Site Assessment Report

Former August Feine & Sons Company Site
Buffalo, New York
NYSDEC Site #V00619-9

August 2005 0062-002-510

Prepared For:

STEELFIELDS LTD

Buffalo, New York

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ENVIRONMENTAL SITE INVESTIGATION REPORT

Former August Feine & Sons Company Property

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1.0 INTRODUCTION

1.1 Background

The property, formerly owned and operated by August Feine & Sons, hereafter referred to as the "Feine Property" or the Site, located at 364 Baraga Street in South Buffalo, New York was acquired by Steelfields LTD in July 2003 (see Figures 1 and 2). The former Feine Property as well as the adjacent Steelfields Property is subject to a Voluntary Cleanup Agreement entered into by Steelfields LTD and the New York State Department of Environmental Conservation (NYSDEC) on October 15, 2002. The Feine Property is bordered on the western, southern, and eastern side by property owned by Steelfields LTD and bordered to the north by property reputedly owned by Norfolk Southern Railroad (see Figure 2).

August Feine & Sons began its operations on the site prior to 1917, according to a 1917 Fire Insurance (Sanborn) map. The adjacent former Donner-Hanna Coke Plant south of the site produced coke, chemical by-products, and manufactured gas from coal from 1919 to 1982. It appears that through the years of operations and/or as a result of demolition and decommissioning activities, the former coke plant property was filled as evidenced by the site grade being approximately three-feet higher in elevation than Feine's southern and western property boundaries. The elevated fill on the former Donner-Hanna Plant site appears to extend several feet onto the former Feine Property along the common southern boundary. It is this fill and underlying and adjacent soil along the common border between the former Feine and former Donner Hanna Coke Plant properties that is of primary concern.

In accordance with the Remedial Design/Remedial Action (RD/RA) Work Plan (revised September 2002) for the Steelfields Site, a containment cell has been designed and partially constructed to encapsulate contaminated soil/fill within the by-products subarea of the former Coke Plant. A component of the containment cell is a groundwater collection trench that is designed to collect and treat contaminated groundwater from both within the containment cell and from areas adjacent to the containment cell along its northern and eastern boundary, including the entire former Feine Property (see Figure 3).

The containment cell is approximately 14 acres in size and consists of: a 2,376 feet bentonite-soil slurry wall along the southern and western perimeter; a 2,766 feet long

groundwater collection trench along the northern and eastern perimeter; and a synthetic geomembrane cover system. The collected groundwater is treated by granular activated carbon prior to discharge to the Buffalo Sewer Authority sewage system for final treatment. Construction of the slurry wall, groundwater collection system, and groundwater pretreatment facility was completed and placed into operation in February 2004. The cover system is scheduled for construction in 2005.

The original Work Plan for this environmental site investigation (Appendix E of the RD/RA Work Plan, revised September 2002) was based upon the fact that Steelfields did not own the Feine Property at that time and the groundwater collection system and northern containment system boundary were initially located on Area II of the Steelfields property. Following acquisition of the Feine Property by Steelfields in July 2003 and during design of the groundwater collection system, a series of geotechnical borings were advanced along the southern portion of the former Feine Property (see Figure 3). Based upon these geotechnical borings with design the intent of encompassing all grossly contaminated fill within the containment cell, the northern limit of the groundwater collection system and containment cell were constructed approximately 20-feet north of the original work plan location onto the former Feine property as shown in Figure 3. The historical boring logs, specifically A2-SB-108 and A2-SB-109 presented in Appendix A, indicated the presence of tar or naphthalene odor at 3 to 5 feet below ground surface along the southern portion of the former Feine Property.

The predicted influence on the Area II groundwater collection system was modeled as part of the Voluntary Cleanup Work Plan for the Site. The purpose of the model was to predict the zone of influence of the groundwater collection system and was determined to encompass the entire Feine Property. As such, groundwater impacts were not the primary focus of this investigation, although groundwater quality was assessed. In addition, subslab vapor, associated with potential volatile organic impacts below the former Feine building, were not investigated due to proposed plans to raze the building following containment cell completion.

1.2 Purpose

The primary purpose of this Site Assessment Report (SAR) was to:

- Characterize the subsurface soil/fill above the native soils in the former Feine parking lot south of the building relative to Site Specific Action Levels (SSALs);
- Characterize the subsurface soil/fill at the northwest corner of the former Feine property relative to SSALs; and
- Characterize existing groundwater quality along the northern property boundary.

2.0 INVESTIGATION APPROACH

The Work Plan (Ref. 1) included visual characterization of surface and subsurface soil/fill, collection and analysis of subsurface soil/fill samples, and collection and analysis of groundwater samples at the former Feine Property. The investigation was geared toward collection of representative analytical data to identify and compare shallow soil/fill constituent concentrations on the former Feine Property to Site Specific Action Levels (SSALs) established in the RD/RA Work Plan (revised September 2002) for the Steelfields Site. The drilling portion of this investigation (i.e., soil/fill sampling and well installation) was conducted on July 6, 2005, well development was performed on July 12, 2005, and groundwater sample collection on July 18, 2005. A detailed description of the scope of work activities conducted during this investigation follows.

2.1 Soil/Fill Investigation

Thirteen soil/fill borings, designated FAF-B-1 through FAF-B-12 and A2-MW-20, were advanced utilizing direct-push technology (i.e., Geoprobe™) at the locations presented in Figure 3 in order to visually characterize the soil/fill horizon as well as to collect representative samples for laboratory analysis. Upon completion of direct-push drilling activities, boring location A2-MW-20 was overdrilled utilizing hollow stem auger technology to facilitate installation of a new monitoring well. Monitoring well construction and groundwater analysis is discussed in Section 2.2 of this report.

2.1.1 *Boring Advancement*

Each direct-push boring location was advanced through surface soil/fill material and a minimum of one-foot into underlying native soil using a 1.5-inch diameter, 4-foot macro-core sampler with dedicated PVC sleeve. Recovered soil/fill samples were described in the field by a qualified geologist using the Unified Soil Classification System (USCS), scanned for total volatile organic vapors with a calibrated MiniRae 2000 photoionization detector (PID) equipped with a 10.6 eV lamp, and characterized for impacts via visual and/or olfactory observations. Borehole logs are presented in Appendix A. A description of the soil/fill unit as well as PID scan measurements is discussed in Section 3.1 of this report.

2.1.2 *Soil/Fill Sample Collection & Analysis*

Soil/fill samples were collected utilizing dedicated stainless steel sampling tools. Representative soil/fill samples were placed in pre-cleaned laboratory provided sample bottles, cooled to 4º C in the field, and transported under chain-of-custody command to Severn Trent Laboratories, Inc. (STL), located in Amherst, New York, a New York State Department of Health (NYSDOH) ELAP-certified analytical laboratory, for analysis as indicated in Table 1. Soil/fill analysis is discussed in Section 3.1 of this report.

2.1.3 *Abandonment and Decontamination*

Following sample collection, 12 of the 13 geoprobe boreholes were backfilled with the remaining soil cuttings and supplemented, as necessary, with surrounding at grade soil/fill. Boring/monitoring well location A2-MW-20 was completed as a new monitoring well as described in Section 2.2 below. All non-dedicated drilling tools and equipment were decontaminated between boring locations using a potable tap water and a phosphate-free detergent (i.e., Alconox) solution and potable tap water rinse.

2.2 Groundwater Characterization

New monitoring well A2-MW-20 was installed at the location shown on Figure 3 using 4.25-inch hollow stem augers to approximately one foot into native soil at the same location as the direct-push boring of the same name. New monitoring well A2-MW-20 and existing monitoring wells A2-MW-15 and A2-MW-18 were used to provide groundwater quality information at the site. These three wells in conjunction with those monitoring wells identified in Table 1 were also used to determine groundwater flow direction at the site. Both groundwater quality and flow direction are discussed in Section 3.2 of this report.

2.2.1 *Monitoring Well Installation*

Subsequent to boring completion, a 2-inch diameter flush-joint Schedule 40 PVC monitoring well was installed at boring location A2-MW-20. Based upon direct-push macro-core sample moisture descriptions and conditions, well A2-MW-20 was installed to 9.5 fbgs and constructed with a 5-foot flush-joint Schedule 40 PVC, 0.010-inch machine slotted well screen installed across the shallow water-bearing zone (i.e., water table). The well screen and attached riser were placed at the bottom of the borehole and a silica sand filter pack (size

#0) was installed from the base of the well to approximately 2 feet above the top of the screen. A 2-foot thick bentonite chip seal was then installed and allowed to hydrate sufficiently. Well A2-MW-20 was completed with a lock, J-plug, and a 4-inch diameter protective casing secured and anchored at the surface within a 2-foot by 2-foot by 1-foot square concrete pad. Monitoring well A2-MW-20 borehole log and well completion details are presented in Appendix A.

2.2.2 *Well Development*

Upon installation, but not within 24 hours, the newly installed monitoring well A2-MW-20 and existing monitoring wells A2-MW-15 and A2-MW-18 were developed in accordance with TurnKey and NYSDEC protocol. Well development was accomplished on July 12, 2005 by TurnKey personnel with dedicated tubing fitted with a check-ball foot-valve via surge and purge methodology. Following surging, each well was purged utilizing a peristaltic pump and the same dedicated tubing. Field parameters including pH, temperature, turbidity and specific conductance were measured periodically (i.e., every well volume or as necessary) during development. Field measurements continued until relatively stable. Stability was defined as variation between measurements of 10 percent or less with no overall upward or downward trend in the measurements. A minimum of 10 well volumes was evacuated from each monitoring well. Development water from each monitoring well was discharged to the ground surface no closer than twenty feet from the well location. Groundwater Well Development Logs are presented in Appendix B.

2.2.3 *Groundwater Sample Collection & Analysis*

On July 15, 2005, prior to sampling the designated monitoring wells, static water levels were measured and recorded from each well identified in Table 1. Depth to water measurements and calculated groundwater elevations are presented on Table 2. On July 18, 2005, following water level measurement, TurnKey personnel purged and sampled monitoring wells A2-MW-15, A2-MW-18, and A2-MW-20 using a peristaltic pump and dedicated pump tubing following low-flow/minimal drawdown purge and sample collection procedures.

Prior to sample collection, groundwater was evacuated from each well at a low-flow rate (less than 0.4 L/min). Field measurements for pH, specific conductance, temperature,

turbidity, and water level as well as visual and olfactory field observations were periodically recorded and monitored for stabilization. Purging was considered complete when the pH, specific conductivity, and temperature stabilized (as previously defined in Section 2.2.2) and when turbidity measurements fell below 50 Nephelometric Turbidity Units (NTU), or became stable above 50 NTU. Upon stabilization of field parameters, groundwater samples were collected and analyzed for the parameters presented in Table 1.

Groundwater samples collected for volatile organic compound (VOC) analysis were not sampled directly through the peristaltic pump due to potential degassing (i.e., loss of VOCs) of the groundwater sample. Instead, upon collection of VOC samples, the pump was turned off and the pressure on the flexible walled tubing within the pump head was maintained in order to prevent groundwater within the tubing from escaping. The tubing was removed from the well and coiled as to prevent any contact with the ground surface. Upon removal of the tubing, the pressure on the pump head was slowly released allowing the trapped groundwater to flow into the VOC sample vials.

Prior to and immediately following collection of groundwater samples, field measurements for pH, specific conductance, temperature, turbidity, Eh, and water level as well as visual and olfactory field observations were recorded on field data sheets presented in Appendix C. All collected groundwater samples were placed in pre-cleaned, pre-preserved laboratory provided sample bottles, cooled to 4 °C in the field, and transported under chain-of-custody command to STL for analysis as indicated in Table 1. Groundwater analysis is discussed in Section 3.2 of this report.

2.3 Field Specific QA/QC

Field specific Quality Assurance and Quality Control (QA/QC) measures taken during this investigation to ensure the reliability of the generated data as described in the Quality Assurance Plan (Appendix B of the RD/RA Work Plan (revised September 2002) (Ref. 2)) were as follows:

- **Trip Blanks** - A sufficient number of trip blanks for volatile organic compound analysis were prepared by the laboratory and delivered to the sampling team prior to a sampling event. One sealed blank was carried into the field per day along with the sample containers for each day that volatile organic samples are collected. Trip blanks were transported and handled in the same manner as the actual

samples. The results of the trip blank analysis were reviewed to evaluate if the potential for sample contamination during transportation and handling exists. The trip blanks will be analyzed for STARS VOCs by EPA Method 8021. Based upon the trip blank analysis, sample contamination during transportation and handling of the samples has not occurred.

- **Blind Duplicate** - One blind duplicate was collected and analyzed per 20 samples collected for the parameters presented in Table 1 per matrix (i.e., groundwater and soil/fill). The soil/fill blind duplicate was collected from boring location FAF-B-09 and the groundwater blind duplicate was collected from monitoring well A2-MW-15. The location of the sample collection points were not disclosed to the analytical laboratory, therefore the field sample containers were returned to the laboratory identified only as "blind duplicate". The monitoring well and soil/fill sample locations were recorded in the Project Field Book and on the appropriate field data sheets and the results were compared to review analytical precision. Based upon blind duplicate results, there appears to be relatively good precision associated with the soil/fill and groundwater samples collected during this investigation.

- **Matrix spike/matrix spike duplicate (MS/MSD)** – A sufficient volume of sample was collected at one sampling location per sampling event for MS/MSD analysis for the parameters presented in Table 1 per matrix (i.e., groundwater and soil/fill). The soil/fill MS/MSD sample was collected from boring location FAF-B-07 and the groundwater MS/MSD sample was collected from monitoring well A2-MW-20. The laboratory reported the results of the MS/MSD analysis, which were reviewed for sampling and analysis precision and accuracy. Generally, there is no action taken on the MS/MSD results, however the soil/fill and groundwater MS/MSD results for this investigation were all within required limits.

3.0 INVESTIGATION RESULTS BY MEDIA

The following sections discuss the analytical results of the site investigation by media. Tables 3 and 4 summarize the analytical data for the collected soil/fill and groundwater samples, respectively. Soil/fill exceedances of the SSALs and groundwater exceedances of the NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQSs/GVs) are highlighted. Figure 3 presents the sample locations during this investigation and the STL analytical data summary package is presented in Appendix D.

3.1 Soil/Fill

3.1.1 *Description*

In general, a dark brown to black soil/fill unit was encountered above a native, dark grey with iron-stained mottling, lean clay with sand (CL) at each of the 13 boring locations, which is consistent with the geology described throughout the Steelfields site (i.e., Areas I through IV). The soil/fill generally consisted of non-cohesive coal and coke fines with slag, brick, and/or concrete fragments and was 4.3 to 5.0 feet thick under the parking lot and beneath the building. The soil/fill was up to 9.5 feet thick north of the building, where the surface elevation is higher. PID scans of the soil/fill measured less than 5 parts per million (ppm), except FAF-B-1 (maximum 135 ppm) and FAF-B-5 (maximum 10.8 ppm). Groundwater was generally encountered approximately 1 to 1.5 feet below ground surface (fbgs) within the Former August Feine property parking/access road area (viz. FAF-B-1 through FAF-11) and approximately 5.0 fbgs along the elevated northern perimeter of the site (viz. FAF-12 and A2-MW-20).

3.1.2 *Analytical Results*

In general, all of the subsurface soil/fill samples collected during this assessment were reported below the SSALs established for the Steelfields Site, with only a few exceptions as presented below:

- At boring location FAF-B-01, subsurface soil/fill slightly exceeded total VOCs and exceeded individual SSALs for toluene, xylene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, mercury, and total SVOCs.

- At boring location FAF-B-03, subsurface soil/fill slightly exceeded the individual SSAL for lead.

- At boring location FAF-B-07, subsurface soil/fill exceeded individual SSALs for cadmium and lead.

- At boring location FAF-B-09, subsurface soil/fill exceeded the individual SSAL for lead.

Subsurface soil/fill analytical results are summarized in Table 3.

3.2 Groundwater

3.2.1 *Analytical Results*

In general, all of the groundwater samples collected during this assessment were reported below NYSDEC Class "GA" GWQSs/GVs, with only two exceptions as presented below:

- Well A2-MW-15 groundwater exceeded the GWQS for cyanide, although the concentration was qualified as estimated.

- Well A2-MW-18 groundwater exceeded the GWQS for benzene.

Groundwater analytical results are summarized in Table 4.

