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File No. 70613-833

Matthew Turner
New Jersey Department of Environmental Protection
Bureau of Inspection and Review
401 E. State Street
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Subject: Response to the October 17, 2017 NJDEP Comments on
Soil Remedial Action Report Addendum Response to Comments dated July 20, 2017
And
Proposed Remedial Action Workplan Addendum to the
Revised RAW dated December 2, 2008
Ewing Township Industrial Land
1445 Parkway Avenue
Ewing, New Jersey
NJDEP SRP PI 011336

Dear Mr. Turner:

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, Haley & Aldrich, Inc. (Haley & Aldrich) is providing this response to email correspondence received from the New Jersey Department of Environmental Protection (NJDEP) on October 17, 2017 (Attachment A). The attached summary is also a follow-up to the meeting held with the NJDEP on September 21, 2017. The NJDEP provided comments and observations specifically regarding Synthetic Precipitation Leaching Procedure (SPLP), SESOIL, and functional area evaluation of potential impact to groundwater (IGW) detailed in the Soil Remedial Action Report Addendum (Soil RAR Addendum) dated May 20, 2017 and the Response to Comments (RTC) dated July 20, 2017.

Based on the September 21, 2017 discussion, a remedy approach was developed and included focused soil excavation to address the IGW pathway. This approach included an evaluation of the IGW pathway that targeted specific "hot spot" locations for excavation, was reviewed (in concept) with the NJDEP on November 1, 2017 via teleconference and documented below as an addendum to the Revised Remedial Action Workplan (RAW) dated December 2, 2008. Given the unique situation with the Settlement Agreement between New Jersey and RACER and funding that it created, implementation of this approach is contingent on RACER Trust and NJDEP identifying sufficient funding to complete the remedial work outlined below.

Revised IGW Evaluation Process

The following provides a summary of the revised IGW evaluation approach utilized for the Ewing Township Industrial Land Site (Site), based on the results of the site-specific evaluation presented in the May 2016 Groundwater Remedial Investigation Report (RIR). The IGW evaluation was completed for arsenic, chromium, lead, nickel, zinc, benzene, chlorobenzene, trichloroethene, vinyl chloride, benzo(a)anthracene, and benzo(a)pyrene. The approach presented herein follows a step-wise analysis, whereby individual locations with exceedances of IGW criteria, detailed below, are evaluated on an individual/localized basis. We note that this IGW evaluation approach is revised from the RAR Addendum (Haley & Aldrich, 2017) and will be summarized in detail in a subsequent Soil RAR Addendum that will be submitted upon completion of the additional soil excavation efforts.

DETECTION LIMIT EVALUATION

The functional area analysis provided in the Soil RAR Addendum and the July 20, 2017 RTC did not require an individual sample evaluation of potentially elevated detection limit issues. However, for the location-specific analysis detailed below, an evaluation and potential resolution of elevated detection limit was necessary. This analysis followed the censored data imputation techniques presented in the Soil RAR Addendum, Section 5.4.1.4.

REVISED SITE-SPECIFIC CRITERIA (IGWSSRS)

In accordance with the NJDEP regulations, the May 1999 Soil Cleanup Criteria (SCC) can be utilized for five of the IGW specific constituents (benzene, benzo(a)anthracene, benzo(a)pyrene, trichloroethene, and vinyl chloride) at the Site¹. The IGW Site-Specific Soil Remediation Standards (IGWSSRS), were updated to include the SCC values for benzene, benzo(a)anthracene, benzo(a)pyrene, trichloroethene, and vinyl chloride. The other constituent IGWSSRS follow those presented in the Soil RAR Addendum. These include a combination of the September 2017 Soil Remediation Standards (SRS; N.J.A.C. 7:26D) and Alternative Remediation Standards (ARS) based on SPLP. The NJDEP indicated that the development of the ARS was acceptable in their June 21, 2017 Component Review of the Soil RAR Addendum. Table 1 provides a summary of the IGWSSRS used for the remaining steps in this process.

HISTORIC FILL EVALUATION

As identified in the Soil Remedial Action Report (Soil RAR) dated October 17, 2016, historic fill, as defined in the *Historic Fill Material Technical Guidance* (NJDEP, 2013) is present across large portions of the Site, notably along the southern swale in AOC-12 and AOC-09. Because fill in portions of AOC-09 could have been attributable to facility operations in the 1930's, 1940's and 1950's, only the historic fill that the NJDEP mapped along the southern boundary of the Site (Southern Swale) was considered in this analysis (Attachment B). Several areas of soil were excavated to address human health Site-specific

¹The Revised Remedial Action Workplan (RAW) was submitted on December 2, 2008 within the 6-month phase-in period, prior to the adoption of the current SRS; therefore, according to NJDEP guidance, these standards can be used to evaluate the IGW pathway.

standards related to direct contact issues in 2011; however, some deeper soil samples that exceed IGW Site-specific standards remain. These deeper samples are within or are related to historic fill; therefore, per the *Historic Fill Material Technical Guidance* (NJDEP, 2013), these soil locations (e.g. ASO9 and JSO27) do not need to be addressed further for the IGW pathway. Additionally, since the constituents associated with this fill have been identified in groundwater at the Site, these constituents have been included in the Sitewide CEA.

Based on this analysis, only locations ASO9 and JSO27 had exceedances of the IGWSSRS that could be attributable to NJDEP mapped historic fill. The results are as follows:

- ASO9: Arsenic (24.5 mg/kg) and lead (2060 J mg/kg) in the 3.5 to 4.0 foot interval were attributable to historic fill, and
- JSO27: Lead (424 mg/kg) in the 0.0 to 0.5 foot interval was attributable to historic fill.

The remaining IGWSSRS locations were further evaluated as described below.

HISTORICALLY APPLIED PESTICIDE EVALUATION (ARSENIC ONLY)

The Soil Remedial Investigation Report (Soil RIR) dated June 19, 2014 identified that prior to manufacturing operations in the 1930's, an orchard was present on-site. The orchard was likely present across the Site (based on patterns and disturbances seen in the aerial photo of the northwest corner and east side of the Site) but had diminished in areal extent by the time of the 1938 aerial photograph. The Soil RIR identified that:

“Arsenic in soil at the Site was investigated (along with lead) as part of an investigation into historical application of lead arsenate pesticides for agriculture, specifically orchards. The ratio of arsenic to lead in soil samples was evaluated as a means of identifying potential contamination associated with historic pesticide use. A percentage of samples (less than 30 percent) reported ratios of arsenic to lead indicative of lead arsenate pesticide use.

In addition, arsenic concentrations in shallow (0 – 0.5 ft bgs) and deeper (0.5 – 1 ft bgs) surface soil samples exhibit arsenic concentrations that decrease with depth.”

In the NJDEP comment letter dated April 23, 2015, the NJDEP agreed that arsenic may be present in some AOCs:

“The former presence of orchards and the detection of the highest levels of arsenic in surface soils in some AOCs is a clear indication of historic pesticide impact rather than DAP [Diffuse Anthropogenic Pollution] and must be addressed as a discharge with the soil remediation standards applied.”

A review of historic plant processes identified arsenic as a constituent of potential use, therefore evaluation of arsenic as a historically applied pesticide (HAP) was not considered for areas of the Site where past industrial processes were undertaken. This does not include soils along Parkway Avenue where operations related to manufacturing did not take place. Accordingly, the shallow soil samples collected along Parkway Avenue, where arsenic was detected above 19 mg/kg (Table 2 and Attachment C) were considered attributable to HAPs use, are not addressed further for the IGW pathway.

Additionally, since arsenic associated with this HAP has been identified in groundwater at the Site, arsenic has been included in the Sitewide CEA.

SINGLE POINT COMPARISON TO IGWSSRS

The next step in the IGW evaluation was to complete a single-point comparison of the samples that remain following the historic fill and pesticide evaluation to the IGWSSRS. Table 3 provides the soil sample locations that exceed the IGWSSRS that required further evaluation.

IMMOBILE CONSTITUENT EVALUATION

As identified in the *Guidance for the Evaluation of Immobile Chemicals for the Impact to Ground Water Pathway* (NJDEP, 2008; “Immobile Chemical Guidance”), benzo(a)anthracene, benzo(a)pyrene, and lead were identified as immobile in the Soil RAR Addendum. This evaluation included a location-specific determination where soil samples that included these constituents exceeded IGWSSRS. Based on the previous step, no sample locations exceeded the IGWSSRS for benzo(a)anthracene and only one sample location exceeded for benzo(a)pyrene (FSO-24). The sample location, FSO-24, was identified to have a clean two-foot buffer to the water table for benzo(a)pyrene; accordingly, no further IGW pathway evaluation for this constituent was necessary.

For lead, the following process was utilized for the immobile chemical analysis:

- If there is a sample below IGWSSRS at that location or nearby location (within 50-feet) below the exceedance and two feet above the water table, lead is considered immobile and not carried further in this analysis.
- If there is no clean sample below the exceedance or the next sample is saturated, then local groundwater conditions were evaluated (NJDEP 2009, *Site Soil and Ground Water Analytical Data Evaluation*).
 - If there is no groundwater impact, then no further evaluation of the IGW pathway is required, and justification will be provided in the future Soil RAR Addendum.
 - If there is groundwater impact in the area or down-gradient of the exceedance, then further evaluation is required.

The locations where the immobile constituents do not need to be addressed based on the above analysis are identified on the Table 4 and Attachment D; the remaining locations are addressed further below.

“HOT SPOT” FUNCTIONAL AREA EVALUATION

As identified in the *Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria*, Version 1.0 (NJDEP, 2012, Attainment/Compliance Guidance), functional areas were created to determine constituent concentrations for IGW evaluation using either the Mean (if less than nine samples), the 95% upper confidence limit (UCL) (if greater than nine samples), or Spatially Weighted Averaging (SWA). Functional areas were created such that they only encompass the point of exceedance (hot spot) and the closest “first ring” of samples with concentrations below the IGWSSRS in

the direction perpendicular to groundwater flow and 100 feet parallel to groundwater flow, consistent with verbal guidance provided by NJDEP. Surface functional areas are ground surface to two feet above the water table and the subsurface functional areas are two feet above the water table to the water table.

To assess if a hot spot could be subject to functional area analysis, we determined if the extent of contamination had been identified per regulations and applicable guidance. We have termed this “local delineation” as the nature and extent of contamination had already been determined on a Site-wide basis as presented in the 2014 *Soil Remedial Investigation Report* (Haley & Aldrich, Inc., 2014).

Specifically, local delineation is considered complete when samples within 150 feet of the hot spot are below the IGWSSRS. The following logic was utilized during this assessment;

- If insufficient local delineation (e.g. isolated locations with few to no delineation points within 150 feet), then a functional area analysis was not appropriate, and these areas were considered for excavation with post excavation sampling and analysis as described in the section that follows.
- If sufficient local delineation was indicated, the functional area compliance evaluation was appropriate and undertaken as described below.

Functional areas were created to analyze the IGW pathway. Figures provided in Attachment E present the functional areas developed for each of the constituents analyzed for the IGW pathway. Locations that are not locally delineated as described above are also denoted in the figures.

Once the functional areas were created, calculations were performed to determine if the average value for the functional area was below the IGWSSRS values for each constituent. Averages were determined as follows:

- Mean – this approach was utilized for nickel in the functional area SUB-NI-01. This functional area contained less than nine samples as specified in the Attainment/Compliance Guidance. Mean calculations are presented in Attachment E.
- 95 UCL Average – This approach was utilized for chromium and zinc within functional areas SURF-CR-07 and SURF-ZN-02, respectively. This functional area contained more than nine samples as specified in the Attainment/Compliance Guidance. Inputs and outputs are presented in Attachment E.
- Spatially Weighted Averaging (SWA) – This approach was utilized for the remaining hot spots identified following previously described assessments. This process utilizes the representative area of each functional area each sample comprises. Areas are assigned to the maximum concentration at each boring location in the surface (ground surface to two feet above the water table) and the subsurface (two feet above the water table to the water table) utilizing Thiessen Polygons created utilizing ARC GIS.

The calculation sheets for each constituent are presented in Attachment E. Evaluation of each functional area utilized the following logic to determine the next steps to address the IGW pathway.

- If the functional area average value is less than IGWSSRS, then no further evaluation of the IGW pathway is required and remediation is not required.

- If the functional area average value is greater than IGWSSRS, then remediation/excavation is indicated to satisfy the IGW requirements.

Table 5 and Attachment E provides a summary of the functional areas analysis for each constituent. Figure 1 presents the locations requiring additional remedial actions to be completed.

Proposed Addendum to the Soil Remedial Action Workplan to Address Outstanding IGW Issues

The preceding analysis identified 31 soil sample locations where excavation is required to address the IGW pathway. As summarized in Table 6, these locations represent a wide range of conditions. These will be addressed as follows:

- Locations where a Thiessen Polygon drives the determination that the functional area exceeds IGWSSRS:
 - If the entire Thiessen polygon is smaller than 650 cubic yards, then it may be excavated and no confirmation samples will be collected per Attainment/Compliance Guidance or the excavation limits may be reduced by collecting additional samples to a reduced excavation footprint. These areas are identified as Group A excavations.
 - If the Thiessen Polygon is larger than 650 cubic yards, a smaller area, approximately five-feet by five-feet in size, may be excavated and additional confirmation samples will be collected at a rate of two samples (shallow and deep) per sidewall, corresponding to depths of the sample exceedance and biased to potential impacts, if present. These areas are identified as Group B* excavations.
- Locations where the local delineation is insufficient to conduct the functional analysis, a smaller area, approximately five-feet by five-feet in size, may be excavated and additional confirmation samples will be collected at a rate of two samples (shallow and deep) per sidewall, corresponding to depths of the sample exceedance and biased to potential impacts, if present. These areas are identified as Group B excavations.

Figure 1 shows the proposed excavation areas and group designation for proposed excavation type. Table 6 summarizes the anticipated excavation volume. In excavations where the Thiessen Polygon is not fully removed, the results of the confirmation samples will initially be compared using the 75 percent/10x Procedure as detailed in the Attainment/Compliance Guidance, whereby:

- If 75 percent of all post-remedial samples are below the applicable soil remediation standard and
- None of the remaining samples exceed the applicable standard by an order of magnitude (10x), the remedial action is considered to have met the remedial objective and no further action is necessary.

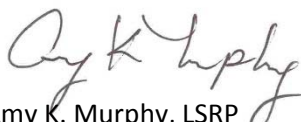
If the results do not demonstrate the location to be below IGWSSRS, then further functional area evaluation may be conducted. If the results continue to demonstrate that the location is above IGWSSRS, then additional excavation and confirmation samples will be conducted. Because the proposed excavation will be partially based on confirmation sampling and field observations, the volume may change from what is presented in Table 6. The results of the excavation activities, confirmation,

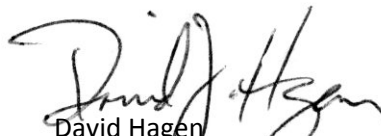
and the above demonstration with the amended soil sample results will be summarized in a Soil RAR Addendum.

Resolution of the IGW issue is required for the Soil Remedial Action Objective determination, which is critical for the redevelopment of the Site. RACER requests that once the NJDEP Team has an opportunity to review RACER's proposed plan of action, that the NJDEP identify and provide any concerns that may be an impediment to the process. Since the 31 remediation areas will at a minimum need to be addressed, RACER will begin the excavation activities as soon as possible after additional funds are identified, or NJDEP concurs with using existing funds in the Ewing Environmental Action Funding Account.

Should you have any additional questions or comments, please feel free to contact us at (973) 263-3900.

Sincerely yours,
HALEY & ALDRICH, INC.


Amy K. Murphy, LSRP
Senior Project Manager


David Hagen
Senior Vice President

Enclosures

C: RACER Trust; Attn: Robert Hare, Cleanup Manager
NJDEP; Attn: Kevin Schick, Chief, BEERA

TABLE 1
SCREENING CRITERIA FOR IMPACT TO GROUNDWATER
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

Chemical	1999 NJDEP SCC (mg/kg)	2013 DEFAULT IGW SCREENING CRITERIA (mg/kg)	SPLP EVALUATION VALUES (mg/kg)	SITE-SPECIFIC SRS (IGWSSRS) (mg/kg)
Inorganic Compounds				
Arsenic	-	19	10	19
Chromium (total)	-	-	1540	1540
Lead	-	90	328	328
Nickel	-	48	9200	9200
Zinc	-	930	14200	14200
Organic Compounds				
Benzene	1	0.005	0.2	1
Benzo(a)anthracene	500	0.8	-	500
Benzo(a)pyrene	100	0.2	-	100
Chlorobenzene	1	0.6	83	83
Trichloroethene	1	0.01	0.13	1
Vinyl Chloride	10	0.005	0.06	10

Notes:

1. Bold indicates a value used in IGW evaluation methods
2. "-" indicates value in NJDEP guidance

TABLE 2
HISTORICALLY APPLIED PESTICIDES EVALUATION
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Historic Pesticides
GSO26BD	Surface	Arsenic	22.7	19	Yes	1.5	7.54	Yes
PKWY-01	Surface	Arsenic	46.4	19	Yes	0.5	7.00	Yes
PKWY-02-A	Surface	Arsenic	55.3	19	Yes	0.5	7.68	Yes
PKWY-08-A	Surface	Arsenic	58.3	19	Yes	0.5	7.74	Yes
XSO2-A	Surface	Arsenic	43.8	19	Yes	0.5	8.42	Yes

TABLE 3
SINGLE POINT COMPARISON TO IGWSSSRs
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
109-1	Surface	Chromium	3840.00	1540.00	Yes	7.75	14.03
268-1	Surface	Lead	690.00	328.00	Yes	1.50	15.71
268-1	Surface	Nickel	9940.00	9200.00	Yes	1.50	15.71
268-2	Surface	Lead	1860.00	328.00	Yes	3.75	15.40
268-2	Surface	Zinc	37800.00	14200.00	Yes	3.75	15.40
ASO12	Surface	Lead	804.00	328.00	Yes	1.00	9.59
ASO12-100	Surface	Lead	1570.00	328.00	Yes	1.00	9.59
ASO12-101	Surface	Lead	542.00	328.00	Yes	1.00	9.69
ASO13	Surface	Lead	576.00	328.00	Yes	1.00	9.49
ASO14	Surface	Lead	503.00	328.00	Yes	1.00	9.03
ASO17	Surface	Lead	679.00	328.00	Yes	0.75	8.00
ASO20	Surface	Lead	888.00	328.00	Yes	0.75	9.82
ASO20-100	Surface	Lead	490.00	328.00	Yes	0.75	9.91
ASO20-101	Surface	Lead	1230.00	328.00	Yes	0.70	9.86
ASO21	Surface	Lead	457.00	328.00	Yes	0.75	7.90
ASO23	Surface	Lead	1200.00	328.00	Yes	1.00	9.39
ASO23-100	Surface	Lead	541.00	328.00	Yes	1.00	9.43
ASO23-102	Surface	Lead	1110.00	328.00	Yes	1.00	9.26
B10-3	Surface	Arsenic	25.00	19.00	Yes	4.00	10.22
B2-1	Surface	Benzene	1.50	1.00	Yes	10.00	14.86
B2-1	Surface	Trichloroethene	2.50	1.00	Yes	10.00	14.86
B2-1-200	Surface	Benzene	2.10	1.00	Yes	12.00	14.83
B2-1-200	Surface	Trichloroethene	2.10	1.00	Yes	12.00	14.83
B2-2	Surface	Benzene	15.00	1.00	Yes	9.50	14.95
B2-2	Surface	Trichloroethene	15.00	1.00	Yes	9.50	14.95
B2-2-200	Surface	Benzene	1.10	1.00	Yes	12.00	14.95
B2-2-200	Surface	Trichloroethene	1.10	1.00	Yes	12.00	14.95
B3-16-A	Surface	Arsenic	37.40	19.00	Yes	1.00	13.16
B3-5	Subsurface	Benzene	1.50	1.00	Yes	10.00	11.87
B-4E	Surface	Lead	340.00	328.00	Yes	0.50	16.03
B6-201	Surface	Arsenic	76.20	19.00	Yes	1.00	14.34
B6-3	Surface	Lead	420.00	328.00	Yes	1.00	9.62
B6-3-A	Surface	Arsenic	28.20	19.00	Yes	1.00	9.62
B7-1	Surface	Arsenic	22.00	19.00	Yes	0.50	14.70
B7-2	Surface	Arsenic	180.00	19.00	Yes	3.50	14.68

TABLE 3
SINGLE POINT COMPARISON TO IGWSSRS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSRS (mg/kg)	Sample Exceeds IGWSSRS	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
B7-2-EX1B	Surface	Arsenic	28.00	19.00	Yes	0.50	14.68
B7-2-EX1C	Surface	Arsenic	20.00	19.00	Yes	2.00	14.68
B7-3	Surface	Lead	430.00	328.00	Yes	4.00	13.34
B7-3	Surface	Vinyl Chloride	12.00	10.00	Yes	10.50	13.34
B7-5-A	Surface	Arsenic	29.60	19.00	Yes	3.00	15.57
B8-2	Surface	Lead	670.00	328.00	Yes	4.00	9.45
B8-4	Subsurface	Benzene	1.80	1.00	Yes	8.00	9.75
B8-4	Subsurface	Chromium	2400.00	1540.00	Yes	8.00	9.75
B8-4	Subsurface	Lead	800.00	328.00	Yes	8.00	9.75
B8-4	Subsurface	Zinc	22000.00	14200.00	Yes	8.00	9.75
B8-4-100	Subsurface	Lead	1810.00	328.00	Yes	8.50	9.11
B8-4-101	Subsurface	Lead	331.00	328.00	Yes	8.50	9.52
B8-4-102	Subsurface	Lead	1010.00	328.00	Yes	8.50	8.72
B8-5	Surface	Arsenic	30.00	19.00	Yes	0.50	9.47
B8-6	Subsurface	Lead	1200.00	328.00	Yes	8.00	9.69
B8-6-100	Subsurface	Lead	396.00	328.00	Yes	10.00	9.69
B8-6-101	Surface	Lead	336.00	328.00	Yes	6.00	9.69
B8-6-103	Surface	Benzene	2.90	1.00	Yes	6.50	10.65
B8-6-103	Surface	Lead	7510.00	328.00	Yes	6.50	10.65
B8-8	Surface	Benzene	16.00	1.00	Yes	10.00	13.15
B8-8	Surface	Lead	860.00	328.00	Yes	10.00	13.15
B8-8-1	Surface	Benzene	1.60	1.00	Yes	12.50	14.55
B8-8-1	Surface	Lead	577.00	328.00	Yes	8.25	14.55
B8-8-1	Surface	Zinc	16800.00	14200.00	Yes	12.50	14.55
B8-8-2-100	Surface	Benzene	1.60	1.00	Yes	8.25	13.05
B8-8-2-100	Surface	Lead	3520.00	328.00	Yes	8.25	13.05
B8-8-2-101	Surface	Lead	2070.00	328.00	Yes	8.25	13.11
B8-8-2-102	Surface	Trichloroethene	13.00	1.00	Yes	10.00	13.02
B8-8-4-102	Surface	Lead	686.00	328.00	Yes	11.50	14.46
B9-12-100	Surface	Arsenic	31.40	19.00	Yes	3.00	8.13
B9-12-101	Surface	Arsenic	55.00	19.00	Yes	0.50	8.91
B9-12-102	Surface	Arsenic	23.90	19.00	Yes	0.50	8.14
B9-12-103	Surface	Arsenic	42.00	19.00	Yes	0.50	8.18
B9-13-A	Surface	Arsenic	25.90	19.00	Yes	0.50	8.67
B9-14	Surface	Arsenic	90.00	19.00	Yes	2.00	8.92

TABLE 3
SINGLE POINT COMPARISON TO IGWSSRS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSRS (mg/kg)	Sample Exceeds IGWSSRS	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
B9-15-A	Surface	Arsenic	50.10	19.00	Yes	0.50	8.18
B9-16-100	Surface	Arsenic	48.90	19.00	Yes	0.50	8.44
B9-16-101	Surface	Arsenic	47.50	19.00	Yes	0.50	8.52
B9-16-102	Surface	Arsenic	51.50	19.00	Yes	0.50	8.41
B9-2-100	Surface	Arsenic	365.00	19.00	Yes	0.50	6.76
B9-2-101	Surface	Arsenic	356.00	19.00	Yes	0.50	6.21
B9-2-102	Surface	Arsenic	26.30	19.00	Yes	0.50	7.19
B9-2-103	Surface	Arsenic	407.00	19.00	Yes	0.50	7.08
B9-3-A	Surface	Arsenic	33.80	19.00	Yes	0.50	4.47
B9-9-A	Surface	Arsenic	84.60	19.00	Yes	0.50	8.72
CE-1-101	Surface	Arsenic	22.50	19.00	Yes	8.00	12.62
CE-1-102	Surface	Arsenic	163.00	19.00	Yes	8.00	12.67
FSO27-A	Surface	Arsenic	31.00	19.00	Yes	1.00	10.42
FSO29	Surface	Arsenic	30.60	19.00	Yes	0.50	8.66
FSO3	Surface	Arsenic	20.10	19.00	Yes	0.50	13.05
FSO5-A	Surface	Arsenic	109.00	19.00	Yes	0.50	14.28
GRB2-1	Surface	Arsenic	31.00	19.00	Yes	0.50	14.60
GRB2-1	Surface	Lead	9200.00	328.00	Yes	0.50	14.60
GSO26BD	Surface	Arsenic	22.7	19	Yes	1.5	7.54
HSO12	Surface	Zinc	28100.00	14200.00	Yes	0.50	8.06
HSO13	Surface	Lead	398.00	328.00	Yes	0.50	7.73
HSO14-A	Surface	Arsenic	38.20	19.00	Yes	0.50	7.95
HSO15	Surface	Lead	555.00	328.00	Yes	0.50	7.65
HSO17-A	Subsurface	Arsenic	122.00	19.00	Yes	0.50	2.32
ISO11	Surface	Arsenic	20.20	19.00	Yes	1.00	14.61
ISO23	Surface	Trichloroethene	1.60	1.00	Yes	8.50	11.79
ISO5-100	Surface	Lead	460.00	328.00	Yes	1.50	14.67
ISO5-101	Surface	Arsenic	33.70	19.00	Yes	1.50	14.67
ISO5-102	Surface	Arsenic	28.50	19.00	Yes	1.50	14.73
ISO5-103	Surface	Lead	1610.00	328.00	Yes	3.00	14.62
ISO6	Surface	Lead	9390.00	328.00	Yes	1.50	14.91
ISO6-100	Surface	Arsenic	34.70	19.00	Yes	1.50	14.91
ISO6-100	Surface	Lead	1280.00	328.00	Yes	1.50	14.91
ISO6-101	Surface	Lead	1160.00	328.00	Yes	1.50	14.92
ISO6-102	Surface	Arsenic	62.80	19.00	Yes	1.50	14.97

TABLE 3
SINGLE POINT COMPARISON TO IGWSSSRs
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
ISO6-103	Surface	Arsenic	71.20	19.00	Yes	1.50	14.85
ISO6-103	Surface	Lead	775.00	328.00	Yes	1.50	14.85
ISO7	Surface	Lead	334.00	328.00	Yes	9.00	14.59
ISO7-101	Surface	Arsenic	19.30	19.00	Yes	1.50	14.54
ISO7-103	Surface	Arsenic	44.50	19.00	Yes	3.00	14.49
JSO11-101	Surface	Lead	1290.00	328.00	Yes	6.50	10.04
JSO11-101	Subsurface	Lead	526.00	328.00	Yes	10.00	10.04
JSO19	Surface	Trichloroethene	4.60	1.00	Yes	4.00	11.95
JSO29	Surface	Trichloroethene	1.50	1.00	Yes	4.00	11.77
MC3-1	Surface	Lead	382.00	328.00	Yes	8.50	13.08
MC7-1	Surface	Benzene	1.40	1.00	Yes	11.00	14.81
MC7-1	Surface	Trichloroethene	1.40	1.00	Yes	11.00	14.81
MOA-C-B11	Surface	Chromium	1700.00	1540.00	Yes	4.00	15.64
MOA-C-B11	Surface	Lead	1040.00	328.00	Yes	4.00	15.64
MOA-C-B13	Surface	Arsenic	24.80	19.00	Yes	8.00	15.98
MOA-C-B13	Surface	Chromium	1650.00	1540.00	Yes	8.00	15.98
MOA-C-B13	Surface	Lead	2390.00	328.00	Yes	8.00	15.98
MOA-C-B15	Surface	Chromium	1850.00	1540.00	Yes	6.00	16.25
MOA-C-B15	Surface	Lead	894.00	328.00	Yes	12.00	16.25
MOA-C-B7	Surface	Chromium	2200.00	1540.00	Yes	4.00	15.20
MOA-C-B7	Surface	Lead	1070.00	328.00	Yes	4.00	15.20
MOA-C-B8	Surface	Lead	906.00	328.00	Yes	2.00	14.52
MOA-C-B8-100	Surface	Arsenic	26.80	19.00	Yes	2.50	14.52
MOA-C-B8-100	Surface	Lead	398.00	328.00	Yes	2.50	14.52
MOA-C-B8-100	Surface	Zinc	28600.00	14200.00	Yes	1.00	14.52
MOA-C-B8-101	Surface	Lead	423.00	328.00	Yes	2.50	15.45
MOA-C-B8-103	Surface	Arsenic	19.80	19.00	Yes	2.50	15.41
MOA-C-B8-103	Surface	Chromium	1550.00	1540.00	Yes	2.50	15.41
MOA-C-B8-103	Surface	Lead	1130.00	328.00	Yes	2.50	15.41
MW-22	Surface	Arsenic	91.00	19.00	Yes	4.00	14.03
PKWY-01	Surface	Arsenic	46.4	19	Yes	0.5	7.00
PKWY-02-A	Surface	Arsenic	55.3	19	Yes	0.5	7.68
PKWY-08-A	Surface	Arsenic	58.3	19	Yes	0.5	7.74
PL05-02	Surface	Nickel	12500.00	9200.00	Yes	4.00	9.95
PL05-03	Surface	Lead	1070.00	328.00	Yes	7.00	10.69

TABLE 3
SINGLE POINT COMPARISON TO IGWSSSRs
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
PL07-01	Surface	Nickel	11100.00	9200.00	Yes	3.50	13.83
PL07-02	Surface	Chromium	5080.00	1540.00	Yes	3.50	13.09
PL07-105	Surface	Lead	398.00	328.00	Yes	1.00	14.75
PL07-107	Surface	Lead	517.00	328.00	Yes	5.00	14.39
PL07-107	Surface	Nickel	31100.00	9200.00	Yes	5.00	14.39
PL09-01	Surface	Chromium	3620.00	1540.00	Yes	4.50	9.42
PL10-101	Surface	Lead	4810.00	328.00	Yes	3.50	6.34
PL10-11	Surface	Lead	341.00	328.00	Yes	3.50	6.27
PL10-13	Surface	Lead	352.00	328.00	Yes	3.50	8.00
PL10-15	Surface	Arsenic	30.80	19.00	Yes	3.50	9.27
PL12-08	Surface	Lead	2410.00	328.00	Yes	5.00	9.54
SB-10-SO-1	Surface	Arsenic	20.00	19.00	Yes	2.00	6.22
SB-10-SO-10	Subsurface	Chromium	1800.00	1540.00	Yes	6.00	7.91
SB-10-SO-10	Subsurface	Lead	830.00	328.00	Yes	6.00	7.91
SB-10-SO-10	Subsurface	Zinc	15000.00	14200.00	Yes	6.00	7.91
SB-10-SO-10-100	Subsurface	Lead	793.00	328.00	Yes	6.50	7.91
SB-10-SO-10-101	Subsurface	Lead	712.00	328.00	Yes	7.00	7.87
SB-10-SO-10-101	Surface	Lead	462.00	328.00	Yes	5.00	7.87
SB-10-SO-10-102	Surface	Lead	410.00	328.00	Yes	6.00	8.00
SB-10-SO-10-103	Subsurface	Lead	468.00	328.00	Yes	7.00	7.89
SB-10-SO-10-103	Surface	Lead	362.00	328.00	Yes	0.50	7.89
SB-10-SO-2	Subsurface	Chromium	2600.00	1540.00	Yes	6.00	7.60
SB-10-SO-2	Subsurface	Lead	1200.00	328.00	Yes	6.00	7.60
SB-10-SO-209	Subsurface	Chromium	2260.00	1540.00	Yes	10.00	10.57
SB-10-SO-209	Subsurface	Lead	769.00	328.00	Yes	10.00	10.57
SB-10-SO-209	Subsurface	Zinc	20900.00	14200.00	Yes	10.00	10.57
SB-10-SO-5-100	Surface	Chromium	3320.00	1540.00	Yes	2.00	6.64
SB-10-SO-5-100	Surface	Lead	1210.00	328.00	Yes	2.00	6.64
SB-10-SO-5-100	Subsurface	Lead	333.00	328.00	Yes	5.00	6.64
SB-10-SO-5-100	Surface	Nickel	10600.00	9200.00	Yes	2.00	6.64
SB-10-SO-5-101	Surface	Chromium	2820.00	1540.00	Yes	1.50	6.60
SB-10-SO-5-101	Surface	Lead	1440.00	328.00	Yes	1.50	6.60
SB-10-SO-5-102	Surface	Chromium	8520.00	1540.00	Yes	1.50	6.66
SB-10-SO-5-102	Surface	Lead	2400.00	328.00	Yes	1.50	6.66
SB-10-SO-5-102	Surface	Nickel	20300.00	9200.00	Yes	1.50	6.66

