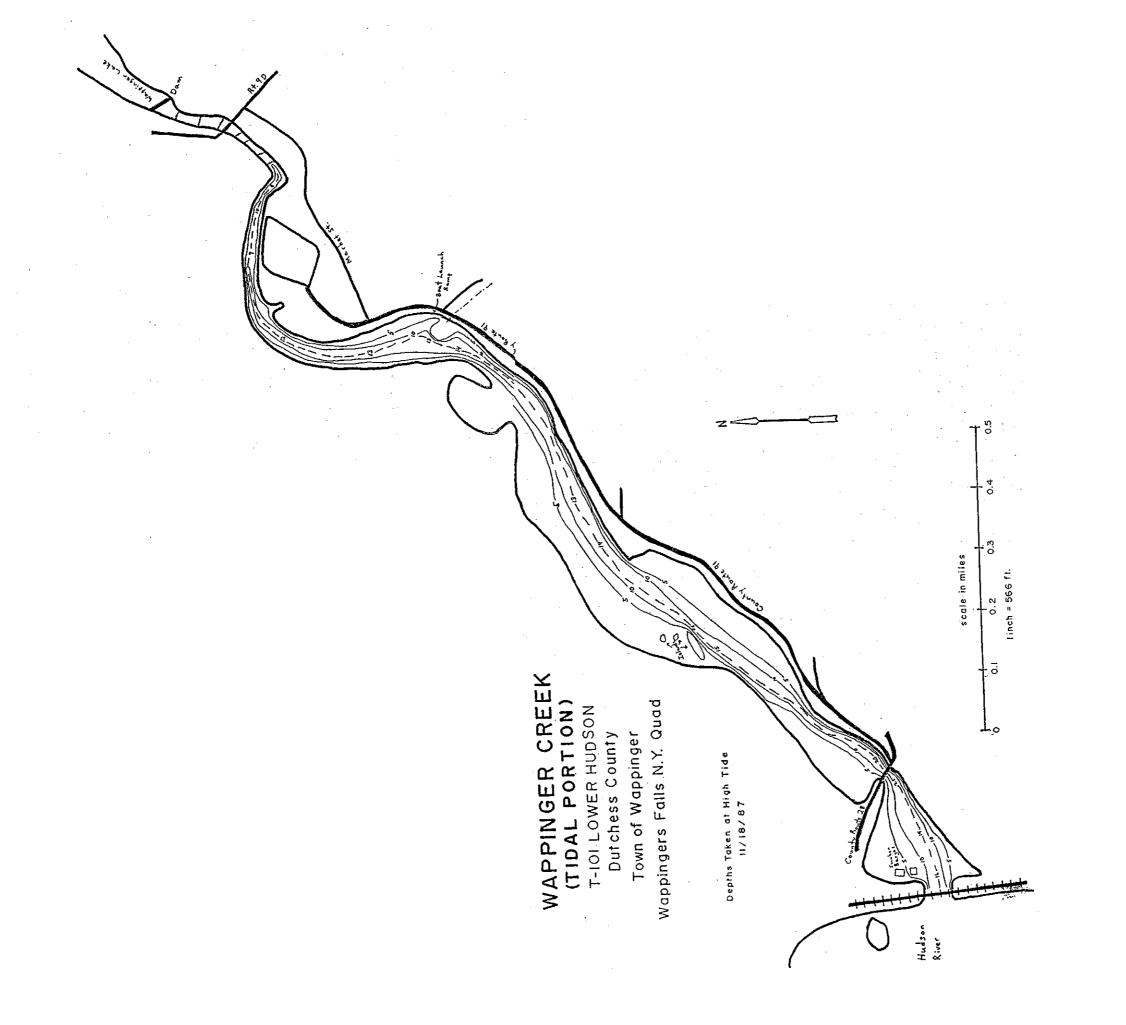
10 November 2003 Date



Chromium	_	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background	8	22	3.6	1.3	19 to 25	22	7.1	18 to 27
Section 3	9	1498	1551	633	-130 to 3126	1114	1546	89 to 4120
Embayment	4	1495	1541	771	-958 to 3947	872	2564	- to -
Downstream	10	300	239	9/	129 to 471	258	200	115 to 566

EXHIBIT A

Bathymetric map of Wappingers Creek



Source:

Map obtained from New York State Department of Environmental Conservation, Division of Fish, Wildlife, and Marine Resources.