3.2.2 *Groundwater Flow*

On July 15, 2005, prior to sample collection, a round of static water levels were measured in the new and existing monitoring wells presented in Table 1 located on and surrounding the Former August Feine property. Table 2 presents a summary of the measured groundwater elevations. Nine of the 15 water level monitoring wells were discovered to have various issues and depth to groundwater measurements or groundwater elevation calculations could not be made at this time: two wells were destroyed by construction activities (A2-MW-8 and A2-MW-9), five wells were extended as a result of the Area II containment cell construction and will require re-survey (A2-MW-6, A2-MW-7, A2-MW-12, A2-PW-2, and A2-PW-3), and two wells were obstructed with unidentified material

(A1-P-2 and A2-MW-10). Based upon the lack of groundwater data, an isopotential map could not be generated at this time, however upon repair and re-survey of the aforementioned wells, a round of water levels will be measured and an isopotential map will be prepared.

3.3 Data Usability Summary

In accordance with the Quality Assurance Plan (Appendix B of the RD/RA Work Plan (revised September 2002) (Ref. 2)), the laboratory analytical data from this investigation was independently assessed and, as required, submitted for independent review. Ms. Judy Harry of Data Validation Services located in North Creek, New York performed the data usability summary assessment involving review of the summary form information and sample raw data, and a limited review of associated QC raw data. Specifically, the following items were reviewed:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Recoveries
- Field Duplicate Correlation
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental IDLs
- Calibration/CRI/CRA Standards
- ICP Interference Check Standards
- ICP Serial Dilution Correlations
- Sample Results Verification

The Data Usability Summary Report (DUSR) was conducted using guidance from the USEPA Region 2 validation Standard Operating Procedures, the USEPA National Functional Guidelines for Data Review as well as professional judgment. The DUSR, prepared in accordance with Appendix 2B of NYSDEC's draft DER-10 guidance, is included as Appendix E. Those items listed above which demonstrated deficiencies are discussed below, all other items were determined to be acceptable for this level of review.

In general, sample processing was conducted compliant with protocol requirements. Sample results are usable as reported, or usable with minor edit or qualification or reported values as estimated. Internal laboratory quality control samples and site-specific QC samples indicate satisfactory analytical accuracy, precision, and completeness. Sample shipping coolers were received in good condition and at an appropriate temperature. A blind duplicate evaluation performed on soil/fill sample FAF-B-09 and groundwater sample A2-MW-15 for all Table 1 parameters showed an acceptable correlation for the groundwater sample. The soil/fill blind duplicate, however, showed variances exceeding validation guidelines for ethylbenzene, o-xylene, m/p-xylene, naphthalene, chromium, and lead, which were all qualified in the parent as well as the duplicate sample as estimated ("J") and should be used with caution. No indications of significant matrix interference or other indications of potential negative sample bias were recorded; however, minor data qualification as "estimated" ("J" qualifier) or edit to non-detection was required due to typical processing or matrix effects. The following text discusses quality issues of concern as presented in the DUSR.

- **STARS VOCs by EPA 8021B:**
  - Soil/Fill:
    - Detected results for compounds m-xylene and p-xylene should be considered a combined detection, as their responses cannot be resolved from one another.
    - VOC analytical results for MS/MSD soil/fill are to be qualified as estimated due to recoveries outside acceptable limits in the soil/fill sample FAF-B-07 (MS/MSD), except the compound MTBE.
  - Groundwater:
    - Acceptable accuracy and precision (elevated recoveries for one analyte not detected in the parent sample).
- **Base/Neutral SVOCs by EPA 8270C:**
  - Soil/Fill:
    - The detected result for acenaphthene in sample FAF-B-07 is qualified as estimated ("J") due to spike recoveries outside acceptable limits.
    - Due to the presence of low levels in the associated method blanks, detections of bis(2-ethylhexyl)phthalate in all subsurface soil/fill samples are considered external contamination, and are edited to reflect non-detection ("U").

- Due to the lack of resolution between responses, detected results for benzo(b)fluoranthene and benzo(k)fluoranthene are qualified as estimated ("J").

- Groundwater:
  - All recoveries and internal standard responses were within acceptable limits

- **Total RCRA Metals and Cyanide:**

  - Soil/Fill:
    - Due matrix effects or non-homogeneous matrix, cadmium and mercury are all qualified as estimated ("J").
    - Due to outlying correlations, cadmium, chromium, and lead are all qualified as estimated ("J").

  - Groundwater:
    - Due matrix effects or non-homogeneous matrix, cadmium is qualified as estimated ("J").

4.0 SUMMARY AND CONCLUSIONS

As discussed in Section 3.0 of this report, analytical results for subsurface soil/fill and groundwater indicate minimal to no impact compared to SSALs and GWQSs/GVs in the northern portion of the Former Feine property, including the building footprint.

Localized subsurface soil/fill impacts were observed at four locations beneath the parking lot south of the building. Total VOCs were observed in one location only slightly above SSALs in subsurface soil/fill below the parking lot. Lead, cadmium, and/or mercury were observed at four locations in subsurface soil/fill beneath the parking lot.

Shallow overburden groundwater was found to be impacted by benzene at one location and by cyanide at another location in the southeast portion of the former Feine or adjacent property.

Based on the proximity of the identified impacts within the subsurface soil/fill and groundwater to the Area II groundwater collection trench, it is expected that the leachable impacts, if any, are currently being captured and treated by the groundwater collection system, eliminating downgradient migration and potential environmental impact. The proximity of the Area II groundwater collection trench and the high-pressure gas main also limit the excavation of the localized impacted subsurface soil/fill material in those locations (see Figure 3).

Furthermore, the impacted subsurface soil/fill are located below an asphalt-paved parking lot and present no potential for direct human exposure and hence no human health impact. As such, no additional remediation, beyond those already being implemented in accordance with the Voluntary Cleanup Work Plan for Areas I through IV is recommended at this time. Any potential for subsurface soil/fill exposure during future development of the property (i.e., utility installation) is addressed in the Soil/Fill Management Plan for the Steelfields Site.

5.0 REFERENCES

1. *Work Plan for Environmental Site Investigation*, Former August Feine & Sons Company Site, Buffalo, New York, prepared by TurnKey Environmental Restoration, LLC, revised June 2005.

2. *Work Plan for Voluntary Cleanup Program Remedial Design/Remedial Action (RD/RA)*, Former Steel Manufacturing Site; TurnKey Environmental Restoration, LLC, revised September 2002.

TABLES

TABLE 1

SAMPLE LOCATIONS AND ANALYSIS

Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Sample Location	Matrix Type		Water Level	Parameters			
	Soil/Fill	Groundwater		STARS VOCs Method 8021	TCL Base Neutral SVOCs Method 8270C	Total Metals [1] Methods 6010B/7470A	Total Cyanide Method 335
Geoprobe Boring Locations							
FAF-B-01	x			x	x	x	
FAF-B-02	x			x	x	x	
FAF-B-03	x			x	x	x	
FAF-B-04	x			x	x	x	
FAF-B-05	x			x	x	x	
FAF-B-06	x			x	x	x	
FAF-B-07 (MS/MSD)	x			x	x	x	
FAF-B-08	x			x	x	x	
FAF-B-09	x			x	x	x	
FAF-B-10	x			x	x	x	
FAF-B-11	x			x	x	x	
FAF-B-12	x			x	x	x	
Blind Duplicate [2]	x			x	x	x	
Monitoring Well Locations							
A1-P-2			x				
A1-MW-5			x				
A2-MW-6			x				
A2-MW-7			x				
A2-MW-8			x				
A2-MW-9			x				
A2-MW-10			x				
A2-MW-12			x				
A2-MW-13			x				
A2-MW-14			x				

TABLE 1

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Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Sample Location	Matrix Type		Water Level	Parameters			
	Soil/Fill	Groundwater		STARS VOCs Method 8021	TCL Base Neutral SVOCs Method 8270C	Total Metals [1] Methods 6010B/7470A	Total Cyanide Method 335
A2-MW-15		x	x	x	x	x	x
A2-MW-18		x	x	x	x	x	x
A2-MW-20 (MS/MSD)		x	x	x	x	x	x
A2-PW-2			x				
A2-PW-3			x				
Trip Blank		x		x	x	x	x
Blind Duplicate [3]		x		x	x	x	x

Notes:

1. Total Metals include: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.
2. The soil/fill blind duplicate was collected at boring FAF-B-09.
3. The groundwater blind duplicate was collected at monitoring well A2-MW-15.
4. MS/MSD - Matrix Spike/Matrix Spike Duplicate

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TABLE 2

SUMMARY OF GROUNDWATER ELEVATIONS

Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Location	Date	TOR Elevation [1] (fmsl)	Depth to Water (fbTOR)	Groundwater Elevation [1] (fmsl)	Comment
AREA I - Former Steel Plant Parcel					
A1-P-2	07/15/05	588.15	NM	NM	obstruction @ ~4.0 fbTOR
A1-MW-5	07/15/05	590.48	6.88	583.60	
AREA II - Former Coke Plant Parcel					
A2-MW-6	07/15/05	NS	16.23	NS	extended, needs to be re-surveyed
A2-MW-7	07/15/05	NS	15.25	NS	extended, needs to be re-surveyed
A2-MW-8	07/15/05	591.34	NM	NM	destroyed during construction activities
A2-MW-9	07/15/05	591.12	NM	NM	destroyed during construction activities
A2-MW-10	07/15/05	593.28	NM	NM	obstruction @ ~10.0 fbTOR
A2-MW-12	07/15/05	NS	15.54	NS	extended, needs to be re-surveyed
A2-MW-13	07/15/05	597.90	14.00	583.90	
A2-MW-14	07/15/05	593.02	9.10	583.92	
A2-MW-15	07/15/05	589.56	6.94	582.62	
A2-MW-18	07/15/05	587.64	5.52	582.12	
A2-MW-20	07/15/05	591.54	9.05	582.49	
A2-PW-2 [2]	07/15/05	NS	14.79	NS	extended, needs to be re-surveyed
A2-PW-3	07/15/05	NS	NM	NS	extended, needs to be re-surveyed; ext. too high for measurement

Notes:
1. Elevation is measured in feet; distance above mean sea level (fmsl) from the Top of Riser (TOR).
2. LNAPL was observed in A2-PW-2; product level measured 14.77 fbTOR.
3. NM = depth to water not measured.
4. NS = monitoring well has been extended and needs to be re-surveyed

TABLE 3

SUMMARY OF SUBSURFACE SOIL/FILL ANALYTICAL RESULTS [1]

Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Parameter	CAS No.	Sample Location						SSALs [2]
		FAF-B-01	FAF-B-02	FAF-B-03	FAF-B-04	FAF-B-05	FAF-B-06	
STARS Volatile Organic Compounds (VOCs - Method 8021) - mg/kg								
Benzene	*71-43-2*	0.77	0.0036	0.0035	0.017	0.32	0.025	**1**
n-Butylbenzene	*104-51-8*	ND	0.0024	0.0039	0.0028	ND	0.039	**1**
sec-Butylbenzene	*104-51-8*	0.13	ND	ND	ND	ND	ND	**1**
Ethylbenzene	*100-41-4*	0.16	0.0016	0.0013	ND	ND	0.0014	**1**
Isopropylbenzene	*98-82-8*	ND	ND	ND	0.0035	ND	0.0027	**1**
p-Cymene	*99-87-6*	0.066	ND	ND	ND	ND	0.00058 J	**1**
Toluene	*108-88-3*	**1.6**	0.0054	0.0074	0.0087	0.017	0.0015	**1**
o-Xylene	*95-47-6*	0.3	0.0028	0.0019	0.026	0.017	0.012	**1**
m,p-Xylene	*108-38-3, 106-42-3*	**2.4**	0.0041	0.0032	0.036	0.0064	0.0052	**1**
Xylenes, Total	*1330-20-7*	**2.7**	0.0069	0.0051	0.062	0.024	0.017	**1**
1,2,4-Trimethylbenzene	*95-63-6*	**3.2**	0.0031	0.0058	0.055	0.0091	0.027	**1**
1,3,5-Trimethylbenzene	*108-67-8*	**1.6**	0.0029	0.0028	0.037	ND	0.011	**1**
TOTAL VOCs (mg/kg)	**--**	**10.226**	**0.0259**	**0.0298**	**0.186**	**0.3695**	**0.12538**	**10**
TCL Semi-Volatile Organic Compounds (SVOCs - Method 8270) (base neutrals only) - mg/kg								
Acenaphthene	*83-32-9*	8.7 J	2.6 J	0.64 J	0.32 J	6.8 J	10 J	--
Acenaphthylene	*208-96-8*	88	1.1 J	4.8 J	5.4	2.7 J	2.2 J	--
Anthracene	*120-12-7*	67	1.4 J	5.6 J	5.4	4.9 J	3.1 J	--
Benzo(a)anthracene	*56-55-3*	68	2.6 J	8	6.8	5.1 J	3 J	--
Benzo(b)fluoranthene	*205-99-2*	59 J	4.2 J	8.9 J	5.8 J	4.9 J	2.7 J	--
Benzo(k)fluoranthene	*207-08-9*	16 J	4.6 J	2.8 J	2.4 J	1.4 J	1.1 J	--
Benzo(g,h,i)perylene	*191-24-2*	28	2 J	6.4 J	3.2	2.8 J	1.2 J	--
Benzo(a)pyrene	*50-32-8*	49	2.2 J	8.1	5.2	4.4 J	2.1 J	--
Butyl benzyl phthalate	*85-68-7*	1.1 J	ND	ND	ND	ND	ND	--
2-Chloronaphthalene	*91-58-7*	1 J	ND	ND	ND	ND	ND	--
Chrysene	*218-01-9*	56	2.8 J	7.6 J	6.2	5.8 J	3.8 J	--
Dibenzo(a,h)anthracene	*53-70-3*	9.4	0.63 J	0.52 J	1.1 J	ND	ND	--
Dibenzofuran	*132-64-9*	55	1.1 J	2.1 J	2.8	3.2 J	3.6 J	--
Fluoranthene	*206-44-0*	190 DJ	5.2 J	22	15	14 J	8.1 J	--
Fluorene	*86-73-7*	74	2.4 J	3.7 J	4.5	5.9 J	7 J	--
Indeno(1,2,3-cd)pyrene	*193-39-5*	30	1.9 J	5.7 J	3.2	2.6 J	1.2 J	--
2-Methylnaphthalene	*91-57-6*	240 DJ	0.98 J	0.6 J	4.6	ND	ND	--
Naphthalene	*91-20-3*	18000 D	1.6 J	4.8 J	27	3.2 J	14	--
Phenanthrene	*85-01-8*	250 DJ	3.6 J	23	18	15 J	2.4 J	--
Pyrene	*129-00-0*	110	5.4 J	18	11	12 J	6.9 J	--
TOTAL SVOCs (mg/kg)	**--**	**19400.2**	**46.31**	**133.26**	**127.92**	**94.7**	**72.4**	**500**

TABLE 3

SUMMARY OF SUBSURFACE SOIL/FILL ANALYTICAL RESULTS [1]

Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Parameter	CAS No.	Sample Location						SSALs [2]
		FAF-B-01	FAF-B-02	FAF-B-03	FAF-B-04	FAF-B-05	FAF-B-06	
Total RCRA Metals - mg/kg								
Arsenic	*7440-38-2*	11.4	10.3	6.7	7.5	7.1	8.4	**75**
Barium	*7440-39-3*	128	380	154	138	176	101	**1000**
Cadmium	*7440-43-9*	1.2 J	2.7 J	0.82 J	0.6 J	1.3 J	0.74 J	**15**
Chromium	*7440-47-3*	42.1 J	67.4 J	45.3 J	41.4 J	264 J	154 J	**1000**
Lead	*7439-92-1*	583 J	916 J	**1020 J**	435 J	759 J	175 J	**1000**
Selenium	*7782.49-2*	ND	ND	ND	ND	ND	ND	**61**
Mercury	*7439-97-6*	**23.5 J**	1.5 J	0.272 J	0.749 J	0.535 J	0.101 J	**10**

TABLE 3

SUMMARY OF SUBSURFACE SOIL/FILL ANALYTICAL RESULTS [1]

Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Parameter	CAS No.	Sample Location						SSALs [2]
		FAF-B-07 [3] (MS/MSD)	FAF-B-08	FAF-B-09 [4]	FAF-B-10	FAF-B-11	FAF-B-12	
STARS Volatile Organic Compounds (VOCs - Method 8021) - mg/kg								
Benzene	*71-43-2*	0.0095	0.0044	0.0013	0.0019	ND	ND	**1**
n-Butylbenzene	*104-51-8*	ND	ND	ND	ND	ND	ND	**1**
sec-Butylbenzene	*104-51-8*	0.0037	ND	ND	ND	ND	ND	**1**
Ethylbenzene	*100-41-4*	ND	ND	0.002	ND	ND	ND	**1**
Isopropylbenzene	*98-82-8*	ND	ND	ND	ND	ND	ND	**1**
p-Cymene	*99-87-6*	ND	ND	ND	ND	ND	ND	**1**
Toluene	*108-88-3*	0.0014	ND	0.0012	0.0012	ND	ND	**1**
o-Xylene	*95-47-6*	ND	ND	0.0038	ND	ND	ND	**1**
m,p-Xylene	*108-38-3, 106-42-3*	0.0035	ND	0.0079	ND	ND	ND	**1**
Xylenes, Total	*1330-20-7*	0.0035 J	ND	0.012	ND	ND	ND	**1**
1,2,4-Trimethylbenzene	*95-63-6*	ND	ND	ND	ND	0.0017	ND	**1**
1,3,5-Trimethylbenzene	*108-67-8*	ND	ND	ND	0.0024	ND	ND	**1**
TOTAL VOCs (mg/kg)	**--**	**0.0181**	**0.0044**	**0.0162**	**0.0055**	**0.0017**	**0**	**10**
TCL Semi-Volatile Organic Compounds (SVOCs - Method 8270) (base neutrals only) - mg/kg								
Acenaphthene	*83-32-9*	1.9 J	0.18 J	0.026 J	0.029 J	0.39 J	ND	--
Acenaphthylene	*208-96-8*	7 J	0.19 J	0.2 J	0.071 J	0.31 J	0.26 J	--
Anthracene	*120-12-7*	9	0.21 J	0.11 J	0.093 J	0.82	ND	--
Benzo(a)anthracene	*56-55-3*	15	0.47 J	0.4 J	0.43 J	1.6	1 J	--
Benzo(b)fluoranthene	*205-99-2*	15 J	0.42 J	0.6 J	0.61 J	1.7 J	1.2 J	--
Benzo(k)fluoranthene	*207-08-9*	6.6 J	0.13 J	0.22 J	0.22 J	0.6 J	0.44 J	--
Benzo(g,h,i)perylene	*191-24-2*	6.8 J	0.23 J	0.3 J	0.27 J	0.69	0.84 J	--
Benzo(a)pyrene	*50-32-8*	13	0.33 J	0.46	0.46	1.5	1.1 J	--
Butyl benzyl phthalate	*85-68-7*	ND	ND	ND	ND	ND	ND	--
2-Chloronaphthalene	*91-58-7*	ND	ND	ND	ND	ND	ND	--
Chrysene	*218-01-9*	15	0.63 J	0.46	0.47	1.8	0.98 J	--
Dibenzo(a,h)anthracene	*53-70-3*	2.2 J	0.11 J	0.094 J	0.087 J	0.2 J	0.23 J	--
Dibenzofuran	*132-64-9*	3.7 J	0.23 J	0.051 J	0.032 J	0.56	ND	--
Fluoranthene	*206-44-0*	34	0.68 J	0.58	0.7	4.8	1.8 J	--
Fluorene	*86-73-7*	9	0.17 J	0.034 J	0.069 J	0.97	ND	--
Indeno(1,2,3-cd)pyrene	*193-39-5*	6.7 J	0.21 J	0.29 J	0.26 J	0.65	0.78 J	--
2-Methylnaphthalene	*91-57-6*	1.3 J	0.81 J	0.15 J	0.033 J	0.19 J	ND	--
Naphthalene	*91-20-3*	1.4 J	7.4	2.7 J	0.52	1.4	ND	--
Phenanthrene	*85-01-8*	39	0.82 J	0.36 J	0.34 J	6.1	1.3 J	--
Pyrene	*129-00-0*	26	0.62 J	0.52	0.59	3.7	3.7 J	--
TOTAL SVOCs (mg/kg)	**--**	**212.6**	**13.84**	**7.555**	**5.284**	**27.98**	**13.63**	**500**

TABLE 3

SUMMARY OF SUBSURFACE SOIL/FILL ANALYTICAL RESULTS [1]

Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Parameter	CAS No.	Sample Location						SSALs [2]
		FAF-B-07 [3] (MS/MSD)	FAF-B-08	FAF-B-09 [4]	FAF-B-10	FAF-B-11	FAF-B-12	
Total RCRA Metals - mg/kg								
Arsenic	*7440-38-2*	12.9	18.8	8.8	11.9	3.1	14.3	**75**
Barium	*7440-39-3*	179	86.2	292	168	107	180	**1000**
Cadmium	*7440-43-9*	**26 J**	2 J	0.75 J	0.76 J	0.78 J	1.7 J	**15**
Chromium	*7440-47-3*	207 J	22.7 J	119 J	18.6 J	12 J	15.7 J	**1000**
Lead	*7439-92-1*	**1990 J**	492 J	**2950 J**	35.1 J	122 J	88.9 J	**1000**
Selenium	*7782.49-2*	ND	6.6	ND	ND	ND	ND	**61**
Mercury	*7439-97-6*	0.17 J	0.251 J	0.096 J	0.099 J	0.043 J	0.488 J	**10**

Notes:
1. Only those compounds detected at a minimum of one sample location are presented in this table.
2. SSALs = Site Specific Action Levels as per the RD/RA Work Plan.
3. The Matrix Spike/Matrix Spike Duplicate sample was collected from sample location FAF-B-07.
4. The Blind Duplicate sample was collected from sample location FAF-B-09.
5. B = Analyte was detected in the associated blank as well as in the sample.
6. J = Estimated value.
7. D = Analysis at the secondary dilution factor
8. ND = parameter not detected above laboratory detection limit.
9. " -- " = not analyzed for this parameter or no inidiviual SSAL

Color Code:

= compound exceeds the individual SSAL value
= total sum of the compounds exceed the total SSAL value

TABLE 4

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS [1]

Former August Feine Property Site Assessment
Steelfields LTD.
Buffalo, New York

Parameter *(synonym)*	CAS No.	Sample Location			GWQS/GV [4]
		A2-MW-15 [2]	A2-MW-18	A2-MW-20 [3] (MS/MSD)	
STARS Volatile Organic Compounds (VOCs - Method 8021) - ug/L					
Benzene	*71-43-2*	ND	**32**	ND	**5**
Toluene	*108-88-3*	ND	0.27	ND	**5**
Methyl tert butyl ether	*1634-04-4*	0.24 J	ND	ND	**5**
TOTAL VOCs (mg/kg)	**--**	**0.24**	**32.27**	**0**	**NA**
TCL Semi-Volatile Organic Compounds (SVOCs - Method 8270) (base neutrals only) - ug/L					
Acenaphthene	*83-32-9*	ND	2 J	ND	**5**
Dibenzofuran	*132-64-9*	ND	4 J	ND	**50**
Naphthalene	*91-20-3*	ND	5 J	ND	**10***
TOTAL SVOCs (mg/kg)	**--**	**0**	**11**	**0**	**NA**
Total RCRA Metals - mg/L					
Arsenic	*7440-38-2*	0.0116	0.0186	ND	**0.025**
Barium	*7440-39-3*	0.155	0.0722	0.0243	**1**
Chromium	*7440-47-3*	ND	0.0066	ND	**0.05**
Lead	*7439-92-1*	ND	ND	0.007	**0.025**
Wet Chemistry - mg/L					
Cyanide	*57-12-5*	**0.66 J**	0.17 J	0.08 J	**0.2**

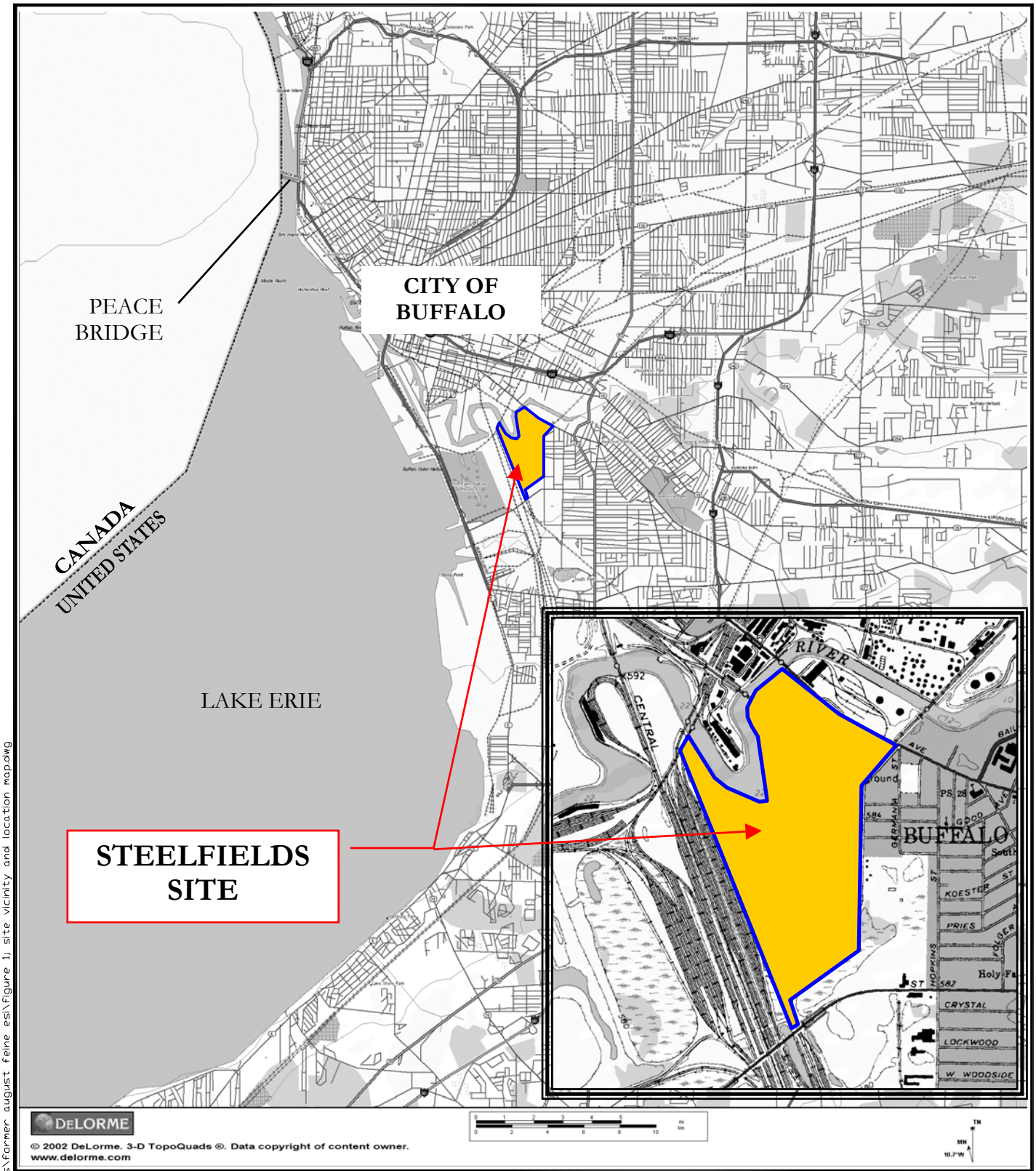
Notes:
1. Only those compounds detected at a minimum of one sample location are presented in this table.
2. The Blind Duplicate sample was collected from sample location A2-MW-15.
3. The Matrix Spike/Matrix Spike Duplicate sample was collected from sample location A2-MW-20.
4. GWQS/GV = NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value.
5. " * " = NYSDEC Groundwater Quality Guidance Value
6. J = Estimated value.
7. NA = not applicable
8. ND = parameter not detected above laboratory detection limit.

Color Code:

= compound exceeds the individual SSAL value
= total sum of the compounds exceed the total SSAL value

FIGURES

FIGURE 1



TURNKEY ENVIRONMENTAL RESTORATION, LLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0635

PROJECT NO.: 0062-002-510

DATE: FEBRUARY 2005

DRAFTED BY: BCH

SITE VICINITY AND LOCATION MAP

ENVIRONMENTAL SITE INVESTIGATION

FORMER AUGUST FEINE & SONS COMPANY PARCEL
BUFFALO, NEW YORK

PREPARED FOR
STEELFIELDS, LTD.

FILEPATH=g:\cad\turnkey\steelfields\former august feine es\figure 1; site vicinity and location map.dwg

AREA I - FORMER
REPUBLIC STEEL
PLANT PARCEL

ABBY STREET

SOUTH PARK AVENUE

NORFOLK SOUTHERN RAILROAD PROPERTY

BARAGA STREET

FORMER
AUGUST FEINE
STEEL PROPERTY

SITE BOUNDARY

BUFFALO RIVER

AREA IV - FORMER
DONNER-HANNA
COKE YARD PARCEL

AREA III - FORMER LTV
WAREHOUSE PARCEL

AREA II - FORMER
DONNER - HANNA
COKE PLANT PARCEL

500' 0' 500' 1000'

SCALE: 1 INCH = 500 FEET
SCALE IN FEET
(approximate)

= NOT PART OF SITE

DATE: JULY 2005
DRAFTED BY: BCH
FILEPATH: g:\cad\turnkey\steelfields\former august feine site assessment\site assessment report\figure 2; site map.dwg

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0635

TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0062-002-510

SITE MAP

SITE ASSESSMENT REPORT
FORMER AUGUST FEINE & SONES COMPANY PARCEL
BUFFALO, NEW YORK

PREPARED FOR
STEELFIELDS, LTD.

FIGURE 2

STEELFIELDS
AREA I

NORFOLK SOUTHERN RAILROAD
PROPERTY

A1-P-2

A1-MW-5

A2-MW-14

GROUNDWATER
PRETREATMENT
BUILDING

FAF-B-09
SSAL EXCEEDANCES
SUBSURFACE SOIL/FILL: Lead - 2950 J mg/kg

A2-MW-15
GWQS EXCEEDANCES
GROUNDWATER: Cyanide - 0.66 J mg/L

FAF-B-03
SSAL EXCEEDANCES
SUBSURFACE SOIL/FILL: Lead - 1020 J mg/kg

A2-MW-20

A2-MW-15

BARAGA ST.

A2-MW-6

FAF-B-11

FAF-B-12

FORMER AUGUST FEINE & SONS, CO.
BUILDING

MH2

FAF-B-09

A2-MW-18

PS3

MH5

FAF-B-08

FAF-B-03

FAF-B-05

FAF-B-07

A2-SB-108

A2-MW-13

MH4

FORMER AUGUST
FEINE & SONS CO.
PROPERTY BOUNDARY

FAF-B-02

FAF-B-04

A2-SB-109

A2-MW-12

FAF-B-10

FAF-B-01

MH3

A2-PW-3

A2-MW-9
(DESTROYED)

MH6

A2-MW-8
(DESTROYED)

PS2

FAF-B-07
SSAL EXCEEDANCES
SUBSURFACE SOIL/FILL: Cadmium - 26 J mg/kg
Lead - 1990 J mg/kg

A2-MW-18
GWQS EXCEEDANCES
GROUNDWATER: Benzene - 32 ug/L

MH7

FAF-B-01
SSAL EXCEEDANCES
SUBSURFACE SOIL/FILL: Toluene - 1.6 mg/kg
Total Xylenes - 2.7 mg/kg
1,2,4-Trimethylbenzene - 3.2 mg/kg
1,3,5-Trimethylbenzene - 1.6 mg/kg

Mercury - 23.5 J mg/kg

Total VOCs - 10.226 mg/kg
Total SVOCs - 19,400.2 mg/kg

A2-PW-2

AREA II
CONTAINMENT CELL
GROUNDWATER
COLLECTION TRENCH

AREA II
CONTAINMENT CELL

STEELFIELDS
AREA II

A2-MW-7

AREA II
CONTAINMENT CELL
SLURRY WALL

A2-MW-10

LEGEND

A2-MW-9	EXISTING MONITORING WELL LOCATION
A2-SB-108	HISTORIC CONTAINMENT CELL BORING LOCATION
FAF-B-01	GEOPROBE BORING LOCATION
FAF-B-01	GEOPROBE BORING LOCATION WITH SUBSURFACE SOIL/FILL EXCEEDING SSALs
A2-MW-20	MONITORING WELL LOCATION
A2-MW-20	MONITORING WELL LOCATION WITH SHALLOW GROUNDWATER EXCEEDING GWQS
PS2	GROUNDWATER COLLECTION TRENCH PUMP STATION
MH2	GROUNDWATER COLLECTION TRENCH MANHOLE

SSALs
(mg/kg)

1	Toluene
1	Total Xylenes
1	1,2,4-Trimethylbenzene
1	1,3,5-Trimethylbenzene
15	Cadmium
1,000	Lead
10	Mercury
10	Total VOCs
500	Total SVOCs

GWQSs
(units as stated)

5 ug/L	Benzene
0.2 mg/L	Cyanide

120' 0' 120' 240'

SCALE: 1 INCH = 120 FEET
SCALE IN FEET
(approximate)

DATE: JULY 2005
DRAFTED BY: BCH
FILEPATH: g:\cad\turnkey\steelfields\former august feine esi\site assessment report\figure 3; site assessment sample locations (july 2005).dwg

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0635

TurnKey Environmental Restoration, LLC

JOB NO.: 0062-002-510

SITE ASSESSMENT SAMPLE LOCATIONS

SITE ASSESSMENT REPORT

FORMER AUGUST FEINE & SONS COMPANY PARCEL
BUFFALO, NEW YORK

PREPARED FOR
STEELFIELDS, LTD.