TABLE 3
SINGLE POINT COMPARISON TO IGWSSSRs
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
SB-10-SO-5-102	Surface	Zinc	29100.00	14200.00	Yes	1.50	6.66
SB-10-SO-5-103	Surface	Lead	477.00	328.00	Yes	1.50	6.65
SB-10-SO-5A	Subsurface	Lead	3900.00	328.00	Yes	4.00	5.79
SB-10-SO-5A-100	Surface	Chromium	2740.00	1540.00	Yes	2.50	5.79
SB-10-SO-5A-100	Surface	Lead	916.00	328.00	Yes	2.50	5.79
SB-10-SO-5A-101	Surface	Lead	504.00	328.00	Yes	2.50	5.81
SB-10-SO-7	Surface	Lead	4700.00	328.00	Yes	5.00	8.89
SB-10-SO-7-102	Subsurface	Lead	477.00	328.00	Yes	7.00	8.89
SB-10-SO-7-103	Surface	Chromium	4500.00	1540.00	Yes	6.00	8.83
SB-10-SO-7-103	Surface	Lead	1960.00	328.00	Yes	6.00	8.83
SB-10-SO-7-103	Surface	Nickel	11300.00	9200.00	Yes	6.00	8.83
SB-10-SO-9	Surface	Lead	420.00	328.00	Yes	4.00	9.20
SB-3-SO-11	Surface	Lead	980.00	328.00	Yes	0.50	12.69
SB-3-SO-11	Surface	Zinc	29000.00	14200.00	Yes	0.50	12.69
SB-7-SO-3	Surface	Arsenic	22.00	19.00	Yes	8.00	14.15
SB-7-SO-3	Surface	Lead	350.00	328.00	Yes	10.00	14.15
SB-7-SO-4	Surface	Chromium	6600.00	1540.00	Yes	4.00	15.45
SB-7-SO-5	Surface	Lead	690.00	328.00	Yes	4.00	14.29
SB-7-SO-5	Surface	Nickel	11000.00	9200.00	Yes	4.00	14.29
SB-7-SO-6	Surface	Arsenic	25.00	19.00	Yes	4.00	15.79
SB-7-SO-6	Surface	Chromium	2700.00	1540.00	Yes	4.00	15.79
SB-7-SO-6	Surface	Trichloroethene	1.60	1.00	Yes	4.00	15.79
SB-7-SO-7	Surface	Chromium	8100.00	1540.00	Yes	2.00	14.45
SB-8-SO-11	Subsurface	Arsenic	24.00	19.00	Yes	8.00	9.25
SB-8-SO-11	Subsurface	Benzene	1.40	1.00	Yes	8.00	9.25
SB-8-SO-11	Subsurface	Lead	4300.00	328.00	Yes	8.00	9.25
SB-8-SO-11-102	Surface	Lead	1110.00	328.00	Yes	3.50	9.18
SB-8-SO-11-103	Surface	Lead	436.00	328.00	Yes	4.00	9.28
SB-8-SO-14	Surface	Lead	1000.00	328.00	Yes	10.00	13.16
SB-8-SO-14	Surface	Zinc	28000.00	14200.00	Yes	10.00	13.16
SB-8-SO-14-100	Surface	Benzene	1.20	1.00	Yes	10.50	13.16
SB-8-SO-14-100	Surface	Lead	4770.00	328.00	Yes	8.25	13.16
SB-8-SO-14-101	Subsurface	Benzene	1.10	1.00	Yes	11.50	12.19
SB-8-SO-14-101	Surface	Lead	1230.00	328.00	Yes	8.25	12.19
SB-8-SO-14-101	Subsurface	Lead	719.00	328.00	Yes	11.50	12.19

TABLE 3
SINGLE POINT COMPARISON TO IGWSSRS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSRS (mg/kg)	Sample Exceeds IGWSSRS	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
SB-9-SO-11-A	Surface	Arsenic	20.20	19.00	Yes	0.50	9.92
SB-9-SO-2-A	Surface	Arsenic	44.70	19.00	Yes	0.50	8.85
SB-9-SO-3	Surface	Zinc	44000.00	14200.00	Yes	0.50	8.82
SB-9-SO-3-A	Surface	Arsenic	133.00	19.00	Yes	2.00	8.82
SB-9-SO-4-A	Surface	Arsenic	241.00	19.00	Yes	0.50	9.63
SB9-SO-5	Surface	Arsenic	48.00	19.00	Yes	0.50	10.87
SB-9-SO-7	Surface	Arsenic	31.00	19.00	Yes	0.50	6.16
SB-9-SO-8-A	Surface	Arsenic	224.00	19.00	Yes	0.50	10.12
SB-9-SO-8-A-EX1A	Surface	Arsenic	34.00	19.00	Yes	2.00	10.12
SB-9-SO-8-A-EX1C	Surface	Arsenic	250.00	19.00	Yes	0.50	10.12
SB-AOC09-2013-101	Surface	Arsenic	25.70	19.00	Yes	4.50	6.91
SB-AOC09-2013-102	Surface	Arsenic	325.00	19.00	Yes	4.50	6.05
SB-AOC09-2013-104	Surface	Arsenic	135.00	19.00	Yes	4.50	3.03
SB-AOC09-2013-104-EX1A	Surface	Arsenic	220.00	19.00	Yes	2.00	3.03
SB-AOC09-2013-104-EX1C	Surface	Arsenic	60.00	19.00	Yes	0.50	3.03
SB-AOC09-2013-104-EX1E	Surface	Arsenic	21.00	19.00	Yes	0.50	3.03
SB-AOC09-2013-105	Subsurface	Arsenic	61.10	19.00	Yes	4.50	2.35
SB-AOC10-2013-103	Surface	Zinc	24700.00	14200.00	Yes	5.50	9.27
SB-AOC10-2013-106	Surface	Chromium	3590.00	1540.00	Yes	5.50	8.24
SB-AOC10-2013-106	Surface	Lead	1400.00	328.00	Yes	5.50	8.24
SB-AOC10-2013-106	Surface	Nickel	12200.00	9200.00	Yes	5.50	8.24
SB-AOC10-2013-108	Surface	Zinc	17700.00	14200.00	Yes	7.00	9.72
SB-AOC10-2013-109	Subsurface	Lead	385.00	328.00	Yes	9.00	9.53
SB-AOC10-2013-109	Subsurface	Zinc	40300.00	14200.00	Yes	9.00	9.53
SB-AOC10-2013-115	Surface	Chromium	10800.00	1540.00	Yes	5.00	7.92
SB-AOC10-2013-115	Surface	Lead	4000.00	328.00	Yes	5.00	7.92
SB-AOC10-2013-115	Surface	Nickel	24800.00	9200.00	Yes	5.00	7.92
SB-AOC10-2013-115	Surface	Zinc	40700.00	14200.00	Yes	5.00	7.92
SB-AOC10-2013-116	Surface	Zinc	60700.00	14200.00	Yes	0.50	8.64
SB-AOC10-2013-117	Surface	Lead	378.00	328.00	Yes	4.50	8.04
SB-AOC10-2013-118	Surface	Lead	484.00	328.00	Yes	4.50	6.64
SB-AOC10-2013-119	Surface	Chromium	4500.00	1540.00	Yes	4.50	7.30
SB-AOC10-2013-119	Surface	Lead	1670.00	328.00	Yes	4.50	7.30
SB-AOC10-2013-119	Surface	Nickel	13800.00	9200.00	Yes	4.50	7.30
SB-AOC10-2013-119	Surface	Zinc	20700.00	14200.00	Yes	4.50	7.30

TABLE 3
SINGLE POINT COMPARISON TO IGWSSRS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSRS (mg/kg)	Sample Exceeds IGWSSRS	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)
SB-AOC10-2013-121	Surface	Lead	624.00	328.00	Yes	0.50	7.18
SB-AOC10-2013-122	Surface	Chromium	2040.00	1540.00	Yes	0.50	6.74
SB-AOC10-2013-122	Surface	Lead	741.00	328.00	Yes	0.50	6.74
SB-AOC10-2013-124	Surface	Chromium	2850.00	1540.00	Yes	4.00	7.29
SB-AOC10-2013-124	Surface	Lead	1120.00	328.00	Yes	4.00	7.29
SB-AOC10-2013-126	Surface	Lead	577.00	328.00	Yes	0.50	9.18
SB-AOC10-2013-127	Surface	Lead	922.00	328.00	Yes	4.00	8.46
SB-AOC10-2013-128	Surface	Lead	620.00	328.00	Yes	4.00	7.29
SB-AOC1C-2013-107	Surface	Trichloroethene	7.90	1.00	Yes	1.00	10.89
SB-AOC8B-2013-101	Surface	Lead	457.00	328.00	Yes	10.00	12.62
SB-AOC8B-2013-104	Subsurface	Benzene	1.30	1.00	Yes	10.00	10.20
SB-AOC8B-2013-104	Subsurface	Chlorobenzene	87.00	83.00	Yes	10.00	10.20
SB-AOC8B-2013-104	Subsurface	Lead	366.00	328.00	Yes	10.00	10.20
SB-AOC8B-2013-104	Subsurface	Nickel	33900.00	9200.00	Yes	10.00	10.20
SB-AOC8B-2013-104	Subsurface	Zinc	20100.00	14200.00	Yes	10.00	10.20
SB-AOC8B-2013-105	Subsurface	Arsenic	37.40	19.00	Yes	10.00	10.66
SB-F10	Surface	Trichloroethene	31.00	1.00	Yes	2.00	13.05
SR-1	Surface	Chromium	5900.00	1540.00	Yes	1.00	16.11
TP7-4	Surface	Lead	441.00	328.00	Yes	0.50	15.68
TP9-2	Surface	Lead	1100.00	328.00	Yes	4.00	12.96
TP9-2-102	Surface	Lead	569.00	328.00	Yes	5.00	13.02
TP9-2-103	Surface	Lead	670.00	328.00	Yes	5.00	12.91
TP9-2-202	Surface	Arsenic	43.40	19.00	Yes	3.00	13.23
TP9-2-204	Surface	Trichloroethene	1.30	1.00	Yes	3.00	13.98
TP9-2-300	Surface	Arsenic	29.30	19.00	Yes	0.50	11.75
TP9-2-304	Surface	Zinc	34200.00	14200.00	Yes	5.00	14.31
TP9-3	Surface	Benzene	1.70	1.00	Yes	1.00	13.86
TP9-3	Surface	Zinc	32000.00	14200.00	Yes	1.00	13.86
TP9-3-203	Surface	Arsenic	23.40	19.00	Yes	3.00	14.14
TP9-3-203	Surface	Chlorobenzene	130.00	83.00	Yes	3.00	14.14
TP9-3-304	Surface	Lead	3350.00	328.00	Yes	3.50	14.26
TP9-3-305	Surface	Arsenic	34.90	19.00	Yes	0.50	14.60
TP9-3-305	Surface	Benzene	1.20	1.00	Yes	3.50	14.60
TP9-3-305	Surface	Zinc	15900.00	14200.00	Yes	3.50	14.60
XSO2-A	Surface	Arsenic	43.8	19	Yes	0.5	8.42

TABLE 4
LEAD IMMOBILE CONSTITUENT EVALUATION
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Compliant with Immobile Constituent
268-1	Surface	Lead	690.00	328.00	Yes	1.50	15.71	Yes
268-2	Surface	Lead	1860.00	328.00	Yes	3.75	15.40	Yes
ASO12	Surface	Lead	804.00	328.00	Yes	1.00	9.59	Yes
ASO12-100	Surface	Lead	1570.00	328.00	Yes	1.00	9.59	Yes
ASO12-101	Surface	Lead	542.00	328.00	Yes	1.00	9.69	Yes
ASO13	Surface	Lead	576.00	328.00	Yes	1.00	9.49	Yes
ASO17	Surface	Lead	679.00	328.00	Yes	0.75	8.00	Yes
ASO20	Surface	Lead	888.00	328.00	Yes	0.75	9.82	Yes
ASO20-100	Surface	Lead	490.00	328.00	Yes	0.75	9.91	Yes
ASO20-101	Surface	Lead	1230.00	328.00	Yes	0.70	9.86	Yes
ASO21	Surface	Lead	457.00	328.00	Yes	0.75	7.90	Yes
ASO23	Surface	Lead	1200.00	328.00	Yes	1.00	9.39	Yes
ASO23-100	Surface	Lead	541.00	328.00	Yes	1.00	9.43	Yes
ASO23-102	Surface	Lead	1110.00	328.00	Yes	1.00	9.26	Yes
B-4E	Surface	Lead	340.00	328.00	Yes	0.50	16.03	Yes
B6-3	Surface	Lead	420.00	328.00	Yes	1.00	9.62	Yes
B7-3	Surface	Lead	430.00	328.00	Yes	4.00	13.34	Yes
B8-8	Surface	Lead	860.00	328.00	Yes	10.00	13.15	Yes
B8-8-2-100	Surface	Lead	3520.00	328.00	Yes	8.25	13.05	Yes
B8-8-2-101	Surface	Lead	2070.00	328.00	Yes	8.25	13.11	Yes
B8-8-4-102	Surface	Lead	686.00	328.00	Yes	11.50	14.46	Yes
HSO13	Surface	Lead	398.00	328.00	Yes	0.50	7.73	Yes
ISO6	Surface	Lead	9390.00	328.00	Yes	1.50	14.91	Yes
ISO6-100	Surface	Lead	1280.00	328.00	Yes	1.50	14.91	Yes
ISO6-101	Surface	Lead	1160.00	328.00	Yes	1.50	14.92	Yes
ISO6-103	Surface	Lead	775.00	328.00	Yes	1.50	14.85	Yes
ISO7	Surface	Lead	334.00	328.00	Yes	9.00	14.59	Yes
MC3-1	Surface	Lead	382.00	328.00	Yes	8.50	13.08	Yes
MOA-C-B11	Surface	Lead	1040.00	328.00	Yes	4.00	15.64	Yes
MOA-C-B13	Surface	Lead	2390.00	328.00	Yes	8.00	15.98	Yes
MOA-C-B7	Surface	Lead	1070.00	328.00	Yes	4.00	15.20	Yes
MOA-C-B8	Surface	Lead	906.00	328.00	Yes	2.00	14.52	Yes
MOA-C-B8-100	Surface	Lead	398.00	328.00	Yes	2.50	14.52	Yes
MOA-C-B8-101	Surface	Lead	423.00	328.00	Yes	2.50	15.45	Yes
MOA-C-B8-103	Surface	Lead	1130.00	328.00	Yes	2.50	15.41	Yes

TABLE 4
LEAD IMMOBILE CONSTITUENT EVALUATION
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Compliant with Immobile Constituent
PL05-03	Surface	Lead	1070.00	328.00	Yes	7.00	10.69	Yes
PL07-105	Surface	Lead	398.00	328.00	Yes	1.00	14.75	Yes
PL12-08	Surface	Lead	2410.00	328.00	Yes	5.00	9.54	Yes
SB-10-SO-2	Subsurface	Lead	1200.00	328.00	Yes	6.00	7.60	Yes
SB-10-SO-5-100	Surface	Lead	1210.00	328.00	Yes	2.00	6.64	Yes
SB-10-SO-5-101	Surface	Lead	1440.00	328.00	Yes	1.50	6.60	Yes
SB-10-SO-5-102	Surface	Lead	2400.00	328.00	Yes	1.50	6.66	Yes
SB-10-SO-5-103	Surface	Lead	477.00	328.00	Yes	1.50	6.65	Yes
SB-10-SO-5A	Subsurface	Lead	3900.00	328.00	Yes	4.00	5.79	Yes
SB-10-SO-5A-100	Surface	Lead	916.00	328.00	Yes	2.50	5.79	Yes
SB-10-SO-5A-101	Surface	Lead	504.00	328.00	Yes	2.50	5.81	Yes
SB-10-SO-7	Surface	Lead	4700.00	328.00	Yes	5.00	8.89	Yes
SB-10-SO-7-103	Surface	Lead	1960.00	328.00	Yes	6.00	8.83	Yes
SB-10-SO-9	Surface	Lead	420.00	328.00	Yes	4.00	9.20	Yes
SB-7-SO-5	Surface	Lead	690.00	328.00	Yes	4.00	14.29	Yes
SB-8-SO-11-102	Surface	Lead	1110.00	328.00	Yes	3.50	9.18	Yes
SB-8-SO-11-103	Surface	Lead	436.00	328.00	Yes	4.00	9.28	Yes
SB-AOC10-2013-117	Surface	Lead	378.00	328.00	Yes	4.50	8.04	Yes
SB-AOC10-2013-119	Surface	Lead	1670.00	328.00	Yes	4.50	7.30	Yes
SB-AOC10-2013-121	Surface	Lead	624.00	328.00	Yes	0.50	7.18	Yes
SB-AOC10-2013-122	Surface	Lead	741.00	328.00	Yes	0.50	6.74	Yes
SB-AOC10-2013-124	Surface	Lead	1120.00	328.00	Yes	4.00	7.29	Yes
SB-AOC10-2013-126	Surface	Lead	577.00	328.00	Yes	0.50	9.18	Yes
SB-AOC10-2013-127	Surface	Lead	922.00	328.00	Yes	4.00	8.46	Yes
SB-AOC10-2013-128	Surface	Lead	620.00	328.00	Yes	4.00	7.29	Yes
TP7-4	Surface	Lead	441.00	328.00	Yes	0.50	15.68	Yes
TP9-2	Surface	Lead	1100.00	328.00	Yes	4.00	12.96	Yes
TP9-2-102	Surface	Lead	569.00	328.00	Yes	5.00	13.02	Yes
TP9-2-103	Surface	Lead	670.00	328.00	Yes	5.00	12.91	Yes
TP9-3-304	Surface	Lead	3350.00	328.00	Yes	3.50	14.26	Yes

TABLE 5
FUNCTIONAL AREA ANALYSIS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRs (Y/N and type)
268-2	Surface	Zinc	37800.00	14200.00	Yes	3.75	15.40	Yes	SURF-ZN-10	Y SWA
ASO12	Surface	Lead	804.00	328.00	Yes	1.00	9.59	Yes	Surf-PB-12	Yes SWA
ASO12-100	Surface	Lead	1570.00	328.00	Yes	1.00	9.59	Yes	Surf-PB-12	Yes SWA
ASO12-101	Surface	Lead	542.00	328.00	Yes	1.00	9.69	Yes	Surf-PB-12	Yes SWA
ASO13	Surface	Lead	576.00	328.00	Yes	1.00	9.49	Yes	Surf-PB-12	Yes SWA
ASO14	Surface	Lead	503.00	328.00	Yes	1.00	9.03	Yes	Surf-PB-12	Yes SWA
ASO23	Surface	Lead	1200.00	328.00	Yes	1.00	9.39	Yes	Surf-PB-12	Yes SWA
ASO23-102	Surface	Lead	1110.00	328.00	Yes	1.00	9.26	Yes	Surf-PB-12	Yes SWA
B10-3	Surface	Arsenic	25.00	19.00	Yes	4.00	10.22	No	SURF-AS-01	Yes, SWA
B2-1	Surface	Benzene	1.50	1.00	Yes	10.00	14.86	Yes	SURF-BZ-05	Y SWA
B2-1	Surface	Trichloroethene	2.50	1.00	Yes	10.00	14.86	Yes	SURF-TCE-03	Y SWA
B2-1-200	Surface	Benzene	2.10	1.00	Yes	12.00	14.83	Yes	SURF-BZ-05	Y SWA
B2-1-200	Surface	Trichloroethene	2.10	1.00	Yes	12.00	14.83	Yes	SURF-TCE-03	Y SWA
B2-2	Surface	Benzene	15.00	1.00	Yes	9.50	14.95	Yes	SURF-BZ-05	Y SWA
B2-2	Surface	Trichloroethene	15.00	1.00	Yes	9.50	14.95	Yes	SURF-TCE-03	Y SWA
B2-2-200	Surface	Benzene	1.10	1.00	Yes	12.00	14.95	Yes	SURF-BZ-05	Y SWA
B2-2-200	Surface	Trichloroethene	1.10	1.00	Yes	12.00	14.95	Yes	SURF-TCE-03	Y SWA
B3-16-A	Surface	Arsenic	37.40	19.00	Yes	1.00	13.16	Yes	Surf-AS-14	Yes, SWA
B3-5	Subsurface	Benzene	1.50	1.00	Yes	10.00	11.87	Yes	SUB-BZ-01	Y SWA
B-4E	Surface	Lead	340.00	328.00	Yes	0.50	16.03	Yes	Surf-PB-13	Yes, once others removed
B6-201	Surface	Arsenic	76.20	19.00	Yes	1.00	14.34	Yes	Surf-AS-15	No
B6-3	Surface	Lead	420.00	328.00	Yes	1.00	9.62	Yes	Surf-PB-12	Yes SWA
B6-3-A	Surface	Arsenic	28.20	19.00	Yes	1.00	9.62	No	Surf-AS-18	Yes, SWA
B7-1	Surface	Arsenic	22.00	19.00	Yes	0.50	14.70	Yes	Surf-AS-10	Yes, SWA
B7-2	Surface	Arsenic	180.00	19.00	Yes	3.50	14.68	Yes	Surf-AS-08	Yes, SWA
B7-2-EX1B	Surface	Arsenic	28.00	19.00	Yes	0.50	14.68	Yes	Surf-AS-08	Yes, SWA
B7-2-EX1C	Surface	Arsenic	20.00	19.00	Yes	2.00	14.68	Yes	Surf-AS-08	Yes, SWA
B7-3	Surface	Lead	430.00	328.00	Yes	4.00	13.34	Yes	Surf-PB-11	Yes, once others removed
B7-3	Surface	Vinyl Chloride	12.00	10.00	Yes	10.50	13.34	Yes	SURF-VC-01	Y SWA
B7-5-A	Surface	Arsenic	29.60	19.00	Yes	3.00	15.57	Yes	Surf-AS-10	Yes, SWA
B8-2	Surface	Lead	670.00	328.00	Yes	4.00	9.45	Yes	Surf-PB-01	Yes SWA
B8-4	Subsurface	Benzene	1.80	1.00	Yes	8.00	9.75	Yes	SUB-BZ-03	Y SWA
B8-4	Subsurface	Chromium	2400.00	1540.00	Yes	8.00	9.75	Yes	SUB-CR-02	Y SWA
B8-4	Subsurface	Lead	800.00	328.00	Yes	8.00	9.75	Yes	SUB-PB-03	Yes once other locations are removed
B8-4	Subsurface	Zinc	22000.00	14200.00	Yes	8.00	9.75	Yes	SUB-ZN-02	Y SWA

TABLE 5
FUNCTIONAL AREA ANALYSIS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRs (Y/N and type)
B8-4-100	Subsurface	Lead	1810.00	328.00	Yes	8.50	9.11	Yes	SUB-PB-03	No
B8-4-101	Subsurface	Lead	331.00	328.00	Yes	8.50	9.52	Yes	SUB-PB-03	Yes once other locations are removed
B8-4-102	Subsurface	Lead	1010.00	328.00	Yes	8.50	8.72	Yes	SUB-PB-03	Yes once other locations are removed
B8-5	Surface	Arsenic	30.00	19.00	Yes	0.50	9.47	No	Surf-AS-04	Yes, SWA
B8-6	Subsurface	Lead	1200.00	328.00	Yes	8.00	9.69	Yes	SUB-PB-07	No
B8-6-100	Subsurface	Lead	396.00	328.00	Yes	10.00	9.69	Yes	SUB-PB-07	No
B8-6-101	Surface	Lead	336.00	328.00	Yes	6.00	9.69	Yes	Surf-PB-05	Yes, once others removed
B8-6-103	Surface	Benzene	2.90	1.00	Yes	6.50	10.65	Yes	SURF-BZ-02	Y SWA
B8-6-103	Surface	Lead	7510.00	328.00	Yes	6.50	10.65	Yes	Surf-PB-05	No
B8-8	Surface	Benzene	16.00	1.00	Yes	10.00	13.15	Yes	SURF-BZ-02	Y SWA
B8-8	Surface	Lead	860.00	328.00	Yes	10.00	13.15	Yes	Surf-PB-04	Yes, once others removed
B8-8-1	Surface	Benzene	1.60	1.00	Yes	12.50	14.55	Yes	SURF-BZ-02	Y SWA
B8-8-1	Surface	Lead	577.00	328.00	Yes	8.25	14.55	Yes	Surf-PB-04	Yes, once others removed
B8-8-1	Surface	Zinc	16800.00	14200.00	Yes	12.50	14.55	No	SURF-ZN-04	Y, SWA
B8-8-2-100	Surface	Benzene	1.60	1.00	Yes	8.25	13.05	Yes	SURF-BZ-02	Y SWA
B8-8-2-101	Surface	Lead	2070.00	328.00	Yes	8.25	13.11	No	Surf-PB-04	No
B8-8-2-102	Surface	Trichloroethene	13.00	1.00	Yes	10.00	13.02	Yes	SURF-TCE-04	No
B8-8-4-102	Surface	Lead	686.00	328.00	Yes	11.50	14.46	No	Surf-PB-04	Yes, once others removed
B9-12-100	Surface	Arsenic	31.40	19.00	Yes	3.00	8.13	Yes	Surf-AS-03	Yes, SWA
B9-12-101	Surface	Arsenic	55.00	19.00	Yes	0.50	8.91	Yes	Surf-AS-03	Yes, SWA
B9-12-102	Surface	Arsenic	23.90	19.00	Yes	0.50	8.14	Yes	Surf-AS-03	Yes, SWA
B9-12-103	Surface	Arsenic	42.00	19.00	Yes	0.50	8.18	Yes	Surf-AS-03	Yes, SWA
B9-13-A	Surface	Arsenic	25.90	19.00	Yes	0.50	8.67	Yes	Surf-AS-02	Yes, SWA
B9-14	Surface	Arsenic	90.00	19.00	Yes	2.00	8.92	Yes	SURF-AS-02	Yes, SWA
B9-15-A	Surface	Arsenic	50.10	19.00	Yes	0.50	8.18	Yes	Surf-AS-02	Yes, SWA
B9-16-100	Surface	Arsenic	48.90	19.00	Yes	0.50	8.44	Yes	Surf-AS-02	Yes, SWA
B9-16-101	Surface	Arsenic	47.50	19.00	Yes	0.50	8.52	Yes	Surf-AS-02	Yes, SWA
B9-16-102	Surface	Arsenic	51.50	19.00	Yes	0.50	8.41	Yes	Surf-AS-02	Yes, SWA
B9-2-100	Surface	Arsenic	365.00	19.00	Yes	0.50	6.76	Yes	Surf-AS-11	No
B9-2-101	Surface	Arsenic	356.00	19.00	Yes	0.50	6.21	Yes	Surf-AS-11	No
B9-2-102	Surface	Arsenic	26.30	19.00	Yes	0.50	7.19	Yes	Surf-AS-11	Yes, once others removed
B9-2-103	Surface	Arsenic	407.00	19.00	Yes	0.50	7.08	Yes	Surf-AS-11	No
B9-3-A	Surface	Arsenic	33.80	19.00	Yes	0.50	4.47	Yes	Surf-AS-11	Yes, once others removed
B9-9-A	Surface	Arsenic	84.60	19.00	Yes	0.50	8.72	Yes	Surf-AS-03	Yes, SWA
CE-1-101	Surface	Arsenic	22.50	19.00	Yes	8.00	12.62	Yes	Surf-AS-08	Yes, SWA

TABLE 5
FUNCTIONAL AREA ANALYSIS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRs (Y/N and type)
CE-1-102	Surface	Arsenic	163.00	19.00	Yes	8.00	12.67	Yes	Surf-AS-08	Yes, SWA
FSO27-A	Surface	Arsenic	31.00	19.00	Yes	1.00	10.42	No	Surf-AS-15	Yes, once others removed
FSO29	Surface	Arsenic	30.60	19.00	Yes	0.50	8.66	No	Surf-AS-15	Yes, once others removed
FSO3	Surface	Arsenic	20.10	19.00	Yes	0.50	13.05	No	Surf-AS-14	Yes, SWA
FSO5-A	Surface	Arsenic	109.00	19.00	Yes	0.50	14.28	Yes	Surf-AS-14	Yes, SWA
GRB2-1	Surface	Arsenic	31.00	19.00	Yes	0.50	14.60	Yes	Surf-AS-17	Yes, SWA
GRB2-1	Surface	Lead	9200.00	328.00	Yes	0.50	14.60	No	Surf-PB-08	No
HSO12	Surface	Zinc	28100.00	14200.00	Yes	0.50	8.06	Yes	SURF-ZN-02	Y 95UCL
HSO13	Surface	Lead	398.00	328.00	Yes	0.50	7.73	Yes	Surf-PB-03	Yes, once others removed
HSO14-A	Surface	Arsenic	38.20	19.00	Yes	0.50	7.95	Yes	Surf-AS-03	Yes, SWA
ISO11	Surface	Arsenic	20.20	19.00	Yes	1.00	14.61	Yes	Surf-AS-10	Yes, SWA
ISO23	Surface	Trichloroethene	1.60	1.00	Yes	8.50	11.79	Yes	SURF-TCE-07	Y SWA
ISO5-100	Surface	Lead	460.00	328.00	Yes	1.50	14.67	Yes	Surf-PB-11	Yes, once others removed
ISO5-101	Surface	Arsenic	33.70	19.00	Yes	1.50	14.67	Yes	Surf-AS-12	Yes, once others removed
ISO5-102	Surface	Arsenic	28.50	19.00	Yes	1.50	14.73	Yes	Surf-AS-12	Yes, once others removed
ISO5-103	Surface	Lead	1610.00	328.00	Yes	3.00	14.62	Yes	Surf-PB-11	No
ISO6	Surface	Lead	9390.00	328.00	Yes	1.50	14.91	Yes	Surf-PB-11	No
ISO6-100	Surface	Arsenic	34.70	19.00	Yes	1.50	14.91	Yes	Surf-AS-12	Yes, once others removed
ISO6-100	Surface	Lead	1280.00	328.00	Yes	1.50	14.91	Yes	Surf-PB-11	No
ISO6-101	Surface	Lead	1160.00	328.00	Yes	1.50	14.92	Yes	Surf-PB-11	Yes, once others removed
ISO6-102	Surface	Arsenic	62.80	19.00	Yes	1.50	14.97	Yes	Surf-AS-12	No
ISO6-103	Surface	Arsenic	71.20	19.00	Yes	1.50	14.85	Yes	Surf-AS-12	No
ISO6-103	Surface	Lead	775.00	328.00	Yes	1.50	14.85	No	Surf-PB-11	Yes, once others removed
ISO7-101	Surface	Arsenic	19.30	19.00	Yes	1.50	14.54	Yes	Surf-AS-10	Yes, SWA
ISO7-103	Surface	Arsenic	44.50	19.00	Yes	3.00	14.49	No	Surf-AS-10	Yes, SWA
JSO11-101	Surface	Lead	1290.00	328.00	Yes	6.50	10.04	Yes	Surf-PB-05	Yes, once others removed
JSO11-101	Subsurface	Lead	526.00	328.00	Yes	10.00	10.04	Yes	SUB-PB-05	Yes once other locations are removed
JSO19	Surface	Trichloroethene	4.60	1.00	Yes	4.00	11.95	Yes	SURF-TCE-09	Y SWA
JSO29	Surface	Trichloroethene	1.50	1.00	Yes	4.00	11.77	Yes	SURF-TCE-09	Y SWA
MC7-1	Surface	Benzene	1.40	1.00	Yes	11.00	14.81	Yes	SURF-BZ-05	Y SWA
MC7-1	Surface	Trichloroethene	1.40	1.00	Yes	11.00	14.81	Yes	SURF-TCE-03	Y SWA
MOA-C-B11	Surface	Chromium	1700.00	1540.00	Yes	4.00	15.64	Yes	SURF-CR-08	Y SWA
MOA-C-B11	Surface	Lead	1040.00	328.00	Yes	4.00	15.64	Yes	Surf-PB-13	Yes, once others removed
MOA-C-B13	Surface	Arsenic	24.80	19.00	Yes	8.00	15.98	Yes	Surf-AS-10	Yes, SWA
MOA-C-B13	Surface	Chromium	1650.00	1540.00	Yes	8.00	15.98	Yes	SURF-CR-08	Y SWA