EXHIBIT B

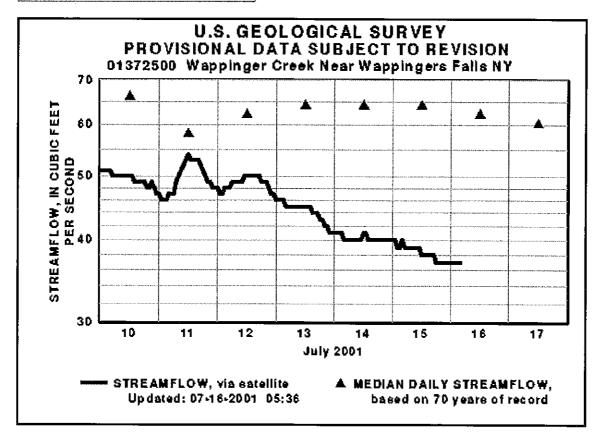
Wappingers Creek flow data, Hudson River tide data

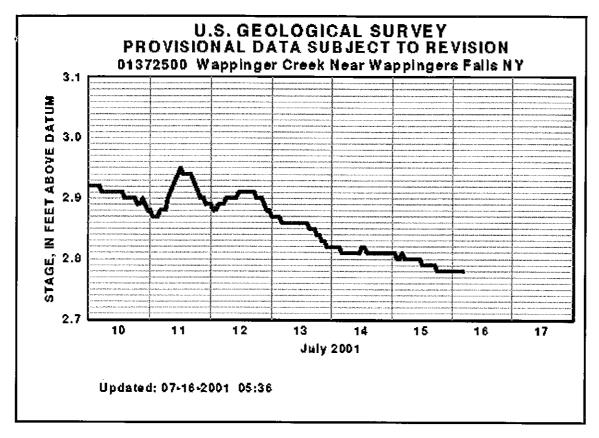


PROVISIONAL DATA SUBJECT TO REVISION

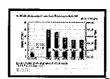
01372500-- Wappinger Creek Near Wappingers Falls NY

 Lat	est Condit	ions	
 Flow (ft ³ /s)	Stage (ft)	Date Tim	e
 37	2.8	07/16 04:4	5





Additional sensor graph(s) available (click on graph or sensor name)



- Recorded Peak Stages
- Download provisional data
- Retrieve historical daily value data
- Retrieve historical peak flow data
- Map of region surrounding station

	Daily Mean	Discharg	ge Statistics fo	r 07/16 based (on 70 years of r	ecord, in (ft³/s)
Latest flow 07/16 04:45		Mean	Maximum	80 percent exceedance	50 percent exceedance	20 percent exceedance
37	9.2	127	1,860	24	62	133
1	Percent excee flows for	dance mo · 07/16 h	eans that 80, 5 ave been great	0, or 20 percen er than the the	t of all daily me value shown,	ean