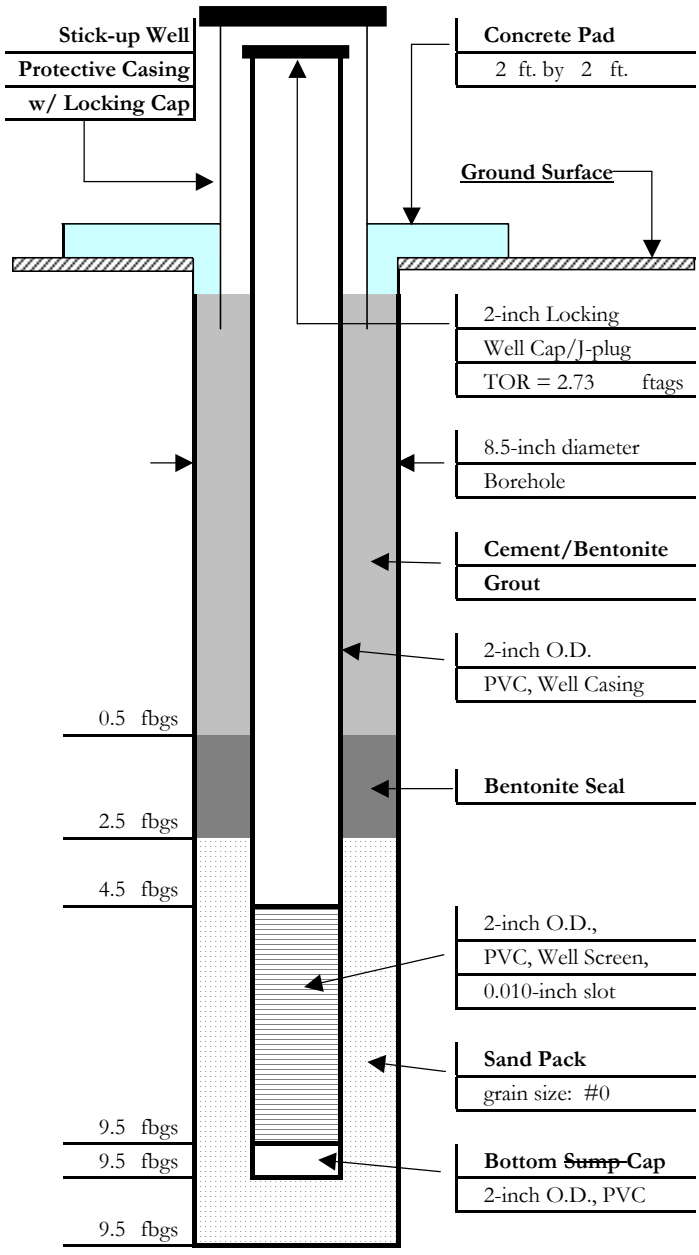
FIGURE 3

APPENDIX A

FIELD BOREHOLE LOGS

STICK-UP MONITORING WELL COMPLETION DETAIL

Project Name:	**Former August Feine (FAF) - Site Assessment**	WELL NUMBER:	**A2-MW-20**
Client:	**Steelfields, LTD.**	Date Installed:	**07/06/05**
Boring Location:	**North of FAF Building**	Project Number:	**0062-002-510**



Driller Information

Company:	BMS Drilling (Geoprobe), C&W (HSA)
Driller:	Dennis Sullivan - Phil Bence
Helper:	NA - Kevin O'Donnell
Permit Number:	*NA*
Drill Rig Type:	Geoprobe 5410 - CME 55

Well Information

Land Surface Elevation:	588.81	fmsl (approximate)
Drilling Method:	direct push (sampling), HSA (installation)	
Soil Sample Collection Method:	4' macrocore	
Drilling Fluid:	*none*	
Fluid Loss During Drilling:	*NA*	gallons (approximate)

Material of Well Construction

Casing:	2" Schedule 40 PVC
Screen:	2" Schedule 40 PVC, 0.010-inch slot
Sump:	none
Sand Pack:	#0
Annular Seal:	medium bentonite chips

Well Development

Well Purpose:	groundwater monitoring	
Techneque(s):	surge and purge	
Date Completed:	07/12/05	
BM/TK Personnel	BCH, RLD	
Total Volume Purge:	10	gallons
Static Water Level (SWL):	8.89	fbTOR
Pump Depth: bottom of well		
Purge Duration:	17	minutes
Yeild:	0.59	gpm
Specific Capacity:	0.16	gpm/ft

Comments: saturated thickness: SWL - stickup = 6.16 fbgs

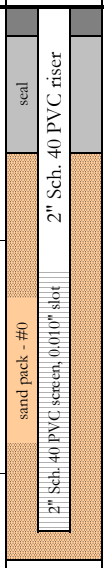
Total Depth =	12.58	fbTOR	Total Depth - SWL =	3.69	feet
stick-up =	2.73	feet			
Total Depth =	9.85	fbgs			

PREPARED BY: *Bryan C. Hann* DATE: 07/06/05

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**A2-MW-20**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields, LTD.	**Start Date/Time:**	07/06/05 12:00 PM
Drilling Company:	BMS Drilling, Inc.	**End Date/Time:**	07/06/05 12:20 PM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	N/A	**Drilling Method:**	direct-push, 4.25 HSA
Rig Type:	Geoprobe 5410 (soil sampling); CME 55 (well install.)	**Weather:**	partly sunny, sl. breeze, humid, 77° F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Temp. Well Detail (if required)
588.81	0								
586.81	2	S1	1.8	Grass and weeds at grade **FILL:** Brown to dark brown, moist, 70% NPF, 20% bricks/concrete, 10% FS, dense, loose when disturbed	FILL	0.0	NA	n	
584.81	4								
582.81	6	S2	2.1	Same as S1 above, moist to wet 0.8 wet 1.1 - 1.9 Black MS, wet	FILL	0.0	NA	n	
580.81	8								
578.81	10	S3	2.5	0.0 - 0.3 Same as S1 above, wet 0.3 - 1.2 Reworked native material (see 1.5 - 2.5 below) 1.2 - 1.5 Same as S1 above, black, wet 1.5 - 2.5 **LEAN CLAY with SAND:** Dark grey with iron stained mottling, moist, 80% MPF, 20% FS, firm to stiff	FILL CL	0.0	NA	n	
576.81	12								
574.81	14			EOB: 12.0 fbgs Monitoring well installed using CME 55 and 4.25" HSA					
572.81	16								
570.81	18								
568.81	20								



ABREVIATIONS:

C = coarse	fbgs = feet below ground su	HSA = hollow stem auger	MS = medium sand
CG = coarse gravel	FG = fine gravel	LP = low plasticity	NA = not applicable
CS = coarse sand	fmsl = feet above mean sea	LWD = loose when disturbed	NPF = not plastic fines
EOB = end of boring	FS = fine sand	M = medium	SA = sub-angular
F = fines or fine	HP = high plasticity	MP = medium plasticity	SR = sub-rounded
			SS = split spoon

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-01**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 11:00 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 11:20 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
584.91	0								
582.91	2	S1	2.7	**FILL:** Dark brown to black, moist to wet, 70% coal/coke fines, 20% slag, brick, and wood, 10% fine sand, dense, loose when disturbed, non-plastic, wood may be railroad tie, strong petroleum odor, no visible product wet @ 2.3 fbgs	FILL	36.0	NA	yes	0.0 - 4.6
580.91	4								
578.91	6	S2	2.4	0.0 - 0.6 Same as S1 above, wet, strong petroleum odor, sheen 0.6 - 2.4 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, soft to firm	FILL CL	135 5.8	NA	yes no	0.0 - 4.6 --
576.91	8								
574.91	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
572.91	12								
570.91	14								
568.91	16								
566.91	18								
564.91	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9602.80
Approximate quantity used:	NA			Easting:	8673.27

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-02**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 10:45 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 11:00 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
584.56	0								
582.56	2	S1	2.7	**FILL:** Dark brown to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, very dense, loose when disturbed, non-plastic, no observable odor, slight sheen wet @ 1.8 fbgs	FILL	0.0	NA	yes	0.0 - 4.5
580.56	4								
578.56	6	S2	3.4	0.0 - 0.5 Same as S1 above, wet 0.5 - 3.4 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, firm to stiff	FILL CL	0.0 0.0	NA	yes no	0.0 - 4.5 --
576.56	8								
574.56	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
572.56	12								
570.56	14								
568.56	16								
566.56	18								
564.56	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9634.45
Approximate quantity used:	NA			Easting:	8667.99

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-03**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 10:25 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 10:45 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
584.59	0								
582.59	2	S1	2.0	**FILL:** Dark brown to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, dense, loose when disturbed, non-plastic, slight petroleum odor and sheen wet @ 1.5 fbgs	FILL	2.0	NA	yes	0.0 - 4.5
580.59	4								
578.59	6	S2	3.4	0.0 - 0.5 Same as S1 above, wet 0.5 - 3.4 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, soft to firm	FILL CL	0.0 0.0	NA	yes no	0.0 - 4.5 --
576.59	8								
574.59	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
572.59	12								
570.59	14								
568.59	16								
566.59	18								
564.59	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9674.38
Approximate quantity used:	NA			Easting:	8659.42

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-04**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 10:10 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 10:25 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
585.39	0								
583.39	2	S1	2.0	**FILL:** Dark brown to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, very dense, loose when disturbed, non-plastic wet @ 1.8 fbgs	FILL	0.0	NA	yes	0.0 - 4.8
581.39	4								
579.39	6	S2	3.0	0.0 - 0.8 Same as S1 above, wet 0.8 - 3.0 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, firm to stiff	FILL CL	0.0 0.0	NA	yes no	0.0 - 4.8 --
577.39	8								
575.39	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
573.39	12								
571.39	14								
569.39	16								
567.39	18								
565.39	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9640.56
Approximate quantity used:	NA			Easting:	8824.26

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-05**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 09:45 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 10:10 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
585.39	0								
583.39	2	S1	2.1	**FILL:** Dark grey to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, very dense, loose when disturbed, non-plastic, strong petroleum odor, no visible product wet @ 1.5 fbgs	FILL	6.9	NA	yes	0.0 - 4.5
581.39	4								
579.39	6	S2	2.6	0.0 - 0.5 Same as S1 above, wet, slight sheen 0.5 - 2.6 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, stiff	FILL CL	10.8 0.0	NA	yes no	0.0 - 4.5 --
577.39	8								
575.39	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
573.39	12								
571.39	14								
569.39	16								
567.39	18								
565.39	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9676.09
Approximate quantity used:	NA			Easting:	8817.45

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-06**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 09:25 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 09:45 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
585.34	0								
583.34	2	S1	2.3	**FILL:** Dark grey to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, very dense, loose when disturbed, non-plastic, slight petroleum odor, no visible product wet @ 1.5 fbgs	FILL	3.2	NA	yes	0.0 - 4.5
581.34	4								
579.34	6	S2	3.1	0.0 - 0.3 Same as S1 above, wet, slight sheen on macro-core 0.3 - 3.1 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, stiff	FILL CL	0.4 0.0	NA	yes no	0.0 - 4.5 --
577.34	8								
575.34	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
573.34	12								
571.34	14								
569.34	16								
567.34	18								
565.34	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9701.07
Approximate quantity used:	NA			Easting:	8813.59

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-07**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 09:00 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 09:25 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
585.35	0								
583.35	2	S1	1.7	**FILL:** Dark brown to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, dense, loose when disturbed, non-plastic, slight petroleum odor, no visible product wet @ 1.0 fbgs	FILL	3.2	NA	yes	0.0 - 4.5
581.35	4								
579.35	6	S2	3.4	0.0 - 0.6 Same as S1 above, wet 0.6 - 3.4 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, firm to stiff	FILL CL	0.0 0.0	NA	yes no	0.0 - 4.5 --
577.35	8								
575.35	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
573.35	12								
571.35	14								
569.35	16								
567.35	18								
565.35	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9679.11
Approximate quantity used:	NA			Easting:	8982.06

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-08**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 08:40 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 09:00 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
584.76	0								
582.76	2	S1	2.3	**FILL:** Dark brown to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, dense to hard, loose when disturbed, non-plastic wet @ 1.1 fbgs	FILL	0.0	NA	yes	0.0 - 4.5
580.76	4								
578.76	6	S2	2.8	0.0 - 0.4 Same as S1 above, wet 0.4 - 2.8 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, firm	FILL CL	0.0 0.0	NA	yes no	0.0 - 4.5 --
576.76	8								
574.76	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
572.76	12								
570.76	14								
568.76	16								
566.76	18								
564.76	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9700.80
Approximate quantity used:	NA			Easting:	8958.43

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-09**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 08:15 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 08:40 AM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
585.11	0								
583.11	2	S1	2.3	**FILL:** Dark brown to black, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, dense, loose when disturbed, non-plastic wet @ 1.1 fbgs	FILL	0.0	NA	yes	0.0 - 8.5
581.11	4								
579.11	6	S2	0.0	No recovery, wet	FILL	NA	NA	no	--
577.11	8								
575.11	10	S3	3.7	0.0 - 1.8 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist, 80% fines, 20% fine sand, medium plasticity, firm 1.8 - 2.5 **SANDY LEAN CLAY:** Dark grey with iron stained mottling, wet, 60% fines, 40% fine to medium sand, medium plasticity, soft 2.5 - 3.7 **CLAYEY SAND:** Dark orange/brown, wet, 70% fine to medium sand 30% low to medium plasticity fines, medium dense, rapid dilatency	CL CL SC	0.0 0.0 0.0	NA	no	--
573.11	12								
571.11	14			*EOB @ 12.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill* *soil/fill-native interface is suspected to be approximately 4.5 fbgs; driller error (i.e., not using macro-core basket) allowed 4.0 - 8.0 fbgs sample to fall out, recovered soil/fill (approx. 0.3-feet) is suspected as being slough, baskets were used for all remaining borings*					
569.11	16								
567.11	18								
565.11	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9729.06
Approximate quantity used:	NA			Easting:	8940.56

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-10**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 01:30 PM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 01:55 PM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	partly sunny, slight breeze, humid, 77 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
584.32	0								
582.32	2	S1	3.4	0.0 - 0.5 CONCRETE 0.5 - 3.4 **FILL:** Black with light grey, moist to wet, 70% coal/coke fines, 20% slag and brick, 10% fine sand, dense, loose when disturbed, non-plastic wet @ 1.2 fbgs	FILL	0.0	NA	yes	0.0 - 5.0
580.32	4								
578.32	6	S2	3.3	0.0 - 1.0 Same as S1 above, wet 1.0 - 3.3 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, firm to stiff	FILL CL	1.3 0.0	NA	yes no	0.0 - 5.0 --
576.32	8								
574.32	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
572.32	12								
570.32	14								
568.32	16								
566.32	18								
564.32	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9596.27
Approximate quantity used:	NA			Easting:	8453.95

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-11**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 01:55 PM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 02:15 PM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	partly sunny, slight breeze, humid, 77 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
584.45	0								
582.45	2	S1	2.5	0.0 - 0.5 CONCRETE 0.5 - 2.5 **FILL:** Light grey to black, moist to wet, 70% coal/coke fines, 20% slag and concrete, 10% fine sand, dense, loose when disturbed, non-plastic wet @ 1.3 fbgs	FILL	0.0	NA	yes	0.0 - 4.5
580.45	4								
578.45	6	S2	2.4	0.0 - 0.5 Same as S1 above, wet 0.5 - 2.4 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist 80% fines, 20% fine sand, medium plasticity, firm to stiff	FILL CL	0.0 0.0	NA	yes no	0.0 - 4.5 --
576.45	8								
574.45	10			*EOB @ 8.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
572.45	12								
570.45	14								
568.45	16								
566.45	18								
564.45	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9771.12
Approximate quantity used:	NA			Easting:	8794.92

FIELD GEOPROBE BOREHOLE LOG

Project Name:	Former August Feine - ESI	**BORING NUMBER:**	**FAF-B-12**
Project Number:	0062-002-510	**Location:**	Former August Feine Parcel
Client:	Steelfields LTD.	**Start Date/Time:**	07/06/05 / 11:20 AM
Drilling Company:	BMS Drilling Services, Inc.	**End Date/Time:**	07/06/05 / 12:00 PM
Driller:	Dennis Sullivan	**Logged By:**	BCH
Helper:	none	**Drilling Method:**	direct push with 4-foot macro-core
Rig Type:	Geoprobe 5410	**Weather:**	cloudy, slight breeze, 65 °F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Remarks
588.69	0								
586.69	2	S1	2.1	**FILL:** Orange/brown to dark brown, moist, 70% fines, 20% brick/concrete, 10% fine sand, dense, loose when disturbed, non-plastic	FILL	0.0	NA	yes	0.0 - 8.5
584.69	4								
582.69	6	S2	2.0	Same as S1 above, moist to wet wet @ 5.0 fbgs	FILL	0.0	NA	yes	0.0 - 8.5
580.69	8								
578.69	10	S3	2.9	0.0 - 0.6 Same as S1 above, wet 0.6 - 2.9 **LEAN CLAY with SAND:** Dark grey with iron-stained mottling, moist, 80% fines, 20% fine sand, medium plasticity, soft to firm	FILL CL	0.0 0.0	NA	yes no	0.0 - 8.5 --
576.69	12								
574.69	14			*EOB @ 12.0 fbgs* *borehole backfilled to grade with soil cuttings and surrounding soil/fill*					
572.69	16								
570.69	18								
568.69	20								

ABANDONMENT:

Method:	soil cuttings	cement/bentonite grout:	NA	Northing:	9745.72
Approximate quantity used:	NA			Easting:	8382.27

TurnKey Environmental Restoration, LLC

FIELD BOREHOLE LOG

Project Name: Steelfields Former Steel Manuf. Site
Project Number: 0062-002-200
Client: Steelfields
Drilling Company: Earth Dimensions
Driller: Brian Bartron
Helper: Jessie
Rig Type: D50

BORING NUMBER: A2-SB-108
Location:
Start Date/Time: 2/14/03 12:00
End Date/Time: 2/14/03
Logged By: JWM
Drilling Method: 4 1/4" HSA
Weather: ~15°F, Partly Sunny

Depth (bgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type, Texture, Plasticity, Fabric, Bedding, Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Penetrometer (tons/SF)
0					Advance 4 1/4" HSA to 1' without Sampling.				
1	1	50/4		.1	Hard gravel fill.				
2	2	29 22 5 16		1.2	1.0 Sand & gravel fill, gray & dark gray color, loose when disturbed, compact .2 Black coarse & medium sand size material, strong tar odor	0			
4	3	10 10 2 2		1.1	.1 As Above 1.0 Dark gray brown clayey silt, black mottles	0			
6					Boring complete at 6'. Boring Filled to surface with cuttings.				