TABLE 5
FUNCTIONAL AREA ANALYSIS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRs (Y/N and type)
MOA-C-B13	Surface	Lead	2390.00	328.00	Yes	8.00	15.98	Yes	Surf-PB-13	No
MOA-C-B15	Surface	Chromium	1850.00	1540.00	Yes	6.00	16.25	Yes	SURF-CR-06	Y SWA
MOA-C-B15	Surface	Lead	894.00	328.00	Yes	12.00	16.25	Yes	Surf-PB-13	Yes, once others removed
MOA-C-B7	Surface	Chromium	2200.00	1540.00	Yes	4.00	15.20	Yes	SURF-CR-06	Y SWA
MOA-C-B7	Surface	Lead	1070.00	328.00	Yes	4.00	15.20	Yes	Surf-PB-13	No
MOA-C-B8-100	Surface	Arsenic	26.80	19.00	Yes	2.50	14.52	Yes	Surf-AS-08	Yes, SWA
MOA-C-B8-100	Surface	Zinc	28600.00	14200.00	Yes	1.00	14.52	Yes	SURF-ZN-08	Y SWA
MOA-C-B8-103	Surface	Arsenic	19.80	19.00	Yes	2.50	15.41	Yes	Surf-AS-08	Yes, SWA
MOA-C-B8-103	Surface	Chromium	1550.00	1540.00	Yes	2.50	15.41	Yes	SURF-CR-06	Y SWA
MOA-C-B8-103	Surface	Lead	1130.00	328.00	Yes	2.50	15.41	Yes	Surf-PB-13	No
MW-22	Surface	Arsenic	91.00	19.00	Yes	4.00	14.03	No	Surf-AS-07	No
PL05-03	Surface	Lead	1070.00	328.00	Yes	7.00	10.69	Yes	Surf-PB-06	Yes SWA
PL07-01	Surface	Nickel	11100.00	9200.00	Yes	3.50	13.83	Yes	SURF-NI-05	Y SWA
PL07-02	Surface	Chromium	5080.00	1540.00	Yes	3.50	13.09	Yes	SURF-CR-11	Y SWA
PL07-107	Surface	Lead	517.00	328.00	Yes	5.00	14.39	Yes	Surf-PB-07	Yes SWA
PL07-107	Surface	Nickel	31100.00	9200.00	Yes	5.00	14.39	Yes	SURF-NI-05	Y SWA
PL09-01	Surface	Chromium	3620.00	1540.00	Yes	4.50	9.42	No	SURF-CR-10	Y SWA
PL10-101	Surface	Lead	4810.00	328.00	Yes	3.50	6.34	Yes	Surf-PB-14	No
PL10-11	Surface	Lead	341.00	328.00	Yes	3.50	6.27	Yes	Surf-PB-14	Yes, once others removed
PL10-13	Surface	Lead	352.00	328.00	Yes	3.50	8.00	Yes	Surf-PB-14	Yes, once others removed
PL10-15	Surface	Arsenic	30.80	19.00	Yes	3.50	9.27	Yes	Surf-AS-19	Yes, SWA
SB-10-SO-1	Surface	Arsenic	20.00	19.00	Yes	2.00	6.22	Yes	Surf-AS-03	Yes, SWA
SB-10-SO-10	Subsurface	Chromium	1800.00	1540.00	Yes	6.00	7.91	Yes	SUB-CR-01	Y SWA
SB-10-SO-10	Subsurface	Lead	830.00	328.00	Yes	6.00	7.91	Yes	SUB-PB-01	Yes SWA
SB-10-SO-10	Subsurface	Zinc	15000.00	14200.00	Yes	6.00	7.91	Yes	SUB-ZN-01	Y SWA
SB-10-SO-10-100	Subsurface	Lead	793.00	328.00	Yes	6.50	7.91	Yes	SUB-PB-01	Yes SWA
SB-10-SO-10-101	Subsurface	Lead	712.00	328.00	Yes	7.00	7.87	Yes	SUB-PB-01	Yes SWA
SB-10-SO-10-101	Surface	Lead	462.00	328.00	Yes	5.00	7.87	Yes	Surf-PB-01	Yes SWA
SB-10-SO-10-102	Surface	Lead	410.00	328.00	Yes	6.00	8.00	Yes	Surf-PB-01	Yes SWA
SB-10-SO-10-103	Subsurface	Lead	468.00	328.00	Yes	7.00	7.89	Yes	SUB-PB-01	Yes SWA
SB-10-SO-10-103	Surface	Lead	362.00	328.00	Yes	0.50	7.89	Yes	Surf-PB-01	Yes SWA
SB-10-SO-2	Subsurface	Chromium	2600.00	1540.00	Yes	6.00	7.60	Yes	SUB-CR-03	Y SWA
SB-10-SO-2	Subsurface	Lead	1200.00	328.00	Yes	6.00	7.60	Yes	Sub-PB-06	Yes SWA
SB-10-SO-209	Subsurface	Chromium	2260.00	1540.00	Yes	10.00	10.57	Yes	SUB-CR-01	Y SWA
SB-10-SO-209	Subsurface	Lead	769.00	328.00	Yes	10.00	10.57	No	SUB-PB-02	No

TABLE 5
FUNCTIONAL AREA ANALYSIS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRs (Y/N and type)
SB-10-SO-209	Subsurface	Zinc	20900.00	14200.00	Yes	10.00	10.57	Yes	SUB-ZN-01	Y SWA
SB-10-SO-5-100	Surface	Chromium	3320.00	1540.00	Yes	2.00	6.64	Yes	SURF-CR-03	Y SWA
SB-10-SO-5-100	Surface	Lead	1210.00	328.00	Yes	2.00	6.64	Yes	Surf-PB-03	Yes, once others removed
SB-10-SO-5-100	Subsurface	Lead	333.00	328.00	Yes	5.00	6.64	Yes	Sub-PB-02	Yes SWA
SB-10-SO-5-100	Surface	Nickel	10600.00	9200.00	Yes	2.00	6.64	Yes	SURF-NI-01	Y SWA
SB-10-SO-5-101	Surface	Chromium	2820.00	1540.00	Yes	1.50	6.60	Yes	SURF-CR-03	Y SWA
SB-10-SO-5-101	Surface	Lead	1440.00	328.00	Yes	1.50	6.60	Yes	Surf-PB-03	Yes, once others removed
SB-10-SO-5-102	Surface	Chromium	8520.00	1540.00	Yes	1.50	6.66	Yes	SURF-CR-03	Y SWA
SB-10-SO-5-102	Surface	Lead	2400.00	328.00	Yes	1.50	6.66	Yes	Surf-PB-03	No
SB-10-SO-5-102	Surface	Nickel	20300.00	9200.00	Yes	1.50	6.66	Yes	SURF-NI-01	Y SWA
SB-10-SO-5-102	Surface	Zinc	29100.00	14200.00	Yes	1.50	6.66	Yes	SURF-ZN-05	Y SWA
SB-10-SO-5-103	Surface	Lead	477.00	328.00	Yes	1.50	6.65	Yes	Surf-PB-03	Yes, once others removed
SB-10-SO-5A	Subsurface	Lead	3900.00	328.00	Yes	4.00	5.79	Yes	SUB-PB-01	Yes SWA
SB-10-SO-5A-100	Surface	Chromium	2740.00	1540.00	Yes	2.50	5.79	Yes	SURF-CR-03	Y SWA
SB-10-SO-5A-100	Surface	Lead	916.00	328.00	Yes	2.50	5.79	No	Surf-PB-03	Yes, once others removed
SB-10-SO-5A-101	Surface	Lead	504.00	328.00	Yes	2.50	5.81	No	Surf-PB-03	Yes, once others removed
SB-10-SO-7-103	Surface	Chromium	4500.00	1540.00	Yes	6.00	8.83	Yes	SURF-CR-01	No
SB-10-SO-9	Surface	Lead	420.00	328.00	Yes	4.00	9.20	Yes	Surf-PB-01	Yes SWA
SB-3-SO-11	Surface	Lead	980.00	328.00	Yes	0.50	12.69	Yes	Surf-PB-09	Yes SWA
SB-3-SO-11	Surface	Zinc	29000.00	14200.00	Yes	0.50	12.69	Yes	SURF-ZN-09	Y SWA
SB-7-SO-3	Surface	Arsenic	22.00	19.00	Yes	8.00	14.15	Yes	Surf-AS-10	Yes, SWA
SB-7-SO-3	Surface	Lead	350.00	328.00	Yes	10.00	14.15	Yes	Surf-PB-10	Yes SWA
SB-7-SO-4	Surface	Chromium	6600.00	1540.00	Yes	4.00	15.45	Yes	SURF-CR-07	Y 95UCL
SB-7-SO-5	Surface	Nickel	11000.00	9200.00	Yes	4.00	14.29	Yes	SURF-NI-04	Y SWA
SB-7-SO-6	Surface	Arsenic	25.00	19.00	Yes	4.00	15.79	Yes	Surf-AS-10	Yes, SWA
SB-7-SO-6	Surface	Chromium	2700.00	1540.00	Yes	4.00	15.79	Yes	SURF-CR-07	Y 95UCL
SB-7-SO-6	Surface	Trichloroethene	1.60	1.00	Yes	4.00	15.79	Yes	SURF-TCE-08	Y SWA
SB-7-SO-7	Surface	Chromium	8100.00	1540.00	Yes	2.00	14.45	Yes	SURF-CR-05	No
SB-8-SO-11	Subsurface	Arsenic	24.00	19.00	Yes	8.00	9.25	Yes	IGW02	Yes, SWA
SB-8-SO-11	Subsurface	Benzene	1.40	1.00	Yes	8.00	9.25	Yes	SUB-BZ-02	Y SWA
SB-8-SO-11	Subsurface	Lead	4300.00	328.00	Yes	8.00	9.25	Yes	SUB-PB-05	No
SB-8-SO-11-102	Surface	Lead	1110.00	328.00	Yes	3.50	9.18	Yes	Surf-PB-05	Yes, once others removed
SB-8-SO-11-103	Surface	Lead	436.00	328.00	Yes	4.00	9.28	Yes	Surf-PB-05	Yes, once others removed
SB-8-SO-14	Surface	Lead	1000.00	328.00	Yes	10.00	13.16	Yes	Surf-PB-04	Yes, once others removed
SB-8-SO-14	Surface	Zinc	28000.00	14200.00	Yes	10.00	13.16	Yes	SURF-ZN-04	Y SWA

TABLE 5
FUNCTIONAL AREA ANALYSIS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

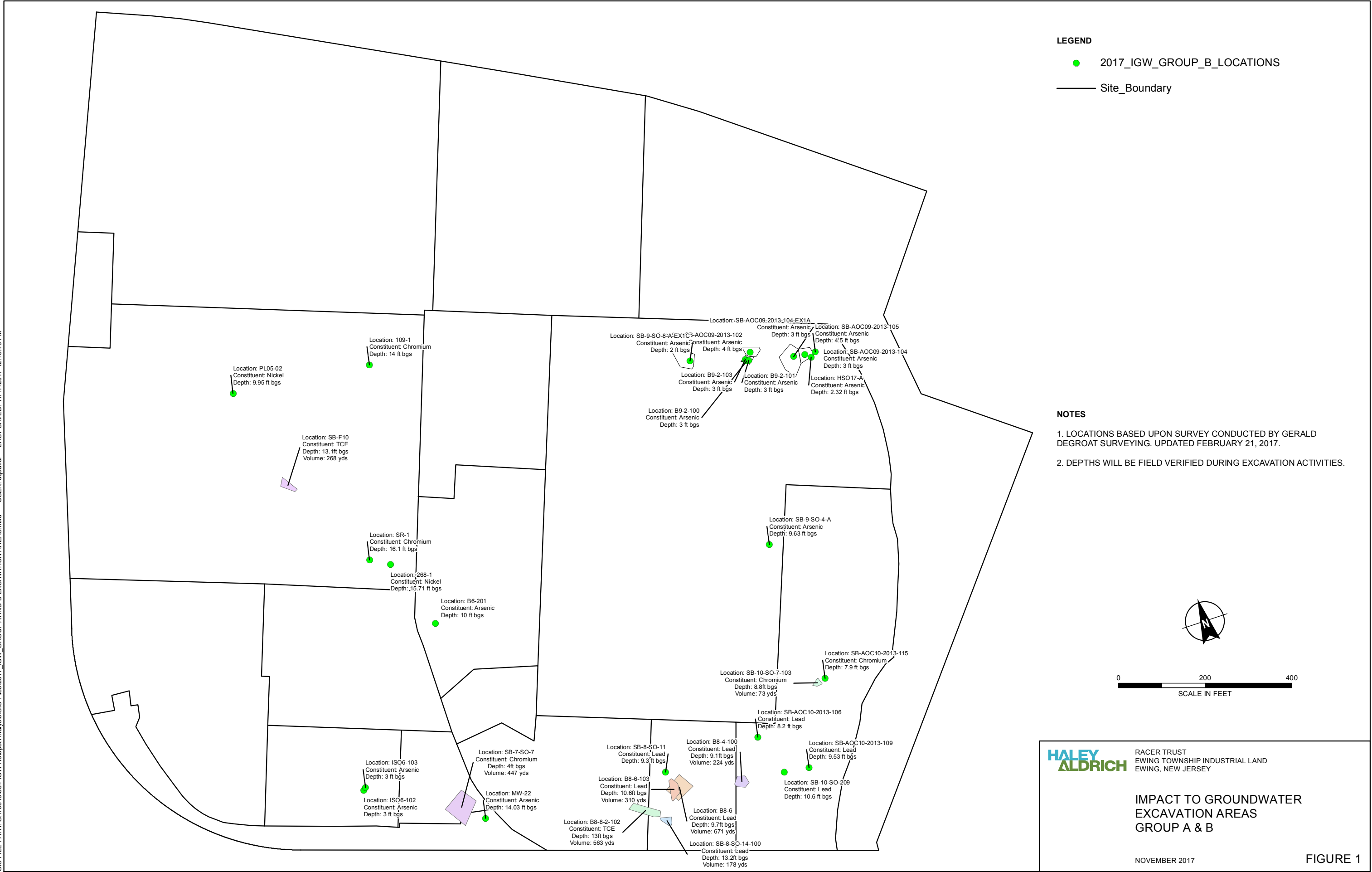
Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRs (mg/kg)	Sample Exceeds IGWSSSRs	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRs (Y/N and type)
SB-8-SO-14-100	Surface	Benzene	1.20	1.00	Yes	10.50	13.16	Yes	SURF-BZ-02	Y SWA
SB-8-SO-14-100	Surface	Lead	4770.00	328.00	Yes	8.25	13.16	Yes	Surf-PB-04	No
SB-8-SO-14-101	Subsurface	Benzene	1.10	1.00	Yes	11.50	12.19	Yes	SUB-BZ-04	Y SWA
SB-8-SO-14-101	Surface	Lead	1230.00	328.00	Yes	8.25	12.19	Yes	Surf-PB-04	Yes, once others removed
SB-8-SO-14-101	Subsurface	Lead	719.00	328.00	Yes	11.50	12.19	Yes	SUB-PB-04	Yes SWA
SB-9-SO-11-A	Surface	Arsenic	20.20	19.00	Yes	0.50	9.92	No	Surf-AS-03	Yes, SWA
SB-9-SO-2-A	Surface	Arsenic	44.70	19.00	Yes	0.50	8.85	Yes	Surf-AS-02	Yes, SWA
SB-9-SO-3	Surface	Zinc	44000.00	14200.00	Yes	0.50	8.82	Yes	SURF-ZN-06	Y SWA
SB-9-SO-3-A	Surface	Arsenic	133.00	19.00	Yes	2.00	8.82	Yes	Surf-AS-03	Yes, SWA
SB-9-SO-4-A	Surface	Arsenic	241.00	19.00	Yes	0.50	9.63	Yes	Surf-AS-05	No
SB9-SO-5	Surface	Arsenic	48.00	19.00	Yes	0.50	10.87	Yes	Surf-AS-06	Yes, SWA
SB-9-SO-8-A	Surface	Arsenic	224.00	19.00	Yes	0.50	10.12	Yes	Surf-AS-13	Yes, once others removed
SB-9-SO-8-A-EX1A	Surface	Arsenic	34.00	19.00	Yes	2.00	10.12	Yes	Surf-AS-13	Yes, once others removed
SB-9-SO-8-A-EX1C	Surface	Arsenic	250.00	19.00	Yes	0.50	10.12	Yes	Surf-AS-13	No
SB-AOC09-2013-101	Surface	Arsenic	25.70	19.00	Yes	4.50	6.91	Yes	Surf-AS-11	Yes, once others removed
SB-AOC09-2013-102	Surface	Arsenic	325.00	19.00	Yes	4.50	6.05	Yes	Surf-AS-11	No
SB-AOC09-2013-104	Surface	Arsenic	135.00	19.00	Yes	4.50	3.03	Yes	Surf-AS-20	No
SB-AOC09-2013-104-EX1A	Surface	Arsenic	220.00	19.00	Yes	2.00	3.03	Yes	Surf-AS-20	No
SB-AOC09-2013-104-EX1C	Surface	Arsenic	60.00	19.00	Yes	0.50	3.03	Yes	Surf-AS-09	Yes, once others removed
SB-AOC09-2013-104-EX1E	Surface	Arsenic	21.00	19.00	Yes	0.50	3.03	No	Surf-AS-09	Yes, SWA
SB-AOC10-2013-103	Surface	Zinc	24700.00	14200.00	Yes	5.50	9.27	Yes	SURF-ZN-03	Y SWA
SB-AOC10-2013-106	Surface	Chromium	3590.00	1540.00	Yes	5.50	8.24	Yes	SURF-CR-02	Y SWA
SB-AOC10-2013-106	Surface	Lead	1400.00	328.00	Yes	5.50	8.24	Yes	Surf-PB-02	No
SB-AOC10-2013-106	Surface	Nickel	12200.00	9200.00	Yes	5.50	8.24	Yes	SURF-NI-02	Y SWA
SB-AOC10-2013-108	Surface	Zinc	17700.00	14200.00	Yes	7.00	9.72	Yes	SURF-ZN-01	Y SWA
SB-AOC10-2013-109	Subsurface	Zinc	40300.00	14200.00	Yes	9.00	9.53	No	SUB-ZN-01	Y, SWA
SB-AOC10-2013-115	Surface	Chromium	10800.00	1540.00	Yes	5.00	7.92	No	SURF-CR-01	No
SB-AOC10-2013-115	Surface	Zinc	40700.00	14200.00	Yes	5.00	7.92	No	SURF-ZN-02	Yes, SWA
SB-AOC10-2013-116	Surface	Zinc	60700.00	14200.00	Yes	0.50	8.64	Yes	SURF-ZN-02	Y 95UCL
SB-AOC10-2013-117	Surface	Lead	378.00	328.00	Yes	4.50	8.04	No	Surf-PB-03	Yes, once others removed
SB-AOC10-2013-119	Surface	Chromium	4500.00	1540.00	Yes	4.50	7.30	Yes	SURF-CR-04	Y SWA
SB-AOC10-2013-119	Surface	Lead	1670.00	328.00	Yes	4.50	7.30	Yes	Surf-PB-03	No
SB-AOC10-2013-119	Surface	Nickel	13800.00	9200.00	Yes	4.50	7.30	Yes	SURF-NI-03	Y SWA
SB-AOC10-2013-119	Surface	Zinc	20700.00	14200.00	Yes	4.50	7.30	Yes	SURF-ZN-05	Y SWA
SB-AOC10-2013-122	Surface	Chromium	2040.00	1540.00	Yes	0.50	6.74	Yes	SURF-CR-04	Y SWA

TABLE 5
FUNCTIONAL AREA ANALYSIS
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRS (mg/kg)	Sample Exceeds IGWSSSRS	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRS (Y/N and type)
SB-AOC10-2013-124	Surface	Chromium	2850.00	1540.00	Yes	4.00	7.29	Yes	SURF-CR-04	Y SWA
SB-AOC1C-2013-107	Surface	Trichloroethene	7.90	1.00	Yes	1.00	10.89	Yes	SURF-TCE-06	Y SWA
SB-AOC8B-2013-101	Surface	Lead	457.00	328.00	Yes	10.00	12.62	Yes	Surf-PB-01	Yes SWA
SB-AOC8B-2013-104	Subsurface	Benzene	1.30	1.00	Yes	10.00	10.20	Yes	SUB-BZ-02	Y SWA
SB-AOC8B-2013-104	Subsurface	Chlorobenzene	87.00	83.00	Yes	10.00	10.20	Yes	SUB-CB-01	Y SWA
SB-AOC8B-2013-104	Subsurface	Lead	366.00	328.00	Yes	10.00	10.20	Yes	SUB-PB-05	Yes once other locations are removed
SB-AOC8B-2013-104	Subsurface	Nickel	33900.00	9200.00	Yes	10.00	10.20	Yes	SUB-NI-01	
SB-AOC8B-2013-104	Subsurface	Zinc	20100.00	14200.00	Yes	10.00	10.20	Yes	SUB-ZN-03	Y SWA
SB-AOC8B-2013-105	Subsurface	Arsenic	37.40	19.00	Yes	10.00	10.66	Yes	IGW01	Y SWA
SB-F10	Surface	Trichloroethene	31.00	1.00	Yes	2.00	13.05	Yes	SURF-TCE-10	No
TP7-4	Surface	Lead	441.00	328.00	Yes	0.50	15.68	Yes	Surf-PB-10	Yes SWA
TP9-2-202	Surface	Arsenic	43.40	19.00	Yes	3.00	13.23	Yes	Surf-AS-06	Yes, SWA
TP9-2-204	Surface	Trichloroethene	1.30	1.00	Yes	3.00	13.98	Yes	SURF-TCE-02	Y SWA
TP9-2-300	Surface	Arsenic	29.30	19.00	Yes	0.50	11.75	Yes		Yes, once others removed
TP9-2-304	Surface	Zinc	34200.00	14200.00	Yes	5.00	14.31	No	SURF-ZN-07	Y SWA
TP9-3	Surface	Benzene	1.70	1.00	Yes	1.00	13.86	Yes	SURF-BZ-04	Y SWA
TP9-3	Surface	Zinc	32000.00	14200.00	Yes	1.00	13.86	Yes	SURF-ZN-07	Y SWA
TP9-3-203	Surface	Arsenic	23.40	19.00	Yes	3.00	14.14	Yes	Surf-AS-09	Yes, once others removed
TP9-3-203	Surface	Chlorobenzene	130.00	83.00	Yes	3.00	14.14	Yes	SURF-CB-01	
TP9-3-305	Surface	Arsenic	34.90	19.00	Yes	0.50	14.60	No	Surf-AS-09	Yes, SWA
TP9-3-305	Surface	Benzene	1.20	1.00	Yes	3.50	14.60	Yes	SURF-BZ-04	Y SWA
TP9-3-305	Surface	Zinc	15900.00	14200.00	Yes	3.50	14.60	No	SURF-ZN-07	Y SWA

TABLE 6
AREAS REQUIRING ADDITIONAL REMEDIAL ACTIVITIES
EWING TOWNSHIP INDUSTRIAL LAND
EWING TOWNSHIP, NEW JERSEY

Boring Location	Surface/ Subsurface	Constituent	Concentration (mg/kg)	IGWSSSRS (mg/kg)	Sample Exceeds IGWSSSRS	Sample Bottom Depth (ft bgs)	Depth To Water Table (ft bgs)	Local Delineation Sufficient for FA Averaging	Functional Area (FA)	FA Averaging Result Below IGWSSSRS (Y/N and type)	FA Theissen Polygon Area (sq ft)	Reference Area for Excavation (sqft)	Proposed Area for Excavation (sqft)	Proposed Excavation Depth	Proposed Volume for Excavation (CY)	Default Volume for Excavation (CY)	Upperbound Volume for Excavation (CY)	Group	Notes
109-1	Surface	Chromium	3840.00	1540.00	Yes	7.75	14.03	No				10,418.3	25	14.0	13	13	13	B	
268-1	Surface	Nickel	9940.00	9200.00	Yes	1.50	15.71	No				4,951.5	25	15.7	15	15	15	B	
B6-201	Surface	Arsenic	76.20	19.00	Yes	1.00	14.34	Yes	Surf-AS-15	No	2,739.2	2,739.2	25	10.0	9	9	1,015	B*	Changed to Default size due to large polygon
B8-4-100	Subsurface	Lead	1810.00	328.00	Yes	8.50	9.11	Yes	SUB-PB-03	No	665.3	665.0	665	9.1	224	8	224	A	
B8-6	Subsurface	Lead	1200.00	328.00	Yes	8.00	9.69	Yes	SUB-PB-07	No	1,870.3	1,870.0	1870	9.7	671	9	671	A	
B8-6-100	Subsurface	Lead	396.00	328.00	Yes	10.00	9.69	Yes	SUB-PB-07	No			0					A	Removed with B8-6
B8-6-103	Surface	Lead	7510.00	328.00	Yes	6.50	10.65	Yes	Surf-PB-05	No	786.7	787.0	787	10.6	310	10	310	A	
B8-8-2-102	Surface	Trichloroethene	13.00	1.00	Yes	10.00	13.02	Yes	SURF-TCE-04	No	1,168.4	1,168.4	1168	13.0	563	12	563	A	
B9-2-100	Surface	Arsenic	365.00	19.00	Yes	0.50	6.76	Yes	Surf-AS-11	No	34.4	34.4	34	3.0	4	3	3	B	
B9-2-101	Surface	Arsenic	356.00	19.00	Yes	0.50	6.21	Yes	Surf-AS-11	No	159.6	159.6	160	3.0	18	3	3	B	
B9-2-103	Surface	Arsenic	407.00	19.00	Yes	0.50	7.08	Yes	Surf-AS-11	No	122.9	122.9	123	3.0	14	3	3	B	
HSO17-A	Subsurface	Arsenic	122.00	19.00	Yes	0.50	2.32	No				6,003.7	25	2.3	2	2	2	B	
ISO6-102	Surface	Arsenic	62.80	19.00	Yes	1.50	14.97	Yes	Surf-AS-12	No	7,382.5	7,382.5	25	3.0	3	3	820	B*	Changed to Default size due to large polygon
ISO6-103	Surface	Arsenic	71.20	19.00	Yes	1.50	14.85	Yes	Surf-AS-12	No	1,266.5	1,266.5	25	3.0	3	3	141	B*	Changed to Default size due to large polygon
MW-22	Surface	Arsenic	91.00	19.00	Yes	4.00	14.03	No	Surf-AS-07	No		4,005.9	25	8.5	8	8	8	B	
PL05-02	Surface	Nickel	12500.00	9200.00	Yes	4.00	9.95	No				2,664.6	25	10.0	9	9	9	B	
SB-10-SO-209	Subsurface	Lead	769.00	328.00	Yes	10.00	10.57	No	SUB-PB-02	No			25	10.6	10	10	10	B	
SB-10-SO-7-103	Surface	Chromium	4500.00	1540.00	Yes	6.00	8.83	Yes	SURF-CR-01	No	222.1	222.1	222	8.8	73	8	73	A	
SB-10-SO-7-103	Surface	Nickel	11300.00	9200.00	Yes	6.00	8.83	No				222.1	25	8.8				B	Area removed during Chromium Excavation
SB-7-SO-7	Surface	Chromium	8100.00	1540.00	Yes	2.00	14.45	Yes	SURF-CR-05	No	3,015.6	3,015.6	3016	4.0	447	4	447	A	
SB-8-SO-11	Subsurface	Lead	4300.00	328.00	Yes	8.00	9.25	Yes	SUB-PB-05	No	2,772.4	2,772.4	25	9.3	9	9	950	B*	Changed to Default size due to large polygon
SB-8-SO-14-100	Surface	Lead	4770.00	328.00	Yes	8.25	13.16	Yes	Surf-PB-04	No	365.9	366.0	366	13.2	178	12	178	A	
SB-9-SO-4-A	Surface	Arsenic	241.00	19.00	Yes	0.50	9.63	Yes	Surf-AS-05	No	3,830.0	3,830.0	25	9.6	9	9	1,366	B*	Changed to Default size due to large polygon
SB-9-SO-8-A-EX1C	Surface	Arsenic	250.00	19.00	Yes	0.50	10.12	Yes	Surf-AS-13	No	1,617.3	1,617.3	1617	2.0	120	2	2	B	
SB-AOC09-2013-102	Surface	Arsenic	325.00	19.00	Yes	4.50	6.05	Yes	Surf-AS-11	No	695.2	695.2	695	4.5	116	4	4	B	
SB-AOC09-2013-104	Surface	Arsenic	135.00	19.00	Yes	4.50	3.03	Yes	Surf-AS-20	No	812.0	812.0	812	3.00	90	3	3	B	
SB-AOC09-2013-104-EX1A	Surface	Arsenic	220.00	19.00	Yes	2.00	3.03	Yes	Surf-AS-20	No	2,302.3	2,302.3	2302	3.0	258	3	3	B	
SB-AOC09-2013-105	Subsurface	Arsenic	61.10	19.00	Yes	4.50	2.35	No				4,517.8	25	2.4	2	2	2	B	
SB-AOC10-2013-106	Surface	Lead	1400.00	328.00	Yes	5.50	8.24	Yes	Surf-PB-02	No	1,633.3	1,633.0	25	8.2	8	8	499	B*	Changed to Default size due to large polygon
SB-AOC10-2013-109	Subsurface	Lead	385.00	328.00	Yes	9.00	9.53	No					25	9.5	9	9	9	B	
SB-AOC10-2013-115	Surface	Chromium	10800.00	1540.00	Yes	5.00	7.92	No	SURF-CR-01	No	2,498.9	2,498.9	25	7.9	7	7	733	B*	Changed to Default size due to large polygon
SB-AOC10-2013-115	Surface	Nickel	24800.00	9200.00	Yes	5.00	7.92	No				2,498.9	25	7.9				B*	Area removed during Chromium Excavation.
SB-F10	Surface	Trichloroethene	31.00	1.00	Yes	2.00	13.05	Yes	SURF-TCE-10	No	553.7	553.7	554	13.1	268	12	268	A	
SR-1	Surface	Chromium	5900.00	1540.00	Yes	1.00	16.11	No				12,344.6	25	16.1	15	15	15	B	



ATTACHMENT A
NJDEP COMMENTS

Putz, Daniel

From: Murphy, Amy
Sent: 17 October 2017 3:26 PM
To: Hagen, David; Putz, Daniel; Quafisi, Dimitri; Kammari, Arun
Subject: FW: Delphi Interior/Racer Trust, PI 011336

From: Turner, Matthew [mailto:Matthew.Turner@dep.nj.gov]
Sent: Tuesday, October 17, 2017 3:26 PM
To: Murphy, Amy <AMurphy@haleyaldrich.com>
Cc: Neumann, Greg <Greg.Neumann@dep.nj.gov>; Toppin, Swati <Swati.Toppin@dep.nj.gov>; Sanders, Paul <Paul.Sanders@dep.nj.gov>; Kloo, Ken <Ken.Kloo@dep.nj.gov>; 'rhare@racertrust.org' <rhare@racertrust.org>; Schick, Kevin <Kevin.Schick@dep.nj.gov>
Subject: Delphi Interior/Racer Trust, PI 011336

Amy

The NJDEP has completed a review of the response to comments submitted on July 20, 2017 for the Delphi site. In the review of the spatially weighted average, the SPLP and the SESOIL the NJDEP has identified the below issues. Note that some of issues outlined below are similar or the same as previous email sent by the NJDEP. The NJDEP requests that you confirm receipt of this E-mail.