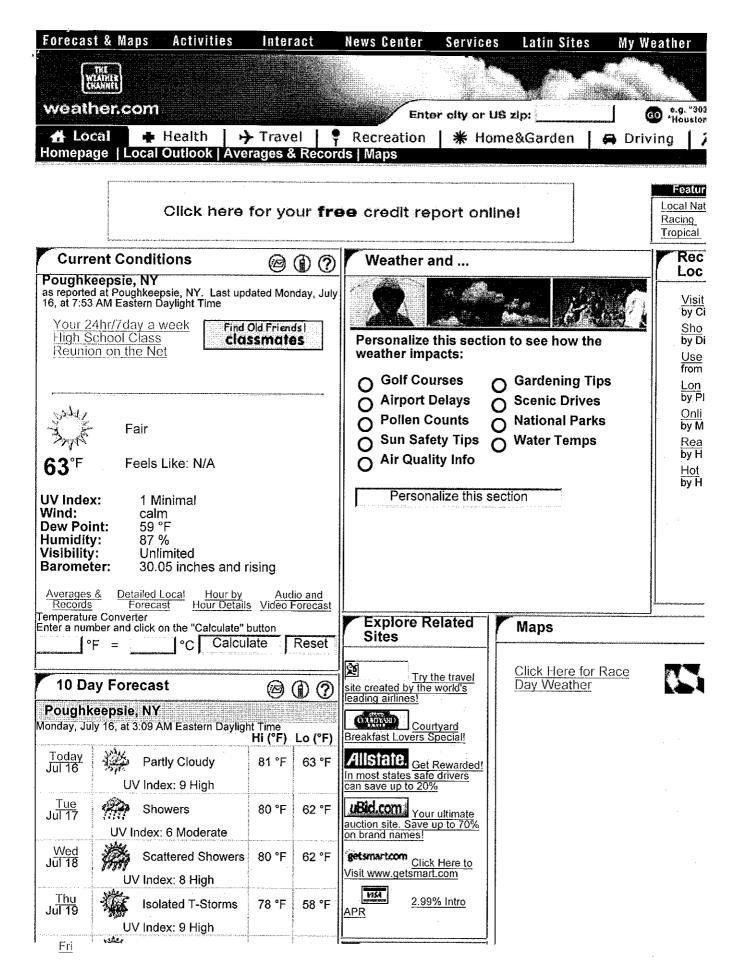
	Flood Thresholds
	Flow (ft ³ /s) Stage (ft)
:	8.0

Return to Water Resources of New York Home page

Please direct questions or comments to $\underline{<GS-W-NYalb_Webmaster@usgs.gov>}$ or contact:

Information Specialist U.S. Geological Survey 425 Jordan Rd. Troy, NY 12180 Tel. 518/285-5602

rt_www -- (rev 1.1)



Fri Jul 20	Isolated T-Storms	81 °F	59 °F
) 	UV Index: 8 High		
Sat Jul 21	Partly Cloudy	82 °F	62 °F
	UV Index: 9 High		
Sun Jul 22	Partly Cloudy	82 °F	60 °F
	UV Index: 9 High		
Mon Jul 23	Partly Cloudy	84 °F	61 °F
	UV Index: 9 High		
Tue Jul 24	Partly Cloudy	82 °F	63 °F
	UV Index: 9 High		
Wed Jul 25	Partly Cloudy	82 °F	60 °F
	UV Index: 9 High		



In The Spotlight

Local Linker

New York

Local Ski Resorts
Check New York Flu Conditions
Check La Guardia Flight Arrivals

New Jersey Check N.J. Flu Conditions Check Newark Flight Arrivals Newark Pollen

Connecticut

Bradley Intl. Flight Arrivals
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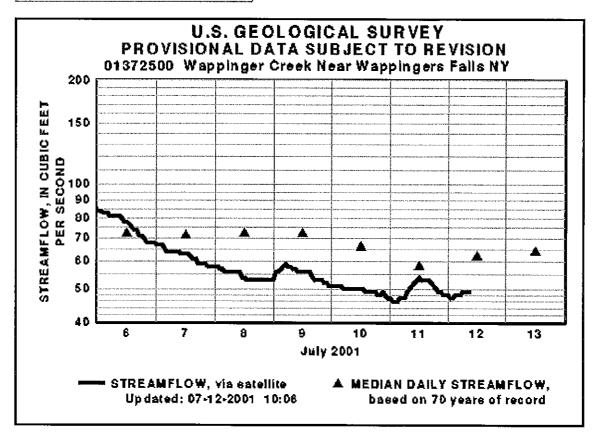
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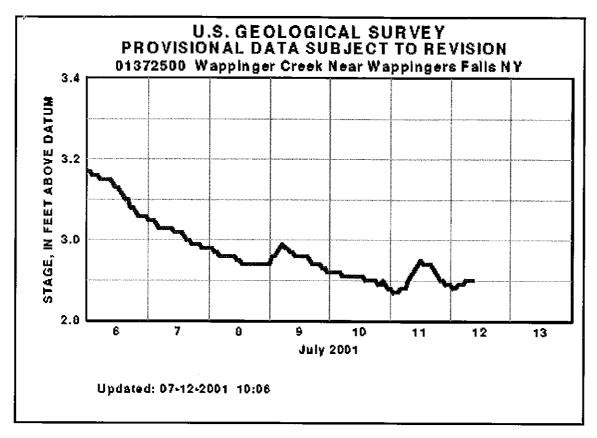