ABANDONMENT:

Volume of cement/bentonite grout required: $V = pr^2 \times 7.48 =$ gallons borehole depth =
Volume of cement/bentonite grout installed: gallons borehole diameter =
Has bridging of grout occurred? ☐ yes ☐ no If yes, explain resolution: borehole radius =

Method of installation:

TurnKey Environmental Restoration, LLC

FIELD BOREHOLE LOG

Project Name: Steelfields Former Steel Manuf. Site
Project Number: 0062-
Client: Steelfields
Drilling Company: Earth Dimensions
Driller: Brian Bartron
Helper: Jessie
Rig Type: D50

BORING NUMBER: A2-SB-109
Location:
Start Date/Time: 2/14/03
End Date/Time: 2/14/03 1:45
Logged By: JMM
Drilling Method: 4 1/4" HSA
Weather: ~15°F, Partly Sunny

Depth (bgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type, Texture, Plasticity, Fabric, Bedding, Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Penetrometer (tons/SF)
0					Advance 4 1/4" HSA to 2' without Sampling.				
2	1	9 6 5 5		0.1	1 piece gravel in shoe, little sand, naphtha odor	0			
4	2	1 3 2 5		1.0	Gray clayey silt, little clay, naphtha odor, product along cracks				
6					Boring complete at 6'. Boring filled to surface with cuttings.				

ABANDONMENT:

Volume of cement/bentonite grout required: $V = pr^2 \times 7.48 =$ gallons borehole depth =
Volume of cement/bentonite grout installed: gallons borehole diameter =
Has bridging of grout occurred? ☐ yes ☐ no If yes, explain resolution: borehole radius =
Method of installation:

APPENDIX B

GROUNDWATER WELL DEVELOPMENT LOGS

GROUNDWATER WELL DEVELOPMENT LOG

Project Name:	Former August Feine ESI	WELL NUMBER:	**A2-MW-15**
Project Number:	0062-002-510	Sample Matrix:	groundwater
Client:	Steelfields, LTD.	Weather:	sunny, humid, slight breeze, 90 °F

WELL DATA:

DATE:	07/12/05	TIME:	15:05

Casing Diameter (inches):	2.0	Casing Material:	Schedule 40 PVC
Screened interval (fbTOR):	10.18 - 15.18	Screen Material:	Schedule 40 PVC
Static Water Level (fbTOR):	6.80	Bottom Depth (fbTOR):	15.18
Elevation Top of Well Riser (fmsl):	589.56	Datum Ground Surface:	Mean Sea Level
Elevation Top of Screen (fmsl):	579.38	Stick-up (feet):	2.04

PURGING DATA:

DATE:	07/12/05	START TIME:	15:09	END TIME:	15:40

VOLUME CALCULATION:

(A) Total Depth of Well (fbTOR):	15.18
(B) Casing Diameter (inches):	2.0
(C) Static Water Level (fbTOR):	6.80
One Well Volume (V, gallons): $V = 0.0408 [(B)^2 \times \{ (A) - (C) \}]$	1.37

*Use the table to the right to calculate one well volume.

Field Personnel: BCH

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

Stabilization Criteria

Parameter	Criteria
DO	+/- 0.3 mg/L
Turbidity	+/- 10%
SC	+/- 3%
ORP	+/- 10 mV
pH	+/- 0.1 unit

EVACUATION STABILIZATION TEST DATA:

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (degrees C)	Specific Conductance (μS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
15:10	6.80	0.0	6.42	22.3	1625	> 1000	--	- 30	orange
15:15	7.50	1.5	6.30	19.0	1645	507	--	- 33	light orange
15:20	7.65	3.0	6.29	17.4	1641	577	--	- 27	light orange
15:23	7.89	5.0	6.36	16.2	1583	415	--	- 28	light orange
15:27	7.92	7.0	6.30	17.0	1650	> 1000	--	- 30	lt. orange/brown
15:31	7.99	10.0	6.36	14.6	1650	200	--	- 25	lt. orange/brown
15:35	8.02	12.0	6.43	14.6	1669	37.9	--	- 24	clear
15:38	8.04	13.5	6.43	14.0	1670	21.5	--	- 25	clear
15:40	8.05	15.0	6.34	13.6	1670	14.5	--	- 19	clear

REMARKS: surged with Waterra foot valve and dedicated tubing
purged with peristaltic pump and dedicated tubing

PREPARED BY: *Bryan C. Hann*

GROUNDWATER WELL DEVELOPMENT LOG

Project Name:	Former August Feine ESI	WELL NUMBER:	**A2-MW-18**
Project Number:	0062-002-510	Sample Matrix:	groundwater
Client:	Steelfields, LTD.	Weather:	sunny, humid, slight breeze, 90 °F

WELL DATA:

DATE:	07/12/05	TIME:	14:21

Casing Diameter (inches):	2.0	Casing Material:	Schedule 40 PVC
Screened interval (fbTOR):	5.17 - 10.17	Screen Material:	Schedule 40 PVC
Static Water Level (fbTOR):	5.45	Bottom Depth (fbTOR):	10.17
Elevation Top of Well Riser (fmsl):	587.64	Datum Ground Surface:	Mean Sea Level
Elevation Top of Screen (fmsl):	582.47	Stick-up (feet):	1.9

PURGING DATA:

DATE:	07/12/05	START TIME:	14:42	END TIME:	16:50

VOLUME CALCULATION:

(A) Total Depth of Well (fbTOR):	10.17
(B) Casing Diameter (inches):	2.0
(C) Static Water Level (fbTOR):	5.45
One Well Volume (V, gallons): $V = 0.0408 [(B)^2 \times \{ (A) - (C) \}]$	0.77

*Use the table to the right to calculate one well volume.

Field Personnel: BCH, RLD

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

Stabilization Criteria

Parameter	Criteria
DO	+/- 0.3 mg/L
Turbidity	+/- 10%
SC	+/- 3%
ORP	+/- 10 mV
pH	+/- 0.1 unit

EVACUATION STABILIZATION TEST DATA:

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (degrees C)	Specific Conductance (μS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
14:42	5.45	0.0	6.87	32.8	3868	> 1000	--	- 136	dark grey
14:44	7.35	1.0	6.95	25.7	4118	> 1000	--	- 128	dark grey
14:48	8.29	2.0	7.20	23.0	3139	> 1000	--	- 100	dark grey
14:54	10.10	3.5	6.99	23.6	2645	> 1000	--	- 56	dark grey
15:54	10.10	5.0	7.04	21.9	2770	> 1000	--	- 92	dark grey
16:38	10.10	6.0	7.11	22.4	1893	> 1000	--	+ 44	dark grey
16:46	10.10	7.0	7.27	21.8	1880	> 1000	--	+ 57	grey
16:50	10.10	7.5	7.34	21.5	1656	> 1000	--	+ 49	grey

REMARKS: surged with Waterra foot valve and dedicated tubing
purged with peristaltic pump and dedicated tubing

PREPARED BY: *Bryan C. Hann*

GROUNDWATER WELL DEVELOPMENT LOG

Project Name:	Former August Feine ESI	WELL NUMBER:	**A2-MW-20**
Project Number:	0062-002-510	Sample Matrix:	groundwater
Client:	Steelfields, LTD.	Weather:	sunny, humid, slight breeze, 90 °F

WELL DATA:

DATE:	07/12/05	TIME:	16:04

Casing Diameter (inches):	2.0	Casing Material:	Schedule 40 PVC
Screened interval (fbTOR):	7.58 - 12.58	Screen Material:	Schedule 40 PVC
Static Water Level (fbTOR):	8.89	Bottom Depth (fbTOR):	12.58
Elevation Top of Well Riser (fmsl):	591.54	Datum Ground Surface:	Mean Sea Level
Elevation Top of Screen (fmsl):	583.96	Stick-up (feet):	2.73

PURGING DATA:

DATE:	07/12/05	START TIME:	16:10	END TIME:	16:27

VOLUME CALCULATION:

(A) Total Depth of Well (fbTOR):	12.58
(B) Casing Diameter (inches):	2.0
(C) Static Water Level (fbTOR):	8.89
One Well Volume (V, gallons): $V = 0.0408 [(B)^2 \times \{ (A) - (C) \}]$	0.60

*Use the table to the right to calculate one well volume.

Field Personnel: BCH, RLD

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

Stabilization Criteria

Parameter	Criteria
DO	+/- 0.3 mg/L
Turbidity	+/- 10%
SC	+/- 3%
ORP	+/- 10 mV
pH	+/- 0.1 unit

EVACUATION STABILIZATION TEST DATA:

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (degrees C)	Specific Conductance (μS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
16:10	8.89	0.0	8.32	24.0	598.2	> 1000	--	+ 32	dark grey/black
16:14	9.22	1.25	7.78	20.5	697.9	649	--	+ 70	dark grey
16:16	9.25	3.0	7.80	19.9	686.5	< 1000	--	+ 89	dark grey/black
16:19	9.25	5.0	7.82	18.7	698	398	--	+ 76	dark grey
16:21	9.25	6.0	7.75	18.8	714	1000	--	+ 76	dark grey/black
16:24	9.25	8.0	7.84	18.6	715	274	--	+ 88	dark grey
16:27	9.26	10.0	7.71	18.2	708	79.6	--	+ 88	cloudy

REMARKS: surged with Waterra foot valve and dedicated tubing
purged with peristaltic pump and dedicated tubing

PREPARED BY: *Bryan C. Hann*

APPENDIX C

LOW-FLOW METHOD GROUNDWATER PURGE & SAMPLE COLLECTION LOGS

APPENDIX C

LOW-FLOW METHOD GROUNDWATER PURGE & SAMPLE COLLECTION LOGS

LOW FLOW METHOD GROUNDWATER PURGE & SAMPLE COLLECTION LOG

Project Name:	Former August Feine ESI	WELL NUMBER:	**A2-MW-15**
Project Number	0062-002-510	Sample Matrix:	groundwater
Client:	Steelfields, LTD.	Weather:	partly sunny, humid, slight breeze, 80 °F

WELL DATA:

DATE: 07/18/05 TIME: 10:04

Casing Diameter (inches):	2.0	Casing Material:	Schedule 40 PVC
Screened interval (fbTOR):	10.18 - 15.18	Screen Material:	Schedule 40 PVC
Static Water Level (fbTOR):	6.84	Bottom Depth (fbTOR):	15.18
Elevation Top of Well Riser (fmsl):	589.56	Ground Surface Elevation (fm	577.34
Elevation Top of Screen (fmsl):	579.38	Stick-up (feet):	2.04
Standing volume in gallons: [(bottom depth - static water level) x vol calculation in table per well diameter]:		1.36	

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469

PURGING DATA:

Pump Type: peristaltic pump with dedicated tubing

Is equipment dedicated to location? (yes) no — Is tubing dedicated to location? (yes) no

Depth of Sample (i.e. Level of Intake) (fbTOR) 15.00 — Approximate Purge Rate (gal/min) 0.33

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (degrees C)	Specific Conductance (μS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
10:09	Initial	0.0	6.94	17.1	1566	42	--	- 30	clear
10:11	7.36	0.8	6.58	16.5	1659	108	--	- 33	cloudy
10:13	7.37	1.3	6.38	16.0	1647	36	--	- 21	clear
10:15	7.38	2.0	6.35	15.3	1670	20	--	- 35	clear

SAMPLING DATA:

DATE: 07/18/05 START TIME: 10:17 END TIME: 10:33

Method:	low-flow with dedicated tubing	Was well sampled to dryness?	yes (no)
Initial Water Level (fbTOR):	7.38	Was well sampled below top of sand pack?	yes (no)
Final Water Level (fbTOR):	7.38	Field Personnel:	BCH, RLD

PHYSICAL & CHEMICAL DATA:

Appearance:	clear	WATER QUALITY MEASUREMENTS				
Color:	none	pH (units)	TEMP. (°C)	SC (uS)	TURB. (NTU)	DO (ppm)	ORP (mV)
Odor:	none	6.44	15.3	1666	13.5	--	- 29
Sediment Present?	no	6.61	15.7	1648	6.08	--	- 32

REMARKS: Blind Duplicate collected at this location

PREPARED BY: *Richard L. Dubisz*

LOW FLOW METHOD GROUNDWATER PURGE & SAMPLE COLLECTION LOG

Project Name:	Former August Feine ESI	WELL NUMBER:	**A2-MW-18**
Project Number	0062-002-510	Sample Matrix:	groundwater
Client:	Steelfields, LTD.	Weather:	partly sunny, humid, slight breeze, 80 °F

WELL DATA:

DATE: 07/18/05 TIME: 10:38

Casing Diameter (inches):	2.0	Casing Material:	Schedule 40 PVC
Screened interval (fbTOR):	5.17 - 10.17	Screen Material:	Schedule 40 PVC
Static Water Level (fbTOR):	5.40	Bottom Depth (fbTOR):	10.17
Elevation Top of Well Riser (fmsl):	587.64	Ground Surface Elevation (fm	580.57
Elevation Top of Screen (fmsl):	582.47	Stick-up (feet):	1.9
Standing volume in gallons: [(bottom depth - static water level) x vol calculation in table per well diameter]:		0.78	

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469

PURGING DATA:

Pump Type: peristaltic pump with dedicated tubing

Is equipment dedicated to location? (yes) no

Is tubing dedicated to location? (yes) no

Depth of Sample (i.e. Level of Intake) (fbTOR) 10.00

Approximate Purge Rate (gal/min) 0.17

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (degrees C)	Specific Conductance (μS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
10:41	Initial	0.0	7.05	22.0	2704	523	--	- 45	cloudy/turbid
10:43	6.56	0.3	7.20	21.6	1663	60	--	- 11	cloudy
10:45	7.12	0.5	7.34	22.0	1089	71	--	- 3	sl. Cloudy
10:47	7.39	1.0	7.38	22.9	1094	108	--	- 38	cloudy

SAMPLING DATA:

DATE: 07/18/05 START TIME: 10:48 END TIME: 10:59

Method:	low-flow with dedicated tubing	Was well sampled to dryness?	yes (no)
Initial Water Level (fbTOR):	7.70	Was well sampled below top of sand pack?	(yes) no
Final Water Level (fbTOR):	8.88	Field Personnel:	BCH, RLD

PHYSICAL & CHEMICAL DATA:

Appearance: cloudy

Color: none

Odor: none

Sediment Present? no

WATER QUALITY MEASUREMENTS					
pH (units)	TEMP. (°C)	SC (uS)	TURB. (NTU)	DO (ppm)	ORP (mV)
7.48	22.0	1486	135	--	- 70
7.24	21.7	1822	159	--	- 41

REMARKS:

PREPARED BY: *Richard L. Dubisz*

LOW FLOW METHOD GROUNDWATER PURGE & SAMPLE COLLECTION LOG

Project Name: Former August Feine ESI | WELL NUMBER: **A2-MW-20**

Project Number 0062-002-510 | Sample Matrix: groundwater

Client: Steelfields, LTD. | Weather: partly sunny, humid, slight breeze, 80 °F

WELL DATA:

DATE: 07/18/05 | TIME: 9:25

Casing Diameter (inches):	2.0	Casing Material:	Schedule 40 PVC
Screened interval (fbTOR):	7.58 - 12.58	Screen Material:	Schedule 40 PVC
Static Water Level (fbTOR):	8.92	Bottom Depth (fbTOR):	12.58
Elevation Top of Well Riser (fmsl):	591.54	Ground Surface Elevation (fm	588.81
Elevation Top of Screen (fmsl):	583.96	Stick-up (feet):	2.73
Standing volume in gallons: [(bottom depth - static water level) x vol calculation in table per well diameter]:		0.60	

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469

PURGING DATA:

Pump Type: peristaltic pump with dedicated tubing

Is equipment dedicated to location? (yes) no | Is tubing dedicated to location? (yes) no

Depth of Sample (i.e. Level of Intake) (fbTOR) 12.00 | Approximate Purge Rate (gal/min) 0.25

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (degrees C)	Specific Conductance (μS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
9:28	Initial	0.0	8.08	20.3	897	49.7	--	+ 122	clear
9:30	9.01	0.3	7.86	19.8	757	185	--	+ 119	cloudy
9:32	9.01	1.0	7.74	19.2	737	125	--	+ 120	cloudy
9:35	9.01	1.8	7.74	19.0	746	94	--	+ 138	cloudy

SAMPLING DATA:

DATE: 07/18/05 | START TIME: 9:36 | END TIME: 9:58

Method: low-flow with dedicated tubing | Was well sampled to dryness? yes (no)

Initial Water Level (fbTOR): 9.01 | Was well sampled below top of sand pack? (yes) no

Final Water Level (fbTOR): 9.01 | Field Personnel: BCH, RLD

PHYSICAL & CHEMICAL DATA:

Appearance: clear

Color: none

Odor: none

Sediment Present? no

WATER QUALITY MEASUREMENTS

pH (units)	TEMP. (°C)	SC (uS)	TURB. (NTU)	DO (ppm)	ORP (mV)
7.69	19.8	732	30	--	+ 138
7.97	20.0	730	9.2	--	+ 143

REMARKS: MS/MSD collected at this location

PREPARED BY: *Richard L. Dubisz*

APPENDIX D

SEVERN TRENT LABORATORIES, INC.
LABORATORY ANALYTICAL DATA PACKAGE

(Due to the size of this attachment, only the raw data is provided; the full package is available upon request)

Client ID		BLIND DUPLICATE		FAF-B-01		FAF-B-02		FAF-B-03	
Job No / Lab ID		A05-7063 / A5706313		A05-7063 / A5706301		A05-7063 / A5706302		A05-7063 / A5706303	
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/KG	1.6	1.2	770	60	3.6	1.3	3.5	1.0
n-Butylbenzene	UG/KG	ND	1.2	ND	60	2.4	1.3	3.9	1.0
sec-Butylbenzene	UG/KG	ND	1.2	130	60	ND	1.3	ND	1.0
tert-Butylbenzene	UG/KG	ND	1.2	ND	60	ND	1.3	ND	1.0
Ethylbenzene	UG/KG	ND	1.2	160	60	1.6	1.3	1.3	1.0
Isopropylbenzene	UG/KG	ND	1.2	ND	60	ND	1.3	ND	1.0
p-Cymene	UG/KG	ND	1.2	66	60	ND	1.3	ND	1.0
n-Propylbenzene	UG/KG	ND	1.2	ND	60	ND	1.3	ND	1.0
Toluene	UG/KG	1.5	1.2	1600	60	5.4	1.3	7.4	1.0
o-Xylene	UG/KG	ND	1.2	300	60	2.8	1.3	1.9	1.0
m-Xylene	UG/KG	ND	1.2	2400 1	60	4.1 1	1.3	3.2 1	1.0
p-Xylene	UG/KG	ND	1.2	ND 1	60	ND 1	1.3	ND 1	1.0
Total Xylenes	UG/KG	ND	3.6	2700	180	6.9	3.8	5.1	3.0
Methyl-t-Butyl Ether (MTBE)	UG/KG	ND	1.2	ND	60	ND	1.3	ND	1.0
1,2,4-Trimethylbenzene	UG/KG	ND	1.2	3200	60	3.1	1.3	5.8	1.0
1,3,5-Trimethylbenzene	UG/KG	ND	1.2	1600	60	2.9	1.3	2.8	1.0
SURROGATE(S)									
p-Bromofluorobenzene	%	97	66-134	110	66-134	96	66-134	98	66-134
a,a,a-Trifluorotoluene	%	92	76-127	109	76-127	92	76-127	93	76-127

NA = Not Applicable ND = Not Detected

Client ID		FAF-B-04		FAF-B-05		FAF-B-06		FAF-B-07	
Job No / Lab ID		A05-7063 / A5706304		A05-7063 / A5706305		A05-7063 / A5706306		A05-7063 / A5706307	
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/KG	17	1.3	320	1.2	25	1.1	9.5	1.2
n-Butylbenzene	UG/KG	2.8	1.3	ND	1.2	39	1.1	ND	1.2
sec-Butylbenzene	UG/KG	ND	1.3	ND	1.2	ND	1.1	3.7	1.2
tert-Butylbenzene	UG/KG	ND	1.3	ND	1.2	ND	1.1	2.2	1.2
Ethylbenzene	UG/KG	ND	1.3	ND	1.2	1.4	1.1	ND	1.2
Isopropylbenzene	UG/KG	3.5	1.3	ND	1.2	2.7	1.1	ND	1.2
p-Cymene	UG/KG	ND	1.3	ND	1.2	0.58 J	1.1	ND	1.2
n-Propylbenzene	UG/KG	ND	1.3	ND	1.2	ND	1.1	ND	1.2
Toluene	UG/KG	8.7	1.3	17	1.2	1.5	1.1	1.4	1.2
o-Xylene	UG/KG	26	1.3	17	1.2	12	1.1	ND	1.2
m-Xylene	UG/KG	36 1	1.3	6.4 1	1.2	5.2 1	1.1	3.5 1	1.2
p-Xylene	UG/KG	ND 1	1.3	ND 1	1.2	ND 1	1.1	ND 1	1.2
Total Xylenes	UG/KG	62	3.8	24	3.5	17	3.4	3.5 J	3.8
Methyl-t-Butyl Ether (MTBE)	UG/KG	ND	1.3	ND	1.2	ND	1.1	ND	1.2
1,2,4-Trimethylbenzene	UG/KG	55	1.3	9.1	1.2	27	1.1	ND	1.2
1,3,5-Trimethylbenzene	UG/KG	37	1.3	ND	1.2	11	1.1	ND	1.2
SURROGATE(S)									
p-Bromofluorobenzene	%	100	66-134	93	66-134	98	66-134	106	66-134
a,a,a-Trifluorotoluene	%	92	76-127	97	76-127	89	76-127	91	76-127

NA = Not Applicable ND = Not Detected

Client ID		FAF-B-08		FAF-B-09		FAF-B-10		FAF-B-11	
Job No / Lab ID		A05-7063 / A5706308		A05-7063 / A5706309		A05-7063 / A5706310		A05-7063 / A5706311	
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/KG	4.4	1.1	1.3	1.1	1.9	1.2	ND	1.3
n-Butylbenzene	UG/KG	ND	1.1	ND	1.1	ND	1.2	ND	1.3
sec-Butylbenzene	UG/KG	ND	1.1	ND	1.1	ND	1.2	ND	1.3
tert-Butylbenzene	UG/KG	ND	1.1	ND	1.1	ND	1.2	ND	1.3
Ethylbenzene	UG/KG	ND	1.1	2.0	1.1	ND	1.2	ND	1.3
Isopropylbenzene	UG/KG	ND	1.1	ND	1.1	ND	1.2	ND	1.3
p-Cymene	UG/KG	ND	1.1	ND	1.1	ND	1.2	ND	1.3
n-Propylbenzene	UG/KG	ND	1.1	ND	1.1	ND	1.2	ND	1.3
Toluene	UG/KG	ND	1.1	1.2	1.1	1.2	1.2	ND	1.3
o-Xylene	UG/KG	ND	1.1	3.8	1.1	ND	1.2	ND	1.3
m-Xylene	UG/KG	ND	1.1	7.9 1	1.1	ND	1.2	ND	1.3
p-Xylene	UG/KG	ND	1.1	ND 1	1.1	ND	1.2	ND	1.3
Total Xylenes	UG/KG	ND	3.4	12	3.3	ND	3.7	ND	4.0
Methyl-t-Butyl Ether (MTBE)	UG/KG	ND	1.1	ND	1.1	ND	1.2	ND	1.3
1,2,4-Trimethylbenzene	UG/KG	ND	1.1	ND	1.1	ND	1.2	1.7	1.3
1,3,5-Trimethylbenzene	UG/KG	ND	1.1	ND	1.1	2.4	1.2	ND	1.3
SURROGATE(S)									
p-Bromofluorobenzene	%	95	66-134	97	66-134	100	66-134	99	66-134
a,a,a-Trifluorotoluene	%	92	76-127	93	76-127	98	76-127	94	76-127

NA = Not Applicable ND = Not Detected

Client ID		FAF-B-12							
Job No	Lab ID	A05-7063	A5706312						
Sample Date		07/06/2005							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/KG	ND	1.2	NA		NA		NA	
n-Butylbenzene	UG/KG	ND	1.2	NA		NA		NA	
sec-Butylbenzene	UG/KG	ND	1.2	NA		NA		NA	
tert-Butylbenzene	UG/KG	ND	1.2	NA		NA		NA	
Ethylbenzene	UG/KG	ND	1.2	NA		NA		NA	
Isopropylbenzene	UG/KG	ND	1.2	NA		NA		NA	
p-Cymene	UG/KG	ND	1.2	NA		NA		NA	
n-Propylbenzene	UG/KG	ND	1.2	NA		NA		NA	
Toluene	UG/KG	ND	1.2	NA		NA		NA	
o-Xylene	UG/KG	ND	1.2	NA		NA		NA	
m-Xylene	UG/KG	ND	1.2	NA		NA		NA	
p-Xylene	UG/KG	ND	1.2	NA		NA		NA	
Total Xylenes	UG/KG	ND	3.6	NA		NA		NA	
Methyl-t-Butyl Ether (MTBE)	UG/KG	ND	1.2	NA		NA		NA	
1,2,4-Trimethylbenzene	UG/KG	ND	1.2	NA		NA		NA	
1,3,5-Trimethylbenzene	UG/KG	ND	1.2	NA		NA		NA	
SURROGATE(S)									
p-Bromofluorobenzene	%	101	66-134	NA		NA		NA	
a,a,a-Trifluorotoluene	%	94	76-127	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Client ID		BLIND DUPLICATE		FAF-B-01		FAF-B-01 DL		FAF-B-01 DL2	
Job No	Lab ID	A05-7063	A5706313	A05-7063	A5706301	A05-7063	A5706301DL	A05-7063	A5706301D2
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	ND	4000	8700 J	8800	ND	880000	ND	1800000
Acenaphthylene	UG/KG	220 J	4000	88000	8800	83000 DJ	880000	ND	1800000
Anthracene	UG/KG	ND	4000	67000	8800	73000 DJ	880000	ND	1800000
Benzo(a)anthracene	UG/KG	640 J	4000	68000	8800	79000 DJ	880000	ND	1800000
Benzo(b)fluoranthene	UG/KG	1000 J	4000	59000	8800	87000 DJ	880000	ND	1800000
Benzo(k)fluoranthene	UG/KG	1100 J	4000	16000	8800	95000 DJ	880000	ND	1800000
Benzo(ghi)perylene	UG/KG	470 J	4000	28000	8800	ND	880000	ND	1800000
Benzo(a)pyrene	UG/KG	590 J	4000	49000	8800	55000 DJ	880000	ND	1800000
Benzyl alcohol	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Bis(2-chloroethoxy) methane	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Bis(2-chloroethyl) ether	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Bis(2-ethylhexyl) phthalate	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
4-Bromophenyl phenyl ether	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Butyl benzyl phthalate	UG/KG	ND	4000	1100 J	8800	ND	880000	ND	1800000
4-Chloroaniline	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
2-Chloronaphthalene	UG/KG	ND	4000	1000 J	8800	ND	880000	ND	1800000
4-Chlorophenyl phenyl ether	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Chrysene	UG/KG	750 J	4000	56000	8800	54000 DJ	880000	ND	1800000
Dibenzo(a,h)anthracene	UG/KG	ND	4000	9400	8800	ND	880000	ND	1800000
Dibenzofuran	UG/KG	ND	4000	55000	8800	54000 DJ	880000	ND	1800000
Di-n-butyl phthalate	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
1,2-Dichlorobenzene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
1,3-Dichlorobenzene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
1,4-Dichlorobenzene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
3,3'-Dichlorobenzidine	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Diethyl phthalate	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Dimethyl phthalate	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
2,4-Dinitrotoluene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
2,6-Dinitrotoluene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Di-n-octyl phthalate	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Fluoranthene	UG/KG	1400 J	4000	180000 E	8800	190000 DJ	880000	220000 DJ	1800000
Fluorene	UG/KG	ND	4000	74000	8800	72000 DJ	880000	ND	1800000
Hexachlorobenzene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Hexachlorobutadiene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Hexachlorocyclopentadiene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Hexachloroethane	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Indeno(1,2,3-cd)pyrene	UG/KG	410 J	4000	30000	8800	ND	880000	ND	1800000
Isophorone	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
2-Methylnaphthalene	UG/KG	ND	4000	300000 E	8800	240000 DJ	880000	240000 DJ	1800000
Naphthalene	UG/KG	290 J	4000	2400000 E	8800	17000000 DE	880000	18000000 D	1800000
2-Nitroaniline	UG/KG	ND	20000	ND	43000	ND	4300000	ND	8600000
3-Nitroaniline	UG/KG	ND	20000	ND	43000	ND	4300000	ND	8600000

NA = Not Applicable ND = Not Detected

Client ID		BLIND DUPLICATE		FAF-B-01		FAF-B-01 DL		FAF-B-01 DL2	
Job No	Lab ID	A05-7063	A5706313	A05-7063	A5706301	A05-7063	A5706301DL	A05-7063	A5706301D2
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
4-Nitroaniline	UG/KG	ND	20000	ND	43000	ND	4300000	ND	8600000
Nitrobenzene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
N-nitrosodiphenylamine	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
N-Nitroso-Di-n-propylamine	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
Phenanthrene	UG/KG	860 J	4000	220000 E	8800	230000 DJ	880000	250000 DJ	1800000
Pyrene	UG/KG	880 J	4000	110000	8800	120000 DJ	880000	100000 DJ	1800000
1,2,4-Trichlorobenzene	UG/KG	ND	4000	ND	8800	ND	880000	ND	1800000
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	81	50-200	96	50-200	108	50-200	86	50-200
Naphthalene-D8	%	86	50-200	83	50-200	113	50-200	88	50-200
Acenaphthene-D10	%	86	50-200	95	50-200	112	50-200	88	50-200
Phenanthrene-D10	%	91	50-200	86	50-200	112	50-200	92	50-200
Chrysene-D12	%	106	50-200	90	50-200	111	50-200	100	50-200
Perylene-D12	%	134	50-200	135	50-200	116	50-200	117	50-200
Nitrobenzene-D5	%	87	41-120	63	41-120	0 D	41-120	0 D	41-120
2-Fluorobiphenyl	%	93	50-120	50	50-120	0 D	50-120	0 D	50-120
p-Terphenyl-d14	%	76	53-137	50 D	53-137	0 D	53-137	0 D	53-137
Phenol-D5	%	86	41-120	49	41-120	0 D	41-120	0 D	41-120
2-Fluorophenol	%	80	33-120	45	33-120	0 D	33-120	0 D	33-120
2,4,6-Tribromophenol	%	83	53-132	49 D	53-132	0 D	53-132	0 D	53-132