As discussed in the meeting held on Thursday, September 21, 2017, it appears that efforts to pursue attainment and compliance with the impact to ground water pathway has failed in some instances. It was decided that a draft statement of work to propose hot spot soil removal with limited post-excavation sampling would be forthcoming. In addition, we discussed the use of variances to the rules and deviations to the guidance to address the pathway while still providing protectiveness of the overall remedy.

Spatially Weighted Average

1. If a *site-specific* IGW criteria for a contaminant is developed and approved by the DEP, then that number shall serve as the delineation criteria when establishing the boundaries of the Function Area. The Functional Area boundaries only need to extend to the sample points needed to delineate the contamination to the site-specific standard. They do not need not extend to sample locations with concentrations at or below the *default* IGW criteria, unless these concentrations form the one allowable outer ring of “clean” samples used to delineate the area. This will ensure there is no excess of clean samples (defined as below the site specific standard) to incorrectly influence the SWA calculation.
2. The Draft Tables dated November 2016 depict Functional Area Boundaries established across the entire site with the width of the Functional Areas extending to their respective property boundaries that are perpendicular to the directional flow of groundwater.
 - This approach does not follow the guidance in terms of determining the Functional Area boundaries relative to *distinct areas of contamination* that are present across the entire site (as opposed to developing FAs across the entire site). Each *distinct area of contamination* needs to be addressed separately with 1 or more Functional Areas. The total number of Functional Areas required for each *distinct area of contamination* is dependent upon the extent of contamination relative to establishing Functional Area boundaries with lengths 100' parallel to groundwater flow.
 - Additionally, the width of the Functional Area boundaries should not extend to the property boundary. The width of the Functional Area boundaries need only extent to sample(s) that provide delineation to the appropriate standard. As an example, please see the attached Figure that presents “approximate” *distinct areas of contamination* and related Functional Area boundaries taking into account the above. Please note that these

boundaries are rough estimates used to simply illustrate the above issues, they were not established by reviewing individual sample location concentrations.

3. The spatially weighted averaging conducted to evaluate the impact to groundwater pathway is questionable and was not conducted in accordance with the Attainment Guidance document. The Functional Area boundaries established by Delphi extended laterally (perpendicularly) to the property boundaries; this does not follow the guidance. The Functional Area Boundaries are to extend perpendicularly to the delineated extent of contamination (i.e. first ring of clean zone samples).

Immobile Chemicals

In terms of Immobile Chemicals, as reiterated previously, if there is a 2' buffer between the delineated contaminant and the water table, no further action is necessary for the Impact to Ground Water pathway. This is apparently the case in 94% of the borings. It is for the LSRP to determine how these are situated in terms of AOCs. Where these borings adequately represent an AOC, the pathway may be said to be satisfactorily addressed for that contaminant. As to the other 6%, the LSRP states that SESOIL modeling shows that no ground water contamination would ensue. However, please see comments below on the acceptability (or unacceptability) of the SESOIL runs.

SESOIL

NJDEP have been reviewing this case regarding SESOIL modeling of lead, benzo(a)pyrene and benzo(a)anthracene as a means to approve site-specific impact to ground water soil remediation standards. The July 20, 2017 submission from the LSRP continues to be unacceptable. After looking at the many contaminant delineation tables in the submission, it is apparent that in most cases, these contaminants occur in exceedance of default IGWSSLs over the entire depth of the vadose zone and are in direct contact with the water table (direct contact meaning present in the 1-foot depth interval in the vadose zone immediately above the water table). In these cases, transport modeling is not appropriate, because the contaminant is already at the water table. When SESOIL is properly run for such a scenario, the model typically indicates unacceptable impacts to ground water (for example, the submitted model run from the LSRP for benzo(a)pyrene for AOC-8B with eight sublayers in the bottom soil layer). Therefore, in most cases, the SESOIL model is rejected as a means to assess the impact to ground water pathway at this site. One exception is noted: the model run for benzo(a)anthracene for AOC-8B correctly models a 1-foot gap between the contaminated zone and the water table and indicates no ground water impact. None of the other SESOIL runs are acceptable. It is recommended to conduct SPLP sampling on these three contaminants in order to determine site- or AOC-specific IGW alternative remediation standards and/or soil adsorption coefficients. Alternatively, shallow ground water sampling (top of the water table) may be conducted in order to determine whether contamination in the bottom two feet of the unsaturated zone is in fact impacting the underlying ground water. Lead, benzo(a)pyrene, and benzo(a)anthracene more than two feet above the water table already qualify for the immobile contaminant option.

Although SESOIL runs were not submitted for the following scenarios, the following AOC/contaminant combinations have either a 2-foot buffer zone and qualify for the immobile chemical option, or have a one-foot gap between the contaminant and the water table (observed from delineation tables) and it appears that SESOIL runs would give acceptable results: AOC-1D, lead; AOC-8A, lead, AOC-9, lead; AOC-11, lead, AOC-11-benzo(a)pyrene. No further evaluation of these AOC/contaminant combinations are necessary for the impact to ground water pathway. The remaining AOC/contaminant combinations for lead, benzo(a)pyrene, and benzo(a)anthracene are still an issue for the impact to ground water pathway.

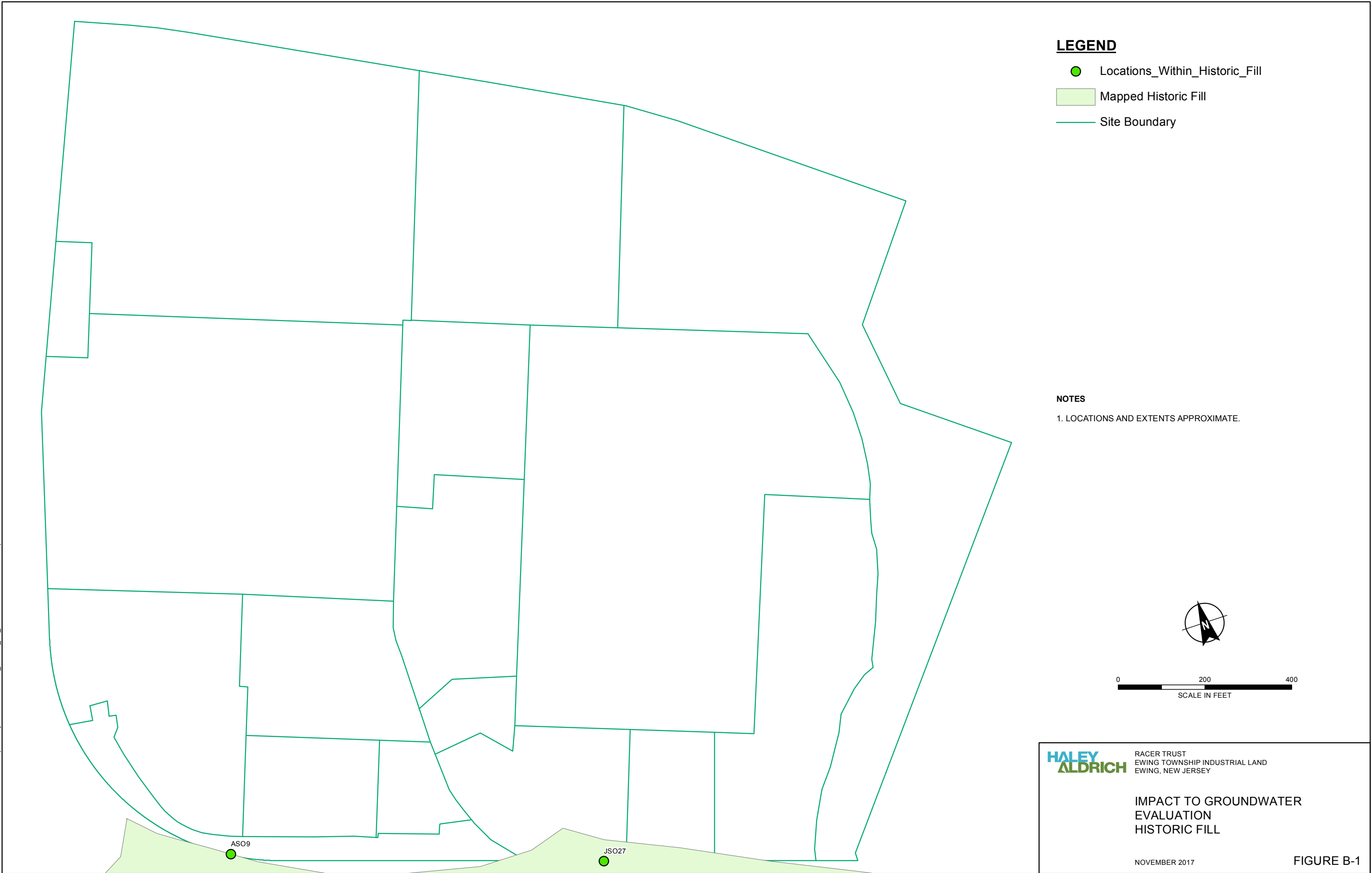
Matthew Turner
Bureau of Inspection and Review
401 E. State Street
P.O. Box 420

Mail Code 401-05D
Trenton, NJ 08625-0420
609-984-1742

ATTACHMENT B

MAPPED HISTORIC FILL EVALUATION

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_Historic_Fill_Locations.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 12:10:54 PM



ATTACHMENT C
HISTORIC PESTICIDES EVALUATION

FIGURE C-1

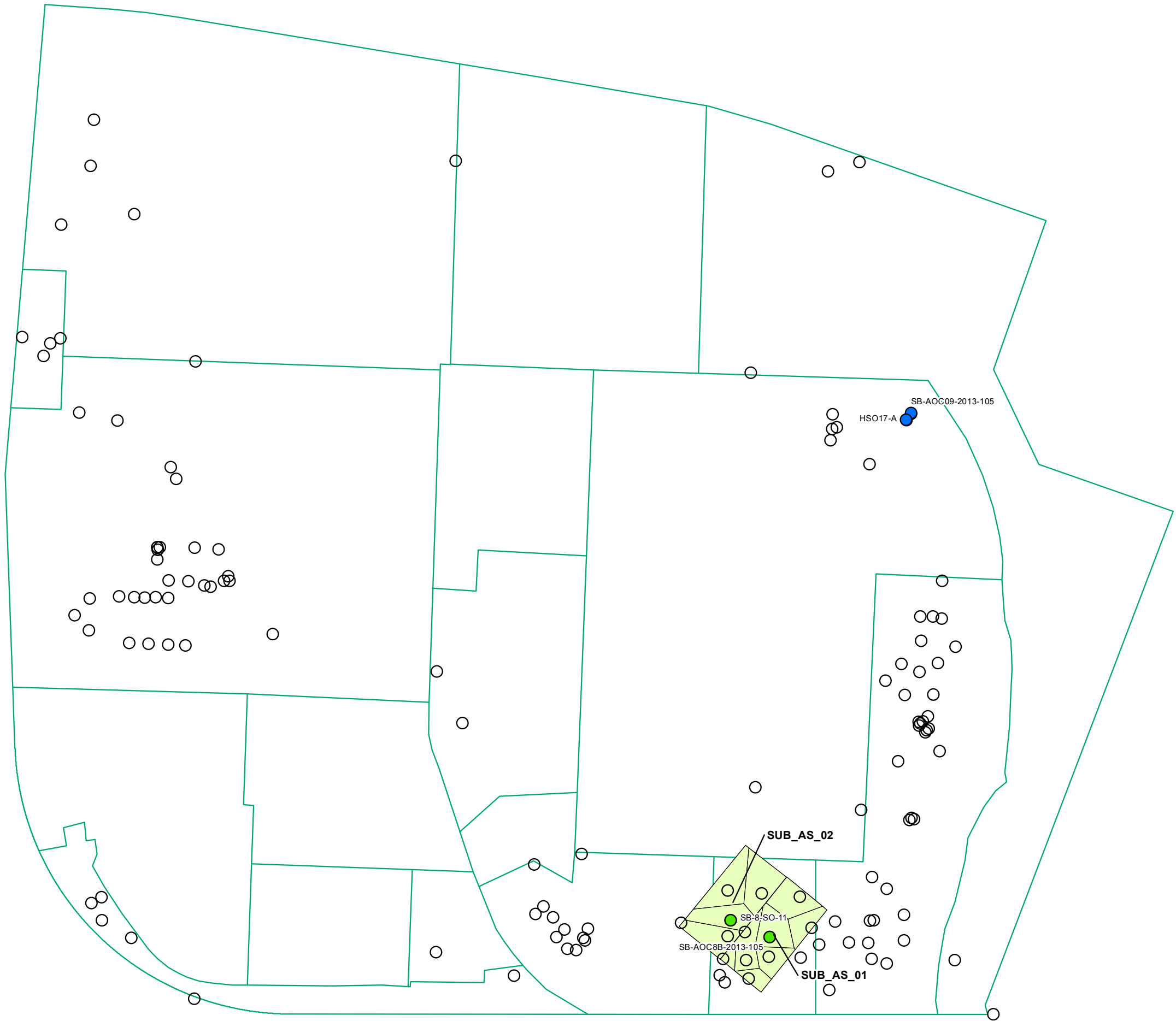
ATTACHMENT D

LEAD IMMOBILE CONTAMINATE EVALUATION

FIGURE D-1

ATTACHMENT E
FUNCTIONAL AREA ANALYSIS

FIGURE E-1



LEGEND

MAXIMUM ARSENIC CONCENTRATIONS

- Location Concentration Less Than IGWSSSRs
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSSRs
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSSRs
- Average Exceeds IGWSSSRs
- Site Boundary

NOTES

1. SUBSURFACE ZONE: 2 FEET ABOVE WATER TABLE TO WATER TABLE

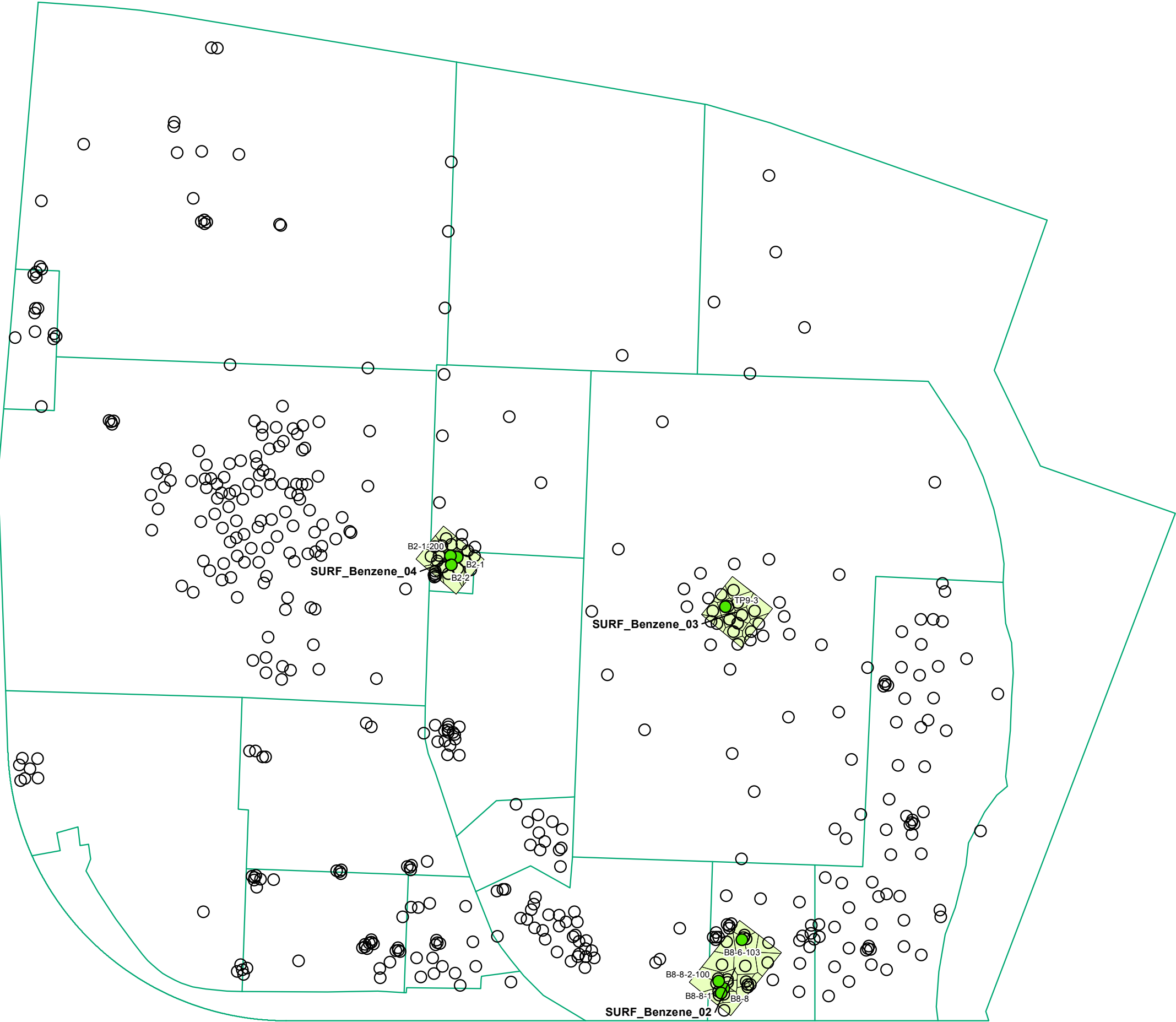
**HALEY
ALDRICH**

RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
ARSENIC - SUBSURFACE**

NOVEMBER 2017

FIGURE E-2



LEGEND

MAXIMUM BENZENE CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SURFACE ZONE: SURFACE TO 2 FEET ABOVE WATER TABLE
2. DUE TO THE DENSITY OF SAMPLING LOCATIONS IN SOME AREAS, NOT ALL SAMPLING LOCATION LABELS ARE SHOWN ON THIS FIGURE.

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EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
BENZENE - SURFACE**

NOVEMBER 2017

FIGURE E-3

G:\10613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Sub-Benzene.mxd — USER: dquafisi — LAST SAVED: 11/17/2017 9:47:53 AM



LEGEND

MAXIMUM BENZENE CONCENTRATIONS

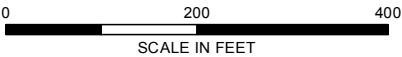
- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

- SUBSURFACE ZONE: 2 FEET ABOVE WATER TABLE TO WATER TABLE



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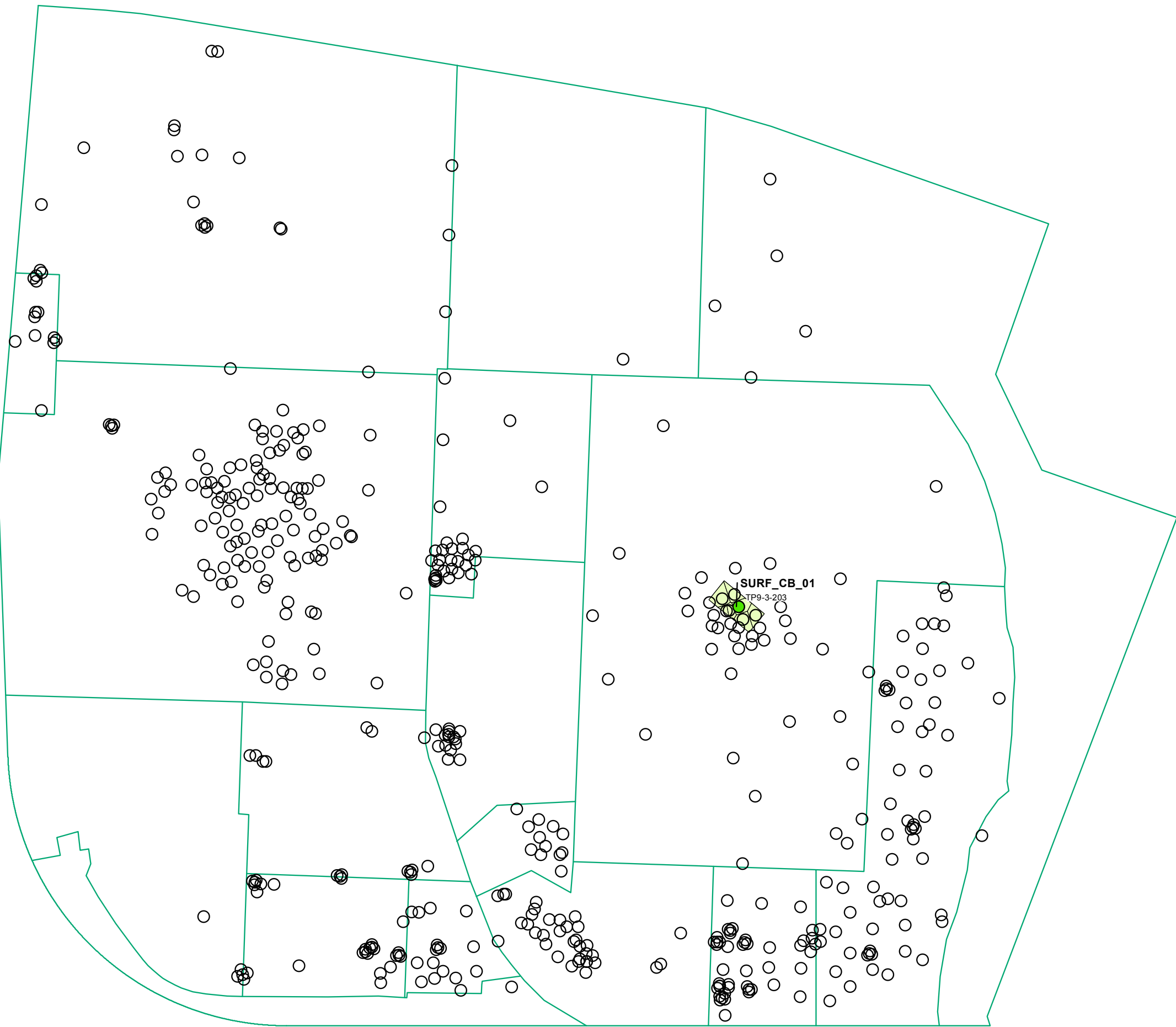
RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
BENZENE - SUBSURFACE**

NOVEMBER 2017

FIGURE E-4

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Surf-CB.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 9:38:29 AM



LEGEND

MAXIMUM CHLOROBENZENE CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SURFACE ZONE: SURFACE TO 2 FEET ABOVE WATER TABLE



0 200 400
SCALE IN FEET

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EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
CHLOROBENZENE - SURFACE**

NOVEMBER 2017

FIGURE E-5



GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Surf-CR.mxd — USER: dqualis — LAST SAVED: 11/17/2017 9:49:35 AM

LEGEND

MAXIMUM CHROMIUM CONCENTRATIONS

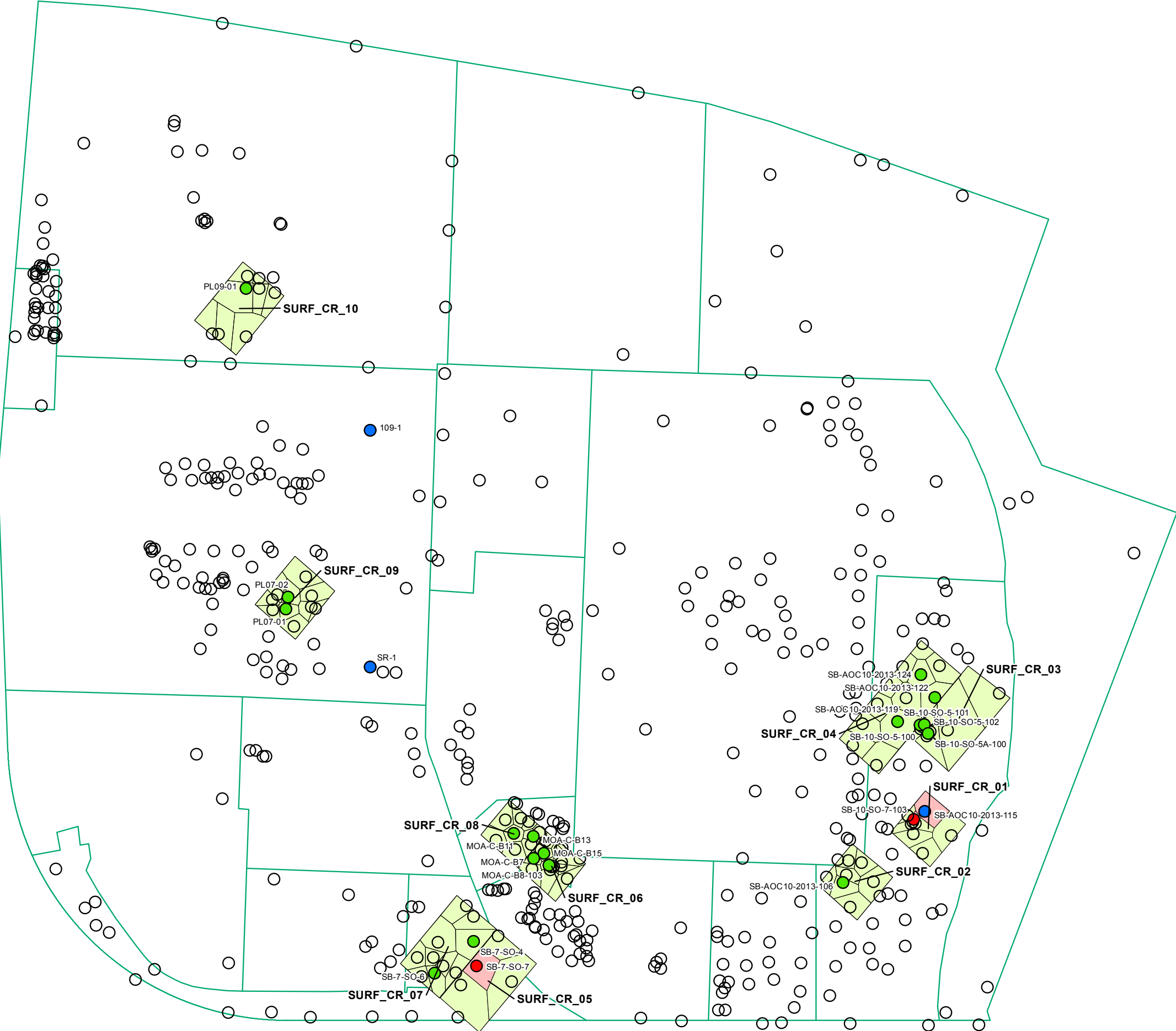
- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SURFACE ZONE: SURFACE TO 2 FEET ABOVE WATER TABLE



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EWING, NEW JERSEY

IMPACT TO GROUNDWATER
EVALUATION
CHROMIUM - SURFACE

NOVEMBER 2017

FIGURE E-7

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Sub-CR.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 8:46:23 AM



LEGEND

MAXIMUM CHROMIUM CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

- SUBSURFACE ZONE: 2 FEET ABOVE WATER TABLE TO WATER TABLE

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ALDRICH

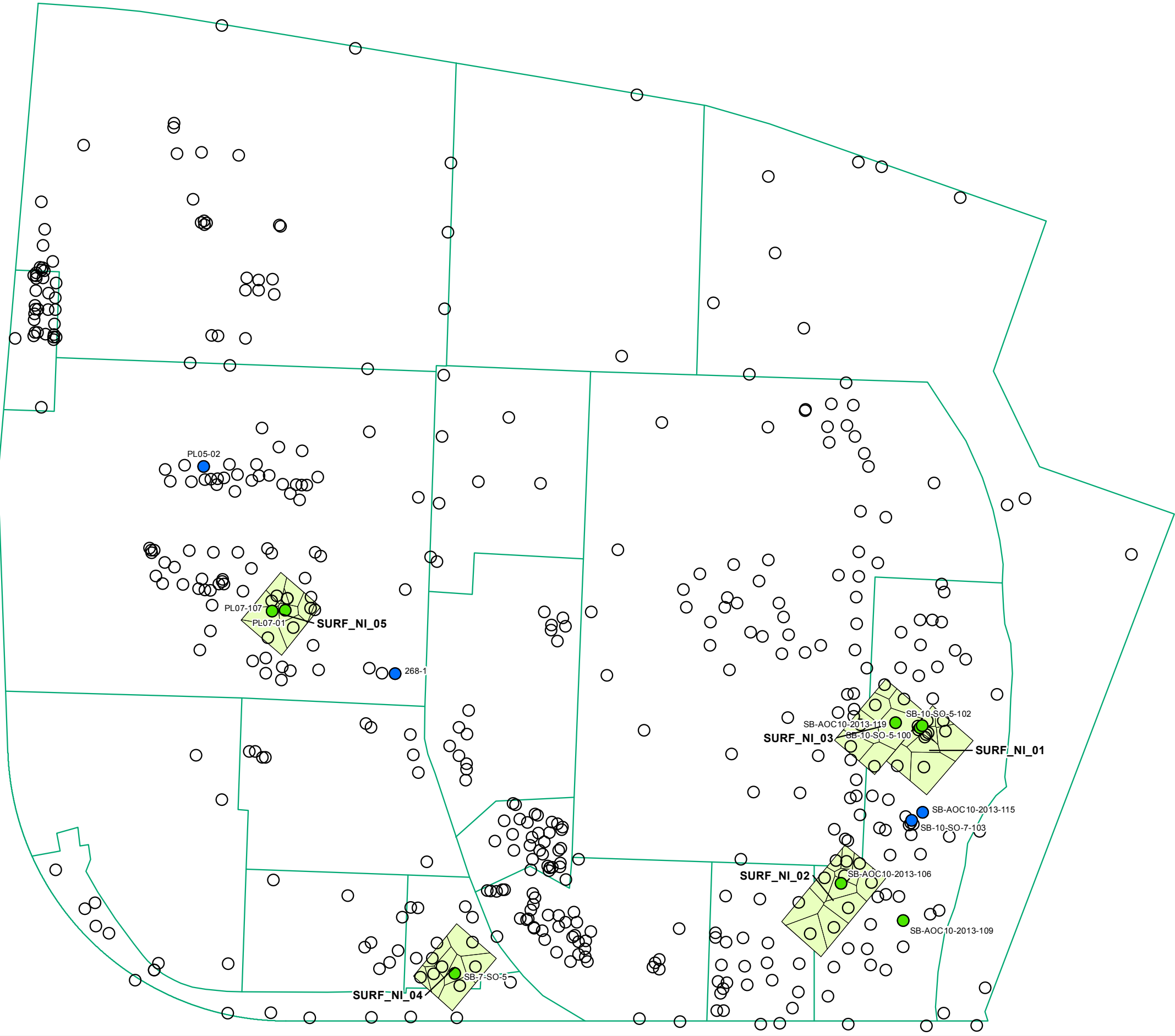
RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

IMPACT TO GROUNDWATER
EVALUATION
CHROMIUM - SUBSURFACE

NOVEMBER 2017

FIGURE E-8

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_SurfNI.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 9:00:31 AM