PROVISIONAL DATA SUBJECT TO REVISION

01372500-- Wappinger Creek Near Wappingers Falls NY

Lat	est Condit	ions
Flow (ft ³ /s)	Stage (ft)	Date Time
49	2.9	07/12 09:15





Additional sensor graph(s) available (click on graph or sensor name)



Recorded Peak Stages

- Download provisional data
- Retrieve historical daily value data
- Retrieve historical peak flow data
- Map of region surrounding station

	Daily Mean	Discharg	ge Statistics fo	r 07/12 based o	on 70 years of r	ecord, in (ft³/s)
Latest flow 07/12 09:15	Minimum	Mean	Maximum	80 percent exceedance	50 percent exceedance	20 percent exceedance
49	12	79	291	29	62	124
1	Percent exceed flows for	dance m 07/12 h	eans that 80, 5 ave been great	0, or 20 percenter than the the	t of all daily me value shown.	ean

Flood The	esholds
Flow (ft ³ /s)	Stage (ft)
	8.0



Water Resources

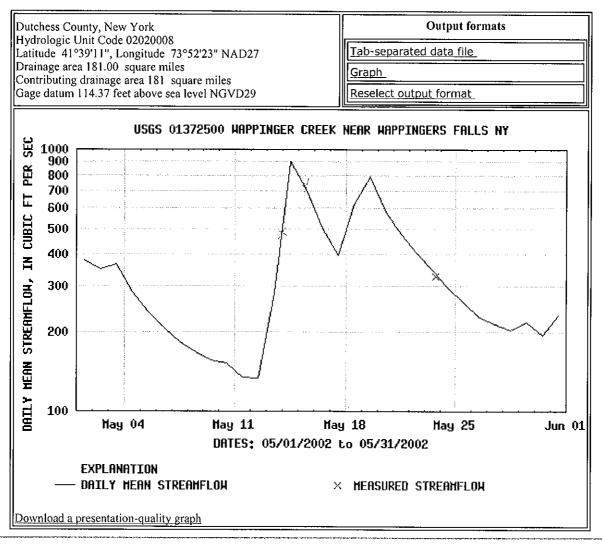
Data Category:	Geographic Area:	
Surface Water 🔀	New York	GO

Daily Streamflow for New York

ALL DATA ARE EASTERN STANDARD TIME

USGS 01372500 WAPPINGER CREEK NEAR WAPPINGERS FALLS NY

Available data for this site | Surface-water: Daily streamflow GO



Questions about data gs-w-ny NWISWeb Data Inquiries@usgs.gov Feedback on this website gs-w-ny NWISWeb Maintainer@usgs.gov Surface Water for New York: Daily Streamflow

Top Explanation of terms

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http://waterdata.usgs.gov/ny/nwis/discharge?



Water Resources

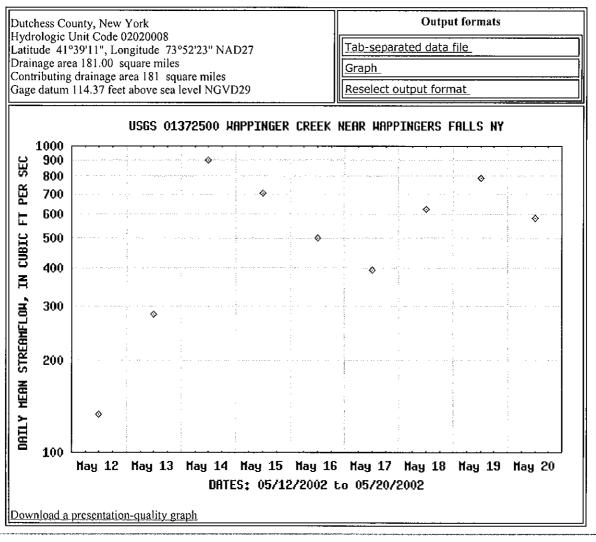
Data Category:		Geographic Area:		**************************************
Surface Water	×	New York	100	GO
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Daily Streamflow for New York

ALL DATA ARE EASTERN STANDARD TIME

USGS 01372500 WAPPINGER CREEK NEAR WAPPINGERS FALLS NY

Available data for this site Surface-water: Daily streamflow GO



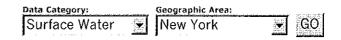
Questions about data gs-w-ny_NWISWeb_Data_Inquiries@usgs.gov
Feedback on this website gs-w-ny_NWISWeb_Maintaincr@usgs.gov
Surface Water for New York: Daily Streamflow
http://waterdata.usgs.gov/ny/nwis/discharge?

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1.4 1.34 nadww01



Water Resources

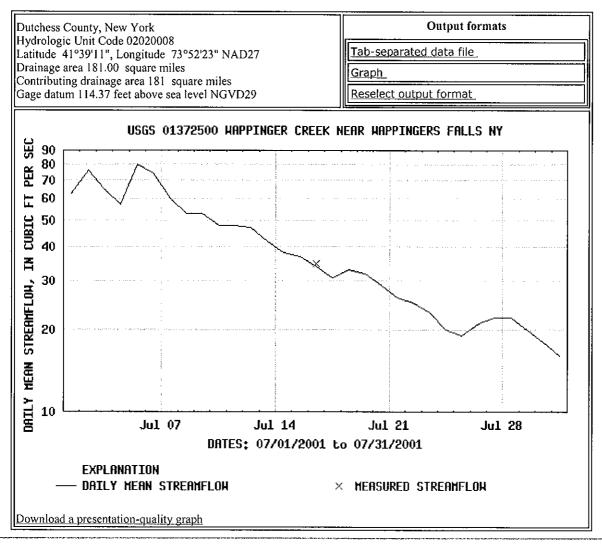


Daily Streamflow for New York

ALL DATA ARE EASTERN STANDARD TIME

USGS 01372500 WAPPINGER CREEK NEAR WAPPINGERS FALLS NY

Available data for this site | Surface-water: Daily streamflow GO Υ



Questions about data Feedback on this website gs-w-ny_NWISWeb_Data_Inquiries@usgs.gov

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Surface Water for New York: Daily Streamflow http://waterdata.usgs.gov/ny/nwis/discharge?

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WWW Tide and Current Predictor

Web interface by <u>Dean Pentcheff</u>.

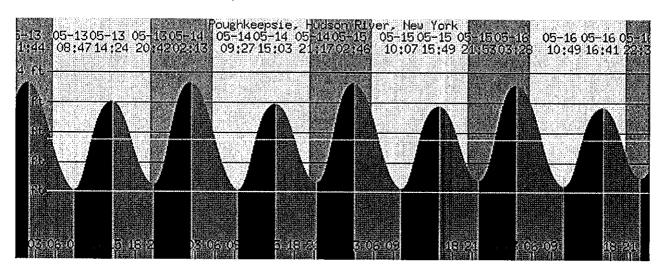
Calculations and graphics by <u>David Flater</u>'s <u>XTide Program</u>.

(<u>Pick a different site</u> | <u>Frequently Asked Questions</u>)

NOT FOR NAVIGATION. This program is furnished in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of merchantability or fitness for a particular purpose. Do not use this program as a basis for any decisions that could result in harm to people, other organisms, or property. Check these predictions against officially sanctioned tables. Agencies like NOAA exist because there is a need for certifiably correct tide predictions. Do not rely on these predictions if you need guaranteed results. There is NO WAY we can get certified data on a zero budget. We rely on users like you to tell us when something is wrong. Please continue to do so. Remember that weather conditions affect tidal ranges and current speeds, sometimes very strongly.

Poughkeepsie, Hudson River, New York

13 May 2002 - 16 May 2002



If present, horizontal lines mark mean sea level and datum (usually mean lower low water). Colors under the curve indicate rising and falling tide (not ebb and flood currents).

Make Prediction Using Options

Prediction Options

Select a different site

Select display type

- O Tabular List (quickest)
- Text Plot (Plot Type: Horizontal Vertical) (more plot options below)
- (a) Graphic Plot: size 640 by 240 pixels (more plot options below)
- One-Month Calendar (Type: © Compact O Compact+ O Calendar O Text)
- © Extreme Highest and Lowest Tides Only

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	k colors for color el Colors: Elements: Text Color	ements ((graphica white	l plot only yellow	y): red	skyblue	skyblue	_	
	Colors for color el Colors: Elements: Text Color Datum Line Color	ements (graphica white	l plot only yellow	y): red	skyblue	skyblue		
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WWW Tide/Current Predictor: http://tbone.biol.sc.edu/tide

Dean Pentcheff, < dean2@biol.sc.edu>

Biological Sciences, University of South Carolina, Columbia SC 29208 USA

WWW Tide and Current Predictor

Web interface by <u>Dean Pentcheff</u>.

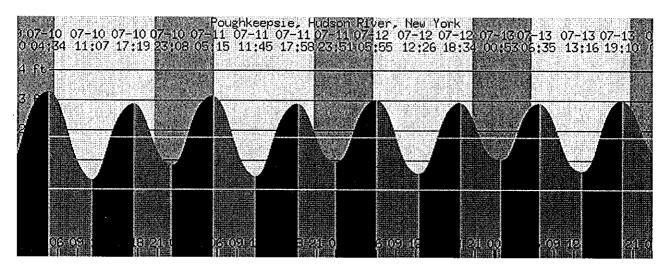
Calculations and graphics by <u>David Flater's XTide Program</u>.

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Poughkeepsie, Hudson River, New York

10 July 2001 - 13 July 2001



If present, horizontal lines mark mean sea level and datum (usually mean lower low water). Colors under the curve indicate rising and falling tide (not ebb and flood currents).

Make Prediction Using Options

Prediction Options

Select a different site

Select display type

- O Tabular List (quickest)
- Text Plot (Plot Type: Horizontal Vertical) (more plot options below)
- Graphic Plot: size 640 by 240 pixels (more plot options below)
- One-Month Calendar (Type: © Compact O Compact+ O Calendar O Text)
- Extreme Highest and Lowest Tides Only

Tide/Current Predictor Page 2 of 2

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Mark Tics Color Day Background Night Background Falling/Ebb Color	O O Dptions	OOO	o o o	O O O	o o o stions list.	○ ○ ○	○ ○ •	<u> </u>

WWW Tide/Current Predictor: http://tbone.biol.sc.edu/tide

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tPAH	_	Mean	SD	SE	95% CI of Mean	Median	IQR	95% CI of Median
Background	9	3.0	1.5	9.0	1.4 to 4.6	2.6	1.1	1.7 to 5.5
Section 1	9	18	25	10	-8.3 to 44	5.4	8.5	0.2 to 64
Section 2	9	9.1	3.1	1.3	5.9 to 12	9.4	0.81	3.6 to 13
Section 3	4	06	94	47	-60 to 241	69	169	- to -
Embayment	4	22	13	6.4	2.0 to 43	22	18	- to -
Downstream	10	27	20	16	-9.2 to 62	8.3	6.7	4.7 to 37