Client ID		FAF-B-02		FAF-B-03		FAF-B-04		FAF-B-05	
Job No	Lab ID	A05-7063	A5706302	A05-7063	A5706303	A05-7063	A5706304	A05-7063	A5706305
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	2600 J	9800	640 J	7700	320 J	2400	6800 J	19000
Acenaphthylene	UG/KG	1100 J	9800	4800 J	7700	5400	2400	2700 J	19000
Anthracene	UG/KG	1400 J	9800	5600 J	7700	5400	2400	4900 J	19000
Benzo(a)anthracene	UG/KG	2600 J	9800	8000	7700	6800	2400	5100 J	19000
Benzo(b)fluoranthene	UG/KG	4200 J	9800	8900	7700	5800	2400	4900 J	19000
Benzo(k)fluoranthene	UG/KG	4600 J	9800	2800 J	7700	2400	2400	1400 J	19000
Benzo(ghi)perylene	UG/KG	2000 J	9800	6400 J	7700	3200	2400	2800 J	19000
Benzo(a)pyrene	UG/KG	2200 J	9800	8100	7700	5200	2400	4400 J	19000
Benzyl alcohol	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Bis(2-chloroethoxy) methane	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Bis(2-chloroethyl) ether	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Bis(2-ethylhexyl) phthalate	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
4-Bromophenyl phenyl ether	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Butyl benzyl phthalate	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
4-Chloroaniline	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
2-Chloronaphthalene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
4-Chlorophenyl phenyl ether	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Chrysene	UG/KG	2800 J	9800	7600 J	7700	6200	2400	5800 J	19000
Dibenzo(a,h)anthracene	UG/KG	630 J	9800	520 J	7700	1100 J	2400	ND	19000
Dibenzofuran	UG/KG	1100 J	9800	2100 J	7700	2800	2400	3200 J	19000
Di-n-butyl phthalate	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
1,2-Dichlorobenzene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
1,3-Dichlorobenzene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
1,4-Dichlorobenzene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
3,3'-Dichlorobenzidine	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Diethyl phthalate	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Dimethyl phthalate	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
2,4-Dinitrotoluene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
2,6-Dinitrotoluene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Di-n-octyl phthalate	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Fluoranthene	UG/KG	5200 J	9800	22000	7700	15000	2400	14000 J	19000
Fluorene	UG/KG	2400 J	9800	3700 J	7700	4500	2400	5900 J	19000
Hexachlorobenzene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Hexachlorobutadiene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Hexachlorocyclopentadiene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Hexachloroethane	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Indeno(1,2,3-cd)pyrene	UG/KG	1900 J	9800	5700 J	7700	3200	2400	2600 J	19000
Isophorone	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
2-Methylnaphthalene	UG/KG	980 J	9800	600 J	7700	4600	2400	ND	19000
Naphthalene	UG/KG	1600 J	9800	4800 J	7700	27000	2400	3200 J	19000
2-Nitroaniline	UG/KG	ND	47000	ND	37000	ND	12000	ND	91000
3-Nitroaniline	UG/KG	ND	47000	ND	37000	ND	12000	ND	91000

NA = Not Applicable ND = Not Detected

Client ID		FAF-B-02		FAF-B-03		FAF-B-04		FAF-B-05	
Job No	Lab ID	A05-7063	A5706302	A05-7063	A5706303	A05-7063	A5706304	A05-7063	A5706305
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
4-Nitroaniline	UG/KG	ND	47000	ND	37000	ND	12000	ND	91000
Nitrobenzene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
N-nitrosodiphenylamine	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
N-Nitroso-Di-n-propylamine	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
Phenanthrene	UG/KG	3600 J	9800	23000	7700	18000	2400	15000 J	19000
Pyrene	UG/KG	5400 J	9800	18000	7700	11000	2400	12000 J	19000
1,2,4-Trichlorobenzene	UG/KG	ND	9800	ND	7700	ND	2400	ND	19000
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	100	50-200	99	50-200	84	50-200	100	50-200
Naphthalene-D8	%	102	50-200	99	50-200	84	50-200	101	50-200
Acenaphthene-D10	%	96	50-200	89	50-200	82	50-200	95	50-200
Phenanthrene-D10	%	87	50-200	93	50-200	80	50-200	88	50-200
Chrysene-D12	%	86	50-200	94	50-200	76	50-200	93	50-200
Perylene-D12	%	114	50-200	134	50-200	114	50-200	140	50-200
Nitrobenzene-D5	%	90	41-120	74	41-120	87	41-120	88	41-120
2-Fluorobiphenyl	%	93	50-120	84	50-120	89	50-120	90	50-120
p-Terphenyl-d14	%	98	53-137	83	53-137	91	53-137	88	53-137
Phenol-D5	%	84	41-120	73	41-120	85	41-120	89	41-120
2-Fluorophenol	%	81	33-120	67	33-120	81	33-120	76	33-120
2,4,6-Tribromophenol	%	99	53-132	79	53-132	92	53-132	86	53-132

Client ID		FAF-B-06		FAF-B-07		FAF-B-08		FAF-B-09	
Job No	Lab ID	A05-7063	A5706306	A05-7063	A5706307	A05-7063	A5706308	A05-7063	A5706309
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	10000 J	11000	1900 J	7300	180 J	2000	26 J	450
Acenaphthylene	UG/KG	2200 J	11000	7000 J	7300	190 J	2000	200 J	450
Anthracene	UG/KG	3100 J	11000	9000	7300	210 J	2000	110 J	450
Benzo(a)anthracene	UG/KG	3000 J	11000	15000	7300	470 J	2000	400 J	450
Benzo(b)fluoranthene	UG/KG	2700 J	11000	15000	7300	420 J	2000	600	450
Benzo(k)fluoranthene	UG/KG	1100 J	11000	6600 J	7300	130 J	2000	220 J	450
Benzo(ghi)perylene	UG/KG	1200 J	11000	6800 J	7300	230 J	2000	300 J	450
Benzo(a)pyrene	UG/KG	2100 J	11000	13000	7300	330 J	2000	460	450
Benzyl alcohol	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Bis(2-chloroethoxy) methane	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Bis(2-chloroethyl) ether	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Bis(2-ethylhexyl) phthalate	UG/KG	ND	11000	ND	7300	ND	2000	39 BJ	450
4-Bromophenyl phenyl ether	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Butyl benzyl phthalate	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
4-Chloroaniline	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
2-Chloronaphthalene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
4-Chlorophenyl phenyl ether	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Chrysene	UG/KG	3800 J	11000	15000	7300	630 J	2000	460	450
Dibenzo(a,h)anthracene	UG/KG	ND	11000	2200 J	7300	110 J	2000	94 J	450
Dibenzofuran	UG/KG	3600 J	11000	3700 J	7300	230 J	2000	51 J	450
Di-n-butyl phthalate	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
1,2-Dichlorobenzene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
1,3-Dichlorobenzene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
1,4-Dichlorobenzene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
3,3'-Dichlorobenzidine	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Diethyl phthalate	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Dimethyl phthalate	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
2,4-Dinitrotoluene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
2,6-Dinitrotoluene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Di-n-octyl phthalate	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Fluoranthene	UG/KG	8100 J	11000	34000	7300	680 J	2000	580	450
Fluorene	UG/KG	7000 J	11000	9000	7300	170 J	2000	34 J	450
Hexachlorobenzene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Hexachlorobutadiene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Hexachlorocyclopentadiene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Hexachloroethane	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Indeno(1,2,3-cd)pyrene	UG/KG	1200 J	11000	6700 J	7300	210 J	2000	290 J	450
Isophorone	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
2-Methylnaphthalene	UG/KG	ND	11000	1300 J	7300	810 J	2000	150 J	450
Naphthalene	UG/KG	14000	11000	1400 J	7300	7400	2000	2700	450
2-Nitroaniline	UG/KG	ND	54000	ND	35000	ND	9500	ND	2200
3-Nitroaniline	UG/KG	ND	54000	ND	35000	ND	9500	ND	2200

NA = Not Applicable ND = Not Detected

Client ID		FAF-B-06		FAF-B-07		FAF-B-08		FAF-B-09	
Job No	Lab ID	A05-7063	A5706306	A05-7063	A5706307	A05-7063	A5706308	A05-7063	A5706309
Sample Date		07/06/2005		07/06/2005		07/06/2005		07/06/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
4-Nitroaniline	UG/KG	ND	54000	ND	35000	ND	9500	ND	2200
Nitrobenzene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
N-nitrosodiphenylamine	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
N-Nitroso-Di-n-propylamine	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
Phenanthrene	UG/KG	2400 J	11000	39000	7300	820 J	2000	360 J	450
Pyrene	UG/KG	6900 J	11000	26000	7300	620 J	2000	520	450
1,2,4-Trichlorobenzene	UG/KG	ND	11000	ND	7300	ND	2000	ND	450
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	94	50-200	103	50-200	81	50-200	88	50-200
Naphthalene-D8	%	96	50-200	103	50-200	81	50-200	87	50-200
Acenaphthene-D10	%	91	50-200	97	50-200	76	50-200	82	50-200
Phenanthrene-D10	%	82	50-200	93	50-200	75	50-200	86	50-200
Chrysene-D12	%	91	50-200	101	50-200	78	50-200	94	50-200
Perylene-D12	%	134	50-200	157	50-200	118	50-200	137	50-200
Nitrobenzene-D5	%	83	41-120	86	41-120	94	41-120	90	41-120
2-Fluorobiphenyl	%	89	50-120	90	50-120	95	50-120	92	50-120
p-Terphenyl-d14	%	86	53-137	86	53-137	89	53-137	100	53-137
Phenol-D5	%	65	41-120	81	41-120	88	41-120	88	41-120
2-Fluorophenol	%	37	33-120	77	33-120	84	33-120	80	33-120
2,4,6-Tribromophenol	%	0 D	53-132	77	53-132	91	53-132	93	53-132

Client ID		FAF-B-10		FAF-B-11		FAF-B-12			
Job No	Lab ID	A05-7063	A5706310	A05-7063	A5706311	A05-7063	A5706312		
Sample Date		07/06/2005		07/06/2005		07/06/2005			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/KG	29 J	440	390 J	420	ND	3700	NA	
Acenaphthylene	UG/KG	71 J	440	310 J	420	260 J	3700	NA	
Anthracene	UG/KG	93 J	440	820	420	ND	3700	NA	
Benzo(a)anthracene	UG/KG	430 J	440	1600	420	1000 J	3700	NA	
Benzo(b)fluoranthene	UG/KG	610	440	1700	420	1200 J	3700	NA	
Benzo(k)fluoranthene	UG/KG	220 J	440	600	420	440 J	3700	NA	
Benzo(ghi)perylene	UG/KG	270 J	440	690	420	840 J	3700	NA	
Benzo(a)pyrene	UG/KG	460	440	1500	420	1100 J	3700	NA	
Benzyl alcohol	UG/KG	ND	440	ND	420	ND	3700	NA	
Bis(2-chloroethoxy) methane	UG/KG	ND	440	ND	420	ND	3700	NA	
Bis(2-chloroethyl) ether	UG/KG	ND	440	ND	420	ND	3700	NA	
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	440	ND	420	ND	3700	NA	
Bis(2-ethylhexyl) phthalate	UG/KG	31 BJ	440	45 BJ	420	ND	3700	NA	
4-Bromophenyl phenyl ether	UG/KG	ND	440	ND	420	ND	3700	NA	
Butyl benzyl phthalate	UG/KG	ND	440	ND	420	ND	3700	NA	
4-Chloroaniline	UG/KG	ND	440	ND	420	ND	3700	NA	
2-Chloronaphthalene	UG/KG	ND	440	ND	420	ND	3700	NA	
4-Chlorophenyl phenyl ether	UG/KG	ND	440	ND	420	ND	3700	NA	
Chrysene	UG/KG	470	440	1800	420	980 J	3700	NA	
Dibenzo(a,h)anthracene	UG/KG	87 J	440	200 J	420	230 J	3700	NA	
Dibenzofuran	UG/KG	32 J	440	560	420	ND	3700	NA	
Di-n-butyl phthalate	UG/KG	ND	440	ND	420	ND	3700	NA	
1,2-Dichlorobenzene	UG/KG	ND	440	ND	420	ND	3700	NA	
1,3-Dichlorobenzene	UG/KG	ND	440	ND	420	ND	3700	NA	
1,4-Dichlorobenzene	UG/KG	ND	440	ND	420	ND	3700	NA	
3,3'-Dichlorobenzidine	UG/KG	ND	440	ND	420	ND	3700	NA	
Diethyl phthalate	UG/KG	ND	440	ND	420	ND	3700	NA	
Dimethyl phthalate	UG/KG	ND	440	ND	420	ND	3700	NA	
2,4-Dinitrotoluene	UG/KG	ND	440	ND	420	ND	3700	NA	
2,6-Dinitrotoluene	UG/KG	ND	440	ND	420	ND	3700	NA	
Di-n-octyl phthalate	UG/KG	ND	440	ND	420	ND	3700	NA	
Fluoranthene	UG/KG	700	440	4800	420	1800 J	3700	NA	
Fluorene	UG/KG	69 J	440	970	420	ND	3700	NA	
Hexachlorobenzene	UG/KG	ND	440	ND	420	ND	3700	NA	
Hexachlorobutadiene	UG/KG	ND	440	ND	420	ND	3700	NA	
Hexachlorocyclopentadiene	UG/KG	ND	440	ND	420	ND	3700	NA	
Hexachloroethane	UG/KG	ND	440	ND	420	ND	3700	NA	
Indeno(1,2,3-cd)pyrene	UG/KG	260 J	440	650	420	780 J	3700	NA	
Isophorone	UG/KG	ND	440	ND	420	ND	3700	NA	
2-Methylnaphthalene	UG/KG	33 J	440	190 J	420	ND	3700	NA	
Naphthalene	UG/KG	520	440	1400	420	ND	3700	NA	
2-Nitroaniline	UG/KG	ND	2200	ND	2000	ND	18000	NA	
3-Nitroaniline	UG/KG	ND	2200	ND	2000	ND	18000	NA	

NA = Not Applicable ND = Not Detected

Client ID		FAF-B-10		FAF-B-11		FAF-B-12			
Job No	Lab ID	A05-7063	A5706310	A05-7063	A5706311	A05-7063	A5706312		
Sample Date		07/06/2005		07/06/2005		07/06/2005			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
4-Nitroaniline	UG/KG	ND	2200	ND	2000	ND	18000	NA	
Nitrobenzene	UG/KG	ND	440	ND	420	ND	3700	NA	
N-nitrosodiphenylamine	UG/KG	ND	440	ND	420	ND	3700	NA	
N-Nitroso-Di-n-propylamine	UG/KG	ND	440	ND	420	ND	3700	NA	
Phenanthrene	UG/KG	340 J	440	6100	420	560 J	3700	NA	
Pyrene	UG/KG	590	440	3700	420	1300 J	3700	NA	
1,2,4-Trichlorobenzene	UG/KG	ND	440	ND	420	ND	3700	NA	
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	90	50-200	96	50-200	86	50-200	NA	
Naphthalene-D8	%	90	50-200	96	50-200	87	50-200	NA	
Acenaphthene-D10	%	86	50-200	91	50-200	89	50-200	NA	
Phenanthrene-D10	%	86	50-200	88	50-200	94	50-200	NA	
Chrysene-D12	%	92	50-200	100	50-200	103	50-200	NA	
Perylene-D12	%	132	50-200	145	50-200	128	50-200	NA	
Nitrobenzene-D5	%	79	41-120	80	41-120	77	41-120	NA	
2-Fluorobiphenyl	%	82	50-120	83	50-120	77	50-120	NA	
p-Terphenyl-d14	%	88	53-137	79	53-137	71	53-137	NA	
Phenol-D5	%	78	41-120	76	41-120	73	41-120	NA	
2-Fluorophenol	%	65	33-120	62	33-120	68	33-120	NA	
2,4,6-Tribromophenol	%	81	53-132	68	53-132	84	53-132	NA	

NA = Not Applicable ND = Not Detected

Client ID		A2-MW-15		A2-MW-18		A2-MW-20		BLIND DUPLICATE	
Job No / Lab ID		A05-7503 / A5750301		A05-7503 / A5750302		A05-7503 / A5750303		A05-7503 / A5750304	
Sample Date		07/18/2005		07/18/2005		07/18/2005		07/18/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Arsenic - Total	UG/L	11.6	10.0	18.6	10.0	ND	10.0	12.5	10.0
Barium - Total	UG/L	155	2.0	72.2	2.0	24.3	2.0	151	2.0
Cadmium - Total	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium - Total	UG/L	ND	4.0	6.6	4.0	ND	4.0	ND	4.0
Lead - Total	UG/L	ND	5.0	ND	5.0	7.0	5.0	ND	5.0
Mercury - Total	UG/L	ND	0.200	ND	0.200	ND	0.200	ND	0.200
Selenium - Total	UG/L	ND	15.0	ND	15.0	ND	15.0	ND	15.0
Silver - Total	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0