LEGEND

MAXIMUM NICKEL CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

- 1. SURFACE ZONE: SURFACE TO 2 FEET ABOVE WATER TABLE



**HALEY
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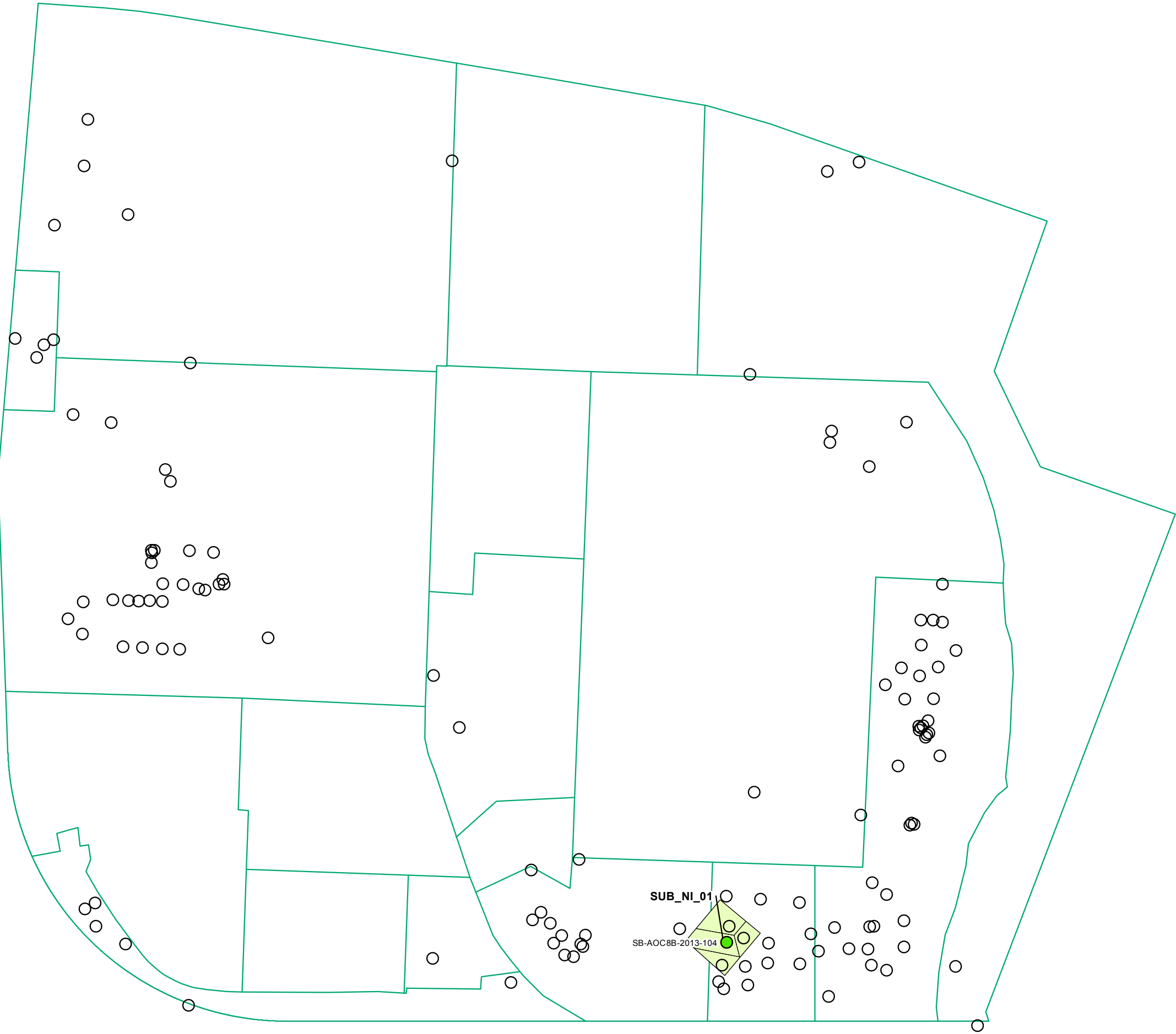
RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

IMPACT TO GROUNDWATER
EVALUATION
NICKEL - SURFACE

NOVEMBER 2017

FIGURE E-9

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Sub-NI.mxd — USER: dquafisi — LAST SAVED: 11/17/2017 8:47:04 AM



LEGEND

MAXIMUM NICKEL CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SUBSURFACE ZONE: 2 FEET ABOVE WATER TABLE TO WATER TABLE



0 200 400
SCALE IN FEET

**HALEY
ALDRICH**

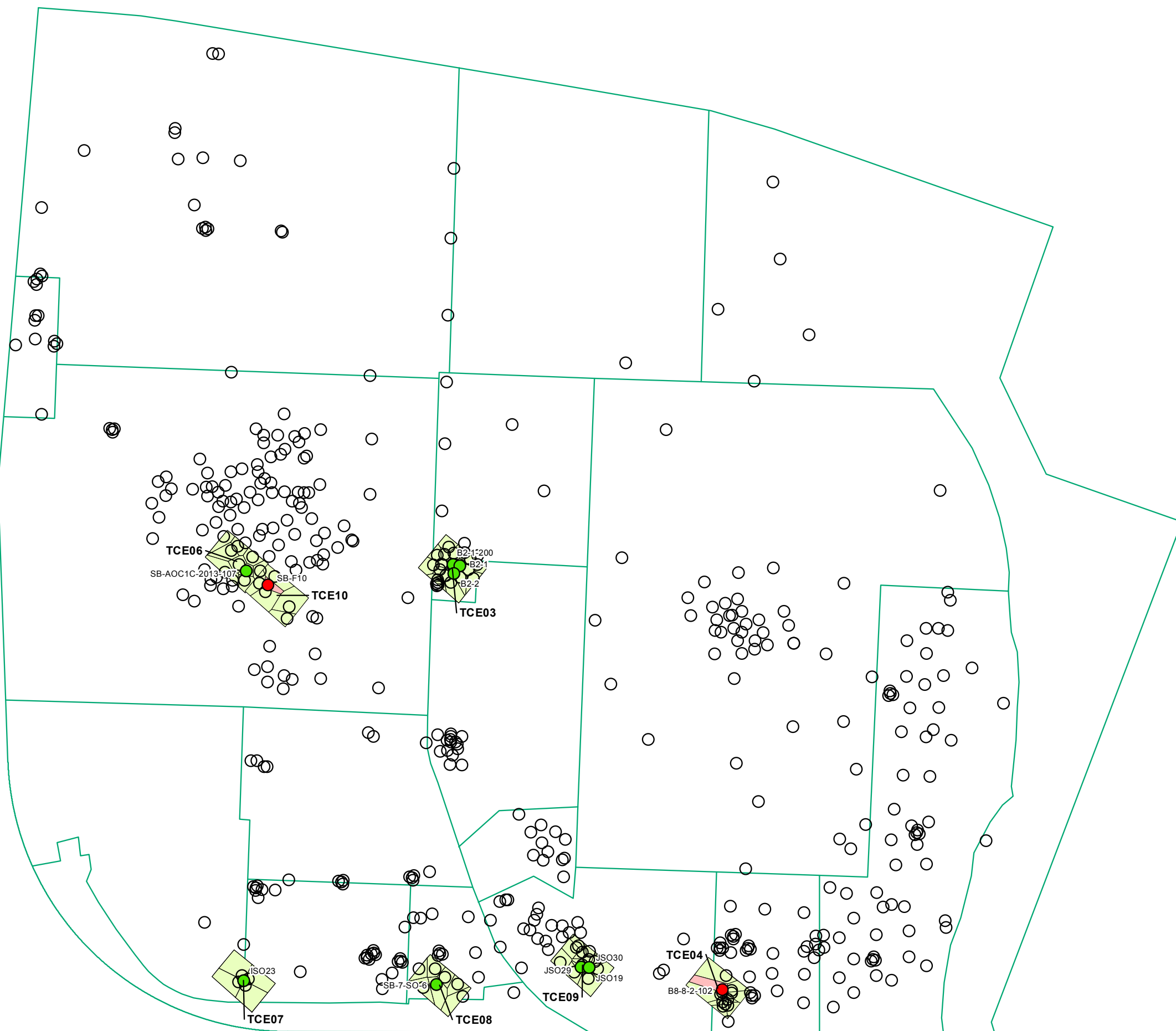
RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
NICKEL - SUBSURFACE**

NOVEMBER 2017

FIGURE E-10

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Surf-TCE_Updated.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 9:01:23 AM



LEGEND

**MAXIMUM TRICHLOROETHENE
CONCENTRATIONS**

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SURFACE ZONE: SURFACE TO 2 FEET ABOVE WATER TABLE

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EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
TRICHLOROETHENE - SURFACE**

NOVEMBER 2017

FIGURE E-11

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Sub-TCE.mxd — USER: dquafisi — LAST SAVED: 11/17/2017 8:55:22 AM



LEGEND

MAXIMUM TRICHLOROETHENE CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

- SUBSURFACE ZONE: 2 FEET ABOVE WATER TABLE TO WATER TABLE

**HALEY
ALDRICH**

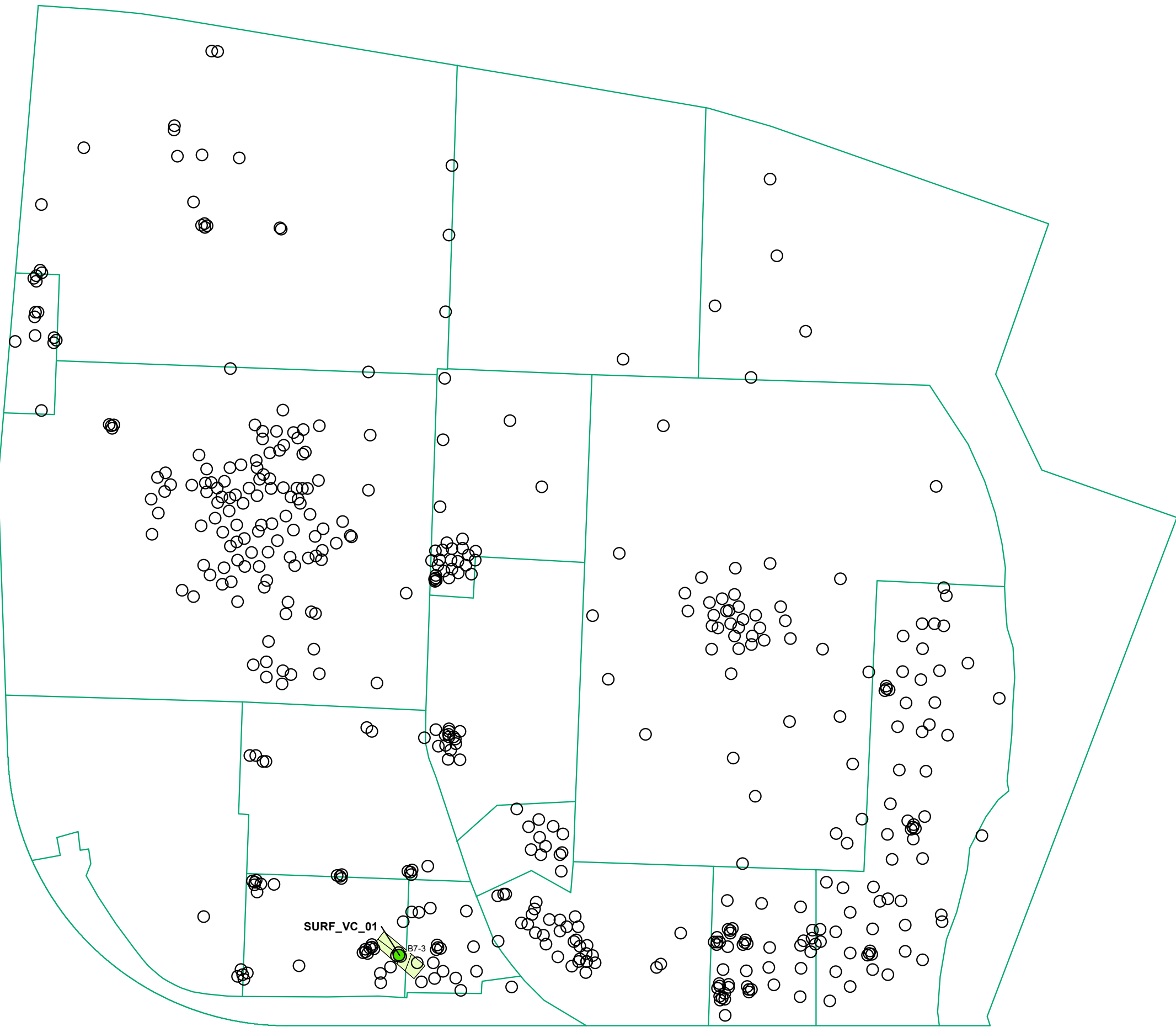
RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
TRICHLOROETHENE - SUBSURFACE**

NOVEMBER 2017

FIGURE E-12

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_SurfVC.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 9:02:11 AM



LEGEND

MAXIMUM VINYL CHLORIDE CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

- 1. SURFACE ZONE: SURFACE TO 2 FEET ABOVE WATER TABLE

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EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

IMPACT TO GROUNDWATER
EVALUATION
VINYL CHLORIDE - SURFACE

NOVEMBER 2017

FIGURE E-13

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Sub-VC.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 9:52:53 AM



LEGEND

MAXIMUM VINYL CHLORIDE CONCENTRATIONS

- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SUBSURFACE ZONE: 2 FEET ABOVE WATER TABLE TO WATER TABLE



0 200 400
SCALE IN FEET

**HALEY
ALDRICH**

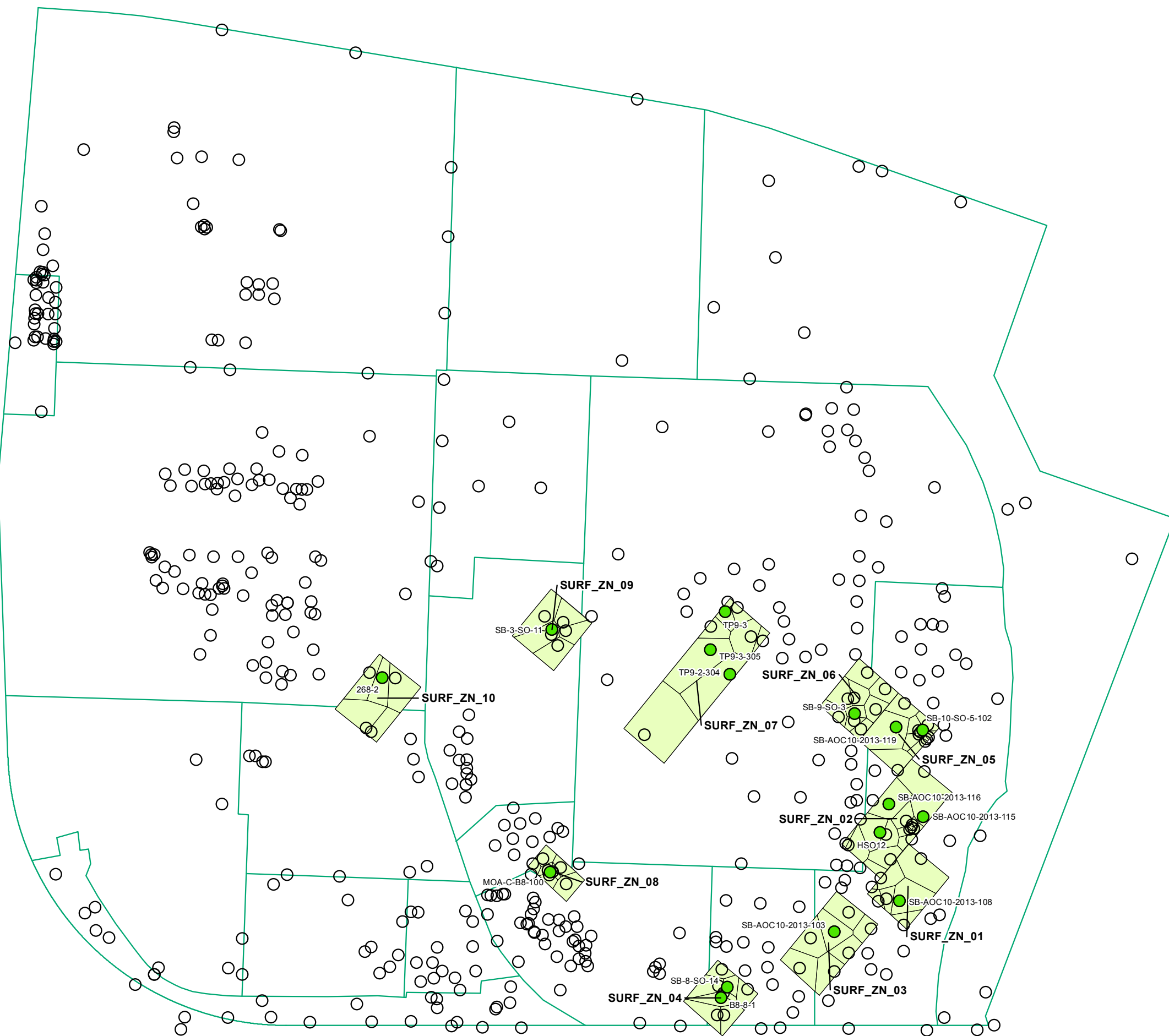
RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

IMPACT TO GROUNDWATER
EVALUATION
VINYL CHLORIDE - SUBSURFACE

NOVEMBER 2017

FIGURE E-14

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_SurfZn.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 9:30:54 AM



LEGEND

MAXIMUM ZINC CONCENTRATIONS

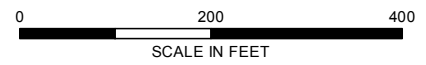
- Location Concentration Less Than IGWSSRS
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

- 1. SURFACE ZONE: SURFACE TO 2 FEET ABOVE WATER TABLE

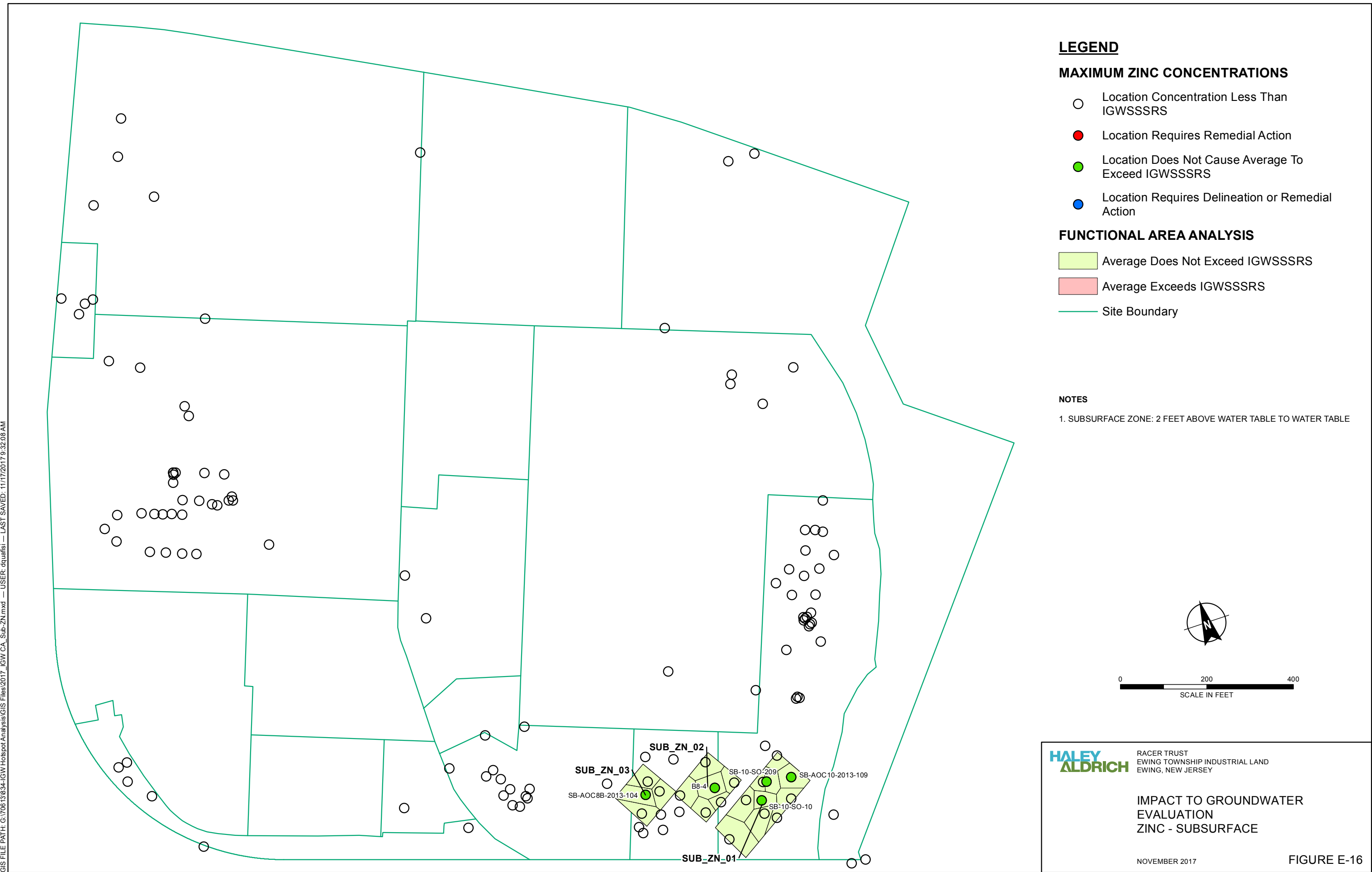


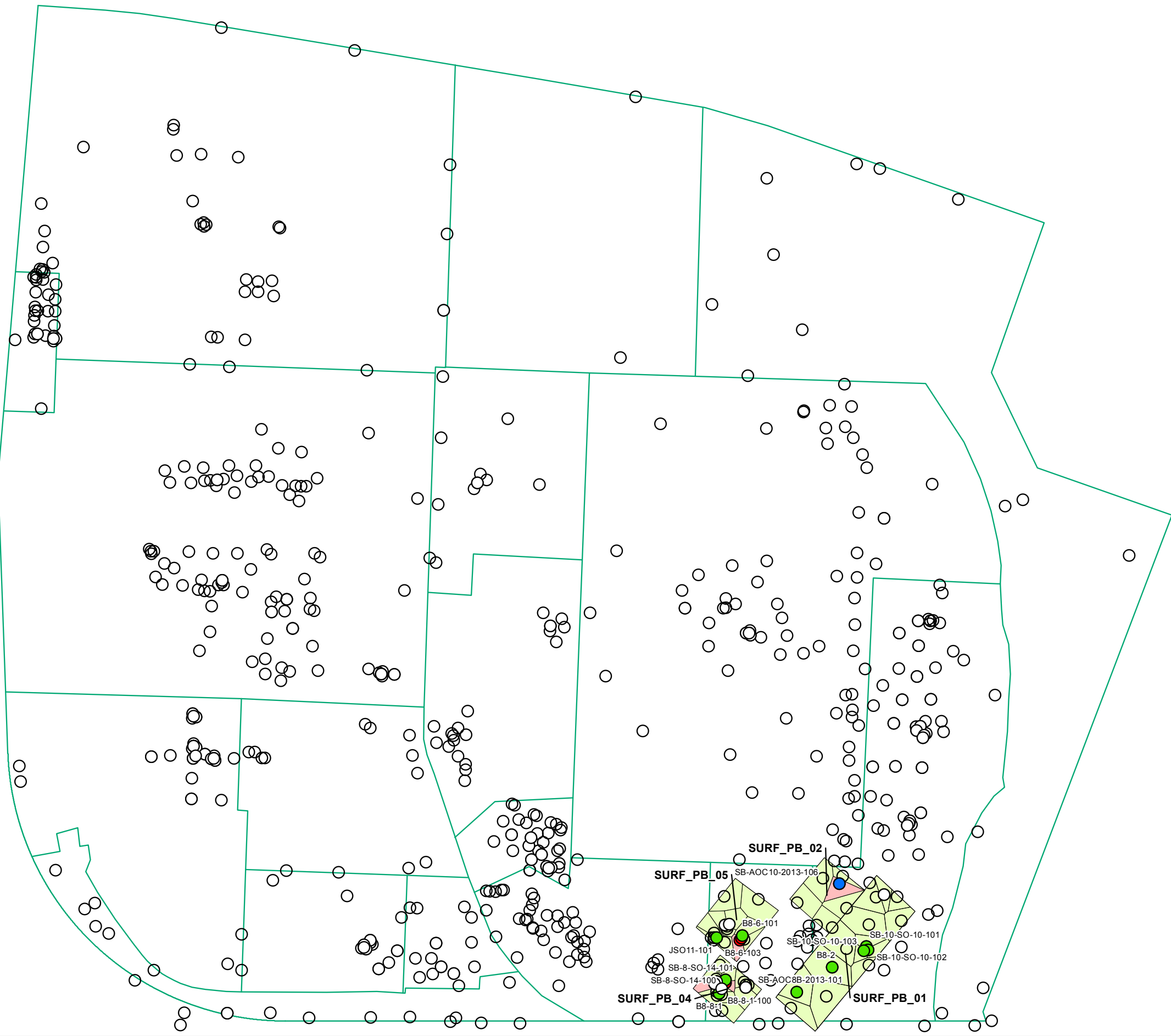
RACER TRUST
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
ZINC - SURFACE**

NOVEMBER 2017

FIGURE E-15





LEGEND

MAXIMUM LEAD CONCENTRATIONS

- Location Concentration Less Than IGWSSRS Or Addressed In Previous Step
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SURFACE ZONE: GROUND SURFACE TO 2 FEET ABOVE WATER TABLE

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EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
LEAD - SURFACE**

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FIGURE E-17

GIS FILE PATH: G:\70613834-IGW Holspot Analysis\GIS Files\2017_IGW CA_Sub-PB.mxd — USER: dqualisi — LAST SAVED: 11/17/2017 9:33:06 AM



LEGEND

MAXIMUM LEAD CONCENTRATIONS

- Location Concentration Less Than IGWSSRS Or Addressed In Previous Step
- Location Requires Remedial Action
- Location Does Not Cause Average To Exceed IGWSSRS
- Location Requires Delineation or Remedial Action

FUNCTIONAL AREA ANALYSIS

- Average Does Not Exceed IGWSSRS
- Average Exceeds IGWSSRS
- Site Boundary

NOTES

1. SUBSURFACE ZONE: 2 FEET ABOVE WATER TABLE TO WATER TABLE



0 200 400
SCALE IN FEET

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EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

**IMPACT TO GROUNDWATER
EVALUATION
LEAD - SUBSURFACE**

NOVEMBER 2017

FIGURE E-18

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	B10-3	1	406526.65	520111.54	25	4030.05	100751.28
2	B8-2	2	406554.28	520160.57	12	2184.02	26208.20
3	MW-62	2	406571.65	520125.22	11.8	1317.40	15545.28
4	SB-AOC8B-2013-101	3	406475.43	520136.97	6.9	2451.10	16912.61
5	JSO22	1	406455.20	520111.31	2.7	2759.39	7450.35
SUM						12741.96	166867.71
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							13.1
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	B9-14	1	406696.76	520455.78	90	682.9597078	61466.37
2	B9-16-102	3	406650.907	520377.816	51.5	608.3217289	31328.57
3	B9-15-A	1	406726.16	520446.62	50.1	1559.061975	78109.00
4	B9-16-100	3	406655.62	520380.44	48.9	29.54536053	1444.77
5	B9-16-101	3	406659.641	520376.769	47.5	557.5443369	26483.36
6	SB-9-SO-2-A	1	406685.41	520455.74	44.7	2014.050198	90028.04
7	B9-13-A	1	406707.04	520484.77	25.9	1539.328724	39868.61
8	HSO13-A	1	406747.208	520498.418	18.4	2818.029928	51851.75
9	B10-1	1	406637.43	520408.54	12	4524.984694	54299.82
10	SB-10-SO-6-A	1	406693.07	520419.39	10.6	2329.472169	24692.40
11	B9-16-103	3	406658.412	520384.576	10.1	672.5088095	6792.34
12		2	406752.9854	520429.6417	9.1	1770.057914	16107.53
13	B9-16-200	2	406651.7547	520384.5066	8.8	331.3766048	2916.11
14	MW-63	2	406717.94	520130.30	8.3	139830.00	1160589.03
15	SB-9-SO-1	1	406621.95	520351	5.2	1469.460525	7641.19
16	SB-AOC10-2013-117	2	406788.8779	520485.7086	3.4	2542.280022	8643.75
SUM						2542.28	8643.75
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							3.4
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	SB-9-SO-3-A	3	406745.21	520613.8	133	779.5496672	103680.11
2	B9-9-A	1	406753.80	520642.23	84.6	1201.89	101679.85
3	B9-12	1	406716.99	520548.64	69	52.4329421	3617.87
4	B9-12-101	2	406715.181	520553.571	55	1347.287986	74100.84
5	B9-12-103	2	406721.111	520544.612	42	1002.768409	42116.27
6	HSO14-A	1	406785.733	520608.363	38.2	2552.96886	97523.41
7	B9-12-102	2	406712.377	520545.659	23.9	600.9069604	14361.68
8	SB-9-SO-11-A	2	406652.62	520550.87	20.2	5160.533737	104242.78
9	SB-10-SO-1	1	406977.65	520786.54	20	820.256604	16405.13
10	B9-11	1	406747.04	520581.55	16	2146.36	34341.75
11	SB-10-SO-3	3	406814.65	520639.54	15	2788.617696	41829.27
12		2	406917.01	520735.20	14.6	1348.27	19684.70
13	SB-AOC10-2013-128	2	406903.45	520689.99	13.7	3317.50	45449.77
14	B9-10	1	406739.86	520600.82	13	716.38	9312.96
15	B10-4	1	406713.79	520616.71	12	1695.961044	20351.53
16	B10-2	1	406708.86	520523.83	12	2071.596415	24859.16
17	GRB9-1	1	406741.64	520644.34	12	270.81	3249.68
18	SB-9-SO-10	1	406597.62	520494.87	11	5077.167197	55848.84
19	SB-AOC10-2013-124	2	406881.99	520635.22	6.1	2142.60	13069.86
20	SB-10-SO-2	3	406939.65	520727.54	5.5	1226.63	6746.47
21	SB-AOC10-2013-129	2	406954.5211	520718.0068	4.6	4433.297074	20393.17
22	SB-AOC10-2013-125	2	406853.93	520660.55	4.6	2917.91	13422.40
23	SB-AOC10-2013-121	2	406840.91	520601.89	4.1	1798.23	7372.75
24	SB-AOC10-2013-126	3	406875.67	520724.02	3.9	1453.25	5667.69
25	WSO9	1	406977.65	520771.10	3	4090.37	12271.12
SUM						51013.55	891599.05
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							17.5
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-04							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	B8-5	1	406298.36	520322.61	30	6158.48	184754.46
2	JSO7	1	406244.55	520278.43	11.8	2888.38	34082.94
3	SB-8-SO-11-102	3	406385.90	520300.92	10.9	1158.70	12629.82
4	SB-8-SO-16-A	1	406238.65	520260.54	8.2	2018.09	16548.36
5	JSO11	1	406358.48	520284.97	7.2	1458.53	10501.45
6	SB-AOC8B-2013-106	2	406401.68	520353.45	6.8	4758.59	32358.42
7	SB-8-SO-15-A	1	406228.65	520268.54	5.9	293.66	1732.62
8	JSO12	1	406361.48	520293.37	5.4	1600.15	8640.80
9	JSO8	1	406234.66	520274.94	3.9	851.73	3321.73
SUM						21186.32	304570.60
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							14.4
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-05							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	SB-9-SO-4-A	1	406781.74	520720.14	241	3829.99	923028.72
2	B9-8	1	406800.65	520765.77	19	19795.48	376114.11
3	B10-6	2	406792.04	520679.76	17	4074.52	69266.80
4	HSO9	1	406620.28	520638.24	6.9	13992.20	96546.15
5	HSO8	1	406722.82	520748.26	1.4	4970.04	6958.05
SUM						46662.23	1471913.84
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							31.5
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-06							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	SB-9-SO-5	1	406832.48	520850.34	48	1776.811697	85286.96
2	TP9-2-202	2	406622.89	520799.50	43.4	3693.13	160281.86
3	SB-9-SO-6-A	1	406874.54	520966.61	17.4	2510.82	43688.20
4	TP9-2-303	3	406648.0319	520756.2876	16.4	8202.84	134526.59
5	B9-7	1	406816.15	520814.34	12	3262.36	39148.34
6	B9-6-A	1	406847.16	520894.44	11.4	4111.19	46867.57
7	TP9-2-301	3	406672.72	520821.61	9.5	4194.03	39843.24
8	TP10-1-A	1	406874.93	520863.18	9.3	3670.89	34139.25
9	TP9-2-302	3	406671.18	520786.55	8.1	2556.60	20708.49
10	SB-9-SO-12	1	406690.57	520745.00	7.3	3208.86	23424.66
11	HSO7	1	406797.02	520864.61	4.8	5890.93	28276.47
SUM						43078.46	656191.65
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							15.2
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-07							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	MW-22	2	405962.35	520326.62	91	4005.91	364537.37
2	ISO37	2	405951.17	520297.79	18.7	2402.70	44930.52
3	MOA-B-S13	1	406049.53	520383.18	15.6	1827.38	28507.19
4	ISO38	1	405956.83	520245.86	11.9	2549.27	30336.32
5	ISO36	1	405921.22	520295.29	7.9	464.81	3671.98
6	ISO35	1	405925.12	520297.95	7.9	776.88	6137.34
7	MOA-B-S12	1	406063.05	520353.33	4.7	2426.97	11406.75
8	MOA-B-S11	1	406083.08	520327.54	4.3	2358.59	10141.95
SUM						16812.51	499669.41
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							29.7
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-08							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	B7-2	3	405868.66	520350.08	180	302.26	54407.12
2	CE-1-102	4	406020.67	520431.25	163	104.62	17053.12
3	B7-2-EX1B	2	405854.09	520347.13	28	886.61	24825.10
4	MOA-C-B8-100	3	406101.84	520509.10	26.8	36.76	985.07
5	CE-1-101	4	406020.92	520439.51	22.5	1187.29	26713.95
6	B7-2-EX1C	2	405871.18	520334.77	20	1735.05	34701.04
7	MOA-C-B8-103	3	406098.88	520513.28	19.8	371.10	7347.69
8	B7-2-EX1A	2	405882.76	520354.43	19	1227.84	23328.92
9	MOA-C-B15	3	406096.71	520538.05	17.1	1325.28	22662.22
10	ISO16	1	405844.10	520294.14	16.8	1276.67	21447.98
11	JSO17	1	406032.25	520429.63	15.5	261.56	4054.22
12	CE-1-103	4	406012.96	520434.42	14	1470.10	20581.33
13	MOA-C-B7	3	406075.34	520534.67	12.2	275.46	3360.56
14	B7-6	2	405965.06	520416.27	12	4334.72	52016.63
15	MOA-C-B8-102	3	406098.41	520504.42	11.7	828.59	9694.47
16	CE-1-100	4	406018.01	520435.51	11.4	35.17	400.98
17	MOA-B-S14-A	1	406037.36	520409.96	11.2	374.54	4194.81
18	ISO32	1	405812.95	520354.55	11	1374.61	15120.71
19	JSO18	1	406037.11	520411.30	10.2	285.83	2915.51
20	ZSO6	5	406066.22	520516.66	9.8	1246.02	12210.96
21	ISO42	1	405832.01	520290.47	9.3	2157.32	20063.10
22	MOA-C-B8-101	3	406106.72	520508.52	9.2	289.15	2660.15
23	SB-7-SO-7	5	405908.28	520375.18	8.9	3521.33	31339.83
24	SB-7-SO-4	5	405917.72	520420.99	8.2	2184.28	17911.07
25	ISO34	1	405817.03	520331.61	7.9	2303.14	18194.82
26	ISO33	1	405821.62	520348.26	7.6	591.81	4497.76
27	MOA-B-S15	1	406028.52	520429.37	7.2	115.75	833.44
28	CE-1-102-EX1A	2	406015.06	520414.17	6.9	1571.91	10846.16
29	ZSO5	3	406158.52	520507.61	6.3	1571.83	9902.50
30	CE-2	2	406057.06	520463.79	6.3	783.42	4935.52
31	TP7-4	2	405848.11	520395.31	6	788.80	4732.77
32	MOA-B-S16	1	406049.65	520453.33	5.5	516.88	2842.86
33	MOA-C-B9	3	406123.03	520478.14	4.7	2046.79	9619.93
34	SB-7-SO-5	4	405866.65	520375.54	4.4	1181.64	5199.22
35	MOA-C-B10-A	1	406123.53	520511.34	3.9	1342.44	5235.50
36	MOA-B-S17	1	406070.05	520425.07	3.3	1126.48	3717.39
37	JSO16	1	406055.85	520472.69	2.5	1928.88	4822.21
38	MOA-B-S10	1	406041.92	520444.72	1.6	485.54	776.87
SUM						43447.44	516153.46
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							11.9
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-09							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	TP9-3-305	3	406523.64	520814.62	34.9	7683.96	268170.14
2	TP9-2-300	3	406672.80	520849.35	29.3	3573.54	104704.86
3	TP9-3-203	2	406597.46	520874.40	23.4	2145.51	50204.86
4	TP9-2	2	406603.86	520814.04	16	3492.56	55881.02
5	TP9-3	2	406572.39	520874.38	14	1221.81	17105.33
6	TP9-2-304	3	406543.3684	520758.7496	13.7	5366.51	73521.13
7	SB-9-SO-9	1	406583.21	520890.16	11	763.25	8395.77
8	HSO5	1	406538.179	520856.579	9.4	1852.96	17417.83
9	TP9-2-311	3	406650.00	520901.00	8.4	3203.75	26911.49
10	HSO3	1	406353.39	520701.02	8.1	12683.61	102737.25
11	HSO6	1	406679.42	520933.97	5.6	4232.13	23699.91
SUM						46219.59	748749.60
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							16.2
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-10							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	ISO7-103	2	405732.0502	520433.537	44.5	161.48	7186.01
2	B7-5-A	1	405925.66	520489.91	29.6	3670.33	108641.88
3	SB-7-SO-6	4	405828.35	520387.7	25	530.91	13272.85
4	MOA-C-B13	3	406087.44	520575.16	24.8	1665.42	41302.43
5	SB-7-SO-3	5	405852.72	520440.99	22	3961.98	87163.55
6	B7-1	1	405835.34	520416.27	22	1223.44	26915.65
7	ISO11	2	405932.805	520465.898	20.2	2162.22	43676.94
8	ISO7-101	2	405739.00	520429.20	19.3	303.36	5854.81
9	ISO7-102	2	405730.46	520425.41	18.7	253.68	4743.83
10	MOA-C-B3	3	406073.52	520647.18	18.1	870.31	15752.70
11	MOA-C-B11	3	406054.26	520592.05	17.3	1003.71	17364.20
12		3	406106.66	520614.79	14.9	1227.73	18293.17
13	JSO5	1	405991.14	520498.86	14.6	476.50	6956.95
14	MOA-C-B14	3	406121.5009	520572.6826	13.2	1041.78	13751.56
15	B7-3	3	405778.17	520450.87	13	1879.06	24427.72
16	MW-77	2	405729.26	520411.58	12.9	1568.43	20232.78
17	B8-9	2	406002.67	520497.83	12	592.98	7115.82
18	ISO7-100	2	405734.04	520428.85	11.6	35.05	406.56
19	JSO6	1	406006.952	520496.608	10.5	770.88	8094.20
20	TP7-2-A	2	405756.36	520433.91	9.7	1253.41	12158.07
21	MOA-C-B4-A	1	406046.85	520621.20	8.8	967.30	8512.24
22	MOA-C-B12	3	406076.05	520614.85	8.6	994.07	8548.96
23	TP7-5	1	405803.25	520389.41	7.4	2820.29	20870.17
24	SB-8-SO-17	1	405975.05	520505.69	6.5	3520.75	22884.85
25	MOA-C-B6	3	406047.16	520561.92	6.1	2799.93	17079.56
26	MOA-C-B5	3	406018.19	520590.54	5.4	3404.14	18382.36
27	SB-8-SO-18	1	405981.05	520502.69	4.3	637.33	2740.53
28	TP7-3	2	405806.94	520426.09	4	1707.48	6829.91
29	MW-78	2	405862.98	520516.72	2.6	3151.62	8194.21
SUM						44655.59	597354.45
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							13.4
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-11							
RANK	LOCATION	SAMPLE COUNT	X- COORDINATE	Y- COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	B9-2-103	2	406863.42	521142.91	407	122.88	50012.09
2	B9-2-100	2	406865.66	521138.45	365	34.37	12543.92
3	B9-2-101	2	406870.372	521138.567	356	159.55	56798.69
4	SB-AOC09-2013-102	1	406878.99	521155.17	325	695.22	225945.25
5	B9-3-A	1	406925.00	521161.80	33.8	2849.87	96325.53
6	B9-2-102	2	406861.84	521134.78	26.3	752.49	19790.51
7	SB-AOC09-2013-101	2	406857.69	521151.39	25.7	2511.34	64541.39
8	SB-AOC09-2013-100	1	406878.6374	521129.0375	8.8	606.03	5333.05
9	B9-1-A	1	406901.63	521128.86	7.2	1624.58	11696.98
10	HSO23	1	406859.59	521109.42	5.3	3495.95	18528.53
11	HSO20	1	406886.439	521177.42	4.1	1663.43	6820.06
12	HSO19	1	406925.07	521206.73	2.6	1617.16	4204.61
SUM						16132.85	572540.61
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							35.5
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-12							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	ISO6-103	4	405721.71	520480.90	71.2	1266.54	90177.92
2	ISO6-102	4	405715.64	520476.76	62.8	7382.51	463621.79
3	ISO6-100	4	405720.35	520476.32	34.7	31.75	1101.56
4	ISO5-101	2	405737.54	520476.73	33.7	1239.55	41772.86
5	ISO5-102	2	405729.98	520481.20	28.5	90.56	2580.88
6	ISO6-101	4	405723.20	520472.29	18	1426.39	25675.05
7	ISO5-103	2	405736.05	520485.34	15.2	3361.52	51095.04
8	ISO5-100	2	405734.69	520480.68	14.7	31.95	469.72
9	ISO19	1	405578.84	520381.85	13.7	9458.54	129582.03
10	ISO4	1	405806.46	520508.46	3.3	3510.75	11585.46
SUM						27800.06	817662.32
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							29.4
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-13							
RANK	LOCATION	SAMPLE COUNT	X- COORDINATE	Y- COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	SB-9-SO-8-A-EX1C	2	406741.25	521179.65	250	1617.34	404336.16
2	SB-9-SO-8-A	1	406757.93	521173.01	224	389.76	87307.06
3	SB-9-SO-8-A-EX1A	2	406771.53	521182.43	34	1659.10	56409.47
4	TP10-3	1	406836.77	521182.90	12	1973.44	23681.31
5	SB-9-SO-8-A-EX1G	2	406689.17	521170.07	9.1	1570.01	14287.05
6	SB-9-SO-8-A-EX1B	2	406757.64	521155.77	8.6	1427.21	12273.97
7	HSO21	1	406834.75	521181.03	8.1	1069.51	8663.06
8	SB-9-SO-8-A-EX1D	2	406762.09	521208.68	7	4362.02	30534.17
9	SB-9-SO-8-A-EX1E	1	406724.87	521148.82	4.5	2064.45	9290.02
SUM						16132.85	646782.26
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							40.1
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-14							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	FSO5-A	1	406279.13	520913.87	109	1050.40	114494.01
2	B3-16-A	1	406250.94	520913.65	37.4	592.17	22147.23
3	FSO3	1	406275.73	520994.12	20.1	1123.47	22581.83
4	SB-3-SO-11	1	406249.65	520945.54	17	422.50	7182.51
5	FSO6	1	406248.83	520900.06	15	1732.58	25988.70
6	B3-15	2	406244.81	520974.07	14	774.53	10843.39
7	FSO4	1	406290.23	520984.52	13.6	2392.18	32533.69
8	B3-17	2	406274.42	520951.82	13	983.44	12784.74
9	B3-14	2	406245.50	520937.34	12	481.29	5775.45
10	SB-3-SO-12	1	406273.65	520935.54	12	712.72	8552.64
11	FSO2	1	406236.45	520964.45	7.3	929.90	6788.28
12		1	406218.60	520930.32	6	2456.63	14739.77
13	HSO1	1	406329.14	520945.52	4.3	2481.03	10668.44
SUM						16132.85	295080.67
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							18.3
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-15							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	B6-201	2	405993.32	520788.94	76.2	2739.19	208726.22
2	FSO27-A	2	406032.44	520794.04	31	1531.73	47483.52
3	FSO29	1	406045.39	520824.94	30.6	1232.43	37712.29
4	B3-27	2	406049.28	520841.65	13	2032.62	26424.09
5	B3-28	2	406032.19	520799.48	12	321.74	3860.92
6	B3-29	2	406013.46	520746.90	12	1556.58	18678.94
7	FSO26	1	406004.78	520765.89	6.1	1803.87	11003.59
8	B3-4-200	1	406021.22	520816.49	6	1842.32	11053.90
9	FSO28-A	1	406040.67	520815.54	3.7	879.72	3254.98
10	SB-5-SO-2	1	405922.65	520794.54	2	2192.66	4385.31
SUM						16132.85	372583.75
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							23.1
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-17							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	GRB2-1	1	406203.25	521248.03	31	755.34	23415.59
2	GSO6	1	406221.70	521247.97	10	1577.82	15778.23
3	GSO4	1	406193.68	521239.17	6	1286.90	7721.40
4	GSO5	1	406213.78	521261.89	5.8	1685.79	9777.60
SUM						5305.86	56692.82
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							10.7
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-18							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	B6-3-A	2	405531.02	520923.49	28.2	5144.75	145081.89
2	B6-2	2	405550.65	520828.24	12	2860.94	34331.34
3	305-1	2	405629.29	520898.45	3.9	3855.23	15035.41
SUM						11860.93	194448.63
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							16.4
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-19							
RANK	LOCATION	SAMPLE COUNT	X- COORDINATE	Y- COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	PL10-15	1	405511.65	521821.94	30.8	222.73	6859.99
2	PL10-104	2	405502.76	521815.45	7.8	582.49	4543.39
3	PL10-02	1	405498.75	521805.03	7.5	649.83	4873.76
4	PL10-105	2	405506.93	521823.58	7.5	162.46	1218.42
5	PL10-04	1	405519.32	521856.75	5.9	1322.39	7802.11
6	PL10-14	1	405511.15	521772.64	1.5	396.49	594.73
7	PL10-03	2	405508.61	521830.61	1.5	1244.83	1867.25
8	PL10-09	1	405542.58	521811.13	1.1	728.47	801.32
9	PL10-13	1	405497.16	521780.38	1.1	253.79	279.17
10	PL10-10	1	405532.72	521785.49	1.1	629.43	692.37
11	PL10-16	1	405530.09	521815.05	1.1	640.84	704.92
SUM						6833.74	30237.42
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							4.4
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-1
ARSENIC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-AS-20							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	SB-AOC09-2013-104-EX1A	2	406971.71	521114.21	220	2302.31	506508.78
2	SB-AOC09-2013-104	1	406997.56	521110.93	135	812.04	109625.24
3	SB-AOC09-2013-104-EX1C	2	407031.71	521118.65	60	1781.71	106902.44
4	SB-9-SO-7	1	406909.79	521104.87	31	1124.30	34853.15
5	SB-AOC09-2013-104-EX1E	2	407069.47	521127.27	21	1578.43	33146.96
6	SB-AOC09-2013-104-EX1B	2	407002.27	521138.10	16	1606.64	25706.25
7	SB-AOC09-2013-103	1	407004.36	521086.11	13.7	3371.09	46183.95
8	SB-AOC09-2013-104-EX1D	2	407050.60	521146.99	12	1848.77	22185.26
9	TP10-2	1	406916.07	521042.17	12	2069.13	24829.62
10	B9-5-A	1	406915.75	521068.36	8.6	1894.66	16294.08
SUM						18389.08	926235.73
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							50.4
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-2
ARSENIC CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-AS-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	SB-AOC8B-2013-105	1	406450.077	520243.585	37.4	4283.953203	160219.8563
2	B8-6	2	406408.23	520267.55	15.0	1767.815754	26517.23631
3	B8-4	1	406531.72	520234.75	14.0	2701.821179	37825.49651
4	B8-8-4	1	406387.235	520180.305	5.5	1586.887297	8727.880131
5	B8-8-3	1	406352.656	520231.287	5.2	792.6006352	4121.523152
6	SB-AOC8B-2013-109	1	406393.9214	520215.2028	4.5	1931.477837	8691.650267
7	SB-AOC8B-2013-108	1	406529.661	520298.4095	3.8	4350.281822	16531.07071
8	SB-AOC8B-2013-103	1	406436.513	520208.3594	1.1	2821.305034	3103.435605
SUM						20236.14	265738.15
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							13.1
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-2
ARSENIC CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-AS-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	AS MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	AS WEIGHTED CONCENTRATION
1	SB-8-SO-11	1	406389.65	520297.54	24.0	4392.18478	105412.4347
2	SB-AOC8B-2013-104	1	406374.667	520269.9895	7.8	4318.582499	33684.94431
3	SB-AOC8B-2013-106	1	406401.6769	520353.4494	2.5	5706.227077	14265.56769
4	SB-AOC8B-2013-107	1	406461.7919	520327.379	1.8	5699.147806	10258.46578
SUM						20116.14	163621.41
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							8.1
SITE-SPECIFIC IGWSRS (MG/KG)							19

TABLE E-3
BENZENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-BZ-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	BZ MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	BZ WEIGHTED CONCENTRATION
1	B8-8	2	406341.67	520187.92	16	217.0958565	3473.53
2	B8-6-103	3	406403.543	520264.946	2.9	678.3550156	1967.23
3	B8-8-2-100	4	406336.685	520203.902	1.6	90.71487369	145.14
4	B8-8-1	3	406334.286	520181.06	1.6	41.97845671	67.17
5	SB-8-SO-14-100	4	406352.65	520196.54	1.2	365.8732203	439.05
6	SB-8-SO-14-101	3	406353.72	520201.354	0.87	486.6440498	423.38
7	B8-6-100	3	406408.23	520267.55	0.84	46.36093366	38.94
8	B8-6-101	3	406411.048	520271.706	0.69	716.5335805	494.41
9	B8-8-2-101	4	406332.176	520200.918	0.6	1138.366065	683.02
10	B8-8-2-102	4	406337.759	520208.716	0.43	811.0918056	348.77
11	B8-8-4-102	4	406386.1204	520175.4421	0.27	561.7720538	151.68
12	B8-8-1-102	4	406329.673	520178.079	0.17	443.0403034	75.32
13	B8-8-1-101	4	406338.407	520177.032	0.13	597.7935596	77.71
14	B8-8-1-103	3	406331.508	520185.777	0.1	306.821192	30.68
15	B8-6-102	3	406412.277	520263.899	0.023	772.1014168	17.76
16	B8-8-4-100	3	406387.235	520180.305	0.0017	57.96528665	0.10
17	SB-AOC8B-2013-100	3	406329.6082	520147.9294	0.0016	615.8440994	0.99
18	SB-AOC8B-2013-109	2	406393.9214	520215.2028	0.0012	1654.632678	1.99
19	SB-AOC8B-2013-103	2	406436.513	520208.3594	0.0012	1261.171743	1.51
20	B8-8-4-101	3	406392.2314	520178.9518	0.0011	383.7599637	0.42
21	SB-AOC8B-2013-104	2	406374.667	520269.9895	0.0011	1039.55392	1.14
22	SB-AOC8B-2013-105	2	406450.077	520243.585	0.001	841.5437615	0.84
23	B8-8-4-103	3	406386.1986	520186.4086	0.001	559.1787303	0.56
24	B8-8-3	1	406352.656	520231.287	0.0006	1679.942712	1.01
SUM						15368.14	8442.35
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.549
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-3
BENZENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-BZ-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	BZ MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	BZ WEIGHTED CONCENTRATION
1	TP9-3	2	406572.39	520874.38	1.7	372.9638945	634.04
2	TP9-2-204	3	406572.5883	520799.323	0.48	314.885097	151.14
3	TP9-3-203	3	406597.4551	520874.403	0.32	865.940628	277.10
4	TP9-3-205	3	406572.441	520849.4209	0.17	530.878131	90.25
5	TP9-3-101	2	406577.25	520873.755	0.14	336.568103	47.12
6	TP9-3-204	3	406597.3914	520849.323	0.13	583.084174	75.80
7	HSO5	1	406538.179	520856.579	0.12	216.654144	26.00
8	TP9-3-202	3	406597.2868	520899.2355	0.094	1072.372546	100.80
9	TP9-2	2	406603.86	520814.04	0.018	498.3157231	8.97
10	TP9-3-201	3	406572.354	520899.3382	0.002	487.6148077	0.98
11	TP9-2-200	3	406622.7234	520849.3539	0.0018	1379.541505	2.48
12	TP9-3-206	3	406547.4245	520849.3424	0.0014	422.712463	0.59
13	TP9-3-207	1	406547.4495	520874.5238	0.0011	658.1646612	0.72
14	TP9-2-206	1	406584.9389	520837.142	0.0011	417.5834629	0.46
15	TP9-2-205	1	406572.3699	520824.4856	0.0011	628.284273	0.69
16	TP9-2-201	1	406622.7987	520824.3686	0.00062	419.6025966	0.26
SUM						9205.17	1417.41
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.154
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-3
BENZENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-BZ-04							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	BZ MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	BZ WEIGHTED CONCENTRATION
1	B2-2	1	406103.8	521113.79	15	253.9495829	3809.24
2	B2-1-200	3	406107.5375	521130.0577	2.1	341.3233922	716.78
3	B2-1	1	406119.17	521123.48	1.5	326.7925064	490.19
4	MC7-1	1	406080.864	521128.9	1.4	263.9060359	369.47
5	B2-2-200	3	406088.1172	521114.1083	1.1	283.2276308	311.55
6	GSO7	2	406093.309	521098.973	0.85	1010.817555	859.19
7	GSO8	2	406086.766	521137.756	0.74	267.2381395	197.76
8	GSO11	2	406141.951	521128.654	0.58	279.4702175	162.09
9	GSO3	1	406135.454	521092.966	0.16	581.7590589	93.08
10	GSO9	2	406115.785	521150.094	0.14	383.634547	53.71
11	GSO35	1	406150.61	521115.63	0.12	425.2309493	51.03
12	SB-3-SO-32	2	406068.65	521102.54	0.006	121.7864674	0.73
13	SB-3-SO-31	2	406070.65	521111.54	0.006	301.78421	1.81
14	SB-3-SO-30	2	406069.65	521106.54	0.006	78.1050464	0.47
15	GS09-200	3	406098.3836	521153.1552	0.0014	308.2106455	0.43
16	GS08-201	3	406084.6254	521156.1377	0.0014	473.5314318	0.66
17	B2-2-201	3	406112.9	521102.9	0.0012	573.1457026	0.69
18	GS08-200	3	406072.3943	521140.8438	0.0012	776.820925	0.93
19	GS09-201	3	406110.1899	521164.0594	0.0011	662.2724505	0.73
20	B2-1-201	2	406131.4575	521111.8482	0.001	340.4788491	0.34
21	GS011-201	3	406134.6866	521144.2429	0.001	308.4694131	0.31
SUM						8361.95	7121.19
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.852
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-4
BENZENE CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-BZ-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	BZ MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	BZ WEIGHTED CONCENTRATION
1	B3-5	1	406012.77	520808.4	1.5	429.9202044	644.88
2	B3-1	2	406012.66	520823.22	0.78	856.7307574	668.25
3	FSO8	1	406040.978	520803.435	0.14	1240.011525	173.60
4	FSO7	1	406020.26	520783.727	0.14	1833.335609	256.67
5	SB-3-SO-24	1	405992.05	520813.77	0.032	1372.469869	43.92
6	SB-3-SO-22	1	406003.17	520819.59	0.023	123.0020412	2.83
7	SB-3-SO-23	1	405998.25	520821.68	0.007	584.9451614	4.09
8	SB-3-SO-27	1	405983.43	520773.13	0.006	1433.936901	8.60
9	B3-4-200	1	406021.2236	520816.4856	0.0012	487.6026993	0.59
SUM						8361.95	1803.43
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.216
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-4
BENZENE CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-BZ-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	BZ MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	BZ WEIGHTED CONCENTRATION
1	B8-4	1	406531.72	520234.75	1.8	312.6306704	562.7352067
2	B8-4-102	1	406551.361	520246.073	1	613.0778927	613.0778927
3	B8-4-100	1	406545.179	520223.828	0.21	1286.546486	270.1747621
4	B8-4-101	1	406525.31	520242.598	0.18	1373.898795	247.3017831
5	SB-8-SO-12-101	1	406521.275	520211.5	0.037	442.2777095	16.36427546
6	B8-4-103	1	406537.238	520249.321	0.032	1039.133339	33.25226684
7	SB-10-SO-208	1	406535.14	520199.52	0.002	966.3139251	1.932627942
SUM						6033.88	1744.84
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.289
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-5
CHLOROBENZENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CB-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CB WEIGHTED CONCENTRATION
1	TP9-3-203	3	406597.4551	520874.403	130	742.9856047	96588.12862
2	TP9-3	2	406572.39	520874.38	1.7	193.1105884	328.2880002
3	TP9-3-202	3	406597.2868	520899.2355	0.16	665.3347192	106.4535551
4	TP9-3-101	2	406577.25	520873.755	0.14	359.6504642	50.35106498
5	TP9-3-204	3	406597.3914	520849.323	0.088	795.8777431	70.03724101
6	TP9-3-201	3	406572.354	520899.3382	0.002	1033.908287	2.067816672
7	TP9-2-200	3	406622.7234	520849.3539	0.0011	727.1253556	0.799837887
SUM						4517.99	97146.13
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							21.50
SITE-SPECIFIC IGWSRS (MG/KG)							83

TABLE E-6
CHLOROBENZENE CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-CB-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CB WEIGHTED CONCENTRATION
1	SB-AOC8B-2013-104	1	406374.667	520269.9895	87.00	1120.96	97523.90
2	B8-6-100	1	406408.23	520267.55	1.5	1336.01	2004.02
3	SB-8-SO-11	1	406389.65	520297.54	0.95	837.19	795.33
4	JSO11-101	1	406363.1	520283.01	0.13	1626.31	211.42
5	B8-8-3	1	406352.656	520231.287	0.0059	1203.28	7.10
6	SB-AOC8B-2013-109	1	406393.9214	520215.2028	0.00	1391.33	1.67
SUM						7515.09	100543.43
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							13.38
IGWSSRS (MG/KG) FOR CHLOROBENZENE							83

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-AOC10-2013-115	2	406806.797	520386.8906	10800	2498.91	26988269.83
2	SB-10-SO-7-103	4	406782.34	520378.794	4500	222.09	999404.02
3	WSO13	1	406840.362	520327.172	635	2533.54	1608797.23
4	SB-AOC10-2013-111	2	406777.7679	520312.1155	530	1769.44	937805.30
5	SB-10-SO-7-101	3	406783.57	520370.987	114	611.28	69685.56
6	SB-10-SO-7-100	3	406779.65	520374.54	59	42.96	2534.72
7	SB-AOC10-2013-114	2	406774.3438	520389.3162	55	400.62	22033.97
8	SB-10-SO-7-102	3	406774.84	520372.035	37.2	610.44	22708.45
9	SB-AOC10-2013-112	2	406773.1405	520352.951	35.8	1572.58	56298.53
SUM						10261.87	30707537.61
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							2992
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-AOC10-2013-106	2	406617.39	520307.06	3590	1472.876686	5287627.30
2	B9-19	1	406628.27	520319.05	700	965.9598659	676171.91
3	B8-3	2	406591.48	520327.19	640	942.9366471	603479.45
4	B9-18	1	406662.55	520332.12	260	1280.198639	332851.65
5	B9-17	1	406640.08	520343.35	90	1108.792744	99791.35
6	SB-AOC10-2013-107	2	406672.56	520290.94	83.2	2574.851718	214227.66
7	SB-AOC10-2013-105	2	406615.65	520258.68	69.2	1916.253095	132604.71
SUM						10261.87	7346754.03
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							716
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-10-SO-5-102	2	406857.76	520542.80	8520	152.04	1295417.44
2	SB-10-SO-5-100	2	406852.70	520540.59	3320	49.42	164087.13
3	SB-10-SO-5-101	2	406850.39	520544.84	2820	47.25	133239.93
4	SB-10-SO-5A-100	1	406859.70	520524.59	2740	109.29	299458.29
5	SB-10-SO-5A-101	1	406855.73	520521.42	1510	1603.03	2420582.11
6	SB-10-SO-5-103	2	406848.87	520537.39	1050	372.23	390838.81
7	WSO14	1	406899.05	520539.91	207	4217.90	873104.75
8	SB-10-SO-5A-102	1	406864.62	520526.83	140	478.77	67028.24
9	SB-AOC10-2013-120	1	406870.10	520549.05	100	633.57	63357.27
10	WSO6	1	406896.31	520519.47	29.8	4686.73	139664.49
11	SB-10-SO-4	2	407011.65	520554.54	24	5250.68	126016.24
SUM						17600.92	5972794.69
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							339
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-04							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-AOC10-2013-119	2	406812.02	520564.00	4500	4034.35	18154575.03
2	SB-AOC10-2013-124	2	406881.99	520635.22	2850	1967.71	5607961.33
3	SB-AOC10-2013-122	2	406893.64	520585.73	2040	2222.20	4533291.45
4	SB-AOC10-2013-121	2	406840.91	520601.89	1470	2531.50	3721299.79
5	HSO13	1	406747.21	520498.42	977	2257.65	2205727.75
6	SB-10-SO-3	3	406814.65	520639.54	890	1030.68	917309.21
7	SB-AOC10-2013-128	2	406903.45	520689.99	449	907.28	407368.75
8	SB-AOC10-2013-125	2	406853.93	520660.55	276	1222.39	337378.86
9	SB-AOC10-2013-123	2	406920.73	520640.18	203	2186.99	443959.27
10	HSO14	1	406785.73	520608.36	94.4	1753.27	165508.72
11	B9-12	1	406716.99	520548.64	47	1779.27	83625.56
12	B9-11	1	406747.04	520581.55	38	2372.97	90172.83
SUM						24266.26	36668178.56
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							1511
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-05							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-7-SO-7	5	405908.28	520375.18	8100	3015.64	24426717.88
2	B7-2	3	405868.66	520350.08	1300	5985.14	7780687.20
3	MW-22	2	405962.35	520326.62	57	5426.67	309320.33
4	B7-6	2	405965.06	520416.27	15	2288.79	34331.87
SUM						16716.25	32551057.28
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							1947
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-06							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	MOA-C-B7	3	406075.34	520534.67	2200	581.07	1278348.89
2	MOA-C-B15	3	406096.71	520538.05	1850	447.16	827254.83
3	MOA-C-B8-103	3	406098.88	520513.28	1550	370.87	574847.00
4	MOA-C-B8-100	3	406101.84	520509.10	782	36.76	28743.34
5	MOA-C-B8-101	3	406106.72	520508.52	225	217.07	48841.34
6	B-4C	1	406094.08	520546.81	209	327.86	68521.86
7	B-3B	1	406133.21	520537.86	182	298.38	54305.53
8	MOA-C-B8-102	3	406098.41	520504.42	181	1105.90	200167.91
9	MOA-C-B10	1	406123.53	520511.34	111	848.74	94209.86
10	B-4D	1	406128.28	520535.53	86	455.61	39182.37
11	B-3A	1	406120.71	520505.04	50.6	444.80	22506.97
12	B-4B	1	406107.36	520559.00	48.3	547.89	26462.92
13	MOA-C-B9	3	406123.03	520478.14	44.6	1583.56	70626.95
14	ZSO6	5	406066.22	520516.66	27	1157.88	31262.83
SUM						8423.55	3365282.60
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							400
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-07							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-7-SO-4	5	405917.72	520420.99	6600	2924.27	19300202.80
2	SB-7-SO-6	4	405828.35	520387.70	2700	1446.61	3905849.04
3	TP7-3	2	405806.94	520426.09	977	1585.65	1549177.81
4	SB-7-SO-3	5	405852.72	520440.99	900	3185.17	2866649.37
5	SB-7-SO-5	4	405866.65	520375.54	640	1317.67	843306.02
6	TP7-4	2	405848.11	520395.31	485	1041.50	505128.41
7	TP7-5	1	405803.25	520389.41	327	922.25	301577.30
8	ISO11	2	405932.80	520465.90	112	1765.75	197763.45
9	B7-5	3	405925.66	520489.91	47	1627.05	76471.35
10	B7-1	1	405835.34	520416.27	37	900.34	33312.49
SUM						16716.25	29579438.04
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							1770
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-08							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	MOA-C-B11	3	406054.26	520592.05	1700	987.66	1679025.39
2	MOA-C-B13	3	406087.44	520575.16	1650	507.87	837981.20
3	B-4E	1	406079.03	520561.46	533	639.50	340855.58
4	B-4A	1	406101.44	520578.72	65.1	429.64	27969.36
5	MOA-C-B4	3	406046.85	520621.20	56.7	1413.56	80148.83
6	MOA-C-B12	3	406076.05	520614.85	50.2	786.19	39466.95
7	MOA-C-B5	3	406018.19	520590.54	27.2	1395.05	37945.26
8	B-4F	1	406088.37	520604.01	24.3	483.71	11754.07
9	MOA-C-B6	3	406047.16	520561.92	21.1	1536.90	32428.63
SUM						8180.08	3087575.27
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							377
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-09							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	PL07-02	1	405789.17	521151.70	5080	250.87	1274408.82
2	PL07-04	2	405831.35	521114.72	1100	483.68	532051.99
3	PL07-102	3	405789.20	521151.70	926	943.78	873937.57
4	PL07-107	3	405753.84	521137.64	327	860.65	281432.92
5	PL07-100	3	405758.94	521156.16	112	768.41	86062.08
6	PL07-01	2	405778.16	521131.87	75.9	987.19	74928.08
7	PL07-104	3	405832.28	521139.64	59.5	1742.93	103704.41
8	PL07-03	3	405824.80	521120.08	34.8	811.20	28229.65
9	PL07-106	2	405782.43	521095.78	26.6	1450.95	38595.36
10	PL07-103	3	405832.89	521178.08	25.2	2457.11	61919.10
11	PL07-101	3	405771.13	521162.31	22.6	1104.15	24953.82
SUM						11860.93	3380223.79
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							285
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-7
CHROMIUM CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-CR-10							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	PL09-01	1	405897.79	521731.99	3620	3511.31	12710958.22
2	PL09-02	1	405907.39	521753.71	545	1175.73	640771.75
3	PL09-03	1	405920.70	521724.33	92.6	1348.32	124854.54
4	PL11-03	1	405868.33	521645.33	35.7	2909.81	103880.25
5	PL09-04	1	405927.11	521742.58	23.2	371.69	8623.30
6	PL09-05	1	405946.99	521707.87	20.9	1315.72	27498.46
7	PL11-01	2	405809.98	521671.15	5.4	1710.36	9235.92
8	PL11-02	1	405820.77	521666.83	3.2	2277.09	7286.70
SUM						14620.03	13633109.14
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							932
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-8
CHROMIUM CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-CR-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-10-SO-209	1	406649.4923	520210.8116	2260	1928.555228	4358534.81
2	SB-10-SO-10	1	406625.65	520173.54	1800	1937.893059	3488207.51
3	SB-AOC10-2013-100	1	406622.5397	520142.4698	575	842.5046569	484440.18
4	SB-AOC10-2013-109	1	406707.193	520202.8608	518	2447.754801	1267936.99
5	SB-10-SO-210	1	406642.2702	520212.8033	28	2456.006561	68768.18
6	SB-AOC10-2013-101	1	406591.4378	520185.9081	23.1	2025.899861	46798.29
7	SB-10-SO-9	1	406691.65	520260.54	15	2532.646154	37989.69
SUM						14171.26	9752675.65
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							688
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-8
CHROMIUM CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-CR-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	B8-4	1	406531.72	520234.75	2400	3085.652346	7405565.63
2	SB-AOC8B-2013-105	1	406450.077	520243.585	1520	2435.169376	3701457.452
3	SB-AOC10-2013-103	1	406578.5105	520232.4091	426	973.8701393	414868.6793
4	SB-10-SO-208	1	406535.14	520199.52	33.4	889.9312648	29723.70424
5	SB-AOC8B-2013-102	1	406493.8776	520187.0451	31	1903.829944	59018.72827
6	SB-AOC8B-2013-108	1	406529.661	520298.4095	12.9	2146.691033	27692.31432
SUM						11435.14	11638326.51
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							1018
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-8
CHROMIUM CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-CR-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	CR MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	CR WEIGHTED CONCENTRATION
1	SB-10-SO-2	2	406939.65	520727.54	2600	1374.42	3573499.66
2	SB-10-SO-1	2	406977.65	520786.54	25	2684.92	67122.93
3	SB-AOC10-2013-127	1	406917.01	520735.20	19	2861.66	54371.63
4	SB-AOC10-2013-128	1	406903.45	520689.99	17.7	1810.46	32045.07
5	SB-AOC10-2013-129	1	406954.52	520718.01	16.7	3647.84	60918.92
SUM						12379.30	3787958.21
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							306
SITE-SPECIFIC IGWSRS (MG/KG)							1540

TABLE E-9
NICKEL CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-NI-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	NI MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	NI WEIGHTED CONCENTRATION
1	SB-10-SO-5-102	2	406857.76	520542.801	20300	160.5801534	3259777.11
2	SB-10-SO-5-100	2	406852.7	520540.59	10600	49.423834	523892.64
3	SB-10-SO-5A-100	1	406859.7	520524.59	7470	109.2913464	816406.36
4	SB-10-SO-5-101	2	406850.39	520544.844	6360	87.25235558	554924.98
5	SB-10-SO-5-103	2	406848.87	520537.39	2770	653.5892597	1810442.25
6	SB-AOC10-2013-118	2	406836.1258	520467.1246	1300	4442.624912	5775412.39
7	SB-AOC10-2013-117	2	406788.8779	520485.7086	668	1822.28974	1217289.55
8	SB-10-SO-5A-101	1	406855.73	520521.422	305	1423.131862	434055.22
9	WSO14	1	406899.051	520539.906	235	652.2655825	153282.41
10	SB-AOC10-2013-120	1	406870.099	520549.0508	171	694.621825	118780.33
11	SB-10-SO-5A-102	1	406864.62	520526.833	112	478.7731389	53622.59
12	WSO6	1	406896.308	520519.466	37.1	3100.729306	115037.06
SUM						13674.57	14832922.88
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							1085
SITE-SPECIFIC IGWSRS (MG/KG)							9200

TABLE E-9
NICKEL CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-NI-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	NI MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	NI WEIGHTED CONCENTRATION
1	SB-AOC10-2013-106	2	406617.3888	520307.0628	12200	1524.280568	18596222.93
2	B9-19	1	406628.27	520319.05	1800	907.8784302	1634181.17
3	SB-AOC10-2013-103	2	406578.5105	520232.4091	1770	2418.076242	4279994.95
4	B8-3	2	406591.48	520327.19	1600	1691.712179	2706739.49
5	B9-18	1	406662.55	520332.12	650	958.2199945	622843.00
6	B9-17	1	406640.08	520343.35	260	893.4441991	232295.49
7	SB-9-SO-1	1	406621.95	520351	250	624.8099332	156202.48
8	SB-AOC10-2013-107	2	406672.5599	520290.936	190	1936.891728	368009.43
9	B8-4	1	406531.72	520234.75	74	3125.259708	231269.22
10	SB-AOC10-2013-105	2	406615.6532	520258.6784	66.2	2484.795074	164493.43
11	SB-AOC8B-2013-108	2	406529.661	520298.4095	30.7	2553.207611	78383.47
SUM						19118.58	29070635.06
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							1521
SITE-SPECIFIC IGWSRS (MG/KG)							9200

TABLE E-9
NICKEL CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-NI-03							
RANK	LOCATION	SAMPLE COUNT	X- COORDINATE	Y- COORDINATE	NI MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	NI WEIGHTED CONCENTRATION
1	SB-AOC10-2013-119	2	406812.0217	520563.9952	13800	3914.655727	54022249.03
2	SB-10-SO-3	3	406814.65	520639.54	2700	824.7368054	2226789.37
3	HSO13	1	406747.208	520498.418	2250	2180.435974	4905980.94
4	SB-AOC10-2013-121	2	406840.9098	520601.8908	1500	1829.549337	2744324.01
5	HSO14	1	406785.733	520608.363	212	1889.821173	400642.09
6	B9-12	1	406716.99	520548.64	140	2091.519682	292812.76
7	B9-11	1	406747.04	520581.55	64	2539.456033	162525.19
SUM						15270.17	64755323.39
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							4241
SITE-SPECIFIC IGWSRS (MG/KG)							9200

TABLE E-9
NICKEL CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-NI-04							
RANK	LOCATION	SAMPLE COUNT	X- COORDINATE	Y- COORDINATE	NI MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	NI WEIGHTED CONCENTRATION
1	SB-7-SO-5	4	405866.65	520375.54	11000	1322.441271	14546853.98
2	SB-7-SO-7	5	405908.28	520375.18	4500	2195.864783	9881391.52
3	SB-7-SO-4	5	405917.72	520420.99	3100	2547.41464	7896985.38
4	B7-2	3	405868.66	520350.08	740	2357.718216	1744711.48
5	TP7-4	2	405848.1057	520395.3115	573	1152.863601	660590.84
6	SB-7-SO-6	4	405828.35	520387.7	330	1363.240032	449869.21
7	B7-1	1	405835.34	520416.27	33	1164.39481	38425.03
8	TP7-5	1	405803.2534	520389.4052	27.2	711.0960501	19341.81
SUM						12815.03	35238169.26
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							2750
SITE-SPECIFIC IGWSRS (MG/KG)							9200

TABLE E-9
NICKEL CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-NI-05							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	NI MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	NI WEIGHTED CONCENTRATION
1	PL07-107	3	405753.836	521137.637	31100	1946.939201	60549809.15
2	PL07-01	2	405778.161	521131.873	11100	987.1947157	10957861.34
3	PL07-100	3	405758.937	521156.158	1240	861.5142397	1068277.66
4	PL07-101	3	405771.13	521162.311	978	1218.1127	1191314.22
5	PL07-04	2	405831.348	521114.715	967	250.5617656	242293.23
6	PL07-02	1	405789.17	521151.702	108	250.8678777	27093.73
7	PL07-102	3	405789.195	521151.702	106	1184.117417	125516.45
8	PL07-03	3	405824.802	521120.075	45.4	1114.926811	50617.68
9	PL07-105	3	405782.434	521095.778	20.7	1776.966726	36783.21
10	MW-81	2	405730.22	521092.76	17.7	2269.724105	40174.12
SUM						11860.93	74289740.78
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							6263
SITE-SPECIFIC IGWSRS (MG/KG)							9200

TABLE E-10
NICKEL CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-NI-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	NI MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	NI WEIGHTED CONCENTRATION
1	SB-AOC8B-2013-104	1	406374.667	520269.9895	33900	3346.459987	113444993.57
2	SB-8-SO-11	1	406389.65	520297.54	640	3419.16967	2188268.59
3	B8-6	2	406408.23	520267.55	100	1705.102531	170510.25
4	B8-8-3	1	406352.656	520231.287	26.2	1791.137143	46927.79
SUM						10261.87	115850700.20
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							11289
SITE-SPECIFIC IGWSRS (MG/KG)							9200

TABLE E-11
TRICHLOROETHENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-TCE-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	TCE MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	TCE WEIGHTED CONCENTRATION
1	B2-2	1	406103.8	521113.79	15	253.9495829	3809.24
2	B2-1	1	406119.17	521123.48	2.5	326.7925064	816.98
3	B2-1-200	3	406107.5375	521130.0577	2.1	341.3233922	716.78
4	MC7-1	1	406080.864	521128.9	1.4	263.9060359	369.47
5	B2-2-200	3	406088.1172	521114.1083	1.1	283.2276308	311.55
6	GSO7	2	406093.309	521098.973	0.85	1010.817555	859.19
7	GSO8	2	406086.766	521137.756	0.74	267.2381395	197.76
8	GSO11	2	406141.951	521128.654	0.58	279.4702175	162.09
9	GSO3	1	406135.454	521092.966	0.16	581.7590589	93.08
10	GSO9	2	406115.785	521150.094	0.14	383.634547	53.71
11	GSO35	1	406150.61	521115.63	0.12	425.2309493	51.03
12	SB-3-SO-32	2	406068.65	521102.54	0.006	121.7864674	0.73
13	SB-3-SO-31	2	406070.65	521111.54	0.006	301.78421	1.81
14	SB-3-SO-30	2	406069.65	521106.54	0.006	78.1050464	0.47
15	GS09-200	3	406098.3836	521153.1552	0.0014	308.2106455	0.43
16	GS08-201	3	406084.6254	521156.1377	0.0014	473.5314318	0.66
17	B2-2-201	3	406112.9	521102.9	0.0012	573.1457026	0.69
18	GS08-200	3	406072.3943	521140.8438	0.0012	776.820925	0.93
19	GS09-201	3	406110.1899	521164.0594	0.0011	662.2724505	0.73
20	B2-1-201	2	406131.4575	521111.8482	0.001	340.4788491	0.34
21	GS011-201	3	406134.6866	521144.2429	0.001	308.4694131	0.31
SUM						8361.95	7447.99
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.891
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-11
TRICHLOROETHENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-TCE-04							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	TCE MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	TCE WEIGHTED CONCENTRATION
1	B8-8	2	406341.67	520187.92	0.006	217.0958565	1.30
2	B8-8-2-102	4	406337.759	520208.716	13	1168.413974	15189.38
4	B8-8-1	3	406334.286	520181.06	0.0012	41.97845671	0.05
6	SB-8-SO-14-100	4	406352.65	520196.54	0.00089	542.542272	0.48
7	SB-8-SO-14-101	3	406353.72	520201.354	0.0011	601.474783	0.66
11	B8-8-2-101	4	406332.176	520200.918	0.0012	1277.090542	1.53
14	B8-8-1-102	4	406329.673	520178.079	0.001	388.6952074	0.39
15	B8-8-1-101	4	406338.407	520177.032	0.0011	413.5742663	0.45
17	B8-8-1-103	3	406331.508	520185.777	0.1	279.0671514	27.91
18	B8-8-2-100	4	406336.685	520203.902	0.0816	90.71487364	7.40
25	B8-8-3	1	406352.656	520231.287	0.001	1798.939424	1.80
SUM						6819.59	15231.36
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							2.233
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-11
TRICHLOROETHENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-TCE-06							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	TCE MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	TCE WEIGHTED CONCENTRATION
1	SB-AOC1C-2013-107	1	405732.8438	521241.4673	7.9	501.8655332	3964.74
2	SB-F9	1	405758.2936	521232.6588	0.032	539.2029562	17.25
3	SB-C8-EX1C	2	405702.922	521232.8964	0.0038	328.6069107	1.25
4	SB-E7	2	405718.363	521286.5619	0.0028	1118.577938	3.13
5	SB-D8	2	405694.0073	521251.8229	0.0015	908.3330115	1.36
6	SB-F8	1	405753.102	521262.2062	0.00093	712.0242898	0.66
7	SB-E6	2	405713.1714	521316.1093	0.00093	702.4089849	0.65
8	SB-AOC1C-2013-106	2	405732.4468	521290.1498	0.00092	630.8471403	0.58
9	SB-E8	2	405723.5546	521257.0145	0.00041	707.157581	0.29
10	SB-F10-EX1C	3	405724.797	521225.6048	0.00014	684.716655	0.10
SUM						6833.74	3990.02
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.584
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-11

TRICHLOROETHENE CONCENTRATIONS IN THE SURFACE ZONE
 EWING TOWNSHIP INDUSTRIAL LAND
 EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-TCE-07							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	TCE MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	TCE WEIGHTED CONCENTRATION
1	ISO23	2	405485.312	520508.989	1.6	99.99999993	160.00
2	ISO23-1	2	405485.312	520518.989	0.001	1863.052763	1.86
3	ISO23-2	2	405495.312	520508.989	0.001	1485.737616	1.49
4	ISO23-3	1	405485.312	520498.989	0.001	1860.840559	1.86
5	ISO23-4	2	405475.312	520508.989	0.001	1521.35436	1.52
SUM						6830.99	166.73
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.024
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-11

TRICHLOROETHENE CONCENTRATIONS IN THE SURFACE ZONE
 EWING TOWNSHIP INDUSTRIAL LAND
 EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-TCE-08							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	TCE MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	TCE WEIGHTED CONCENTRATION
1	SB-7-SO-6	4	405828.35	520387.7	1.6	1404.326017	2246.92
2	SB-7-SO-5	4	405866.65	520375.54	0.007	827.1152264	5.79
3	B7-2	3	405868.66	520350.08	0.006	1243.26605	7.46
4	B7-1	1	405835.34	520416.27	0.005	959.0172789	4.80
5	TP7-3	2	405806.936	520426.0939	0.005	664.2213563	3.32
6	TP7-4	2	405848.1057	520395.3115	0.0027	689.2893414	1.86
7	TP7-5	1	405803.2534	520389.4052	0.0011	1046.505687	1.15
SUM						6833.74	2271.30
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.332
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-11
TRICHLOROETHENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-TCE-09							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	TCE MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	TCE WEIGHTED CONCENTRATION
1	JSO19	1	406112.186	520327.303	4.6	128.2762903	590.07
2	JSO29	1	406098.015	520332.374	1.5	264.7650155	397.15
3	JSO33	1	406104.465	520308.18	0.92	1213.894484	1116.78
4	JSO32	1	406126.393	520334.589	0.7	375.3300185	262.73
5	JSO30	1	406112.19	520327.303	0.25	123.8847501	30.97
6	JSO31	1	406126.856	520319.651	0.19	902.3519832	171.45
7	MOA-B-BS2	1	406122.53	520356.04	0.16	248.5120593	39.76
8	MOA-B-S20	1	406102.01	520336.01	0.16	272.8018885	43.65
9	MOA-B-S23	1	406105.94	520372.87	0.16	380.6685942	60.91
10	MOA-B-S11	1	406083.08	520327.54	0.15	713.6576273	107.05
11	MOA-B-BS1	1	406116.14	520341.79	0.15	221.3711981	33.21
12	MOA-B-S22	1	406101.15	520370.65	0.15	688.3232871	103.25
13	MOA-B-BS3	1	406109.26	520358.98	0.15	337.0962294	50.56
14	MOA-B-S12	1	406063.05	520353.33	0.085	962.8075449	81.84
SUM						6833.74	3089.37
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.452
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-11
TRICHLOROETHENE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-TCE-10							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	TCE MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	TCE WEIGHTED CONCENTRATION
1	SB-F10	1	405763.4853	521203.1114	31	553.7377	17165.87
2	PL07-02	1	405789.17	521151.702	0.14	2155.14363	301.72
3	PL07-01	1	405778.161	521131.873	0.14	784.989242	109.90
4	SB-F10-EX1B	2	405780.6998	521214.32	0.084	1138.133104	95.60
5	SB-AOC1C-2013-108	3	405754.7307	521192.2842	0.008	1388.81049	11.11
6	SB-F10-EX1A	1	405749.6234	521211.3686	0.0054	812.9268169	4.39
SUM						6833.74	17688.59
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							2.588
SITE-SPECIFIC IGWSRS (MG/KG)							1

TABLE E-13
VINYL CHLORIDE CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-VC-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	VC MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	VC WEIGHTED CONCENTRATION
1	B7-3	3	405778.17	520450.87	12	31.95150734	383.4180881
2	TP7-3	2	405806.94	520426.09	0.0067	910.19	6.09828288
3	B7-3-101	3	405780.9279	520446.8743	0.0026	581.3779881	1.511582773
4	B7-3-102	3	405773.3688	520451.3479	0.0023	718.1902139	1.651837529
5	B7-3-103	3	405779.4412	520455.4858	0.002	908.7985417	1.81759717
SUM						3150.51	394.50
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							0.125
SITE-SPECIFIC IGWSRS (MG/KG)							10

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-AOC10-2013-108	3	406713.6501	520248.9376	17700	3765.041225	66641229.68
2	SB-AOC10-2013-111	2	406777.7679	520312.1155	2900	4541.013527	13168939.23
3	WSO1	1	406693.955	520301.71	1830	1653.257617	3025461.44
4	SB-10-SO-9	4	406691.65	520260.54	1500	955.4038846	1433105.83
5	SB-AOC10-2013-109	2	406707.193	520202.8608	1020	940.3700042	959177.40
6	MW-75	1	406675.3	520260.88	33.3	540.727993	18006.24
SUM						12395.81	85245919.82
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							6877
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-AOC10-2013-116	2	406752.9854	520429.6417	60700	3427.568645	208053416.78
2	SB-AOC10-2013-115	2	406806.797	520386.8906	40700	2637.704531	107354574.40
3	HSO12	1	406719.906	520384.393	28100	2496.392866	70148639.52
4	SB-10-SO-7-103	4	406782.34	520378.794	11400	222.0897816	2531823.51
5	SB-10-SO-7-102	3	406774.84	520372.035	9520	429.8930847	4092582.17
6	SB-AOC10-2013-112	2	406773.1405	520352.951	8180	617.4276551	5050558.22
7	SB-10-SO-7-100	3	406779.65	520374.54	6600	42.96138548	283545.14
8	SB-10-SO-7-101	3	406783.57	520370.987	4170	274.6514334	1145296.48
9	SB-AOC10-2013-118	2	406836.1258	520467.1246	3560	3660.355131	13030864.27
10	SB-AOC10-2013-113	2	406729.545	520376.7109	2540	1357.873798	3448999.45
11	WSO1	1	406693.955	520301.71	1830	726.9066875	1330239.24
12	SB-AOC10-2013-110	2	406722.7949	520328.6755	1030	1799.946475	1853944.87
13	B9-16	1	406655.62	520380.44	550	1721.994108	947096.76
14	SB-AOC10-2013-114	2	406774.3438	520389.3162	286	1266.826652	362312.42
15	B9-16-200	2	406651.7547	520384.5066	35.5	251.3187669	8921.82
SUM						20933.91	419642815.04
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							20046
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-AOC10-2013-103	2	406578.5105	520232.4091	24700	2897.576126	71570130.30
2	SB-AOC10-2013-101	2	406591.4378	520185.9081	9340	1748.502452	16331012.90
3	B8-2	2	406554.28	520160.57	7900	2439.74739	19274004.38
4	SB-AOC10-2013-105	2	406615.6532	520258.6784	2230	2795.891632	6234838.34
5	SB-AOC8B-2013-102	2	406493.8776	520187.0451	649	3049.915834	1979395.38
6	B8-4	1	406531.72	520234.75	370	2886.957235	1068174.18
7	SB-AOC10-2013-104	2	406646.4311	520215.6927	310	1346.34852	417368.04
SUM						17164.94	116874923.52
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							6809
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-04							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-8-SO-14	1	406352.65	520196.54	28000	865.7486808	24240963.06
2	B8-8-1	3	406334.286	520181.06	16800	1290.509438	21680558.56
3	B8-8	2	406341.67	520187.92	14000	424.4505529	5942307.74
4	B8-8-2	2	406336.685	520203.902	1280	1761.081199	2254183.93
5	SB-AOC8B-2013-100	3	406329.6082	520147.9294	354	1561.777914	552869.38
6	B8-8-4	2	406387.235	520180.305	343	1366.470808	468699.49
7	B8-8-3	1	406352.656	520231.287	292	993.9607475	290236.54
8	JSO23	2	406317.16	520152.139	198	1997.870096	395578.28
SUM						10261.87	55825396.98
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							5440
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-05							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-10-SO-5-102	2	406857.76	520542.801	29100	164.3989592	4784009.71
2	SB-AOC10-2013-119	2	406812.0217	520563.9952	20700	4844.87765	100288967.36
3	SB-AOC10-2013-117	2	406788.8779	520485.7086	10900	2123.155855	23142398.82
4	SB-10-SO-5A-100	1	406859.7	520524.59	9430	69.0148637	650810.16
5	SB-10-SO-5-101	2	406850.39	520544.844	7940	691.271974	5488699.47
6	SB-10-SO-5-100	2	406852.7	520540.59	7550	49.42383398	373149.95
7	SB-10-SO-5-103	2	406848.87	520537.39	5350	786.6642029	4208653.49
8	SB-AOC10-2013-121	2	406840.9098	520601.8908	2090	1623.737817	3393612.04
9	SB-10-SO-5A-101	1	406855.73	520521.422	649	544.6265514	353462.63
10	SB-AOC10-2013-120	1	406870.099	520549.0508	444	733.2877418	325579.76
11	SB-10-SO-5A-102	1	406864.62	520526.833	218	176.6913655	38518.72
SUM						11807.15	143047862.10
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							12115
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-06							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-9-SO-3	1	406745.21	520613.8	44000	779.5496672	34300185.36
2	SB-10-SO-3	3	406814.65	520639.54	2100	1527.779133	3208336.18
3	HSO14	1	406785.733	520608.363	544	1454.538327	791268.85
4	B9-11	1	406747.04	520581.55	340	846.9541267	287964.40
5	B10-6	2	406792.04	520679.76	180	2009.166065	361649.89
6	B9-10	1	406739.86	520600.82	83	633.3559714	52568.55
7	GRB9-1	1	406741.64	520644.34	78	1728.872326	134852.04
8	B10-4	1	406713.79	520616.71	75	1218.155545	91361.67
9	B9-9	1	406753.8	520642.23	19	1340.568647	25470.80
SUM						11538.94	39253657.74
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							3402
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-07							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	TP9-2-304	3	406543.3684	520758.7496	34200	6362.149668	217585518.64
2	TP9-3	2	406572.39	520874.38	32000	1066.21966	34119029.13
3	TP9-3-305	3	406523.6363	520814.619	15900	6940.632381	110356054.86
4	TP9-2-202	2	406622.8867	520799.5047	14200	602.2009973	8551254.16
5	TP9-3-203	2	406597.4551	520874.403	10500	885.0426691	9292948.03
6	TP9-2	2	406603.86	520814.04	10000	2994.82868	29948286.80
7	SB-9-SO-9	1	406583.21	520890.16	6400	195.6035721	1251862.86
8	HSO5	1	406538.179	520856.579	38.7	1470.978528	56926.87
9	HSO3	1	406353.393	520701.016	33.8	11514.33395	389184.49
SUM						32031.99	411551065.83
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							12848
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-08							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	MOA-C-B8-100	3	406101.8385	520509.096	28600	36.75618825	1051226.98
2	MOA-C-B15	3	406096.7145	520538.0505	10600	923.9577414	9793952.06
3	MOA-C-B7	3	406075.3386	520534.6749	10300	389.7713749	4014645.16
4	MOA-C-B8-103	3	406098.879	520513.282	7540	400.8729502	3022582.04
5	MOA-C-B8-101	3	406106.72	520508.524	1720	289.1466632	497332.26
6	MOA-C-B10	1	406123.5271	520511.3393	1650	879.2991841	1450843.65
7	MOA-C-B8-102	3	406098.412	520504.42	1500	519.8276933	779741.54
8	MOA-C-B9	3	406123.0261	520478.1428	266	1817.042297	483333.25
SUM						5256.67	21093656.95
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							4013
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-09							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-3-SO-11	1	406249.65	520945.54	29000	560.4284742	16252425.75
2	SB-3-SO-12	1	406273.65	520935.54	270	1562.624028	421908.49
3	B3-15	2	406244.81	520974.07	270	3269.760744	882835.40
4	B3-16	2	406250.94	520913.65	220	2402.266161	528498.56
5	B3-14	2	406245.5	520937.34	130	2076.895929	269996.47
6	B3-17	2	406274.42	520951.82	9	1888.781399	16999.03
SUM						11760.76	18372663.70
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							1562
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-15
ZINC CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-ZN-10							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	268-2	3	405915.476	520960.395	37800	2377.55341	89871518.88
2	268-1	3	405938.334	520951.287	7740	3392.402678	26257196.73
3	304-2	1	405862.521	520868.963	522	1746.398724	911620.13
4	SR-1	1	405895.298	520976.522	312	2350.440636	733337.48
5	304-1	1	405856.042	520879.289	218	3600.384111	784883.74
SUM						13467.18	118558556.96
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							8804
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-16
ZINC CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-ZN-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-AOC10-2013-109	1	406707.193	520202.8608	40300	2897.026385	116750163.31
2	SB-10-SO-209	1	406649.4923	520210.8116	20900	1807.180969	37770082.25
3	SB-10-SO-10	1	406625.65	520173.54	15000	1759.509532	26392642.99
4	SB-AOC10-2013-100	1	406622.5397	520142.4698	7740	3207.005935	24822225.94
5	SB-10-SO-11	2	406646.65	520124.54	3800	1127.808532	4285672.42
6	SB-10-SO-210	1	406642.2702	520212.8033	717	1096.971713	786528.72
7	SB-10-SO-9	1	406691.65	520260.54	36	1220.34316	43932.35
8	SB-AOC10-2013-101	1	406591.4378	520185.9081	34.2	2836.701552	97015.19
9	SB-AOC10-2013-102	1	406691.7265	520156.1424	17.6	1858.226107	32704.78
10	B10-3	1	406526.65	520111.54	2.5	4834.788821	12086.97
SUM						22645.56	210993054.92
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							9317
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-16
ZINC CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-ZN-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	B8-4	1	406531.72	520234.75	22000	3085.652346	67884351.60
2	SB-AOC10-2013-103	1	406578.5105	520232.4091	6730	1531.140289	10304574.14
3	SB-AOC8B-2013-105	1	406450.077	520243.585	4280	2287.404799	9790092.54
4	SB-10-SO-208	1	406535.14	520199.52	1550	954.6306849	1479677.56
5	SB-AOC8B-2013-102	1	406493.8776	520187.0451	310	1912.430336	592853.40
6	SB-AOC8B-2013-108	1	406529.661	520298.4095	83.7	2624.555602	219675.30
SUM						12395.81	90271224.55
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							7282
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-16
ZINC CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-ZN-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	ZN MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	ZN WEIGHTED CONCENTRATION
1	SB-AOC8B-2013-104	1	406374.667	520269.9895	20100	2983.777241	59973922.54
2	SB-8-SO-11	1	406389.65	520297.54	13000	2462.612355	32013960.62
3	B8-6	2	406408.23	520267.55	6400	2232.589322	14288571.66
4	B8-8-3	1	406352.656	520231.287	236	2582.890539	609562.17
SUM						10261.87	106886016.98
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							10416
SITE-SPECIFIC IGWSRS (MG/KG)							14200

TABLE E-17
LEAD CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-PB-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	B8-2	2	406554.28	520160.57	670	4422.69	2963204.50
2	SB-10-SO-10-101	3	406628.4	520177.718	462	967.83	447135.35
3	SB-AOC8B-2013-101	3	406475.4329	520136.9664	457	2940.82	1343956.74
4	SB-10-SO-9	4	406691.65	520260.54	420	1091.77	458543.92
5	SB-10-SO-10-102	4	406629.35	520170.326	410	794.62	325792.37
6	SB-10-SO-10-103	3	406621.16	520171.23	362	587.82	212791.32
7	SB-AOC10-2013-101	2	406591.4378	520185.9081	312	3356.21	1047138.10
8	B10-3	1	406526.65	520111.54	290	3940.77	1142821.96
9	SB-AOC10-2013-108	3	406713.6501	520248.9376	239	849.46	203019.76
10	SB-AOC10-2013-100	1	406622.5397	520142.4698	174	1170.59	203682.45
11	SB-AOC10-2013-109	2	406707.193	520202.8608	134	1999.69	267958.94
12	SB-10-SO-10	3	406625.65	520173.54	95	40.19	3818.08
13	SB-AOC10-2013-104	2	406646.4311	520215.6927	52.3	3696.22	193312.11
14	MW-75	1	406675.3	520260.88	11.7	2092.82	24485.98
15	JSO22	1	406455.203	520111.311	10.4	1810.87	18833.07
SUM						29762.36	8856494.68
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							298
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-17
LEAD CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-PB-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	SB-AOC10-2013-106	2	406617.39	520307.06	1400	1633.300983	2286621.38
2	B8-3	2	406591.48	520327.19	260	2669.926644	694180.93
3	B9-19	1	406628.27	520319.05	250	709.6805534	177420.14
4	SB-AOC10-2013-103	2	406578.51	520232.41	139	1464.161891	203518.50
5	SB-AOC8B-2013-108	2	406529.66	520298.41	70.7	2074.241988	146648.91
6	SB-AOC10-2013-105	2	406615.65	520258.68	63.6	1828.988277	116323.65
SUM						10380.30	3624713.51
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							349
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-17
LEAD CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-PB-04							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	B8-8-2-101	4	406332.18	520200.92	2070	805.22	1666812.62
2	SB-8-SO-14-101	3	406353.72	520201.35	1230	546.61	672324.50
3	SB-8-SO-14-100	1	406352.65	520196.54	4770	365.88	1745229.76
4	B8-8	2	406341.67	520187.92	860	217.10	186701.77
5	B8-8-4-102	4	406386.12	520175.44	686	1169.11	802009.78
6	B8-8-1	3	406334.29	520181.06	577	41.98	24221.74
7	B8-8-1-102	4	406329.67	520178.08	284	512.67	145597.64
8	B8-8-2-102	4	406337.76	520208.72	132	520.75	68738.53
9	B8-8-1-101	4	406338.41	520177.03	130	597.79	77713.12
10	SB-AOC8B-2013-100	3	406329.61	520147.93	100	1252.87	125287.29
11	B8-8-4	2	406387.23	520180.30	89.3	57.97	5176.34
12	B8-8-3	1	406352.66	520231.29	77.3	903.25	69820.95
13	B8-8-2	2	406336.69	520203.90	76.8	90.71	6966.82
14	B8-8-4-103	3	406386.20	520186.41	41.1	568.66	23372.01
15	B8-8-4-101	3	406392.23	520178.95	40.9	378.59	15484.15
16	B8-8-1-103	3	406331.51	520185.78	38.6	320.18	12358.78
SUM						8349.32	5647815.78
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							676
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-17
LEAD CONCENTRATIONS IN THE SURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SURF-PB-05							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	B8-6-103	3	406403.54	520264.95	7510	787.16	5911541.34
2	JSO11-101	3	406363.10	520283.01	1290	183.05	236134.96
3	SB-8-SO-11-102	3	406385.90	520300.92	1110	825.64	916464.89
4	SB-8-SO-11-103	3	406394.04	520299.93	436	1171.58	510808.91
5	B8-6-101	3	406411.05	520271.71	336	1251.84	420618.61
6	SB-8-SO-11-100	3	406389.65	520297.54	321	35.21	11301.20
7	SB-AOC8B-2013-104	2	406374.67	520269.99	276	809.15	223325.90
8	JSO11-103	3	406353.73	520286.51	218	226.44	49363.46
9	B8-6-102	3	406412.28	520263.90	136	633.23	86118.89
10	JSO11	1	406358.48	520284.97	127	35.66	4529.28
11	JSO11-102	2	406356.45	520280.32	103	84.18	8670.40
12	SB-AOC8B-2013-107	2	406461.79	520327.38	97.2	2857.66	277764.37
13	JSO12	1	406361.48	520293.37	79.8	990.19	79017.24
14	SB-AOC8B-2013-106	2	406401.68	520353.45	73.3	2131.89	156267.59
15	SB-8-SO-11-101	2	406388.00	520292.67	64.3	362.53	23310.40
16	B8-6	1	406408.23	520267.55	11	46.36	509.95
SUM						12431.76	8915747.38
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							717
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-18
LEAD CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-PB-01							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	SB-10-SO-10	1	406625.65	520173.54	830	303.5425038	251940.2781
2	SB-10-SO-209	1	406649.4923	520210.8116	769	1039.297	799219.3927
3	SB-10-SO-10-101	1	406628.4	520177.718	712	1143.297063	814027.5088
4	SB-10-SO-10-103	1	406621.16	520171.23	468	618.8453952	289619.645
5	SB-AOC10-2013-100	1	406622.5397	520142.4698	237	1024.396304	242781.9242
6	SB-10-SO-11	2	406646.65	520124.54	140	1321.767611	185047.4655
7	SB-10-SO-210	1	406642.2702	520212.8033	29.6	920.1754766	27237.19411
8	SB-AOC10-2013-101	1	406591.4378	520185.9081	11.0	891.5085313	9806.593844
9	SB-AOC10-2013-102	1	406691.7265	520156.1424	3.4	1498.985152	5096.549518
SUM						8761.82	2624776.55
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							300
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-18
LEAD CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-PB-02							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	SB-10-SO-5A	2	406859.7	520524.59	3900	109.2743716	426170.0493
2	SB-10-SO-5-103	1	406848.87	520537.39	234	165.8768158	38815.1749
3	SB-10-SO-5-101	1	406850.39	520544.844	112	1191.245628	133419.5104
4	SB-10-SO-5-102	1	406857.76	520542.801	81.9	208.4340719	17070.75049
5	SB-10-SO-5-100	1	406852.7	520540.59	333.0	49.4240275	16458.20116
6	SB-10-SO-5A-102	1	406864.62	520526.833	21.1	587.4230616	12394.6266
7	SB-10-SO-5A-101	1	406855.73	520521.422	10.3	400.2974513	4123.063748
SUM						2711.98	648451.38
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							239
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-18
LEAD CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-PB-03							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	B8-4-100	1	406545.18	520223.83	1810	665.33	1204244.98
2	B8-4-102	1	406551.36	520246.07	1010	774.28	782026.98
3	B8-4	1	406531.72	520234.75	800	312.63	250104.99
4	B8-4-101	1	406525.31	520242.60	331	1585.66	524854.48
5	SB-AOC8B-2013-105	1	406450.08	520243.59	268	2381.31	638191.58
6	SB-8-SO-12-101	1	406521.28	520211.50	205	1093.34	224135.36
7	SB-AOC10-2013-103	1	406578.51	520232.41	188	481.33	90489.84
8	B8-4-103	1	406537.24	520249.32	126	717.18	90364.94
9	SB-AOC8B-2013-102	1	406493.88	520187.05	110	1698.00	186780.46
10	SB-AOC8B-2013-108	1	406529.66	520298.41	35.3	1719.55	60700.17
11	SB-10-SO-208	1	406535.14	520199.52	21.3	446.98	9520.75
SUM						11875.61	4061414.52
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							342
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-18
LEAD CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-PB-04							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	SB-8-SO-14-101	1	406353.72	520201.35	719	752.20	540832.21
2	B8-8-4	1	406387.23	520180.30	53.4	2168.54	115799.95
3	B8-8-3	1	406352.66	520231.29	48.2	1167.47	56272.03
4	SB-AOC8B-2013-109	1	406393.92	520215.20	45.7	1109.30	50695.23
5	B8-8-2	1	406336.69	520203.90	23.0	593.26	13644.91
6	B8-8-4-103	1	406386.20	520186.41	14.3	743.35	10629.88
7	B8-8	1	406341.67	520187.92	1.2	676.86	812.23
SUM						7210.98	788686.45
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							109
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-18
LEAD CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-PB-05							
RANK	LOCATION	SAMPLE COUNT	X- COORDINATE	Y- COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	SB-8-SO-11	1	406389.65	520297.54	4300	2772.43	11921451.50
2	JSO11-101	1	406363.10	520283.01	526	3011.65	1584128.81
3	SB-AOC8B-2013-104	1	406374.67	520269.99	366	1279.63	468345.59
4	SB-AOC8B-2013-107	1	406461.79	520327.38	67.5	2141.53	144553.01
5	SB-AOC8B-2013-106	1	406401.68	520353.45	27.8	4856.32	135005.69
6	B8-5	1	406298.36	520322.61	13.0	2337.25	30384.22
SUM						16398.81	14283868.82
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							871
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-18
LEAD CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-PB-06							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	SB-10-SO-2	2	406939.65	520727.54	1200	36.77	44122.77
2	SB-10-SO-2-101	2	406936.68	520731.71	14.0	368.03	5152.49
3	SB-10-SO-2-103	2	406936.22	520722.85	9.5	365.44	3471.66
4	SB-10-SO-2-102	2	406944.52	520726.96	8.1	123.02	996.48
5	SB-AOC10-2013-127	1	406917.01	520735.20	6.9	903.53	6234.37
6	SB-AOC10-2013-129	1	406954.52	520718.01	4.3	915.20	3935.36
SUM						2712.00	63913.13
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							24
SITE-SPECIFIC IGWSRS (MG/KG)							328

TABLE E-18
LEAD CONCENTRATIONS IN THE SUBSURFACE ZONE
EWING TOWNSHIP INDUSTRIAL LAND
EWING, NEW JERSEY

FUNCTIONAL AREA: SUB-PB-07							
RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	PB MAXIMUM CONCENTRATION (MG/KG)	POLYGON AREA (SQ. FT)	PB WEIGHTED CONCENTRATION
1	B8-6	1	406408.23	520267.55	1200	1870.25	2244301.65
2	SB-AOC8B-2013-103	1	406436.51	520208.36	10	2765.30	28206.05
SUM						4635.55	2272507.69
AREA WEIGHTED MEAN CONCENTRATION (MG/KG)							490
SITE-SPECIFIC IGWSRS (MG/KG)							328

Subsurface Nickel
Functional Area - SUB-NI-01
Mean

RANK	LOCATION	SAMPLE COUNT	X-COORDINATE	Y-COORDINATE	NI CONCENTRATION (MG/KG)
1	SB-AOC8B-2013-104	1	406374.667	520269.9895	33900
2	SB-8-SO-11	1	406389.65	520297.54	640
3	B8-6	2	406408.23	520267.55	100
	B8-6		406408.23	520267.55	33
4	B8-8-3	1	406352.656	520231.287	26.20000076
MEAN CONCENTRATION (MG/KG)					6940
SITE-SPECIFIC IGWSRS (MG/KG)					9200

Surface Chromium
Functional Area - SURF-CR-07
95 UCL Input Data

sys_loc_co	sample_na	sample_tin	sample_da	start_depth	end_depth	depth_unit	depth	matrix_cod	analytic_m	analysis_da	chemical_r	report_resi	report_resi	result_nur	report_resi	d_report_r	detect_flg	x_coord	y_coord
SB-7-SO-3	SB-7-SO-3	23:59:00	02/10/1994	0	2 ft	0 - 2 (ft)	SO	MET	2/10/1994	Chromium	180	180	180	mg/kg	1	Y		405852.7	520441
SB-7-SO-3	SB-7-SO-3	23:59:00	02/10/1994	2	4 ft	2 - 4 (ft)	SO	MET	2/10/1994	Chromium	27	27	27	mg/kg	1	Y		405852.7	520441
SB-7-SO-3	SB-7-SO-3	23:59:00	02/10/1994	4	6 ft	4 - 6 (ft)	SO	MET	2/10/1994	Chromium	190	190	190	mg/kg	1	Y		405852.7	520441
SB-7-SO-3	SB-7-SO-3	23:59:00	02/10/1994	6	8 ft	6 - 8 (ft)	SO	MET	2/10/1994	Chromium	870	870	870	mg/kg	1	Y		405852.7	520441
SB-7-SO-3	SB-7-SO-3	23:59:00	02/10/1994	8	10 ft	8 - 10 (ft)	SO	MET	2/10/1994	Chromium	900	900	900	mg/kg	1	Y		405852.7	520441
SB-7-SO-4	SB-7-SO-4	23:59:00	02/10/1994	0	2 ft	0 - 2 (ft)	SO	MET	2/10/1994	Chromium	2000	2000	2000	mg/kg	1	Y		405917.7	520421
SB-7-SO-4	SB-7-SO-4	23:59:00	02/10/1994	2	4 ft	2 - 4 (ft)	SO	MET	2/10/1994	Chromium	6600	6600	6600	mg/kg	1	Y		405917.7	520421
SB-7-SO-4	SB-7-SO-4	23:59:00	02/10/1994	4	6 ft	4 - 6 (ft)	SO	MET	2/10/1994	Chromium	500	500	500	mg/kg	1	Y		405917.7	520421
SB-7-SO-4	SB-7-SO-4	23:59:00	02/10/1994	6	8 ft	6 - 8 (ft)	SO	MET	2/10/1994	Chromium	220	220	220	mg/kg	1	Y		405917.7	520421
SB-7-SO-4	SB-7-SO-4	23:59:00	02/10/1994	8	10 ft	8 - 10 (ft)	SO	MET	2/10/1994	Chromium	160	160	160	mg/kg	1	Y		405917.7	520421
SB-7-SO-5	SB-7-SO-5	23:59:00	02/10/1994	2	4 ft	2 - 4 (ft)	SO	MET	2/10/1994	Chromium	430	430	430	mg/kg	1	Y		405866.7	520375.5
SB-7-SO-5	SB-7-SO-5	23:59:00	02/10/1994	4	6 ft	4 - 6 (ft)	SO	MET	2/10/1994	Chromium	640	640	640	mg/kg	1	Y		405866.7	520375.5
SB-7-SO-5	SB-7-SO-5	23:59:00	02/10/1994	8	10 ft	8 - 10 (ft)	SO	MET	2/10/1994	Chromium	480	480	480	mg/kg	1	Y		405866.7	520375.5
SB-7-SO-5	SB-7-SO-5	23:59:00	02/10/1994	10	12 ft	10 - 12 (ft)	SO	MET	2/10/1994	Chromium	18	18	18	mg/kg	1	Y		405866.7	520375.5
SB-7-SO-6	SB-7-SO-6	23:59:00	02/10/1994	2	4 ft	2 - 4 (ft)	SO	MET	2/10/1994	Chromium	2700	2700	2700	mg/kg	1	Y		405828.4	520387.7
SB-7-SO-6	SB-7-SO-6	23:59:00	02/10/1994	4	6 ft	4 - 6 (ft)	SO	MET	2/10/1994	Chromium	44	44	44	mg/kg	1	Y		405828.4	520387.7
SB-7-SO-6	SB-7-SO-6	23:59:00	02/10/1994	6	8 ft	6 - 8 (ft)	SO	MET	2/10/1994	Chromium	26	26	26	mg/kg	1	Y		405828.4	520387.7
SB-7-SO-6	SB-7-SO-6	23:59:00	02/10/1994	8	10 ft	8 - 10 (ft)	SO	MET	2/10/1994	Chromium	28	28	28	mg/kg	1	Y		405828.4	520387.7
TP7-3	05661001C	10:50:00	01/10/2008	0	0.5 ft	0 - 0.5 (ft)	SO	SW6010	1/24/2008	Chromium	98.2	98.2	98.2	mg/kg	1	Y		405806.9	520426.1
TP7-3	05661001C	11:15:00	01/10/2008	9.5	10 ft	9.5 - 10 (ft)	SO	SW6010	1/24/2008	Chromium	977	977	977	mg/kg	1	Y		405806.9	520426.1
TP7-4	05661001C	11:45:00	01/10/2008	0	0.5 ft	0 - 0.5 (ft)	SO	SW6010	1/24/2008	Chromium	485	485	485	mg/kg	1	Y		405848.1	520395.3
TP7-4	05661001C	12:00:00	01/10/2008	9.5	10 ft	9.5 - 10 (ft)	SO	SW6010	1/24/2008	Chromium	18.3	18.3	18.3	mg/kg	1	Y		405848.1	520395.3
TP7-5	05661001C	13:20:00	01/10/2008	10	10.5 ft	10 - 10.5 (ft)	SO	SW6010	1/24/2008	Chromium	327	327	327	mg/kg	1	Y		405803.3	520389.4
ISO11	70613012J	11:25:00	09/25/2002	0.5	1 ft	0.5 - 1 (ft)	SO	SW6010	10/1/2002	Chromium	112	112	112	mg/kg	1	Y		405932.8	520465.9
ISO11	70613012J	11:40:00	09/25/2002	4	4.5 ft	4 - 4.5 (ft)	SO	SW6010	10/1/2002	Chromium	94.8	94.8	94.8	mg/kg	1	Y		405932.8	520465.9
B7-1	B7-1	23:59:00	07/07/1998	0	0.5 ft	0 - 0.5 (ft)	SO	SW6010	7/15/1998	Chromium	37	37	37	mg/kg	1	Y		405835.3	520416.3
B7-5	B7-5	23:59:00	07/10/1998	2.5	3 ft	2.5 - 3 (ft)	SO	SW6010	7/27/1998	Chromium	26	26	26	mg/kg	1	Y		405925.7	520489.9
B7-5	B7-5	23:59:00	07/10/1998	8	8.5 ft	8 - 8.5 (ft)	SO	SW6010	7/27/1998	Chromium	47	47	47	mg/kg	1	Y		405925.7	520489.9
B7-5	B7-5	23:59:00	07/10/1998	12	12.5 ft	12 - 12.5 (ft)	SO	SW6010	7/27/1998	Chromium	29	29	29	mg/kg	1	Y		405925.7	520489.9

	A	B	C	D	E	F	G	H	I	J	K	L		
1	UCL Statistics for Uncensored Full Data Sets													
2														
3	User Selected Options													
4	Date/Time of Computation			ProUCL 5.110/13/2017 1:12:08 PM										
5	From File			UCL_SURF-CR-07_IN.xls										
6	Full Precision			OFF										
7	Confidence Coefficient			95%										
8	Number of Bootstrap Operations			2000										
9														
10														
11	report_result_value													
12														
13	General Statistics													
14	Total Number of Observations					29		Number of Distinct Observations				28		
15								Number of Missing Observations				0		
16	Minimum					18		Mean				629.8		
17	Maximum					6600		Median				180		
18	SD					1302		Std. Error of Mean				241.8		
19	Coefficient of Variation					2.067		Skewness				3.846		
20														
21	Normal GOF Test													
22	Shapiro Wilk Test Statistic					0.5		Shapiro Wilk GOF Test						
23	5% Shapiro Wilk Critical Value					0.926		Data Not Normal at 5% Significance Level						
24	Lilliefors Test Statistic					0.319		Lilliefors GOF Test						
25	5% Lilliefors Critical Value					0.161		Data Not Normal at 5% Significance Level						
26	Data Not Normal at 5% Significance Level													
27														
28	Assuming Normal Distribution													
29	95% Normal UCL					95% UCLs (Adjusted for Skewness)								
30	95% Student's-t UCL					1041		95% Adjusted-CLT UCL (Chen-1995)				1212		
31								95% Modified-t UCL (Johnson-1978)				1070		
32														
33	Gamma GOF Test													
34	A-D Test Statistic					1.129		Anderson-Darling Gamma GOF Test						
35	5% A-D Critical Value					0.812		Data Not Gamma Distributed at 5% Significance Level						
36	K-S Test Statistic					0.14		Kolmogorov-Smirnov Gamma GOF Test						
37	5% K-S Critical Value					0.172		Detected data appear Gamma Distributed at 5% Significance Level						
38	Detected data follow Appr. Gamma Distribution at 5% Significance Level													
39														
40	Gamma Statistics													
41	k hat (MLE)					0.499		k star (bias corrected MLE)				0.47		
42	Theta hat (MLE)					1263		Theta star (bias corrected MLE)				1340		
43	nu hat (MLE)					28.92		nu star (bias corrected)				27.26		
44	MLE Mean (bias corrected)					629.8		MLE Sd (bias corrected)				918.6		
45								Approximate Chi Square Value (0.05)				16.35		
46	Adjusted Level of Significance					0.0407		Adjusted Chi Square Value				15.85		
47														
48	Assuming Gamma Distribution													
49	95% Approximate Gamma UCL (use when n>=50)					1050		95% Adjusted Gamma UCL (use when n<50)				1083		
50														
51	Lognormal GOF Test													

Surface Chromium
Functional Area - SURF-CR-07
95 UCL Output

	A	B	C	D	E	F	G	H	I	J	K	L	
52	Shapiro Wilk Test Statistic					0.944	Shapiro Wilk Lognormal GOF Test						
53	5% Shapiro Wilk Critical Value					0.926	Data appear Lognormal at 5% Significance Level						
54	Lilliefors Test Statistic					0.134	Lilliefors Lognormal GOF Test						
55	5% Lilliefors Critical Value					0.161	Data appear Lognormal at 5% Significance Level						
56	Data appear Lognormal at 5% Significance Level												
57													
58	Lognormal Statistics												
59	Minimum of Logged Data					2.89	Mean of logged Data					5.171	
60	Maximum of Logged Data					8.795	SD of logged Data					1.642	
61													
62	Assuming Lognormal Distribution												
63	95% H-UCL					1922	90% Chebyshev (MVUE) UCL					1337	
64	95% Chebyshev (MVUE) UCL					1664	97.5% Chebyshev (MVUE) UCL					2118	
65	99% Chebyshev (MVUE) UCL					3010							
66													
67	Nonparametric Distribution Free UCL Statistics												
68	Data appear to follow a Discernible Distribution at 5% Significance Level												
69													
70	Nonparametric Distribution Free UCLs												
71	95% CLT UCL					1028	95% Jackknife UCL					1041	
72	95% Standard Bootstrap UCL					1013	95% Bootstrap-t UCL					1753	
73	95% Hall's Bootstrap UCL					2467	95% Percentile Bootstrap UCL					1079	
74	95% BCA Bootstrap UCL					1300							
75	90% Chebyshev(Mean, Sd) UCL					1355	95% Chebyshev(Mean, Sd) UCL					1684	
76	97.5% Chebyshev(Mean, Sd) UCL					2140	99% Chebyshev(Mean, Sd) UCL					3036	
77													
78	Suggested UCL to Use												
79	95% Adjusted Gamma UCL					1083							
80													
81	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test												
82	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL												
83													
84	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
85	Recommendations are based upon data size, data distribution, and skewness.												
86	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).												
87	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.												
88													

Surface Zinc
Functional Area - SURF_ZN_02
95 UCL Input

sys_loc_code	sample_na	sample_tin	sample_da	start_depth	end_depth	depth_unit	depth	matrix_cod	analytic_m	analysis_dat	chemical_r	report_resi	report_resu	result_num	report_resi_d	report_r	detect_flg	x_coord	y_coord
SB-AOC10-2013-110	0908-0222	11:00:00	02/22/2013	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010B	2/28/2013	Zinc	1030	1030	1030 mg/kg		1 Y		406722.8	520328.7
SB-AOC10-2013-110	0908-0222	11:05:00	02/22/2013	4.5	5 ft		4.5 - 5 (ft)	SO	SW6010B	2/28/2013	Zinc	145	145	145 mg/kg		1 Y		406722.8	520328.7
SB-AOC10-2013-112	0908-0222	09:45:00	02/22/2013	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010B	2/28/2013	Zinc	121	121	121 mg/kg		1 Y		406773.1	520353
SB-AOC10-2013-112	0908-0222	09:50:00	02/22/2013	4.5	5 ft		4.5 - 5 (ft)	SO	SW6010B	2/28/2013	Zinc	8180	8180	8180 mg/kg		1 Y		406773.1	520353
SB-AOC10-2013-113	0908-0222	09:15:00	02/22/2013	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010B	2/28/2013	Zinc	824	824	824 mg/kg		1 Y		406729.5	520376.7
SB-AOC10-2013-113	0908-0222	09:20:00	02/22/2013	4.5	5 ft		4.5 - 5 (ft)	SO	SW6010B	2/28/2013	Zinc	2540	2540	2540 mg/kg		1 Y		406729.5	520376.7
SB-AOC10-2013-114	0908-0222	08:50:00	02/22/2013	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010B	2/28/2013	Zinc	286	286	286 mg/kg		1 Y		406774.3	520389.3
SB-AOC10-2013-114	0908-0222	08:55:00	02/22/2013	4.5	5 ft		4.5 - 5 (ft)	SO	SW6010B	2/28/2013	Zinc	45.3	45.3	45.3 mg/kg		1 Y		406774.3	520389.3
SB-AOC10-2013-115	0908-0221	15:50:00	02/21/2013	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010B	3/1/2013	Zinc	7330	7330	7330 mg/kg		1 Y		406806.8	520386.9
SB-AOC10-2013-115	0908-0221	15:55:00	02/21/2013	4.5	5 ft		4.5 - 5 (ft)	SO	SW6010B	3/1/2013	Zinc	40700	40700	40700 mg/kg		1 Y		406806.8	520386.9
SB-AOC10-2013-116	0908-0221	15:20:00	02/21/2013	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010B	2/28/2013	Zinc	60700	60700	60700 mg/kg		1 Y		406753	520429.6
SB-AOC10-2013-116	0908-0221	15:25:00	02/21/2013	4.5	5 ft		4.5 - 5 (ft)	SO	SW6010B	2/27/2013	Zinc	3350	3350	3350 mg/kg		1 Y		406753	520429.6
SB-AOC10-2013-118	0908-0221	14:30:00	02/21/2013	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010B	2/27/2013	Zinc	3560	3560	3560 mg/kg		1 Y		406836.1	520467.1
SB-AOC10-2013-118	0908-0221	14:35:00	02/21/2013	4	4.5 ft		4 - 4.5 (ft)	SO	SW6010B	2/27/2013	Zinc	3540	3540	3540 mg/kg		1 Y		406836.1	520467.1
HSO12	70613012J	10:15:00	09/24/2002	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010	10/4/2002	Zinc	28100	28100	28100 mg/kg		1 Y		406719.9	520384.4
SB-10-SO-7-100	2334-0119	12:35:00	01/19/2011	0	0.5 ft		0 - 0.5 (ft)	SO	SW6020	1/26/2011	Zinc	6600	6600	6600 mg/kg		1 Y		406779.7	520374.5
SB-10-SO-7-100	2334-0119	12:40:00	01/19/2011	1	1.5 ft		1 - 1.5 (ft)	SO	SW6020	1/26/2011	Zinc	454	454	454 mg/kg		1 Y		406779.7	520374.5
SB-10-SO-7-100	2334-0119	12:45:00	01/19/2011	4.5	5 ft		4.5 - 5 (ft)	SO	SW6020	1/26/2011	Zinc	177	177	177 mg/kg		1 Y		406779.7	520374.5
SB-10-SO-7-101	2334-0119	13:00:00	01/19/2011	0	0.5 ft		0 - 0.5 (ft)	SO	SW6020	1/26/2011	Zinc	4170	4170	4170 mg/kg		1 Y		406783.6	520371
SB-10-SO-7-101	2334-0119	13:05:00	01/19/2011	1	1.5 ft		1 - 1.5 (ft)	SO	SW6020	1/26/2011	Zinc	41.5	41.5	41.5 mg/kg		1 Y		406783.6	520371
SB-10-SO-7-101	2334-0119	13:10:00	01/19/2011	4.5	5 ft		4.5 - 5 (ft)	SO	SW6020	1/26/2011	Zinc	225	225	225 mg/kg		1 Y		406783.6	520371
SB-10-SO-7-102	2334-0119	13:20:00	01/19/2011	0	0.5 ft		0 - 0.5 (ft)	SO	SW6020	2/1/2011	Zinc	9520	9520	9520 mg/kg		1 Y		406774.8	520372
SB-10-SO-7-102	2334-0119	13:25:00	01/19/2011	1	1.5 ft		1 - 1.5 (ft)	SO	SW6020	1/26/2011	Zinc	145	145	145 mg/kg		1 Y		406774.8	520372
SB-10-SO-7-102	2334-0119	13:30:00	01/19/2011	4.5	5 ft		4.5 - 5 (ft)	SO	SW6020	1/26/2011	Zinc	421	421	421 mg/kg		1 Y		406774.8	520372
SB-10-SO-7-103	2334-0119	14:05:00	01/19/2011	0	0.5 ft		0 - 0.5 (ft)	SO	SW6020	1/26/2011	Zinc	1570	1570	1570 mg/kg		1 Y		406782.3	520378.8
SB-10-SO-7-103	2334-0119	14:10:00	01/19/2011	1	1.5 ft		1 - 1.5 (ft)	SO	SW6020	1/25/2011	Zinc	347	347	347 mg/kg		1 Y		406782.3	520378.8
SB-10-SO-7-103	2334-0119	14:15:00	01/19/2011	4.5	5 ft		4.5 - 5 (ft)	SO	SW6020	1/25/2011	Zinc	188	188	188 mg/kg		1 Y		406782.3	520378.8
SB-10-SO-7-103	2334-0119	14:20:00	01/19/2011	5.5	6 ft		5.5 - 6 (ft)	SO	SW6020	2/1/2011	Zinc	11400	11400	11400 mg/kg		1 Y		406782.3	520378.8
WSO1	70613012J	03:35:00	10/02/2002	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010	10/10/2002	Zinc	1830	1830	1830 mg/kg		1 Y		406694	520301.7
B9-16	B9-16	23:59:00	07/17/1998	0	0.5 ft		0 - 0.5 (ft)	SO	SW6010	8/3/1998	Zinc	550	550	550 mg/kg		1 Y		406655.6	520380.4
B9-16-200	2351-0425	11:20:00	04/25/2012	0	0.5 ft		0 - 0.5 (ft)	SO	SW6020	4/28/2012	Zinc	23.6	23.6	23.6 mg/kg		1 Y		406651.8	520384.5
B9-16-200	2351-0425	11:40:00	04/25/2012	5	5.5 ft		5 - 5.5 (ft)	SO	SW6020	4/28/2012	Zinc	35.5	35.5	35.5 mg/kg		1 Y		406651.8	520384.5

	A	B	C	D	E	F	G	H	I	J	K	L	
1	UCL Statistics for Uncensored Full Data Sets												
2													
3	User Selected Options												
4	Date/Time of Computation			ProUCL 5.110/16/2017 11:00:38 AM									
5	From File			UCL_SURF-ZN-02_IN.xls									
6	Full Precision			OFF									
7	Confidence Coefficient			95%									
8	Number of Bootstrap Operations			2000									
9													
10													
11	report_result_value												
12													
13	General Statistics												
14	Total Number of Observations					32	Number of Distinct Observations					31	
15							Number of Missing Observations					0	
16	Minimum					23.6	Mean					6192	
17	Maximum					60700	Median					927	
18	SD					13146	Std. Error of Mean					2324	
19	Coefficient of Variation					2.123	Skewness					3.18	
20													
21	Normal GOF Test												
22	Shapiro Wilk Test Statistic					0.521	Shapiro Wilk GOF Test						
23	5% Shapiro Wilk Critical Value					0.93	Data Not Normal at 5% Significance Level						
24	Lilliefors Test Statistic					0.319	Lilliefors GOF Test						
25	5% Lilliefors Critical Value					0.154	Data Not Normal at 5% Significance Level						
26	Data Not Normal at 5% Significance Level												
27													
28	Assuming Normal Distribution												
29	95% Normal UCL					95% UCLs (Adjusted for Skewness)							
30	95% Student's-t UCL					10132	95% Adjusted-CLT UCL (Chen-1995)					11410	
31							95% Modified-t UCL (Johnson-1978)					10350	
32													
33	Gamma GOF Test												
34	A-D Test Statistic					1.072	Anderson-Darling Gamma GOF Test						
35	5% A-D Critical Value					0.84	Data Not Gamma Distributed at 5% Significance Level						
36	K-S Test Statistic					0.151	Kolmogorov-Smirnov Gamma GOF Test						
37	5% K-S Critical Value					0.167	Detected data appear Gamma Distributed at 5% Significance Level						
38	Detected data follow Appr. Gamma Distribution at 5% Significance Level												
39													
40	Gamma Statistics												
41	k hat (MLE)					0.366	k star (bias corrected MLE)					0.353	
42	Theta hat (MLE)					16909	Theta star (bias corrected MLE)					17556	
43	nu hat (MLE)					23.44	nu star (bias corrected)					22.57	
44	MLE Mean (bias corrected)					6192	MLE Sd (bias corrected)					10426	
45							Approximate Chi Square Value (0.05)					12.77	
46	Adjusted Level of Significance					0.0416	Adjusted Chi Square Value					12.37	
47													
48	Assuming Gamma Distribution												
49	95% Approximate Gamma UCL (use when n>=50)					10947	95% Adjusted Gamma UCL (use when n<50)					11296	
50													
51	Lognormal GOF Test												

Surface Zinc
Functional Area - SURF_ZN_02
95 UCL Output

	A	B	C	D	E	F	G	H	I	J	K	L
52	Shapiro Wilk Test Statistic					0.967	Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value					0.93	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.0888	Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value					0.154	Data appear Lognormal at 5% Significance Level					
56	Data appear Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data					3.161	Mean of logged Data					6.908
60	Maximum of Logged Data					11.01	SD of logged Data					2.141
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL					46941	90% Chebyshev (MVUE) UCL					20757
64	95% Chebyshev (MVUE) UCL					26489	97.5% Chebyshev (MVUE) UCL					34446
65	99% Chebyshev (MVUE) UCL					50075						
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data appear to follow a Discernible Distribution at 5% Significance Level											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL					10015	95% Jackknife UCL					10132
72	95% Standard Bootstrap UCL					10053	95% Bootstrap-t UCL					16769
73	95% Hall's Bootstrap UCL					13577	95% Percentile Bootstrap UCL					10308
74	95% BCA Bootstrap UCL					11992						
75	90% Chebyshev(Mean, Sd) UCL					13164	95% Chebyshev(Mean, Sd) UCL					16322
76	97.5% Chebyshev(Mean, Sd) UCL					20705	99% Chebyshev(Mean, Sd) UCL					29315
77												
78	Suggested UCL to Use											
79	95% Adjusted Gamma UCL					11296						
80												
81	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
82	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
83												
84	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
85	Recommendations are based upon data size, data distribution, and skewness.											
86	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
87	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
88												