Date: 08/01/2005
Time: 16:44:58

Steelfields - Former LTV Steel site
Former August Feine Investigation
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Lab ID Sample Date		A2-MW-15 A05-7503 A5750301 07/18/2005		A2-MW-18 A05-7503 A5750302 07/18/2005		A2-MW-20 A05-7503 A5750303 07/18/2005		BLIND DUPLICATE A05-7503 A5750304 07/18/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide - Total	MG/L	0.66	0.020	0.17	0.010	0.080	0.010	0.62	0.020

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID Job No Lab ID Sample Date		A2-MW-15 A05-7503 A5750301 07/18/2005		A2-MW-18 A05-7503 A5750302 07/18/2005		A2-MW-20 A05-7503 A5750303 07/18/2005		BLIND DUPLICATE A05-7503 A5750304 07/18/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	0.20	32	0.20	ND	0.20	ND	0.20
Ethylbenzene	UG/L	ND	0.20	ND	0.20	ND	0.20	ND	0.20
Toluene	UG/L	ND	0.20	0.27	0.20	ND	0.20	ND	0.20
1,2,4-Trimethylbenzene	UG/L	ND	0.20	ND	0.20	ND	0.20	ND	0.20
1,3,5-Trimethylbenzene	UG/L	ND	0.20	ND	0.20	ND	0.20	ND	0.20
Methyl-t-Butyl Ether (MTBE)	UG/L	0.24 J	0.40	ND	0.40	ND	0.40	ND	0.40
n-Butylbenzene	UG/L	ND	0.40	ND	0.40	ND	0.40	ND	0.40
sec-Butylbenzene	UG/L	ND	0.40	ND	0.40	ND	0.40	ND	0.40
tert-Butylbenzene	UG/L	ND	0.40	ND	0.40	ND	0.40	ND	0.40
n-Propylbenzene	UG/L	ND	0.20	ND	0.20	ND	0.20	ND	0.20
p-Cymene	UG/L	ND	0.40	ND	0.40	ND	0.40	ND	0.40
Isopropylbenzene	UG/L	ND	0.20	ND	0.20	ND	0.20	ND	0.20
m-Xylene	UG/L	ND	0.40	ND	0.40	ND	0.40	ND	0.40
o-Xylene	UG/L	ND	0.20	ND	0.20	ND	0.20	ND	0.20
p-Xylene	UG/L	ND	0.40	ND	0.40	ND	0.40	ND	0.40
Total Xylenes	UG/L	ND	0.60	ND	0.60	ND	0.60	ND	0.60
SURROGATE(S)									
p-Bromofluorobenzene	%	108	65-123	107	65-123	106	65-123	106	65-123

NA = Not Applicable ND = Not Detected

Date: 08/01/2005
Time: 17:10:29

Steelfields - Former LTV Steel site
Former August Feine Investigation
STEELFIELDS - SW8463 8270 - BASE/NEUTRAL ONLY -W

Rept: AN1246

Client ID		A2-MW-15		A2-MW-18		A2-MW-20		BLIND DUPLICATE	
Job No	Lab ID	A05-7503	A5750301	A05-7503	A5750302	A05-7503	A5750303	A05-7503	A5750304
Sample Date		07/18/2005		07/18/2005		07/18/2005		07/18/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acenaphthene	UG/L	ND	10	2 J	10	ND	10	ND	10
Acenaphthylene	UG/L	ND	10	ND	10	ND	10	ND	10
Anthracene	UG/L	ND	10	ND	10	ND	10	ND	10
Benzo(a)anthracene	UG/L	ND	10	ND	10	ND	10	ND	10
Benzo(b)fluoranthene	UG/L	ND	10	ND	10	ND	10	ND	10
Benzo(k)fluoranthene	UG/L	ND	10	ND	10	ND	10	ND	10
Benzo(ghi)perylene	UG/L	ND	10	ND	10	ND	10	ND	10
Benzo(a)pyrene	UG/L	ND	10	ND	10	ND	10	ND	10
Benzyl alcohol	UG/L	ND	19	ND	20	ND	20	ND	19
Bis(2-chloroethoxy) methane	UG/L	ND	10	ND	10	ND	10	ND	10
Bis(2-chloroethyl) ether	UG/L	ND	10	ND	10	ND	10	ND	10
2,2'-Oxybis(1-Chloropropane)	UG/L	ND	10	ND	10	ND	10	ND	10
Bis(2-ethylhexyl) phthalate	UG/L	ND	10	ND	10	ND	10	ND	10
4-Bromophenyl phenyl ether	UG/L	ND	10	ND	10	ND	10	ND	10
Butyl benzyl phthalate	UG/L	ND	10	ND	10	ND	10	ND	10
4-Chloroaniline	UG/L	ND	10	ND	10	ND	10	ND	10
2-Chloronaphthalene	UG/L	ND	10	ND	10	ND	10	ND	10
4-Chlorophenyl phenyl ether	UG/L	ND	10	ND	10	ND	10	ND	10
Chrysene	UG/L	ND	10	ND	10	ND	10	ND	10
Dibenzo(a,h)anthracene	UG/L	ND	10	ND	10	ND	10	ND	10
Dibenzofuran	UG/L	ND	10	4 J	10	ND	10	ND	10
Di-n-butyl phthalate	UG/L	ND	10	ND	10	ND	10	14	10
1,2-Dichlorobenzene	UG/L	ND	10	ND	10	ND	10	ND	10
1,3-Dichlorobenzene	UG/L	ND	10	ND	10	ND	10	ND	10
1,4-Dichlorobenzene	UG/L	ND	10	ND	10	ND	10	ND	10
3,3'-Dichlorobenzidine	UG/L	ND	19	ND	20	ND	20	ND	19
Diethyl phthalate	UG/L	ND	10	ND	10	ND	10	ND	10
Dimethyl phthalate	UG/L	ND	10	ND	10	ND	10	ND	10
2,4-Dinitrotoluene	UG/L	ND	10	ND	10	ND	10	ND	10
2,6-Dinitrotoluene	UG/L	ND	10	ND	10	ND	10	ND	10
Di-n-octyl phthalate	UG/L	ND	10	ND	10	ND	10	ND	10
Fluoranthene	UG/L	ND	10	ND	10	ND	10	ND	10
Fluorene	UG/L	ND	10	ND	10	ND	10	ND	10
Hexachlorobenzene	UG/L	ND	10	ND	10	ND	10	ND	10
Hexachlorobutadiene	UG/L	ND	10	ND	10	ND	10	ND	10
Hexachlorocyclopentadiene	UG/L	ND	43	ND	44	ND	45	ND	43
Hexachloroethane	UG/L	ND	10	ND	10	ND	10	ND	10
Indeno(1,2,3-cd)pyrene	UG/L	ND	10	ND	10	ND	10	ND	10
Isophorone	UG/L	ND	10	ND	10	ND	10	ND	10
2-Methylnaphthalene	UG/L	ND	10	ND	10	ND	10	ND	10
Naphthalene	UG/L	ND	10	5 J	10	ND	10	ND	10
2-Nitroaniline	UG/L	ND	48	ND	49	ND	50	ND	48
3-Nitroaniline	UG/L	ND	48	ND	49	ND	50	ND	48

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID Job No Lab ID Sample Date		A2-MW-15 A05-7503 A5750301 07/18/2005		A2-MW-18 A05-7503 A5750302 07/18/2005		A2-MW-20 A05-7503 A5750303 07/18/2005		BLIND DUPLICATE A05-7503 A5750304 07/18/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
4-Nitroaniline	UG/L	ND	48	ND	49	ND	50	ND	48
Nitrobenzene	UG/L	ND	10	ND	10	ND	10	ND	10
N-nitrosodiphenylamine	UG/L	ND	10	ND	10	ND	10	ND	10
N-Nitroso-Di-n-propylamine	UG/L	ND	10	ND	10	ND	10	ND	10
Phenanthrene	UG/L	ND	10	ND	10	ND	10	ND	10
Pyrene	UG/L	ND	10	ND	10	ND	10	ND	10
1,2,4-Trichlorobenzene	UG/L	ND	10	ND	10	ND	10	ND	10
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	103	50-200	97	50-200	94	50-200	106	50-200
Naphthalene-D8	%	104	50-200	100	50-200	97	50-200	106	50-200
Acenaphthene-D10	%	106	50-200	103	50-200	97	50-200	105	50-200
Phenanthrene-D10	%	113	50-200	110	50-200	103	50-200	108	50-200
Chrysene-D12	%	121	50-200	115	50-200	106	50-200	115	50-200
Perylene-D12	%	112	50-200	103	50-200	103	50-200	111	50-200
Nitrobenzene-D5	%	90	52-120	82	52-120	89	52-120	84	52-120
2-Fluorobiphenyl	%	88	21-120	83	21-120	87	21-120	84	21-120
p-Terphenyl-d14	%	59	36-138	76	36-138	86	36-138	69	36-138
Phenol-D5	%	27	13-120	27	13-120	31	13-120	26	13-120
2-Fluorophenol	%	43	21-120	40	21-120	46	21-120	40	21-120
2,4,6-Tribromophenol	%	96	62-133	95	62-133	91	62-133	96	62-133

Client ID		TRIP BLANK							
Job No	Lab ID	A05-7503	A5750305						
Sample Date		07/18/2005							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	0.20	NA		NA		NA	
Ethylbenzene	UG/L	ND	0.20	NA		NA		NA	
Toluene	UG/L	ND	0.20	NA		NA		NA	
1,2,4-Trimethylbenzene	UG/L	ND	0.20	NA		NA		NA	
1,3,5-Trimethylbenzene	UG/L	ND	0.20	NA		NA		NA	
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	0.40	NA		NA		NA	
n-Butylbenzene	UG/L	ND	0.40	NA		NA		NA	
sec-Butylbenzene	UG/L	ND	0.40	NA		NA		NA	
tert-Butylbenzene	UG/L	ND	0.40	NA		NA		NA	
n-Propylbenzene	UG/L	ND	0.20	NA		NA		NA	
p-Cymene	UG/L	ND	0.40	NA		NA		NA	
Isopropylbenzene	UG/L	ND	0.20	NA		NA		NA	
m-Xylene	UG/L	ND	0.40	NA		NA		NA	
o-Xylene	UG/L	ND	0.20	NA		NA		NA	
p-Xylene	UG/L	ND	0.40	NA		NA		NA	
Total Xylenes	UG/L	ND	0.60	NA		NA		NA	
SURROGATE(S)									
p-Bromofluorobenzene	%	107	65-123	NA		NA		NA	

NA = Not Applicable ND = Not Detected

APPENDIX E

DATA USABILITY SUMMARY REPORT (DUSR)

Data Validation Services

120 Cobble Creek Road P. O. Box 208
North Creek, NY 12853
Phone (518) 251-4429
Facsimile (518) 251-4428

August 23, 2005

Bryan Hann
Benchmark Env. Engineering
726 Exchange St. Suite 624
Buffalo, NY 14210

RE: **D**ata **U**sability **S**ummary **R**eport for the Former LTV Steelfields-August Feine site
STL-Buffalo SDG/Package Nos. A05-7063 and A05-7503

Dear Mr. Hann:

Review has been completed for the data packages generated by Severn Trent Laboratories that pertain to samples collected 7/06/05 through 7/18/05 at the Former Steelfields August Feine site. Thirteen soil samples and four aqueous samples (including a field duplicate for each matrix) were processed for STARS volatiles, TCL base/neutrals, and RCRA metals. The aqueous samples were also processed for cyanide. Methodologies utilized were the USEPA SW846 EPA8021,EPA8270C, EPA 6000/7000, and EPA9012. Sample matrix spikes were also processed.

The data packages submitted contained full deliverables for validation, but this usability report is generated from review of the summary form information, with review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, per the USEPA Region 2 validation SOPs and the USEPA National Functional Guidelines for Data Review, with consideration for specific method requirements, and as affects the usability of the sample data. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Preparation/Calibration Blanks
* Control Spike/Laboratory Control Samples
* Instrumental Tunes and IDLs
* Calibration/CRI/CRA Standards
* ICP Interference Check Standards
* ICP Serial Dilution Correlations
* Method Compliance
* Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR review level.

In summary, samples were processed primarily in compliance with protocol, and results are generally usable as reported, or with usable with minor qualification as estimated or edit to nondetection.
There is evidence of an apparent matrix effect on recoveries of target analytes in the soil matrix spikes, and the soils also show possible non-homogeneity.

Copies of the sample identification/analysis summaries and laboratory case narratives are attached to this text, and should be reviewed in conjunction with this report. Included with this report are red-ink edited sample report forms that represent final qualified sample results.

General

Blind field duplicate correlations were performed for the STARS volatiles, the base/neutrals, and metals on A2-MW-15 (also evaluates cyanide) and FAF-B-09. The correlations for the aqueous samples were acceptable. Those for the soils showed variances exceeding validation guidelines for the following analytes, results for which are qualified in the parent sample and duplicate as being estimated in value ("J" or "UJ" qualifiers): ethylbenzene, o-xylene, m+p-xylene, naphthalene (all >±CRDL), chromium (158%RPD), and lead (180%RPD). Results for those analytes in samples of similar matrix should be used with caution.

STARS Volatiles by EPA 8021B

The detected results for m-xylene and p-xylene were reported as m-xylene, with p-xylene reported as no detection. This is not a correct assumption (as their responses cannot be resolved from one another). Therefore, the report forms have been edited to reflect combined detections.

Blanks show no contamination.

The STARS aqueous matrix spikes of A2-MW-20 show acceptable accuracy and precision (elevated recoveries for one analyte not detected in the parent sample). Those for the soil sample FAF-B-07 produced low recoveries for all but two compounds. Benzene produced elevated recoveries and the recoveries for MTBE were acceptable. All results except those for MTBE in those the parent sample are to be qualified as estimated. Results for samples with similar matrix should be used with caution.

Calibrations standards show responses within validation guidelines.

Holding times were met and instrument tunes were within required ranges. Surrogate and internal standard recoveries were acceptable.

Several samples were processed at dilution, resulting in elevated reporting limits.

Base/Neutral or TCL Semivolatile Analyses by EPA8270C

Results for analytes initially reported with the "E" flag are to be derived from the dilution analysis.

Surrogate recoveries and internal standard responses were acceptable. Calibration standards are within validation guidelines.

Base/neutral matrix spikes of A2-MW-20 show accuracy and precision values within recommended ranges for the six analytes evaluated. Those for FAF-B-07 show outlying recoveries in both spikes for acenaphthene (6% and 40%). The detected result for that compound in the parent sample is qualified as estimated ("J"). The matrix spike of FAF-B-07 shows lower recoveries than the matrix spike duplicate, with two values falling below recommended limits.

Holding times were met and instrument tunes were within required ranges.

Due to the presence at low levels in the associated method blank, the detection of bis(2-ethylhexyl)phthalate in the samples collected 7/6/05 is considered external contamination, and is edited to reflect nondetection ("U") at the CRDL.

Due to lack of resolution between responses, detected results for benzo(b)fluoranthene and benzo(k)fluoranthene are qualified as estimated in value.

RCRA Metals/CN by EPA6010/7470/7471

Matrix spike and duplicate evaluation were performed on A2-MW-20 and FAF-B-07. The following recoveries are outside the validation action ranges of 75% to 125%, indicating either a matrix effect on recovery of analytes from the samples or a nonhomogenous matrix. Associated sample results are qualified as estimated ("J" or "UJ"):

Sample ID	Analyte	%Rec	Associated Samples
A2-MW-20	cyanide	122% and 149%	detections in aqueous
FAF-B-07	cadmium	33% and 84%	soils
	mercury	144% and 169%	detections in soils

Duplicate correlations (performed on matrix spike values) for the samples noted above are within validation action guidelines.

ICP serial dilution evaluation of FAF-B-07 shows outlying correlations for cadmium (13%D), chromium (14%D), and lead (14%D). Results for those three elements in the soil samples are therefore qualified as estimated. The ICP serial dilution evaluation was not applicable to the aqueous samples due to low sample concentrations.

Data Completeness

The following raw data items were not present in the data packages, but can be requested from the laboratory if full validation review of the data is required:

a. Confirmation column analyses were performed for the volatile method EPA8021 detections.

These raw data were not included in the data packages, but the analyst notations regarding those results are present on the raw primary column data, and reviewed for this DUSR.

b. Dual column quantitative correlation was not performed for the volatiles.

The collection and release date for samples reported in SDG A05-7063 were inadvertently entered with the wrong month entry. Results are not affected.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry