REMEDIAL INVESTIGATION

VB/I-70 Superfund Site

Operable Unit 2

Prepared for:
City and County of Denver

Prepared by:
Engineering Management Support, Inc.

December 16, 2009

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December 16, 2009

U.S. Environmental Protection Agency
Region 8 Superfund Program 8EPR
1595 Wynkoop Street
Denver Colorado 80203-1129

ATTENTION: Mr. Sam Garcia

SUBJECT: Final Remedial Investigation Report – Operable Unit 2, Vasquez Boulevard/Interstate 70 Site

Dear Sam,

On behalf of the City and County of Denver, Engineering Management Support, Inc. (EMSI) is providing you with four paper copies and two electronic copies (digital video disks) of the Final Remedial Investigation Report for the subject site. Please do not hesitate to contact me if you have any questions about the report.

Sincerely,
ENGINEERING MANAGEMENT SUPPORT, Inc.

Paul V. Rosasco, P.E.

Distribution: Fonda Apostolopoulos - CDPHE – two paper copies and one electronic copy
Lisa Farrell - City and County of Denver – three paper copies and one electronic copy

REMEDIAL INVESTIGATION
Vasquez Boulevard/Interstate 70 Superfund Site
Operable Unit 2 – On-Facility Soils
Former Omaha and Grant Smelter

Prepared for

City and County of Denver
Department of Environmental Health
Environmental Quality Division
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December 16, 2009

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1 SITE BACKGROUND

The Vasquez Boulevard and Interstate 70 (VB/I-70) Superfund Site is an approximately four square mile area located in the north-central portion of Denver, Colorado near the intersections of Interstate 70 and Interstate 25 (Figure 1).

The VB/I-70 Site consists of the following three operable units (OUs) (Figure 2):

- OU-1 – Off-Facility Soils which includes soils in the residential portions of the Superfund Site;
- OU-2 – On-Facility Soils which includes soils located in the vicinity of the former Omaha & Grant Smelter; and
- OU-3 – On-Facility Soils which includes soils located in the vicinity of the former Argo Smelter.

The VB/I-70 Superfund Site is located in the vicinity of the Globe Smelter (Figure 2). The Globe Smelter is not part of the Site, but rather has been evaluated and remediated as part of a separate cleanup conducted by ASARCO, Inc. and overseen by the Colorado Department of Public Health and the Environment (CDPHE).

This Remedial Investigation (RI) report describes the On-Facility Soils of OU-2 (the Site). Figure 3 shows the extent of the Site as defined by the United States Environmental Protection Agency (USEPA). The Site consists primarily of the southern portion of Denver Coliseum property (that portion of the Coliseum property located south of Interstate 70) which is owned by the City and County of Denver (CCoD). The Site also includes the Forney Transportation Museum property along Brighton Boulevard, the Pepsi Bottling Company property along Brighton Boulevard, and various other commercial properties located along Brighton Boulevard (Figure 3). The Site also encompasses the Globeville Landing Park. The Site is generally bounded by Interstate 70 on the north, the South Platte River on the west, Brighton Boulevard on the east, and the southern boundaries of the Globeville Landing Park and the Pepsi Bottling Company property on the south.

Previous investigations by USEPA identified the presence of levels of arsenic and lead in soil at concentrations above human health screening levels. Therefore, the focus of the RI is on assessment of arsenic and lead occurrences in surface and subsurface soil. Previous groundwater sampling conducted by CCoD reported the presence of arsenic in one monitoring well at levels above state and federal drinking water standards. As it was only reported to be present in one well and there is no use of groundwater at or in the vicinity of the Site, EPA concluded that groundwater was not significant exposure pathway and therefore did not require additional investigations of groundwater conditions. As discussed later in this report (Section 5.2), additional soil sampling was

performed in the vicinity of this well. The results of the additional soil sampling did not indicate the presence of anomalously high levels of arsenic in soil in the vicinity of this well. Elevated levels of arsenic have not been detected in any of the other groundwater monitoring wells at the Site or in the Coliseum cooling water supply wells. As discussed further in Section 5.2, the higher levels of arsenic detected in well MW-2 appear to be anomalous and result from a lack of development of this well at the time it was constructed. Neither arsenic nor lead were detected at elevated levels in the upstream or downstream surface water or sediment in the South Platte River adjacent to the Site proving no impact to the river.

The investigations described in this RI report as well as preparation of this report were performed on behalf of the City and County of Denver (CCoD) pursuant to Administrative Order on Consent (AOC) with the USEPA Docket No. CERCLA-08-2008-0011. This RI report describes the Site history and physical setting, includes a summary of the RI and previous investigations at or in the vicinity of the Site, and provides an interpretation of the nature and extent of contamination. A baseline risk assessment (BRA) that includes an update to the previous draft Baseline Human Health and Screening Level Ecological Risk Assessment (USEPA, 2006) has been prepared separately by USEPA. Information presented in this RI report will be used by USEPA to manage potential risks and define appropriate remedial actions as necessary to protect human health and the environment at the Site.

2 SITE HISTORY

The original Omaha & Grant Smelter facility was built on approximately 50 acres bordering the South Platte River. Figure 4 shows the approximate locations of buildings and other facilities that were associated with the historical operations of the Omaha and Grant Smelter at the Site. This property generally coincided with an area that is currently bounded by Colorado and Eastern Railroad (Burlington Northern Santa Fe Railroad) on the northwest, the Union Pacific Railroad on the northeast, 39th Avenue on the southwest, and Brighton Boulevard on the southeast (formerly Wewatta Street). This area constitutes the Site.

2.1 Corporate History

The Omaha & Grant Smelter got its start from the Grant Smelter located in Leadville, Colorado. The Grant Smelter operated in Leadville from 1878 until 1882 and was owned by the Grant Smelting Company, an unincorporated company. When the Grant Smelter was destroyed by fire in 1882, a replacement smelter was built in Denver.
The Grant Smelter shipped bullion to the Omaha Smelting Works located in Omaha, Nebraska. On July 5, 1883, the Grant Smelter merged with the Omaha Smelting Works and on July 18, 1892 the corporation was renamed the Omaha & Grant Smelting and Refining Company.

In 1899, the Omaha & Grant Smelting and Refining Company joined other smelting companies to form the American Smelting and Refining Company. The American Smelting and Refining Company continued to operate the Omaha & Grant Smelter until 1903. The American Smelting and Refining Company changed its name to ASARCO Incorporated (ASARCO) on May 15, 1975.

2.2 Facility Operations

The Omaha and Grant Smelter facility commenced operations at the Site in October 1882. In 1887, the facility was expanded. In 1892, the facility expanded again and a 352-foot tall smelter stack was built. The smelter operated for approximately 21 years and was closed in 1903.

The smelter buildings were subsequently demolished. Sometime later, all of the slag, with the exception of any residual that could be buried under modern parking lots, was removed. Based on historic aerial photographs, all of the visible slag was removed by 1949. Between 1920 and 1940, various portions of the facility were deeded to CCoD and other portions of the facility have been, and continue to be, owned or operated by the Union Pacific Railroad, the Pepsi Bottling Company and various other corporate entities or individuals.

The properties still owned and used by CCoD are the Globeville Landing Park and the Denver Coliseum, which opened in 1952. The CCoD constructed the Denver Stadium and Coliseum circa 1950 which encompassed part of the northeast portion of the former Omaha and Grant smelter facility. The approximately 10-acre Globeville Landing Park is located along the east side of the South Platte River. The park, constructed in the 1970s encompasses part of the southwest portion of the former Omaha and Grant smelter facility as shown on Figure 4.

2.3 Process Description

The Omaha & Grant Smelter facility employed a lead smelting process to produce gold, silver, copper, and lead. The smelting process involved the fusing of ore, fuel, and lime to form a melted product. As a result of this process, lead and silver would sink to the bottom of an iron chamber and the slag would float on the surface of the liquid metals.

2.4 Waste and Waste Disposal Practices

Although detailed information about the wastes from the smelting operations is not well documented, it is known that blast furnace slag was produced from the smelting operations. Ores, fuel and flux were delivered by rail car directly to the furnace charging doors on the upper levels of the smelter. As the smelting operations proceeded, the intermediate products flowed downhill to a lower level. Smelter workers would run slag onto a dump and load bullion onto rail cars. An 1890 Sanborn Fire Insurance Map identifies a slag dump to the north of the Omaha & Grant Smelter property (Figure 4).

Prior to constructing the Coliseum and associated parking lot, portions of the Site were used as a landfill for disposal or municipal solid wastes. The presence of the landfill materials beneath the Coliseum parking lot area is evidenced by the undulating nature of the parking lot pavement owing to differential compaction and decomposition of the underlying solid waste materials. No specific information or documentation of the time periods when the landfill occurred, the nature of the landfill activities, or the nature of wastes disposed in the landfill could be located. Consequently, additional investigation of the nature, extent, and depth of the landfill materials was performed as part of the field investigations conducted for this RI report.

3 PHYSICAL SETTING

3.1 Topography

The Site topography is mainly flat, sloping gently toward the South Platte River located along the western boundary of the Site. The Site is located on terraces above the modern-day channel flood plain of the South Platte River.

Site elevations vary from 5,200 feet (ft) above mean sea level (msl) along the northern boundary of the Site to about 5,140 ft above msl within the flood plain of the South Platte River. The flood plain is flat with a slope of 0.25 percent to the northeast.

The surface of the primary terrace portion of the Site generally slopes toward the northwest toward the floodplain with a typical grade of 4%. The edge of the terrace drops off fairly steeply to the flood plain from about 5,170 ft above msl, with a narrow bench at 5,150 ft above msl. A second, higher terrace is located to the southeast beneath the Forney Transportation Museum property and the commercial properties along Brighton Boulevard.

3.2 Climate

The climate of the Site is typical of Colorado's semi-arid eastern plains. Temperatures are moderate throughout the year, with monthly averages ranging from 30° F in January to 73° F in July.

Annual precipitation totals are approximately 16 inches, 60% of which occurs during the spring and summer months. The rainiest month is May, with an average precipitation of 2.6 inches. Snowfall totals in the Denver Metro area average 60 inches per year with March usually receiving the greatest amount of snowfall (12.5 inches).

The predominant wind direction is from the south with an annual average velocity of 8.5 miles per hour (mph). Peak winds can reach velocities of 30-50 mph with the highest winds tending to be from the north-northwest.

3.3 Surface Water and Drainage

Other than the Platte River, there are no major surface water bodies within the Site area. Drainage in the Site area is largely controlled by man-made features such as ditches, roads, and storm sewers as the majority of the Site is paved or covered by buildings.

3.4 Geology

The Site lies to the east of the Front Range of the Southern Rocky Mountains, in the Colorado Piedmont section of the Great Plains. The sedimentary rocks that underlie the region form an asymmetric, north-south trending structural basin known as the Denver Basin, which is more than 13,000 ft deep at its deepest point below the City of Denver. The uppermost bedrock formation beneath the Site is the Denver Formation, which consists of river and stream channel and overbank deposits deposited in the late Cretaceous and early Tertiary periods. The Denver Formation consists of claystone, shale, and siltstone with silty-sandstone lenses and typically contains approximately 70% claystone and shale and 30% sandstone and siltstone.

The Denver Formation is underlain by the Arapahoe Formation at a depth of approximately 200 ft below the Site. The Arapahoe Formation consists of about 40% conglomerate, sandstone and siltstone, and about 60% shale. The Arapahoe Formation includes the Arapahoe Aquifer which is the shallowest bedrock aquifer of significant yield in the Site area. Underlying the Arapahoe Formation are the Laramie Formation and the Fox Hills Sandstone at depths of approximately 70 and 1,000ft, respectively, beneath the Site. The extensive Pierre Shale Formation is located beneath the Fox Hills Sandstone. Due to its low permeability and thickness of up to 8,000 ft, the Pierre Shale is considered to be the base of the Denver Basin aquifer system.

Most of the bedrock in the Denver area is covered by alluvial and eolian deposits to depths as great as 100 ft. The oldest alluvial deposit still remaining at the Site is the Slocum Alluvium, consisting of cobbles, gravel, and clayey sand deposited in rivers that flowed east during the warming period after the Illinoisan glaciation. Subsequent erosion removed most of the Slocum Alluvium and, at the same time, cut into the Denver Formation to form the South Platte River drainage system.

3.5 Hydrogeology

The two uppermost principal groundwater systems that underlie the Site are the upper shallow alluvial aquifer and the deeper bedrock Denver Aquifer. The shallow alluvial aquifer is unconfined and generally composed of sand and gravel that contain various amounts of clay and silt. In some areas these coarse-grained materials grade to a finer material, and clay and silty materials predominate.

The depth to groundwater in alluvial deposits ranges from 10 to 20 ft below groundwater surface in areas of the Site nearest to the South Platte River. Generally, the direction of groundwater flow in the alluvial deposits beneath the Site is from the southeast to the northwest toward the South Platte River at a rate of approximately 20 to 200 ft per year then becoming northeast parallel to the river as the river is approached. The rate of groundwater movement through the alluvial deposits is governed principally by the variable nature of these deposits.

4 SITE INVESTIGATIONS

This section describes previous investigations first, followed by a discussion of the Site investigations performed to prepare this RI pursuant to the AOC. The summary of the prior investigations was previously presented in the Quality Assurance Project Plan (QAPP) prepared for the RI investigations (EMSI, 2008).

4.1 Previous Investigations

Various organizations have conducted field and laboratory investigations within or in the immediate vicinity of the Site. At least 13 investigations have information available for the Site (Walsh 1996 and 1997; Pepsi, 2001 and 2002; CH_2MHill, 2002a, 2002b, and 2004; EnviroGroup Ltd., 2004, 2005; and CCoD 2000, 2001, 2005, 2006). Table 1 summarizes these investigations.

Some of these studies collected soil and/or groundwater samples within or near the boundaries of the Site. Figure 5 shows the prior sample locations from each of these historical studies. The available laboratory analytical data for soil obtained by these investigations were presented in Attachment A of the QAPP (EMSI, 2008) and are also included along with the results obtained during the RI investigations in Appendix A. Each of the relevant investigations is described briefly below. An overall summary of the results of the various prior investigations of the Site is presented at the end of this section.

4.1.1 Omaha and Grant Smelter Site, Preliminary Assessment (CDPHE, 1992)

A Preliminary Assessment (PA) was conducted in 1992 by the CDPHE, Hazardous Materials and Waste Management Division to characterize potential onsite wastes, assess their potential for migration, and to determine potential impacts of the Site to public health and the environment. The PA consisted of a site visit, summary of site history and site characteristics, domestic well survey, completion of a Hazardous Waste Site Identification form, and preliminary human health and ecological pathway analysis. No environmental samples were collected from the Site as part of this study. However studies performed in the general area of the ASARCO Omaha and Grant Smelter site where environmental samples were collected are summarized in this report.

4.1.2 Initial Site Assessment Update for I-70 Modifications Washington Avenue to High Street (Walsh, 1996)

As part of planning modifications to Interstate Highway 70 in the vicinity of Washington Street, the Colorado Department of Transportation (CDOT) conducted investigations along I-70 in the vicinity of the former ASARCO Omaha and Grant smelter facility.

4.1.3 Site Investigation Phase I Construction I-70 Modifications North Washington Street to Humboldt Ave. Denver, CO (Walsh, 1997)

This field investigation expanded on the results of the study listed above. Soil and groundwater samples were collected in an area that is on the north side of the Site.

4.1.4 CCoD Groundwater Sampling of Coliseum Cooling Water Wells

In May of 2000 and 2001 CCoD collected water samples from the four wells that provide cooling water for the Coliseum. Water samples were analyzed for total and dissolved metal constituents. Results of the analyses for these groundwater samples are presented in Appendix F.

4.1.5 OU-1 Remedial Investigation (July 2001)

On behalf of USEPA, Washington Group International prepared a RI Report for OU-1 of the VB/I-70 Superfund Site. OU-1 includes the Off-Facility Soils portion of the VB/I-70 Superfund Site; the residential soils in the neighborhoods adjacent to the former ASARCO Omaha & Grant Smelter (OU-2) and Argo Smelter (OU-3).

The OU-1 RI report identified elevated levels of arsenic and lead in soil that could present human health concerns over long term exposures. The RI indicated that the majority of properties have low-levels of arsenic. The RI concluded that occurrences of elevated arsenic levels were randomly distributed within the study area, while the lead concentrations tended to decrease with distance from one or more of the historical smelter locations.

4.1.6 Pepsi Property Investigations (Fall 2001 and March 2002)

Transportation & Industrial Services, Inc. performed at least six different investigations to assess the concentrations of arsenic and lead in soils that would be removed as part of the expansion of the Pepsi bottling facility. Soil samples were collected and analyzed to determine the proper disposition of soil excavated from the Pepsi property.

Eighty-two (82) composite samples were collected from various phases of work. These include the following samples and composite sample intervals:

- Twenty (20) composite soil samples were collected from a depth interval of 0 to 2 ft below ground surface (bgs);
- Sixteen (16) samples from an interval of 0 to 3 ft bgs;
- Ten (10) samples from 0 to 6 ft bgs;
- Twenty-five (25) samples were collected from the interval of 0 to 10 ft bgs; and
- Eleven (11) samples from an interval of 10 to 20 ft bgs.

The sample results showed a wide range of arsenic and lead concentrations. It must be noted that much of this sampling was performed in support of installation of additional underground utility lines at the Pepsi property. No environmental report or documentation are available regarding the amount and extent of contaminated soil that may have been removed, relocated, or left in place as a result of the utility construction work. Consequently, these sample results may not accurately reflect the current conditions at the Pepsi property; however, owing to the lack of any other information, these data are assumed to be representative of the conditions at the Pepsi property for purposes of preparing this RI report, the Human Health Risk Assessment, and the forthcoming Feasibility Study.

4.1.7 Globeville Landing Park Soil Sampling Plan and Results (CH_2MHill, 2002)

In July 2002, soil samples were collected in the Globeville Landing Park to characterize the surface (0 to 2 ft bgs) and subsurface soil (2 to 6 ft bgs) in terms of total arsenic and lead concentrations. The data were used to evaluate potential health risks associated with exposure of workers to arsenic or lead in soil at the park as they perform various maintenance activities. The results were subsequently used by CCoD to obtain a No Further Action Letter from the USEPA for surface soils at the Globeville Landing Park in April 2003.

4.1.8 Denver Coliseum Barn Soils Excavations and Stockpile Summary Report, Final Summary Report (CH_2MHill, 2004)

The presence of slag and brick remnants from the Omaha and Grant Smelter had been identified near the Denver Coliseum during previous maintenance activities by CCoD. Subsurface excavations within the Coliseum barn (located on the west side of the Coliseum proper) to support the structural reinforcement of the barn roof penetrated the barn's dirt floor and excavated dark colored soil with evidence of slag and bricks. During excavation, a relatively clear demarcation between barn floor soil and underlying soil

from the former smelter was observed. Eight (8) of the excavations at depths of 4 to 5 ft bgs encountered the darker material. The other eight (8) excavations at approximately 2 ft bgs did not encounter the darker material.

Four (4) composite subsurface samples from (4 to 5 ft bgs) were collected together with a grab sample of what appeared to be the most contaminated (darker) material and two (2) surface soil composite samples. Two (2) of the soil samples of the darker material exceeded CCoD's arsenic standard of 16 milligrams per kilogram (mg/kg) for placement of the soil back into the excavation, having concentrations of 17 mg/kg and 24 mg/kg, respectively. All of the eight (8) soil samples had lead concentrations less than CCoD's criterion of 1,460 mg/kg.

A five-point composite soil sample was collected from a soil stockpile of unknown origin that was located on the west side of the Site, but which may have originated from Coliseum operations. The concentrations of all metal constituents were very low in the collected composite soil sample. The arsenic concentration was 2.6 mg/kg and the lead concentration was 38 mg/kg. In comparison with the results from previous soil stockpiles identified near the Denver Coliseum, the soil is most comparable with the soil from Stockpile 2 that was removed in December 2002 (CH_2M Hill, 2002b).

4.1.9 Brighton Boulevard Targeted Brownfields Assessment, (URS Operating Services, Inc., April, 2004)

During April and May 2003 and January 2004, URS conducted an USEPA sponsored targeted Brownfields investigation of the Brighton Boulevard area for CCoD to help with the redevelopment and revitalization of the Brighton Boulevard corridor. This investigation included collection of soil and groundwater samples along Brighton Boulevard. None of the sample locations were located within the boundaries of the former ASARCO Omaha and Grant smelter facility; however, several samples were located adjacent to the Site boundary. The locations of these samples are provided on Figure 5.

Seventy-five (75) soil samples were collected from seventy-five (75) locations for laboratory analyses. Soil samples were obtained from continuous cores from soil borings drilled to groundwater or refusal using either a geoprobe (60 samples) or auger rig (15 samples). The collected cores were logged and screened with a photo-ionization detector (PID) or a flame-ionization detector (FID) for volatile organic compound (VOC) concentrations.

Laboratory soil samples were collected from the top coring interval (0 to 4 ft bgs or 0 to 3 ft bgs) unless visual staining was observed or elevated PID/FID readings were obtained. Laboratory samples for metals analyses were obtained from stained areas and soil samples for VOCs and semi-volatile organic compounds (SVOCs) analyses were collected from areas with elevated PID/FID readings. Most of the laboratory soil samples

were collected over the 0 to 4 ft depth interval. In addition, a soil sample for X-ray Fluorescence (XRF) total metal analysis was collected from each boring interval at all boring locations. Laboratory soil samples were analyzed for VOCs, SVOCs, and Target Analyte List (TAL) total metals by USEPA Contract Laboratory (CLP) laboratories and three laboratory soil samples were analyzed for Total Extractable Petroleum Hydrocarbons (TEPH) by the USEPA laboratory.

Inorganic groundwater constituents and the number of occurrences (as shown in parentheses) exceeding federal and state drinking water standards for the particular chemical included: arsenic (56), vanadium (48), manganese (47), iron (43), aluminum (26), and thallium (13). It must be noted however that the groundwater samples were generally collected from open (uncased) boreholes and were not filtered and as a result turbidity and suspended sediment likely affected the metals concentrations in the samples. As such, the values for the various constituents are judged not to be reflective of in-situ conditions.

Numerous inorganic and organic analytes were detected at levels above USEPA risk-based screening level criteria for soil and groundwater. It was noted that there are numerous potential sources for contamination within and around the Brighton Boulevard area. No attempt was made to attribute contamination to sources due to the numerous potential sources.

4.1.10 EnviroGroup Soil Sampling (December 2004, March 2005, and June 2005)

EnviroGroup, Ltd., under contract to ASARCO collected approximately twenty-seven (27) surface soil samples from the Denver Coliseum property from areas where bare soil is exposed. These samples were obtained from south and east margins of the Denver Coliseum parking lot (4600 Humboldt St.), and at various locations along Brighton Boulevard (3801, 4201, 4301, and 4375 Brighton Boulevard) (Figure 5). The samples were composites of soil samples collected from grids established in each area. The composites were collected from a depth interval of 0 to 2 inches bgs. These samples were analyzed in the laboratory for arsenic and lead.

EnviroGroup, Ltd. also drilled seven (7) soil borings in the Site area (BH-1 through BH-7) and collected surface and subsurface soil samples from these locations. These samples were also analyzed for arsenic and lead. In addition, they installed five (5) groundwater monitoring wells in the Site area (Figure 6) and collected surface and subsurface soil samples from the borings drilled for the monitoring wells. Analytical laboratory reports are available for the soil samples. These samples were collected as part of initial work towards completion of an RI/Feasibility Study for the Site by ASARCO; however, due to the subsequent ASARCO bankruptcy proceedings, a formal report of the results of these investigations, including presentation of soil boring logs and well construction records, was not completed.

4.1.11 CCoD Sediment, Surface water and Groundwater Sampling (August 2005 through July 2006)

The CCoD with its contractors performed sampling of surface water and sediment at two (2) locations within the South Platte River (Figure 7). These samples were collected from a location that was deemed to be upstream of the Site and from another located downstream of the Site. The samples were collected to assess whether the Site was impacting the South Platte River. Samples were collected on four occasions between November 2005 and July 2006 and were analyzed for a variety of metal constituents. The data demonstrated that there was no significant difference in metals concentrations between upstream and downstream locations.

CCoD also sampled the five (5) groundwater monitoring wells that are located on or upgradient of the Site (Figure 6). The wells were installed by EnviroGroup, Ltd., but were sampled by CCoD. The samples were analyzed for both total and dissolved metal constituents. The samples from well MW-2 had dissolved arsenic concentrations that exceeded the federal and state drinking water standard of 0.010 milligram per liter (mg/L). The values varied from 0.063 to 0.15 mg/L. Groundwater sample results from the other wells and for other constituents in samples from well MW-2 did not exceed their respective drinking water standards.

4.1.12 Summary of the Results of Prior Environmental Sampling

At least 13 investigations have information available for the Site (Walsh 1996 and 1997; Pepsi, 2001 and 2002; CH2MHill, 2002a, 2002b, and 2004; EnviroGroup Ltd., 2004, 2005; and CCoD 2000, 2001, 2005, 2006).

Eleven (11) soil samples were obtained on the north side of the Site (Walsh, 1996 & 1997). Soil borings drilled for collection of these samples identified the presence of black fill consisting of coal, coal ash, coal dust, smelter slag; brick, concrete and asphalt fragments; metal, glass, and porcelain fragments; wood and trash consisting of plastic, wood, glass, rusted metal, and porcelain fragments with lesser amounts of sand and gravel. The black fill material reportedly contained some oily hydrocarbons and exuded an offensive, foul odor which did not register on a combustible gas indicator or PID. Analytical results for these soil samples contained elevated levels of zinc, copper, lead, mercury and in one sample, cadmium. The samples also contained polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH).

Eighty-two (82) soil samples were collected from a variety of sample locations at the Pepsi Bottling facility which is located in the southern portion of the former ASARCO Omaha and Grant Smelter site. Laboratory analyses of the soil samples identified elevated levels of arsenic and lead in surface and subsurface soil. The collected soil samples were used to guide the management of materials excavated in conjunction with underground utility installations.

Thirty seven (37) surface soil and ten (10) subsurface soil samples were collected by EnviroGroup, Ltd., on behalf of ASARCO, from OU-2. These samples were analyzed for arsenic and lead. Laboratory reports of the sample results are available; however, an interpretive report including presentation of soil boring logs and well construction records was never prepared.

Approximately sixty-seven (67) soil samples were collected from CCoD's Globeville Landing Park (CH_2MHill, 2002a). Analytical results for these samples indicated the presence of arsenic at background levels and lead at levels below the risk-based screening level of 500 mg/Kg established by EPA. The collected samples were subsequently used to obtain a No Further Action Determination from the USEPA with respect to surface soil (USEPA, April 2003).

Seventy-five (75) soil core samples were collected from seventy-five (75) locations as part of EPA's Targeted Brownfield study of the Brighton Boulevard area including soil samples collected from the top coring interval (0 to 4 ft bgs or 0 to 3 ft bgs). These samples were analyzed for VOCs, SVOCs and TAL metals by USEPA CLP laboratories and three laboratory soil samples were analyzed for TEPH by the USEPA laboratory. All of these samples reportedly contained arsenic at concentrations greater than USEPA risk-based soil screening levels for residential land use and most of the samples contained levels of arsenic above USEPA industrial use risk-based soil screening levels.

Twenty (20) soil samples were collected from two (2) soil stockpiles of unknown origin located between the Denver Coliseum West Parking lot and Globeville Landing Park (CH_2MHill 2002b). Due to the unknown origin of these stockpiles, these samples do not provide adequate information to make decisions about surface or subsurface soils at the Site.

One 5-point composite soil sample was collected from a soil stockpile of unknown origin located west of the Denver Coliseum (CH_2MHill 2004). Due to the unknown origin of this stockpile, the sample does not provide adequate information to make decisions about surface or subsurface soils at the Site.

Eight (8) soil samples were collected from structural excavations within the Denver Coliseum West barn which is within the boundaries of the former Omaha and Grant Smelter site (CH_2MHill, 2004). Information from this study indicates that soils beneath fill materials may exhibit elevated levels of arsenic and lead.

At least eight (8) groundwater samples have been collected from the Coliseum cooling water wells. Analyses of these samples have not identified the presence of elevated levels of trace metals in groundwater.

The five (5) groundwater monitoring wells (3 that are upgradient and 2 within the Site boundary) have been sampled on at least four (4) occasions. Wells MW-2 and MW-3

(located within the Site) were also sampled in August 2005. With the exception of well MW-2, that showed elevated levels of arsenic, none of the groundwater sample results obtained from these wells displayed elevated levels of trace metals.

Surface water and sediment samples were collected by CCoD at two (2) locations in the South Platte River. Samples were collected on at least four (4) occasions. Elevated levels of trace metals were not found in any of these samples.

As part of the preparation of the *Quality Assurance Project Plan (QAPP)/Work Plan, and Sampling and Analysis Plan (SAP)* (EMSI, 2008) for the Site sampling activities conducted to prepare this RI, the chemical data for arsenic and lead in soil in the Site area that were developed by these various studies were reviewed. These data were assessed with respect to the usability of the data for completion of the RI and preparation of the BRA. Although complete laboratory data packages were not available for review, the data were determined to be acceptable for use in the RI as they were collected in accordance with documented plans and/or procedures and for the most part using EPA-approved analytical methods. Although the analytical reporting limits obtained by the various investigations did vary, most of the results are reported as detects and therefore should be suitable for use in the RI and BRA. Data obtained from the Brighton Boulevard studies using XRF methods instead of EPA SW-846 methods were not considered during the evaluation of the number of additional samples that may be required to complete the RI.

4.1.13 Draft Baseline Human Health and Screening Level Ecological Risk Assessment

A Draft Baseline Human Health and Screening Level Ecological Risk Assessment for VB/I-70 Site, OU-2 was previously prepared by EPA (October 2006). Based on the results of the draft risk assessment and a review of the data listed above, the risk assessors identified surface and subsurface soil as the potential media of concern and arsenic and lead as the potential chemicals of concern. Due to the limited occurrences of trace metals in groundwater and the lack of use of shallow groundwater for domestic supply in the area, groundwater was not found to be a media of concern. An updated BRA that considers the additional data obtained as part of the field investigations performed for the RI has been prepared separately by EPA

4.2 RI Field Investigations and Sampling

Field sampling activities for the RI entailed collection of shallow surface and subsurface soil samples in accordance with the *QAPP/Work Plan, and Sampling and Analysis Plan (SAP)* (EMSI, September, 2008). Additional data needs were identified through consultation with the EPA's risk assessment team and are documented in the QAPP/Work Plan/SAP.

Based on the current and potential future land uses of the Site, four (4) areal exposure units (EUs) were identified (Figure 8). As described in the QAPP/Work Plan/SAP, the rationale for selecting the sampling locations was to obtain spatially distributed samples from each EU to augment the available data. Selection of additional sampling locations was predicated on the locations of the previously collected environmental samples and a requirement to have approximately ten (10) surface and ten (10) subsurface samples for each EU. As USEPA had previously issued a No Further Action Determination for the Globeville Landing Park, no additional sampling was conducted in the park.

The RI field work consisted of drilling and coring sixteen (16) soil borings and collection of soil samples for laboratory analyses. Field work was performed on December 17 and December 18, 2008.

Figure 9 illustrates the locations of the sixteen (16) borings drilled as part of the RI field investigations. Two (2) borings (SS-3-1 and SS-3-2) were drilled for the collection of surface soil samples immediately underlying the asphalt and road base. The borings extended 12 inches into the underlying surface soil to effectively sample between 12 and 24 inches bgs. The remaining fourteen (14) locations were boreholes drilled to minimum depths of 14 ft. A minimum of two (2) samples (one sample from at least two discrete depths) were collected from each subsurface soil boring.

It should be noted that the QAPP/Work Plan/SAP required soil sampling from only fifteen (15) locations. An additional subsurface boring was added at the northwestern corner of the EU-3 (boring SB-3-5) at the request of a prospective lessee to better characterize subsurface conditions in this area.

All surface and sub-surface soil samples were visually characterized and analyzed for arsenic and lead. In addition, samples that exhibited staining or indications of hazardous substances were sampled for VOCs, SVOCs and the Resource Conservation and Recovery Act (RCRA) list of eight metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver).

Standard Operating Procedures detailed in the SAP were followed throughout the investigation. An overview of the field program and clarification of operating procedures that may have deviated from the prescribed standard operating procedures are presented in the following subsections.

4.2.1 Borehole Drilling Program

Prior to drilling, the locations of all of the additional boreholes were surveyed and marked in the field by a Colorado Licensed Surveyor from Foresight West. Each boring location was subsequently cleared for utilities prior to drilling in accordance with the SAP. Site Services, Inc. of Arvada, Colorado then mobilized a hollow-stem auger rig equipped with a 5-foot long core barrel to collect continuous samples.

A specialized asphalt drilling bit was used to advance through the asphalt and road base. Then the hollow-stem augers were advanced with the continuous core barrel. For the surface samples, the core barrel was advanced to approximately 24 inches bgs and retracted. For the sub-surface samples, the first core typically extended from immediately beneath the asphalt road base to a depth of approximately 4 feet bgs. The second core typically extended between 4 feet and 9 feet bgs. Subsequent cores were collected from approximately five-foot depth intervals until undisturbed soil or bedrock underlying fill material was encountered.

Soil samples were collected from the core obtained from each boring. Table 2 presents a summary of the boring locations, sample depths, analytical program and other information for each soil sample collected during the RI field investigations.

Samples were identified and numbered using a four-part system that consisted of the following:

- Type of sample (SS is Surface Soil and SB is Soil Boring);
- EU Number
- Borehole Number
- Sample Depth Interval (SS is surface sample collected from soil immediately underlying the road base and the numeric range is the depth interval of sub-surface sample in feet)

For example, SB-2-4-SS is the surface sample obtained from the fourth boring in EU-2. Another example is SB-4-1-12-14 which represents the soil sample obtained from the 12 to 14 ft depth interval bgs from the first boring drilled in EU- 4. A field duplicate sample was identified by adding a "1" to the front of the EU number. For example, SB-14-1-12-14 is a duplicate of the previous example.

Borehole cuttings and core samples retrieved at the surface were logged using ASTM Standard Practice for Description and Visual Identification of Soils (Visual-Manual Procedure) (ASTM D 2488-06) with the resultant soil descriptions recorded on the borehole geologic logs. Geologic interpretations and observations such as oxide staining, type of fill material encountered, discoloration, odor, presence of groundwater, PID or FID readings and core recovery were also noted on the logs. Copies of the borehole logs are presented in Appendix B. As noted on the logs, PID or FID readings could not be obtained from several of the borings due to instrument difficulties caused by lengthy calibration durations or battery problems believed to be attributable to low ambient temperatures. However, all samples were monitored for odors and results were recorded on the logs.

Following extraction and logging, soil cores were placed into core boxes, labeled and transported to a locked storage facility located adjacent to the northern entrance to the

Coliseum. The boxes were then loaded into the storage facility for future reference. Access to the storage facility may be obtained by contacting CCoD Coliseum personnel.

Following completion of each borehole, the borings were backfilled with bentonite chips in 4-foot lifts and hydrated with water. The top two feet of the borehole below the asphalt were backfilled with coarse sand. From there to the ground surface, the borehole was backfilled with a cold-tar latex asphalt patch. The vertical elevation and horizontal position of the new boring and the boring locations that were moved (to avoid utilities) after the original survey was completed were resurveyed by a surveyor licensed in Colorado. Survey results are included in Appendix B.

4.2.2 Analytical Program

All of the collected samples were packaged, and delivered to Test America Analytical in Arvada, Colorado in accordance with the methods specified in the SAP. Soils were analyzed (including moisture content) by the following methods:

Media	**Analysis**	**Analytical Method**
Soil (all samples)	Total arsenic and lead	SW-846 6020B
Soil (samples from landfill materials)	VOCs	SW-846 8260B
Soil (samples from landfill materials)	SVOCs, PAHs	SW-846 8270C
Soil (samples from landfill materials)	8 RCRA Metals	SW-846 6010B

Analytical laboratory reports and chain of custody records are contained in Appendix C.

4.2.3 Data Quality

Results of the laboratory analyses were subjected to Level III data validation as specified in the QAPP/Work Plan/SAP. Data validation was performed by a CCoD staff chemist. Results of the data validation are summarized in data validation reports that are included in Appendix D. Based on the data validation, all of the analytical results are suitable for the intended use as qualified by the analytical laboratory and the data validation process.

One error was identified in the sampling identification numbers. The surface soil sample obtained from location SS-3-2 in the parking lot of the Denver Coliseum was correctly identified on the chain-of-custody form as SS-3-2-SS; however, in the laboratory report this sample is identified as SB-3-2-SS. There was no surface soil sample collected from soil boring SB-3-2 and the time of sample collection is inconsistent with collection of the other samples obtained from boring SB- 3-2. Either the sample identification was incorrectly entered or transcribed by the analytical laboratory or it was incorrectly identified on the sample container label in the field and the analytical laboratory reported the sample identification as shown on the sample container label and not as shown on the chain-of-custody form. Either way, the sample result reported by the analytical laboratory as SB-3-2-SS should actually be SS-3-2-SS.

5 NATURE AND EXTENT OF CONTAMINATION

This section of the report discusses the results of the soil sample analyses obtained during the RI in combination with the prior sample results to describe the nature and extent of contamination. This section is divided into two separate discussions. The first part this section describes the nature and extent of arsenic and lead occurrences in surface and subsurface soil. This is followed by discussions of the prior analytical results for surface water, sediment and groundwater samples obtained at or in the immediate vicinity of the Site. The last part of this section discusses of the nature and extent of landfill materials and the arsenic, lead, eight RCRA metals, VOC and SVOC results from soil samples identified in the field as being contained within or located immediately below landfill materials.

5.1 Arsenic and Lead in Surface and Subsurface Soil

As described in the QAPP/Work Plan/SAP, USEPA identified arsenic and lead as the primary chemicals of concern and surface soil and subsurface soil as the primary media of concern.

5.1.1 Surface Soil

Based on discussions with USEPA's risk assessors, surface soil was defined to be soil located from the ground surface to a depth of 12inches or for areas covered by pavement, the uppermost 12 inches of soil presented beneath the pavement and any associated base course material. As the prior investigations may not have collected samples exclusively from the uppermost 12 inches of native soil, results obtained from the uppermost samples obtained by these investigations (e.g., samples obtained from the 0 – 2 ft depth) were treated as surface soil samples. In instances where only composite samples that included the uppermost 12 inches plus a substantial amount of subsurface soil (e.g., composite sample from a 0 – 10 ft interval) were collected, results for these samples are plotted and discussed as both surface and subsurface soil samples.

As the occurrences of arsenic and lead at concentrations greater than background levels are localized and discontinuous, the results cannot be described in terms of broad areas of contamination but only as isolated areas of discrete occurrences of arsenic and lead above background levels. Consequently, occurrences of arsenic and lead discussed below are described on a property-by-property basis.

Arsenic and lead analytical results obtained during the RI investigations combined with the results obtained during prior investigations for surface soil samples collected in the OU-2 area are presented on Figures 10 and 11 respectively. Samples with arsenic or lead

concentrations greater than the background soil levels, 15 mg/Kg or parts per million (ppm) for arsenic and 400 mg/Kg for lead, are highlighted in red on these figures.

Review of these data results in the following conclusions regarding occurrences of arsenic or lead in surface soil at concentrations greater than background (15 mg/Kg for arsenic and 400 mg/Kg for lead):

- CCoD Property (Denver Coliseum):
  - Unpaved strip along the southeast side of the parking lot (adjacent to the Forney Transportation Museum property contains both arsenic (16, 17 and 52 mg/Kg) and lead (460 mg/Kg) concentrations greater than background levels;
  - Unpaved strip along the west side of the parking lot (adjacent to the Globeville Landing Park) contains arsenic (27 and 46 mg/Kg) concentrations greater than the background level; and
  - Surface soil sample obtained from boring SB- 4-5 located in Arkins Court south of the southern entrance/exit to the Coliseum parking lot contained arsenic (22 mg/Kg) above the background level.

- Forney Transportation Museum property:
  - Arsenic or lead occurrences at concentrations above background levels were only found to be present in surface soil within the bare ground area along the slope on the west and north sides of this property.

- Union Pacific/Witulski properties:
  - Unpaved area between the northwest side of the building on the Witulski property and the southeast side of the Union Pacific rail spur (exact location of the subject property relative to the boundaries of the Union Pacific and Witulski parcels is uncertain) contains arsenic (23 mg/Kg) and lead (470 mg/Kg) concentrations greater than background levels.

- Morales property:
  - Surface soil sample collected from boring BH-7 contained arsenic (510 mg/Kg) and lead (15,000 mg/Kg) levels greater than background; and
  - Sample BB-BB-37 collected along Brighton Boulevard, in front of the Morales property, contained lead (576 mg/Kg) at a concentration above the background level, (Note: the arsenic results for this sample were non- detect; however, the detection limit of 56 mg/Kg was greater than the background value).

- Rossi property:
  - Based on the results obtained from soil boring SB- 2-4, no occurrences of arsenic or lead at levels greater than background were detected in

surface soil at this property; however, surface soil sample BB-BB-35 collected along Brighton Boulevard, in front of the Rossi property, contained lead (4,086 mg/Kg) above the background level, (Note: arsenic result was non-detect but the detection limit of 409 mg/Kg for this sample greatly exceeded the background level).

- Hunt property:
  - Several surface soil samples were collected from this property that contained arsenic (34, 36, 48, 86, and 270 mg/Kg) and lead (540, 880, 1,300, 1,600, and 34,000 mg/Kg) concentrations greater than background; and
  - Surface soil samples BB-BB-33 and BB-BB-34 collected along Brighton Boulevard, in front of the Hunt property, contained lead (774 and 2,836 mg/Kg) above the background level, (Note: arsenic results for these samples were non-detect but the detection limits for these samples exceeded the background level).

- Pepsi Bottling Company property:
  - Both arsenic and lead were detected at concentrations (up to 630 and 2,800 mg/Kg for arsenic and lead respectively) greater than the background levels in numerous surface soil samples;
  - It must be noted that many of the samples collected from this property were composites from depth intervals that included both surface soil and underlying soil such as samples from the 0 to 2 ft bgs depth interval or 0 to 10 ft bgs depth interval. Due to the lack of samples obtained only from the 0 to 1 ft (surface sample) depth interval for most of the Pepsi properties, these samples have been considered as both surface and subsurface samples for purposes of this RI. True surface soil samples were collected from portions of the Pepsi property and also contained arsenic and lead (at levels up to 94 and 790 ug/Kg, respectively) at concentrations greater than the background levels; and
  - Soil samples obtained from the Pepsi property were collected during installation of subsurface utilities and other work at this property and as such some of the soil may have been removed from the property.

- Globeville Landing Park:
  - Arsenic was not detected at concentrations greater than the background level in any of the surface soil samples (or the subsurface soil samples) obtained from this property; and
  - Lead was not detected at concentrations greater than the background level in any of the surface soil samples.

5.1.2 Subsurface Soil

Arsenic analytical results obtained during the RI investigations combined with the results obtained during prior investigations for subsurface soil samples collected in the Site area are presented on Figures 12 and 13 for the 5- 10 ft and greater than 10 ft depth samples, respectively. Lead analytical results for subsurface soil samples are presented on Figures 14 and 15. Sample results with arsenic or lead concentrations greater than the background levels, 15 mg/Kg for arsenic and 400 mg/Kg for lead are highlighted in red on these figures.

Review of these data results in the following conclusions regarding occurrences of arsenic or lead in subsurface soil at concentrations greater than background (15 mg/Kg for arsenic and 400 mg/Kg for lead):

- CCoD Property (Denver Coliseum):
  - Two (2) of the four (4) soil borings drilled along the south side of the Coliseum barn contained arsenic (17 and 24 mg/Kg) at concentrations greater than the background level;
  - Subsurface soil samples obtained beneath I-70 and beneath the northern portion of the parking lot (boring TH-2, from borings drilled for monitoring wells MW-2 and MW-3 and from soil boring SB- 3-1) contained isolated depth intervals with arsenic concentrations (maximum of 96 mg/Kg) and lead concentrations (maximum of 3600 mg/Kg) greater than the background levels;
  - Subsurface soil samples obtained from the central portion of the parking lot (from borings BH-2 and SB- 4-3) contained arsenic concentrations (up to 48 mg/Kg) greater than the background level throughout the soil column (BH-2) or in discrete (22 - 24 ft bgs) intervals (SB- 4-3) and lead was also found in discrete depth intervals at concentrations (up to 1400 mg/Kg) greater than the background level; and
  - Soil from the 8 - 9 ft bgs depth interval along Arkins Court (boring SB 4-5) contained arsenic (22 mg/Kg) and lead (780 mg/Kg) above the background levels.

- Forney Transportation Museum property:
  - No occurrences of arsenic or lead above background levels were found to be present in subsurface soil on this property.

- Union Pacific/Witulski properties:
  - No subsurface soil samples have been obtained from this property.

- Morales property:
  - The shallow (1.5 to 1.8 ft bgs) subsurface soil sample obtained from boring BH-7 contained arsenic (17 mg/Kg) at a concentration slightly above the background level; and
  - Lead and arsenic were not detected in subsurface soil samples obtained from boring BB-BB-37 along Brighton Boulevard, in front of the Morales property, at concentrations above the background level, (Note: the arsenic results for these samples were non- detect; however, the detection limit [56 mg/Kg] was greater than the background value).

- Rossi property:
  - Based on the results obtained from soil boring SB 2-4, no occurrences of arsenic or lead at levels greater than background were detected in subsurface soil at this property; and
  - Subsurface soil samples obtained from boring BB-BB-35 located along Brighton Boulevard, in front of the Rossi property, also did not contain arsenic or lead at concentrations above the background levels, (Note: arsenic results were non-detect but the detection limits for these samples exceeded the background level).

- Hunt property:
  - Neither arsenic nor lead was detected at concentrations greater than the background levels in subsurface soil samples collected from this property; and
  - Subsurface soil samples obtained from borings BB-BB-33 and BB-BB-34 located along Brighton Boulevard, in front of the Hunt property, did not contain either arsenic or lead at concentrations above the background level, (Note: arsenic results for these samples were non-detect but the detection limits of 70 mg/Kg for these samples exceeded the background level).

- Pepsi Bottling Company property:
  - Both arsenic and lead were detected in subsurface soil at concentrations greater than the background levels in numerous discrete subsurface samples as well as in samples that included composites of soil beginning at the ground surface and extending into the subsurface;
  - As previously noted, many of the samples collected from this property were composites from depth intervals that included both surface soil and underlying soil such as samples from the 0 to 2 ft bgs depth interval or 0 to 10 ft bgs depth interval;
  - The highest arsenic (1,500 mg/Kg) and lead (100,000 mg/Kg) concentrations detected on the Site were obtained from the 14 ft depth in boring BH-3 located in the northern portion of the Pepsi property; and

- As previously noted, the soil sample results obtained from the Pepsi property were collected during installation of subsurface utilities and other work at this property and as such some of the soil may have been removed from the property.

- Globeville Landing Park:
  - Arsenic was not detected at concentrations greater than the background level in any of the subsurface soil samples (or the surface soil samples); and
  - Lead was detected in two (2) shallow (2-3 ft bgs) subsurface soil samples at concentrations greater than the background level and in one deeper sample (19 ft interval in the boring drilled for monitoring well MW-1) at concentrations greater than the background level.

5.1.3 Occurrences of Other Trace Metals in Surface and Subsurface Soil

Based on the results of previous sampling, arsenic and lead were identified as the chemicals of concern for the Site. As a result, sample collection and analyses performed for the RI were focused on arsenic and lead only. Prior sampling had also been performed for cadmium and zinc. Results of the prior sampling for these metals are summarized below.

Cadmium

Cadmium results for surface soil samples collected during the previous investigations are presented on Figure 16. Cadmium results for subsurface samples are presented on Figures 17 and 18.

None of the previously collected soil samples contained cadmium at concentrations greater than the 810 mg/Kg level for commercial (worker) land use established by Colorado Soil Evaluation Values (CSEV) (CDPHE, 2007). Soil samples obtained from the 0 – 5 ft depth interval from boring BH-06 exceeded the CSEV residential use criterion for cadmium of 70 mg/Kg. Soil samples exceeding the residential use criterion were also obtained near or within the Pepsi Bottling plant property at depths greater than 10 ft bgs (Figure 18).

Soil samples obtained at various depths from borings along Brighton Boulevard potentially contain cadmium concentrations in excess of the residential criterion of 70 mg/Kg (Figures 16, 17 and 18). The purported exceedences of the residential use criterion along Brighton Boulevard shown on these figures are due entirely to the high detection limits of the XRF analyses. All of the XRF results for cadmium obtained along Brighton Boulevard were reported as non-detect. The detection limits achieved by the XRF method were either 172 or 207 mg/Kg, both of which exceed the residential use criterion for cadmium. In reviewing the laboratory data (Appendix A), the cadmium

concentrations measured in the laboratory do not exceed the residential use criterion. Thus, the cadmium concentrations denoted in red along Brighton Boulevard, that are based on XRF detection limit data, are not considered to be representative of actual conditions as the laboratory data do not indicate that the residential use criterion were exceeded in the area along Brighton Boulevard.

Zinc

The CSEV residential use criterion for zinc is 23,000 mg/Kg. Based upon a comparison of the zinc results to the CSEV residential use criterion, zinc does not appear to be an element of concern at the Site. The only soil sample that exceeded the residential use criterion was the sample obtained from boring TH-2 located beneath Interstate 70 (Figures 19 - 21). The available information does not specify the depth interval associated with this sample.

5.1.4 Volume of Soil Containing Arsenic and Lead Above Background Levels

The volume of soil containing arsenic and/or lead at concentrations greater than the background level was estimated by depth layers (e.g., 0 to 5 ft, 5 to 10 ft, and greater than 10 ft) for both arsenic and lead. The depth intervals were assigned a thickness of 5ft or in the case of the interval greater than 10 ft, a thickness of 20 ft.

Soil volumes within each layer were estimated using Geographic Information System software through development of Thiessen polygons around each soil sample and soil boring location. Thiessen polygons are polygons whose boundaries define the areas closest to each sample point relative to all other sample points. They are mathematically defined by the perpendicular bisectors of the lines between all points. The Thiessen polygons used for estimation of the soil volumes along with a summary table of the soil volumes associated with each polygon are presented in Appendix E.

In cases where areal samples of surface soil (as opposed to point location samples) had previously been collected, the areal extent of the surface soil samples were also considered. Areas associated with these samples are shown using a separate color on the figures in Appendix E. For areal surface soil samples that were above background and were located outside of Thiessen polygons containing point samples with arsenic or lead concentrations above background, the areas of these samples were treated separately. For area samples that were included in or cut across Thiessen polygons, the Thiessen polygons were split by the areal surface sample areas and the remaining pieces of the polygons were merged back into one polygon to avoid double counting volumes.

The estimated volumes of soil containing arsenic at concentrations greater than background (15 mg/Kg) were as follows (Appendix E):

Depth Interval (ft)	Soil Volume (cubic yards)
0 – 5	175,235
5 – 10	96,373
10 - 20	116,104
Total Volume	387,712

The estimated volumes of soil containing lead at concentrations greater than background (400 mg/Kg) were as follows (Appendix E):

Depth Interval (ft)	Soil Volume (cubic yards)
0 – 5	131,116
5 – 10	40,793
10 - 20	86,990
Total Volume	258,899

To arrive at the total volume of soil containing arsenic or lead at concentrations greater than background, the extent of the arsenic polygons was compared to the extent of the lead polygons for each depth interval (Appendix E). Overall, most of the areas containing lead at concentrations above background are coincident with areas containing arsenic at concentrations above background although there are some areas that only contain lead above background. Areas that contain lead above background that were not coincident with the areas containing arsenic above background were identified in each soil layer. The volume of soil containing lead but not arsenic above background levels was estimated to be 22,281 cubic yards. The total volume of soil containing lead but not arsenic above background levels was then added to the total volume of soil containing arsenic above background. The net result is an overall total volume of soil above background for both arsenic or lead of approximately 410,000 cubic yards.

5.2 Groundwater

Groundwater samples were collected from the five monitoring wells located within or near the Site, from the four (4) cooling water supply wells at the Denver Coliseum, and from open boreholes drilled as part of the Brighton Boulevard Brownfield investigation (URS, 2004). Analytical results for these samples are summarized in Appendix F-1.

Figures 22 through 26 are plots of concentrations of arsenic, lead, cadmium, copper and zinc, respectively, as measured in the five (5) groundwater monitoring wells located within and near the Site. Groundwater analyses are also posted for samples collected from temporary monitoring wells that were installed by Walsh Consultants under contract to the Colorado Department of Transportation and samples collected from the four (4) cooling wells that are located around the Denver Coliseum. The analyses from the samples collected from the open soil borings located along Brighton Boulevard were not plotted because they were one-time samples collected from open (uncased) boreholes. The "total" analyses for water samples collected from open boreholes are generally not indicative of in-situ conditions due to the turbid nature of the samples resulting in the presence of extensive amounts of suspended sediment in the water samples.

The presumed direction of groundwater flow is from southeast to northwest with groundwater discharging to the South Platte River. The five (5) permanent groundwater monitoring wells (MW-1 through MW-3, MW-5 and MW-6) have not been surveyed; however, Walsh Consultants did survey several of their temporary wells and calculated that the groundwater flow direction is towards the northwest.

Based on the presumed groundwater flow direction towards the northwest, monitoring wells MW-5 and MW-6 are upgradient of the Site and the remaining wells are downgradient. The only constituent that exceeds its respective federal and state drinking water standard is arsenic as measured in monitoring well MW-2. Both the dissolved and total arsenic concentrations in samples from this well exceeded the federal and state drinking-water standard of 0.010 mg/Kg. The first dissolved water sample from well MW-3 exceeded the federal and state drinking water standard for arsenic, but results of subsequent sampling events indicated that the dissolved arsenic concentrations in this monitoring well were all below the drinking water standard.

Arsenic in groundwater does not appear to be a widespread issue as evidenced by its presence at elevated concentrations in only one well (MW-2). The water samples from the Coliseum cooling wells indicate that arsenic and the other trace metals do not exceed federal or state drinking water standards in water samples obtained from these wells. Data from these wells are more representative of groundwater conditions because they reflect water obtained from a properly developed water-supply well that integrates water from a larger portion of the aquifer rather than what is likely a more turbid (higher level of suspended sediment) sample obtained from a groundwater monitoring well (MW-2) that was never properly developed. Additional soil borings were drilled and soil samples collected in the vicinity of well MW-2; however, highly elevated levels of arsenic, indicative of a possible localized area of higher concentrations of arsenic in soil (e.g., a "hot spot") were not found in these borings. Consequently, the higher levels of arsenic detected in well MW-2 appear to be an anomaly. None of the other monitoring wells detected the presence of elevated levels of arsenic in groundwater and elevated levels of arsenic were not detected in any of the surface water samples obtained from the nearby South Platte River. As discussed above, the higher arsenic levels detected in well MW-2

appear to be the result of the lack of proper development of this well at the time it was installed.

5.3 Surface Water

Prior sampling included two (2) sampling locations for surface water and sediment along the South Platte River. One location (N43) is upstream of the Site and the other (N46) is downstream of the Site (Figure 7). Analytical results for the surface water samples collected during the prior investigations are presented in Appendix F-2. Results of the surface water sample analyses were evaluated by comparing trace metal results obtained from samples collected upstream (N43) and downstream (N46) of the Site rather than against health-based or regulatory criteria. Surface water data collected at these two locations also indicate no significant differences in concentrations of trace metals upstream and downstream of the Site.

5.4 Sediment

Sediment samples were obtained from the South Platte River during prior investigations. Samples were collected upstream (N43) and downstream (N46) of the Site (Figure 7). A summary of the analytical laboratory results for these samples is presented in Appendix F-3.

Results of the sediment sample analyses were evaluated by comparing trace metal results obtained from samples collected upstream (N43) and downstream (N46) of the Site rather than against health-based or regulatory criteria. A review of the sediment data collected at these two locations indicates no significant difference between the concentrations upstream versus downstream. In summary, the data indicate that the Site is not impacting the concentrations of trace metals (arsenic, lead, cadmium, zinc) in sediments in the South Platte River.

5.5 Landfill Material

As previously discussed, prior to construction of the Denver Coliseum, the area of the Denver Coliseum parking lots was used as a landfill for disposal of municipal solid wastes. Characterization of the nature and extent of the buried solid wastes along with assessment of chemical migration, if any, from the solid wastes was determined to be a data need for the RI.

5.5.1 Nature, Occurrence and Volume of Landfilled Wastes

Soil borings located within the areas of known or suspected solid waste occurrences were drilled below the 10 ft target depth for the arsenic and lead characterization to determine if solid wastes were present in these areas. Where solid wastes were encountered, the soil borings extended at least through the base of the solid waste materials. If solid wastes were not encountered, soil borings in these areas were extended to bedrock or auger refusal.

Subsurface material encountered in the soil borings typically consisted of alluvial soils without evidence of disturbance; alluvial soils mixed with brick fragments and/or fly ash; and/or alluvial soils mixed with brick fragments, fly ash, woody debris, and municipal solid waste. For delineation purposes, the latter mixture was identified as "landfill" material. Landfill materials were identified as being present beneath EU-3 and EU-4 in the area of the Denver Coliseum parking lot. Subsurface material encountered in EU 2 was predominantly undisturbed alluvial soils, or in the case of boring SB-2-3, located in the eastern half of the Forney Museum property, brick and mortar down to 17.5 ft, underlain by silty gravel.

The areal extent of "landfill" material beneath EU-3 and -4 is illustrated on Figure 27. The extent of landfill material is inferred based on subsurface data collected during drilling, on the undulating surface topography of the parking lot and perimeter roads surrounding the parking lot, and on land topography immediately south and east of the CCoD property. Specifically, the northern, northeastern, and western boundaries were based on an absence of landfill material encountered in these areas, and on relatively uniform surface topography observed outside of the inferred boundary of the extent of landfill material occurrences in these areas. The southern and eastern boundaries were established based on the southern and eastern limits of the undulating surface of the CCoD property where the land surface meets the toe of the Pepsi Bottling Company parking lot embankment. The northwestern extension of this intersection completes the boundary to Arkins Court.

The thickness of the "landfill" material beneath EU- 3 and -4 is also illustrated on Figure 20. It is based on the thickness of the "landfill" material encountered during drilling, and on the inferred perimeter discussed above. Measured landfill thicknesses ranged from 2 to 16 ft and were encountered down to a maximum depth of 22 ft bgs in boring SB-4-3. Landfill thickness isopleths were then interpolated using a kriging model.

The surface area and thicknesses were then combined using AutoCad Civil 3D to compute the total volume of "landfill" material. This approach resulted in a total volume of approximately 198,000 cubic yards of landfill wastes beneath the Site.

5.5.2 Chemical Occurrences in Landfill Wastes

Samples of soil material contained within the landfill wastes or present immediately beneath landfill wastes were collected and submitted for laboratory analyses. Samples of soil located within or below landfill materials that were collected during the RI included the following six samples:

- SB- 3-2 from the 4 to 9 ft depth interval
- SB- 3-4 from the 14 to 15 ft depth interval
- SB- 3-5 from the 10 to 15 ft depth interval
- SB- 4-2 from the 12 to 14 ft depth interval
- SB- 4-3 from the 22 to24 ft depth interval
- SB- 4-4 from the 23 to 24.5 ft depth interval

These samples were analyzed for VOCs, PAHs, and the eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver).

Results of the laboratory analyses indicated most of the samples were non-detect for organic compounds. There were some limited, low concentration detections of common laboratory contaminants such as acetone, 2-butanone, methylene chloride and other compounds found to be present in the laboratory blanks that were also reported in several of the samples. Other than arsenic and lead, trace metals were detected only at low levels (less than the CSEV criteria for either residential use or worker exposures) in these samples.

Three of the samples contained organic chemicals beyond the common laboratory contaminants or other compounds detected in the laboratory blank samples. Pyrene was reported to be present at an estimated concentration of 27 ug/Kg in the sample obtained from the 22 to 24 ft depth interval bgs from boring SB 4-3. Pyrene was also detected, along with a low levels of 1,2,4-trimethyl benzene (1.1 J ug/Kg [results qualified with a "J" qualifier represent estimated concentrations]) and tetrachloroethene (0.89 J ug/Kg) in the 10 to 15 depth interval bgs sample obtained from boring SB 3-5. The largest number of chemical occurrences and the highest concentrations detected in all of the samples were found in the 12 to 14 ft depth interval bgs sample obtained from boring SB 4-2. This sample contained numerous hydrocarbon-related compounds including the following:

- 1,2,4-Trichlorobenzene 84 J ug/Kg
- 1,2,4-Trimethylbenzene 6,400 ug/Kg
- 1,3,5-Trimethylbenzene 2,800 ug/Kg
- 2-Methylnaphthalene 680 ug/Kg
- 4-Isopropyltoluene 1,000 ug/Kg
- Ethyl benzene 230 J ug/Kg
- Isopropylbenzene 280 J ug/Kg

- m & p Xylenes 600 ug/Kg
- Naphthalene 770 ug/Kg
- n-Butylbenzene 1,200 ug/Kg
- n-Propylbenzene 680 ug/Kg
- o-Xylene 560 ug/Kg
- sec-Butylbenzene 1,100 ug/Kg
- tert-Butylbenzene 94 J ug/Kg

This sample also contained the following PAHs:

- Fluoranthene 300 J ug/Kg
- Fluorene 250 J ug/Kg
- Phenanthrene 440 J ug/Kg
- Pyrene 280 J ug/Kg

Samples of soil obtained within or below landfill materials were also analyzed for the eight RCRA metals. Concentrations of these metals in the soil samples obtained from within or below the landfill materials were all less than the CSEV residential land use criteria or in the case of arsenic, the background level of 15 mg/Kg.

The results of the arsenic and lead analyses obtained from soil samples collected within or below landfill materials were also considered as part of the discussion of the distribution of arsenic and lead occurrences in subsurface soils presented previously in Section 5.1.2 of this report.

5.6 Contaminant Fate and Transport

Surface and shallow subsurface soil containing arsenic and lead could be subject to erosion and subsequent transport as windblown material or as suspended phase material in stormwater. As the majority of the site is covered with buildings or pavement, these processes are not considered to be significant for OU-2.

Arsenic and lead occurrence in soil are subject to potential leaching. Precipitation at the ground surface results in soil moisture that can evaporate, be transpired by vegetation back to the atmosphere, or, in response to further addition of moisture from subsequent precipitation events, move vertically downward through the soil column. As soil moisture moves downward it has the ability to pick up (leach) chemicals present in the soil and transport those chemicals further downward in the soil column or potentially down to the underlying groundwater. The leaching potential of arsenic and lead is a function of the amount of soil moisture and magnitude of the soil moisture flux, the oxidation-reduction conditions of the soil moisture, and the presence of organic acids or other agents that could act to increase the mobility of these trace metals. Leaching potential may be offset by the sorption potential of the underlying soil which will tend to

restrict soil moisture transport and also act to remove the trace metals from the soil moisture.

As the vast majority of OU-2 is capped with buildings, asphalt or concrete and is subject to stormwater diversion and control, infiltration of precipitation into the underlying soil is extremely limited. Consequently, the amount of water being added to the soil moisture over time is small and therefore, the soil moisture flux is anticipated to be small. As a result, leaching is not expected to be a significant process over most of the site. Leaching could be more significant in areas where pavement is not present or where the overlying pavement is depressed, fractured, disintegrated, or otherwise would act to focus stormwater into areas where it could potentially drain into the underlying soil. Visual inspection of the site did not indicate any significant areas where these conditions currently exist. The presence of the landfill materials could enhance the solubility of the trace metals through contribution of organic acids to the soil moisture or through presence of anaerobic bacteria which could result in reducing conditions that could increase trace metal mobility. Monitoring conducted during the drilling of the soil borings did not detect the presence of methane indicative of anaerobic conditions in the landfill. Overall, leaching is not expected to be a significant process for chemical transport at the site. The lack of significant leaching is supported by the overall lack of elevated occurrences of arsenic or lead in the groundwater samples.

The hydrocarbon compounds found in the landfill materials are also subject the leaching and sorption processes described above. In addition, these compounds are also subject to one degree or another to volatilization and microbial degradation. Volatilization is the process where chemicals dissolved in soil moisture or groundwater migrate into the soil vapor phase. Microbial degradation is a process where soil microbes degrade organic compounds. The presence of the landfill materials could act to increase anaerobic microbial degradation. Field measurements made during drilling of the soil borings did not detect the presence of significant amounts of volatile organic compounds in the soil vapor or the presence of methane indicative of anaerobic degradation. The lack of significant methane likely is a result of the overall age of the landfill materials and the lack of soil moisture necessary for methane generation.

The overall fate of the arsenic, lead and organic chemical occurrences in OU-2 is to remain sorbed onto the soil beneath the site. Due the presence of buildings and pavement that prevent erosion and subsequent windblown or stormwater transport and that greatly limit the amount of soil moisture, significant transport and migration of the arsenic, lead, and organic chemical occurrences from the soil is not expected to occur.

6 SUMMARY OF BASELINE RISK ASSESSMENT

A Baseline Human Health Risk Assessment (HHRA) and a Screening-Level Ecological Risk Assessment (SLERA) for OU-2 were prepared by EPA with technical assistance from SRC, Inc. (EPA, 2009a and 2009b). The following sections provide brief summaries of the results of these risk assessments.

6.1 Baseline Human Health Risk Assessment

The Baseline Human Health Risk Assessment (EPA, 2009a) identified incidental ingestion of surface and subsurface soil, surface water, or sediment by current or future on-site commercial works, construction workers, or recreational visitors or by future residents to be the primary exposure pathways of potential concern. Four different exposure areas were identified for future residents (Figure 8) and two different exposure pathways were identified for current or future commercial and construction workers (Figure 28). Potential exposures by recreation visitors were limited to exposure to surface water and sediment along the South Platte River.

The following chemicals of potential concern were identified and evaluated by the risk assessment:

Chemical	Soil	Sediment	Surface Water
Antimony	X		
Arsenic	X	X	X
Cadmium	X	X	X
Cobalt	X		
Copper	X	X	X
Iron	X		
Lead	X	X	X
Manganese	X		
Silver	X		
Thallium	X		
Vanadium	X		
Zinc	X	X	X

Both potential risks from cancer and non-cancer health effects from possible exposures to these chemicals were quantitatively evaluated in the risk assessment. Exposures to lead were also evaluated relative to the probability that exposure could result in a blood lead value of concern to a fetus (blood lead level greater than 10ug/dl)

Based on the evaluations conducted for the risk assessment, exposure to lead from incidental ingestion of soil by a current or future pregnant commercial or construction worker is of potential concern in commercial exposure unit C2 (generally the Pepsi property and other commercial properties along Brighton Boulevard). Exposure to lead through incidental ingestion of soil by a current or future pregnant construction work is also a potential concern for residential exposure unit R2 (generally the commercial properties along the northern portion of Brighton Boulevard).

Ingestion of surface soil containing arsenic, manganese, and thallium was identified as a potential concern for future residents. Exposure to lead in soil was identified as a potential concern for a future child resident in residential exposure units R1, R2, and R3.

The results of the risk assessment indicated that there is little risk to recreation visitors who may have contact with surface water or sediment along the South Platte River.

6.2 Screening-Level Ecological Risk Assessment

The SLERA qualitatively evaluated potential exposures of terrestrial plants to trace metals in surface and subsurface soil and aquatic receptors (fish, benthic macro invertebrates, and amphibians) to trace metals in surface water and sediment along the South Platte River. These evaluations were performed by comparing the trace metal concentrations at the site to benchmark values that are believed to be without significant risk of unacceptable adverse effects.

Because the concentrations of metals in soil vary from location to location, and because plants are not mobile, each soil sample was evaluated as an individual exposure point. The detected concentrations (or in the case of non-detect results one-half the detection limit) of metals at each sample location were compared to benchmark values. EPA Ecological Soil Screening Levels (EPA, 2003) and lowest observed effect concentrations determined by Oak Ridge National Laboratory (Efroymson et al. 1997) were used as benchmark levels for terrestrial plants. Average soil concentrations measured by the U.S. Geological Survey (Shacklette, and Boerngen, 1984) in Colorado counties near the site (Arapahoe, Douglas, and Jefferson) were used to represent state background. These values were also compared to the benchmark values as it is considered likely that if the hazard quotients for the state background levels exceed the benchmark values, the benchmark values may be overly conservative since risks to plants are not expected in background soils.

These evaluations indicate that levels of arsenic and lead, and perhaps a few other metals in soils from areas within the former smelter area and known slag deposits may be within range of potential phytotoxicity in some locations. There are few locations where concentrations of arsenic and lead in surface soil could currently be phytotoxic to plants. Most of the locations that are of potential concern are in subsurface soils. Therefore, the

predicted risks are not currently of concern, but could be of concern if soils became exposed and subsurface materials were brought to the surface.

For surface water and sediment, the 95% upper confidence limit values calculated from the site data were compared to EPA's National Ambient Water Quality Criteria (EPA, 2002b). The levels of metals detected in surface water at both the upstream (reference) and downstream sampling locations along the South Platte River were less than the benchmark values. This indicates that any impacts of groundwater discharging from the site to the South Platte River are not of ecological concern. With the exception of lead in the upstream sample location, the levels of metals detected in sediment at both the upstream (reference) and downstream sampling locations along the South Platte River wee less than the benchmark values. This indicates that any impacts of groundwater discharging from the site and potentially impacting sediment in the South Platte River are not of ecological concern to benthic organisms in sediment.

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Tables

Table 1. Summary of Investigations with Soil or Groundwater Data Collected at or in the Vicinity of the Former Omaha-Grant Smelter Facility (OU2)

Investigation	Medium	Sample Location	Analyses	Findings
Preliminary Assessment (PA), Omaha and Grant Smelter Site, Denver County, Colorado (CDH, 1992)	NA	Environmental media were not sampled in this study.	NA	NA
CDOT Studies (Walsh, 1996, 1997)	Soil	Soil samples were collected from boreholes that are located on and north of OU-2. Samples were collected from a variety of depths.	Soil samples were analyzed for metals and other constituents.	The metal analyses are highly variable.
CDOT Studies (Walsh, 1996, 1997)	Groundwater	Groundwater samples were collected from temporary wells that were located north and on the OU-2 site.	Water samples were analyzed for metals and other constituents.	Samples were analyzed for total metals and concentrations for arsenic exceed relevant standards; however, turbidity may be an issue.

Table 1. Summary of Investigations with Soil or Groundwater Data Collected at or in the Vicinity of the Former Omaha-Grant Smelter Facility (OU2) (cont.)

Investigation	Medium	Sample Location	Analyses	Findings
CCoD Groundwater Sampling of Coliseum Cooling Water Wells	Groundwater	Groundwater samples were collected from four shallow water supply wells that provide cooling water for the Denver Coliseum	Water samples were analyzed for total and dissolved metals	All of the samples contained metals concentrations below drinking water standards
Remedial Investigation Report. Vasquez Boulevard/I-70 Superfund Site (OU1) (WGI, 2001)	Soil	Composited surface soil (0-2 inches) samples from 2986 properties (residences, schools, parks). A total of 3 composite samples were collected per property. Samples collected from areas south and southeast of former ARGO Smelter Site.	As, Pb	Surface soils impacted by lead and arsenic contamination, some locations at concentrations requiring remedial action.
Pepsi Bottler (Fall 2001 and March 2002)	Soil	Composite surface and subsurface soil samples were collected as part of foundation and utility line installations associated with an expansion of the facility	As, Pb	The various samples showed a wide range of arsenic and lead concentrations.
Globeville Landing Park Soil Sampling (CH2MHill, 2002a)	Soil	Surface and subsurface soil samples were collected to evaluated potential health risks associated with possible exposures to workers conducting various maintenance activities at the park.	As, Pb	Sample results were used to obtain a No Further Action letter from USEPA.

Table 1. Summary of Investigations with Soil or Groundwater Data Collected at or in the Vicinity of the Former Omaha-Grant Smelter Facility (OU2) (cont.)

Investigation	Medium	Sample Location	Analyses	Findings
Denver Coliseum Barn Soil Excavations and Stockpile Summary Report, Denver, Colorado, (CH2MHill, Feb. 2004)	Soil	Total Metals: 6 composite samples and 1 grab samples from excavations within the Coliseum barn and 1-5-point composite sample from soil stockpile TCLP: 1 composite sample from two excavations within the Coliseum barn and 1 5-point composite sample from soil stockpile	RCRA Metals: As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu	Slag, darker colored soil, and bricks beneath compacted fill material were attributed to materials associated with the former Omaha-Grant Smelter facility.
Brighton Boulevard Targeted Brownfields Investigation (URS, 2004)	Soil	75 laboratory soil samples were collected from 75 locations from continuous cores to groundwater or refusal obtained by either geoprobe (60 samples) or auger rig (15 samples). None of the sample locations are located within the boundaries of the former Omaha and Grant smelter facility. Most of the laboratory samples were collected over the 0- to 4-foot depth interval. In addition, a soil sample for XRF metal analysis was collected from each boring interval at all boring locations. Laboratory soil samples were analyzed for VOCs, semivolatile organic compounds (SVOCs), and total Target Analyte List (TAL) metals by EPA Contract Laboratories (CLPs)	VOCs, SVOCs, TAL metals and TEPH for three samples	Numerous inorganic and organic analytes were detected above Region III criteria in soil. It was noted that there are numerous potential sources for contamination within and around the Brighton Boulevard Site. No attempt was made to attribute contamination to sources due to the numerous potential sources.
	Groundwater	Inorganic groundwater constituents and the number or occurrences exceeding the drinking water RBCs include arsenic (56), vanadium (48), manganese (47), iron (43), aluminum (26), and thallium (13). None of the sample locations are located within the boundaries of OU-2; however, some of the samples were obtained along Brighton Boulevard adjacent to OU-2..	VOCs, SVOCs, TAL metals and TEPH for three samples	Numerous inorganic and organic analytes were detected above Region III criteria in groundwater. It was noted that there are numerous potential sources for contamination within and around the Brighton Boulevard Site. No attempt was made to attribute contamination to sources due to the numerous potential sources. The groundwater samples were collected from temporary wells in boreholes and turbidity was an issue in the samples. The analyses are not considered to be reflective of groundwater conditions.

Table 1. Summary of Investigations with Soil or Groundwater Data Collected at or in the Vicinity of the Former Omaha-Grant Smelter Facility (OU2) (cont.)

Investigation	Medium	Sample Location	Analyses	Findings
CCOD (2005)	Surface Water and Sediment	Surface water and sediment samples were collected from two locations: one upstream and the other downstream of OU-2. Samples were collected quarterly for 2 years.	Metals	There is no impact to surface water or sediments from the site. Concentrations are statistically the same up and downstream of the site.
CCOD (2005)	Groundwater	Groundwater samples were collected quarterly for 2 years from 5 groundwater wells. Two wells are located upgradient of OU-2 and 3 wells are on the downgradient edge of OU-2.	Metals	Concentrations of As exceed the applicable MCL in samples from monitoring well MW-02. All other analyses are below their respective MCLs.

NA – Not applicable

BTEX = Benzene, Toluene, Ethylene and Xylenes
PCBs = Polychlorinated Biphenyls
RCRA = Resource Conservation and Recovery Act
TPH = Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Chemicals
TAL = Target Analyte List
TEPH = Total Extractable Petroleum Hydrocarbons
SVOCs = Semi-Volatile Organic Compounds
Ag = Silver
As = Arsenic
Ba = Barium
Cd = Cadmium
Cr = Chromium
Cu = Copper
Hg = Mercury
Pb = Lead
Se = Selenium
Zn = Zinc

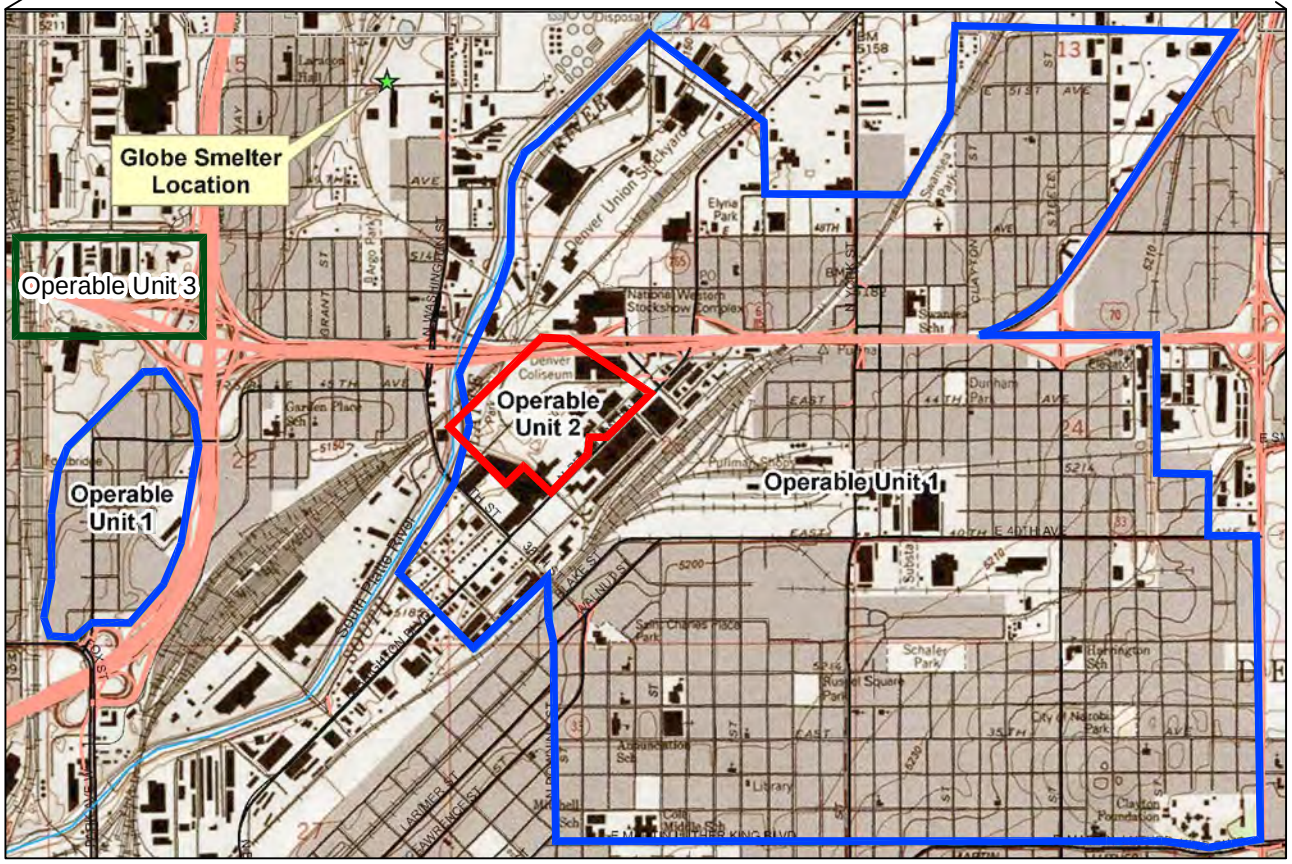
Table 2 – Summary of RI Soil Sample Information

Borehole ID	Depth Interval (ft bgs)	Sample ID	Collection Date	Analysis
SB-2-1	0.5 – 2	SB-2-1-SS	12/18/08	As and Pb
	2 – 4	SB-2-1-2-4	12/18/08	As and Pb
	4 – 9	SB-2-1-4-9	12/18/08	As and Pb
	4 – 9	SB-12-1-4-9 (dup)	12/18/08	As and Pb
SB-2-2	0.5 – 2	SB-2-2-SS	12/18/08	As and Pb
	2 – 4	SB-2-2-2-4	12/18/08	As and Pb
	4- 9	SB-2-2-4-9	12/18/08	As and Pb
SB-2-3	2 – 4	SB-2-3-SS	12/18/08	As and Pb
	18 – 19	SB-2-3-18-19	12/18/08	As and Pb
	20 – 20.5	SB-2-3-20-20.5	12/18/08	As and Pb
SB-2-4	0.5 – 2	SB-2-4-SS	12/18/08	As and Pb
	4 – 5	SB-2-4-4-5	12/18/08	As and Pb
	14 – 15	SB-2-4-14-15	12/18/08	As and Pb
SS-3-1	1 – 2	SS-3-1-SS	12/17/08	As and Pb
SS-3-2	1 – 2	SS-3-2-SS	12/17/08	As and Pb
SB-3-1	3 – 4	SB-3-1-SS	12/17/08	As and Pb
	4-9	SB-3-1-4-9	12/17/08	As and Pb
	14 – 15	SB-3-1-14-15	12/17/08	As and Pb
SB-3-2	2 – 3	SB-3-2-2-3	12/17/08	As and Pb
(offset)	4 – 9	SB-3-2-4-9	12/17/08	As,Pb,VOCs,SVOCs,RCRA metals
	14 -15	SB-3-2-14-15	12/17/08	As and Pb
SB-3-3	1 -2	SB-3-3-SS	12/17/08	As and Pb
	4 – 9	SB-3-3-4-9	12/17/08	As and Pb
	14 -15	SB-3-3-14-15	12/17/08	As and Pb
SB-3-4	1 – 2	SB-3-4-SS	12/17/08	As and Pb
	2 – 4	SB-3-4-2-4	12/17/08	As and Pb
	14 -15	SB-3-4-14-15	12/17/08	As,Pb,VOCs,SVOCs,RCRA metals
SB-3-5	2 – 4	SB-3-5-SS	12/18/08	As and Pb
	6 – 8	SB-3-5-6-8	12/18/08	As and Pb
	10 – 15	SB-3-5-10-15	12/18/08	VOCs,SVOCs,RCRA metals
	14 – 15	SB-3-5-14-15	12/18/08	As and Pb
SB-4-1	0.5 – 2	SB-4-1-SS	12/18/08	As and Pb
	2 – 4	SB-4-1-2-4	12/18/08	As and Pb
	12 – 14	SB-4-1-12-14	12/18/08	As and Pb
	12 – 14	SB-14-1-12-14 (dup)	12/18/08	As and Pb
SB-4-2	0.5 – 2	SB-4-2-SS	12/18/08	As and Pb
	0.5 – 2	SB-14-2-SS (dup)	12/18/08	As and Pb
	2 – 4	SB-4-2-2-4	12/18/08	As and Pb
	8 – 9	SB-4-2-8-9	12/18/08	As and Pb
	12 – 14	SB-4-2-12-14	12/18/08	As,Pb,VOCs,SVOCs,RCRA metals
SB-4-3	0.5 -2	SB-4-3-SS	12/17/08	As and Pb
	2 – 4	SB-4-3-2-4	12/17/08	As and Pb
	4 – 9	SB-4-3-4-9	12/17/08	As and Pb
	22 – 24	SB-4-3-22-24	12/17/08	As,Pb,VOCs,SVOCs,RCRA metals
SB-4-4	0.5 – 2	SB-4-4-SS	12/17/08	As and Pb
	2 – 4	SB-4-4-2-4	12/17/08	As and Pb
	23 – 24.5	SB-4-4-23-24.5	12/17/08	As,Pb,VOCs,SVOCs,RCRA metals
SB-4-5	0.5 – 2	SB-4-5-SS	12/18/08	As and Pb
	2 – 4	SB-4-5-2-4	12/18/08	As and Pb
	8 – 9	SB-4-5-8-9	12/18/08	As and Pb

Table 3 – Landfill and Fill Material Occurrences and Thicknesses

Borehole ID	Total Depth Drilled (feet bgs)	Landfill / Fill Material Interval (feet bgs)	Landfill / Fill Material Thickness (feet)	Material Type
SB-2-1	15.5	0	0	
SB-2-2	14.0	0	0	
SB-2-3	20.5	1.0–17.5	16.5	Construction fill only
SB-2-4	15.5	3.0-3.5	0.5	Construction fill only
SS-3-1	2.0	0	0	
SS-3-2	2.0	0	0	
SB-3-1	15.0	3.5-4.0	0.5	Solid wastes
SB-3-2 (offset)	19.0	6.5-17.0	10.5	Solid wastes
SB-3-3	15.0	0	0	
SB-3-4	15.5	5.0-14.0	9.0	Solid wastes
SB-3-5	15.5	0	0	
SB-4-1	14.0	0	0	
SB-4-2	14.0	9.0-11.0	2.0	Solid wastes
SB-4-3	25.0	9.0-22.0	13.0	Solid wastes
SB-4-4	24.5	4.0-20.0	16.0	Solid wastes
SB-4-5	15.5	7.0-12.3	5.3	Solid wastes

Figures



N

2500 0 2500

SCALE IN FEET

Figure 1

Location Map

VB/I-70 OU2 Remedial Investigation

EMSI Engineering Management Support, Inc.

M:\clients\EMSI\VB-I70\autocad\Location Map.dwg plotted: 10/21/2009

Legend

- BOTTLING GROUP LLC
- CITY & COUNTY OF DENVER
- FORNEY MUSEUM
- HUNT,BRUCE R & DOLORES A
- MINERAL MASTER
- MORALES,LUIS FELIPE
- ROSSI,ANTOINETTE
- UNION PACIFIC RR CO
- WITULSKI,ROGER D & MARY E
- OU2 Boundary

N

0 200 400

Feet

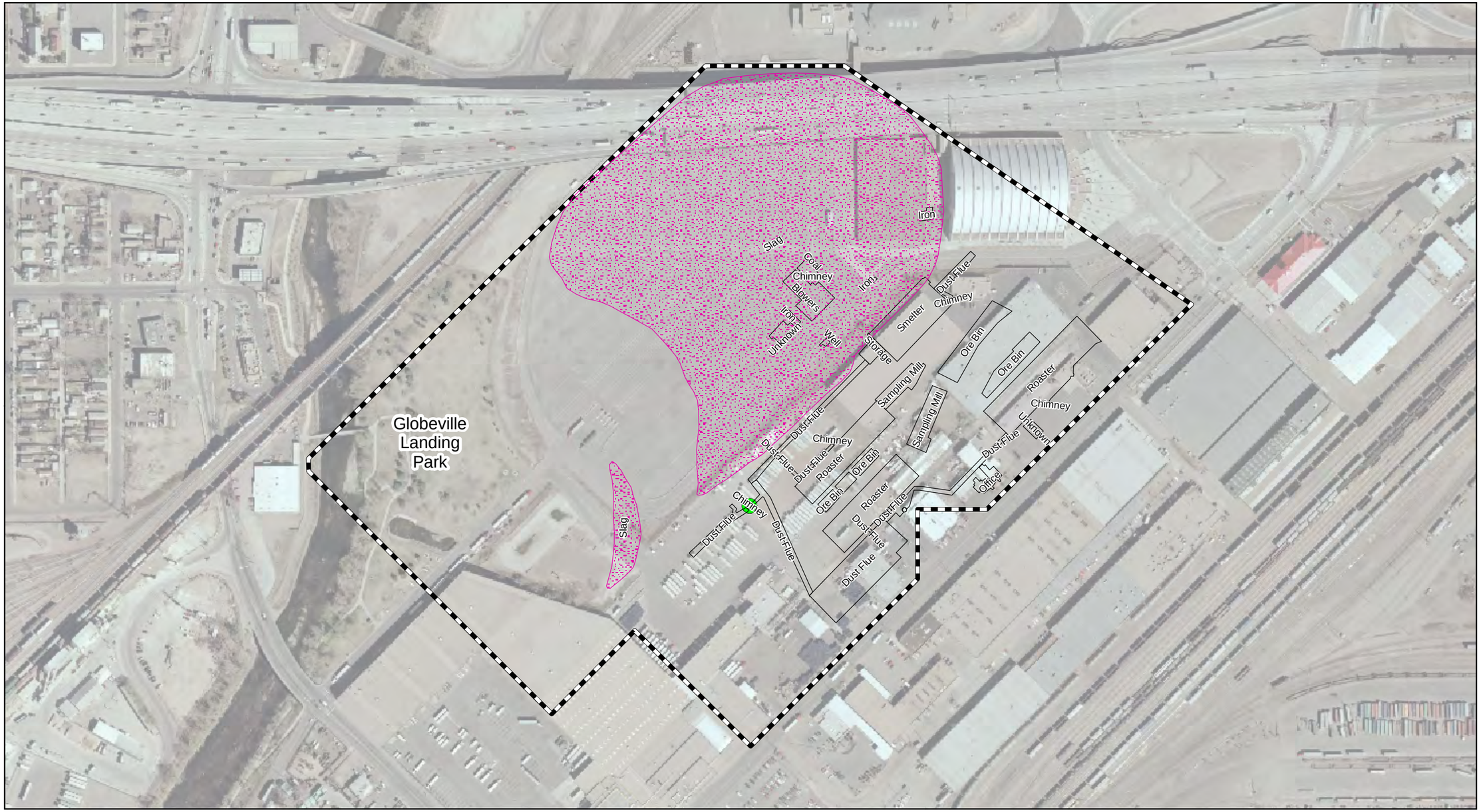
1 inch = 400 feet

Figure 3

OU-2 Site Ownership

VB/I-70 OU-2 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Stack Location
- Building Locations
- Slag
- OU2 Boundary

0 150 300 600
Feet

1 inch = 300 feet

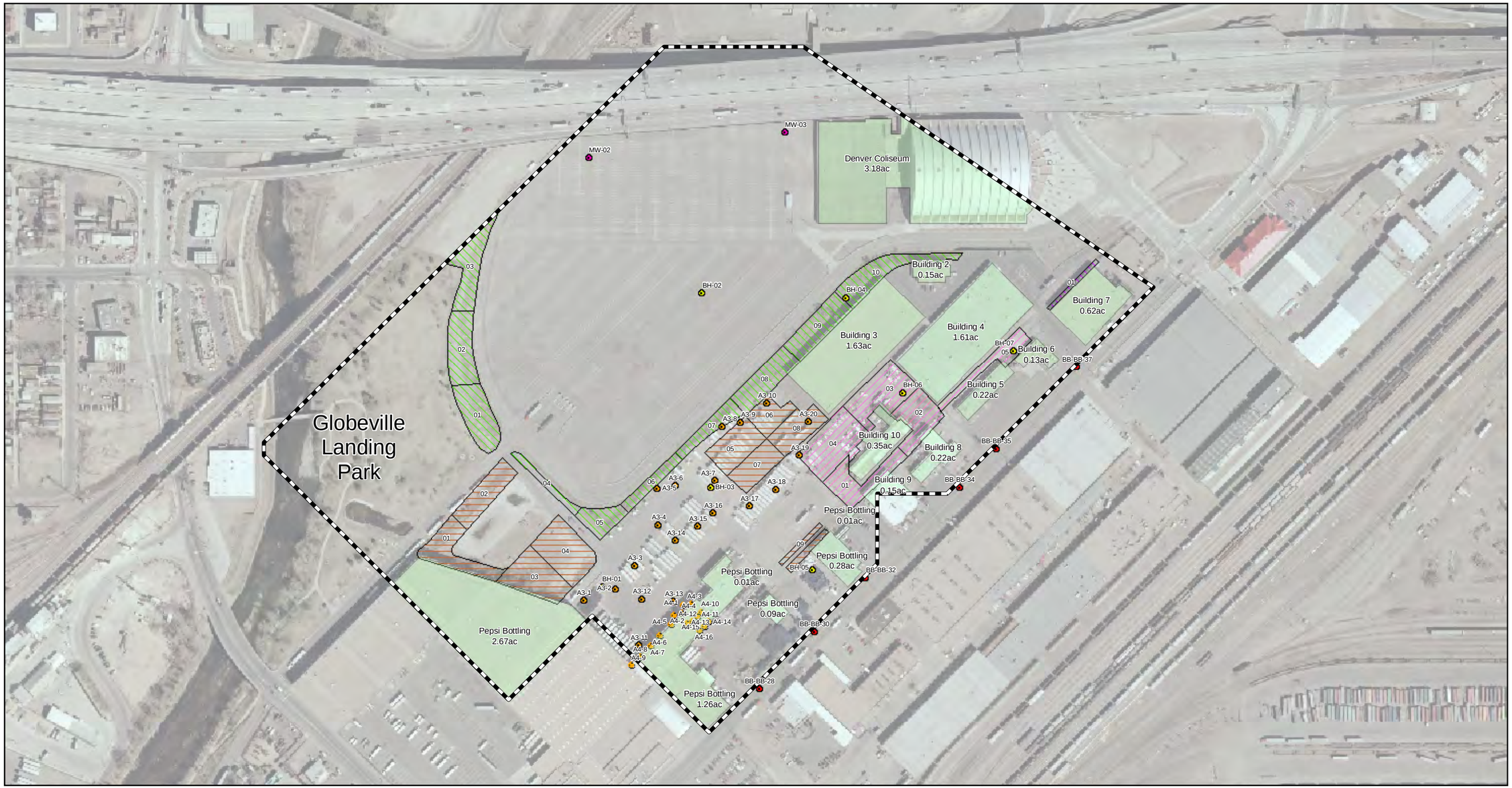
N

Figure 4

Historical Smelter Facilities - 1903

VB/I-70 OU-2 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- BB-BB-xx Holes
- CDOT Holes
- MW Holes
- Barn Samples
- BH Soil Samples
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 4 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi Area 7 Soil Locations
- Pepsi UT (Utility Trenches) Soil Locations
- 3801 Brighton Blvd
- 4201 Brighton Blvd
- 4301 Brighton Blvd
- 4375 Brighton Blvd
- 4600 Brighton Blvd
- OU2 Boundary

0 150 300 600
Feet

1 inch = 300 feet

N

Figure 5

Location of Historical Soil Samples

VB/I-70 OU-2 Remedial Investigation

EMSI Engineering Support Management, Inc.

Legend

Monitoring Well Location

OU2 Boundary

N

0 100 200 400

Feet

1 inch = 400 feet

Figure 6

Existing Groundwater Monitoring Well Locations

VB/I-70 OU-2 Remedial Investigation

EMSI Engineering Support Management, Inc.

Legend

- Surface Water and Sediment Sample Locations
- OU2 Boundary

N

0 150 300 600

Feet

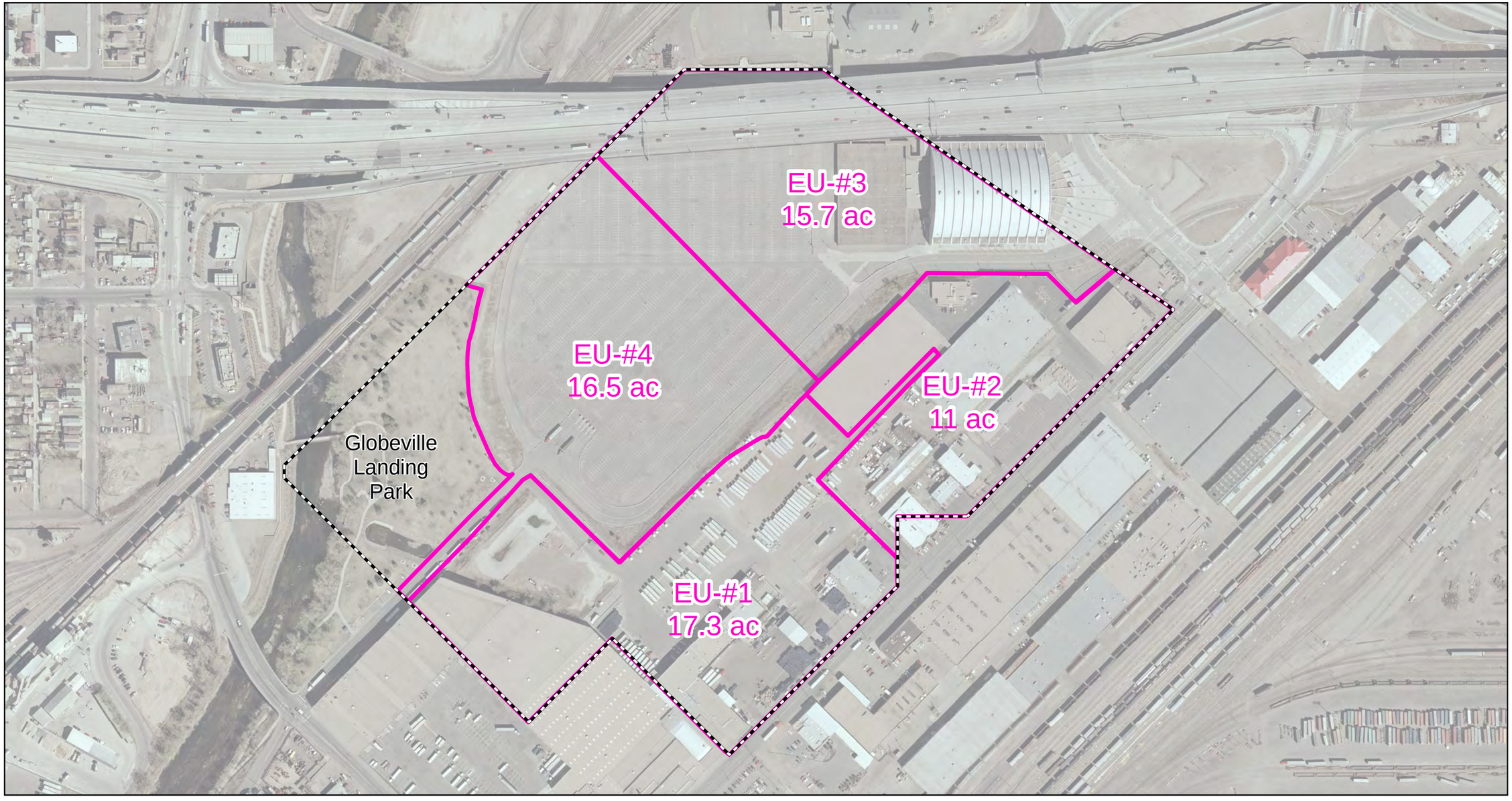
1 inch = 300 feet

Figure 7

Historical Surface Water and Sediment Sampling Locations

VB/I-70 OU-2 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

Exposure Unit Boundary

OU2 Boundary

OU-#2 - Total Area = 67.4 ac

	Total Area	Total Area of Buildings	Total Open Area
EU-#1 --	17.3 ac	4.3 ac	13.0 ac
EU-#2 --	11.0 ac	5.1 ac	5.9 ac
EU-#3 --	16.0 ac	3.2 ac	12.8 ac
EU-#4 --	16.2 ac	0.0 ac	16.2 ac

Total Area of Buildings = 12.6 ac

N

0 150 300 600

Feet

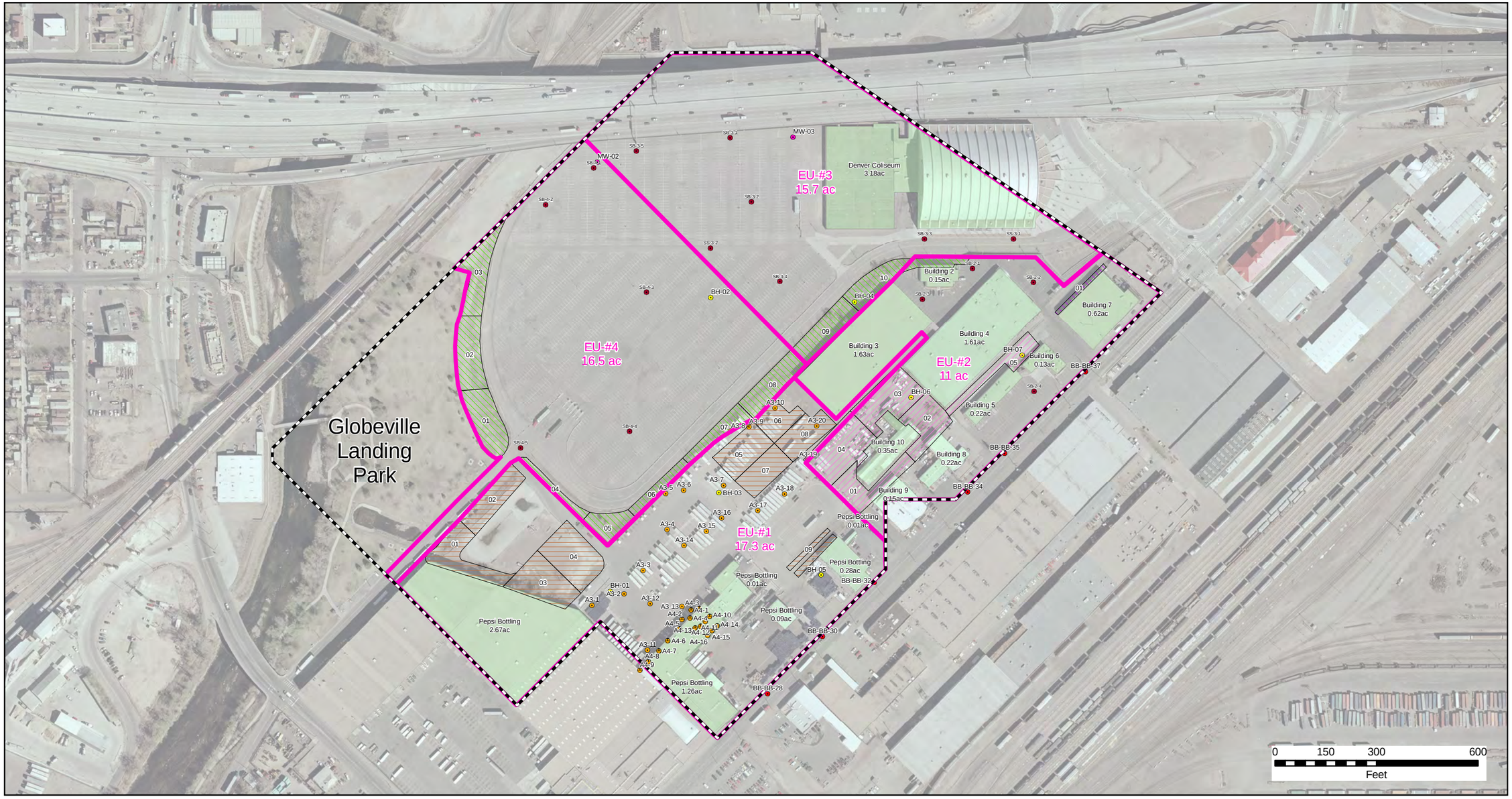
1 inch = 300 feet

Figure 8

Exposure Unit Locations for Multi-Family/Residential Uses

VB/I-70 OU-2 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- BB-BB-xx Holes
- Other Hole Locations
- MW Holes
- Barn Samples
- BH Soil Samples
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 4 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi Area 7 Soil Locations
- Pepsi UT (Utility Trenches) Soil Locations
- 3801 Brighton Blvd
- 4201 Brighton Blvd
- 4301 Brighton Blvd
- 4375 Brighton Blvd
- 4600 Humbolt Blvd
- OU2 Boundary

OU-#2 - Total Area = 67.4 ac

	Total Area	Total Area of Buildings	Total Open Area
EU-#1 --	17.3 ac	4.3 ac	13.0 ac
EU-#2 --	11.0 ac	5.1 ac	5.9 ac
EU-#3 --	16.0 ac	3.2 ac	12.8 ac
EU-#4 --	16.2 ac	0.0 ac	16.2 ac

Total Area of Buildings = 12.6 ac

N

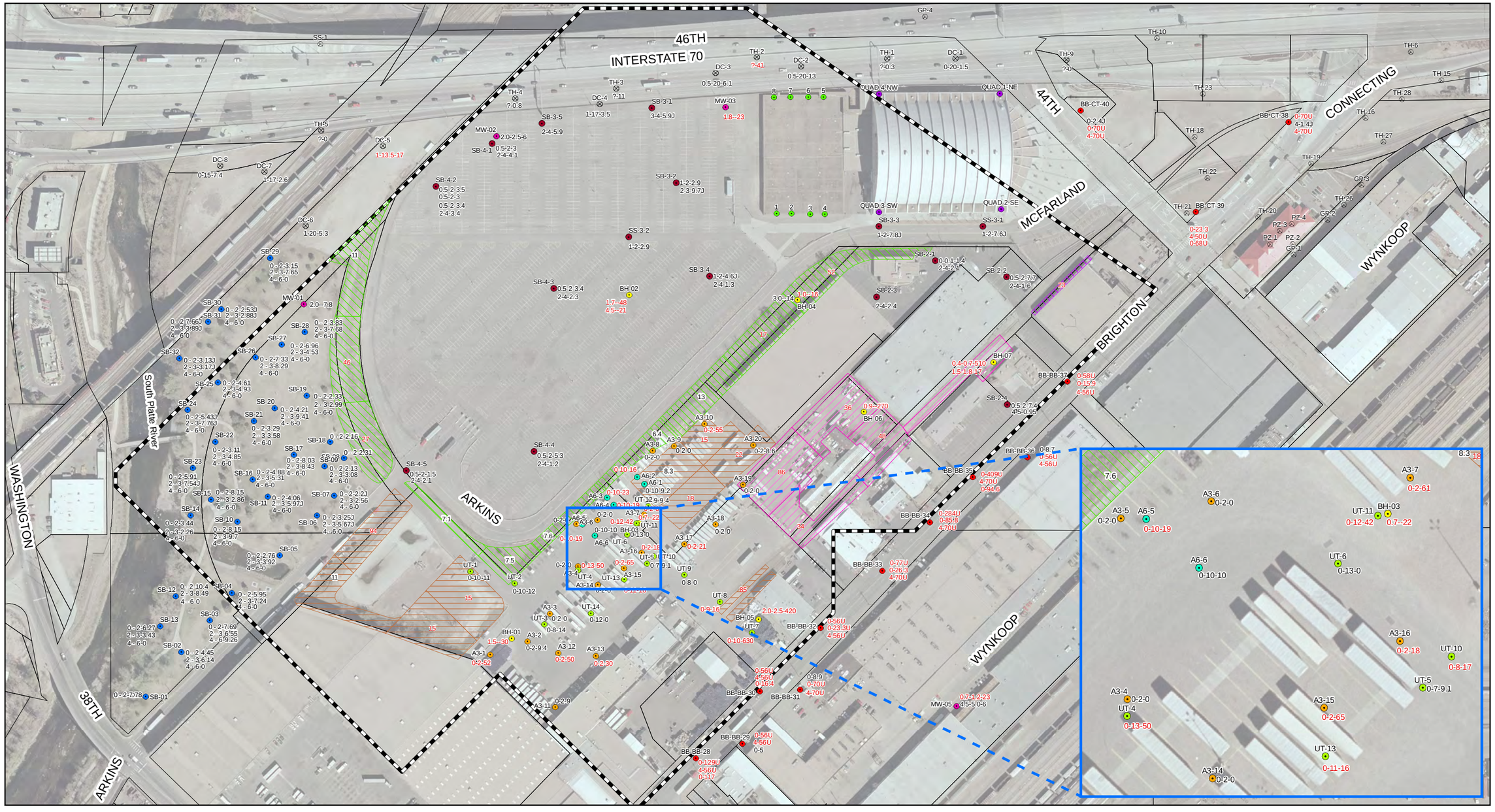
1 inch = 300 feet

Figure 9

Soil Sample Locations

VB/I-70 OU-2 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- Barn Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- BB-BB-xx Holes
- BH Soil Samples
- MW Holes
- QUAD Samples
- SB Soil Samples
- CDOT Holes
- Pepsi UT (Utility Trenches) Soil Locations

Areal Soil Samples with Addresses

- Parking Restrictor
- 3801 Brighton Blvd
- 4301 Brighton Blvd
- 4375 Brighton Blvd
- 4600 Humbolt

As concentrations exceeding 15 ppm background limit (red)

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

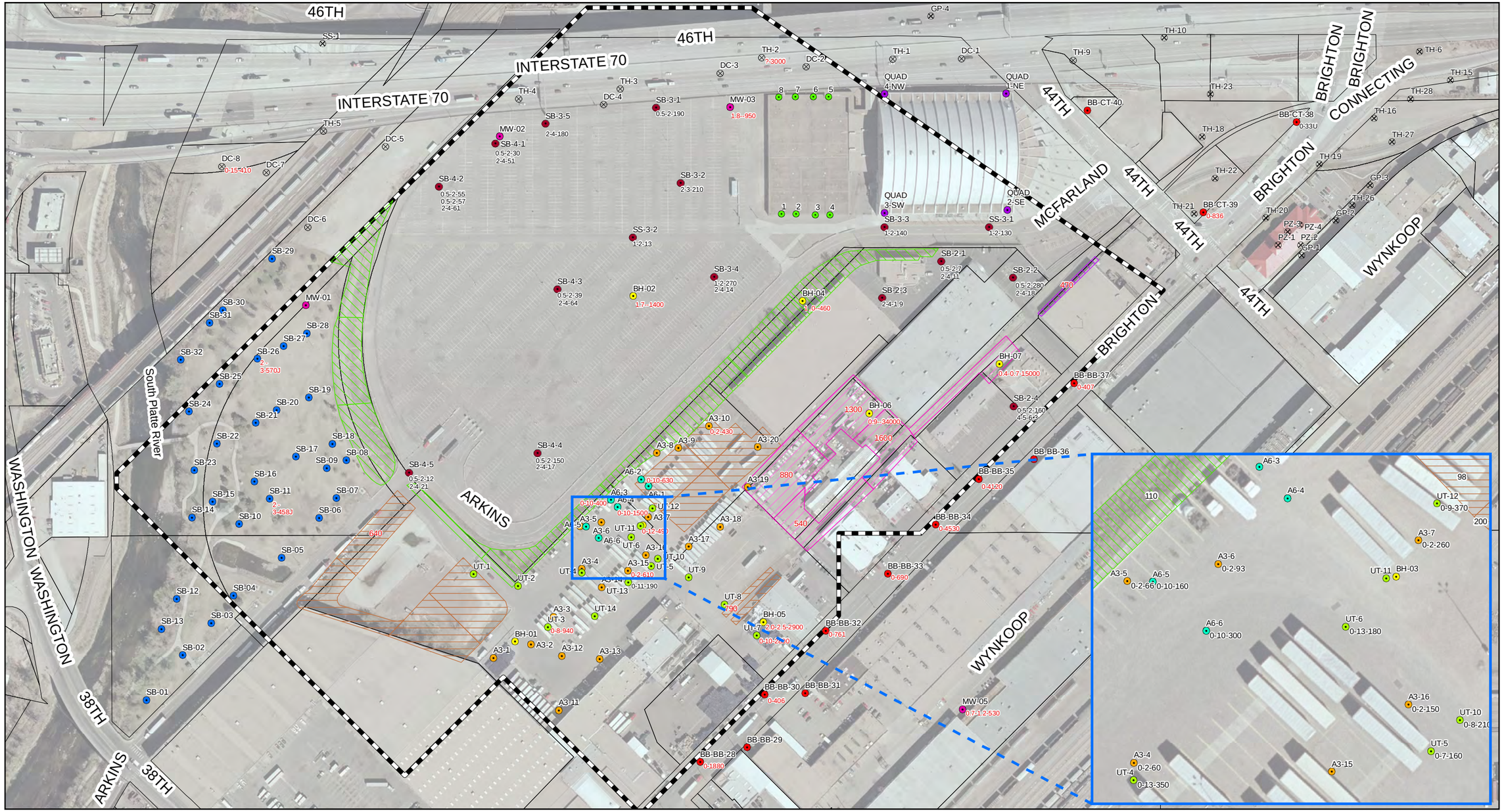
N

Figure 10

Arsenic Soil Sample Concentrations 0 to 5 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- Barn Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- BB-BB-xx Holes
- BH Soil Samples
- MW Holes
- QUAD Samples
- SB Soil Samples
- CDOT Holes
- Pepsi UT (Utility Trenches) Soil Locations

Areal Soil Samples with Addresses

- Parking Restrictor
- 3801 Brighton Blvd
- 4301 Brighton Blvd
- 4375 Brighton Blvd
- 4600 Humbolt

Pb concentrations exceeding 400 ppm background limit (red)

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

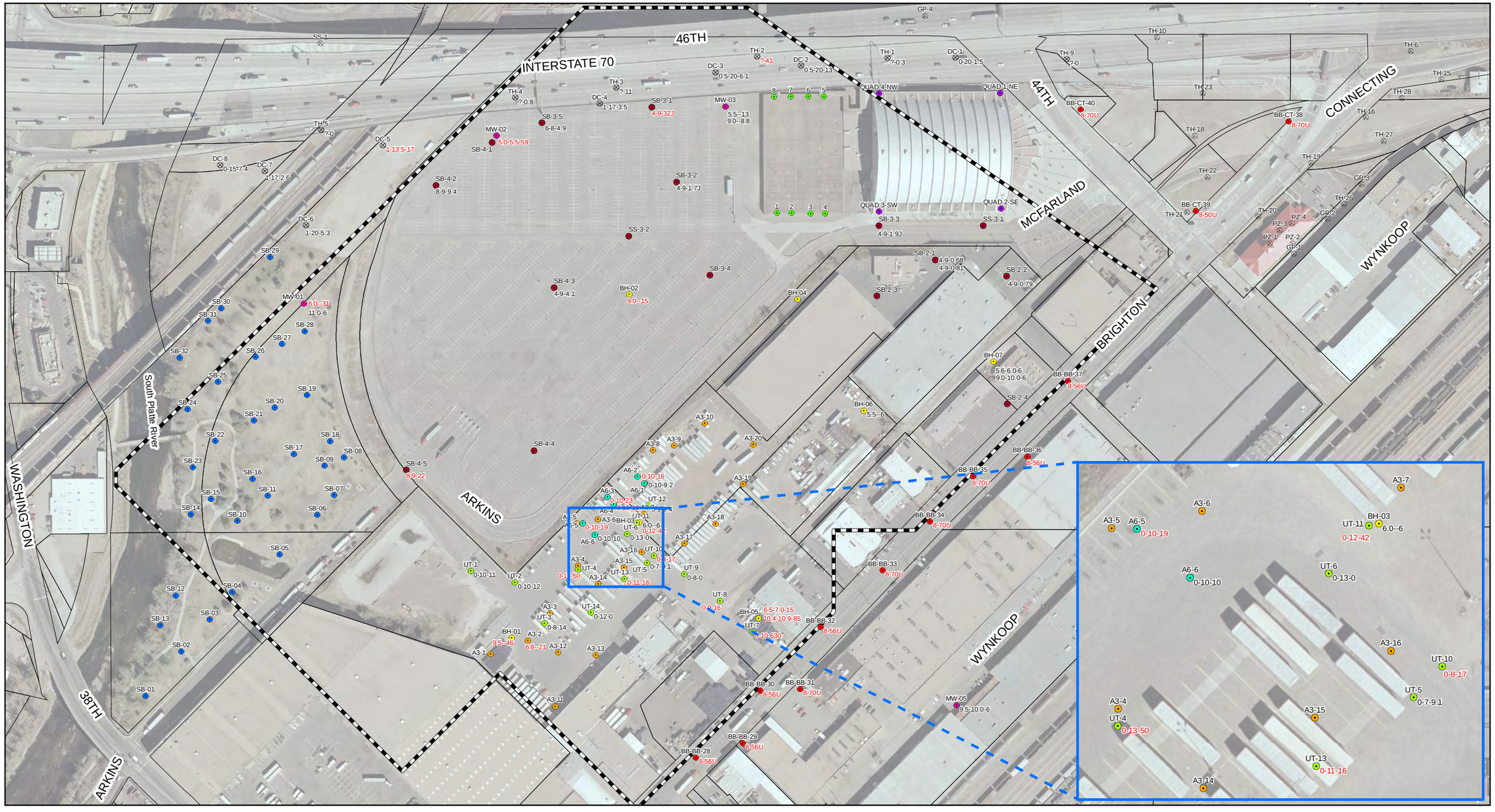
N

Figure 11

Lead Soil Sample Concentrations 0 to 5 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- Barn Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- BB-BB-xx Holes
- BH Soil Samples
- MW Holes
- QUAD Samples
- SB Soil Samples
- CDOT Holes
- Pepsi UT (Utility Trenches) Soil Locations

As concentrations exceeding 15 ppm background limit (red)

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

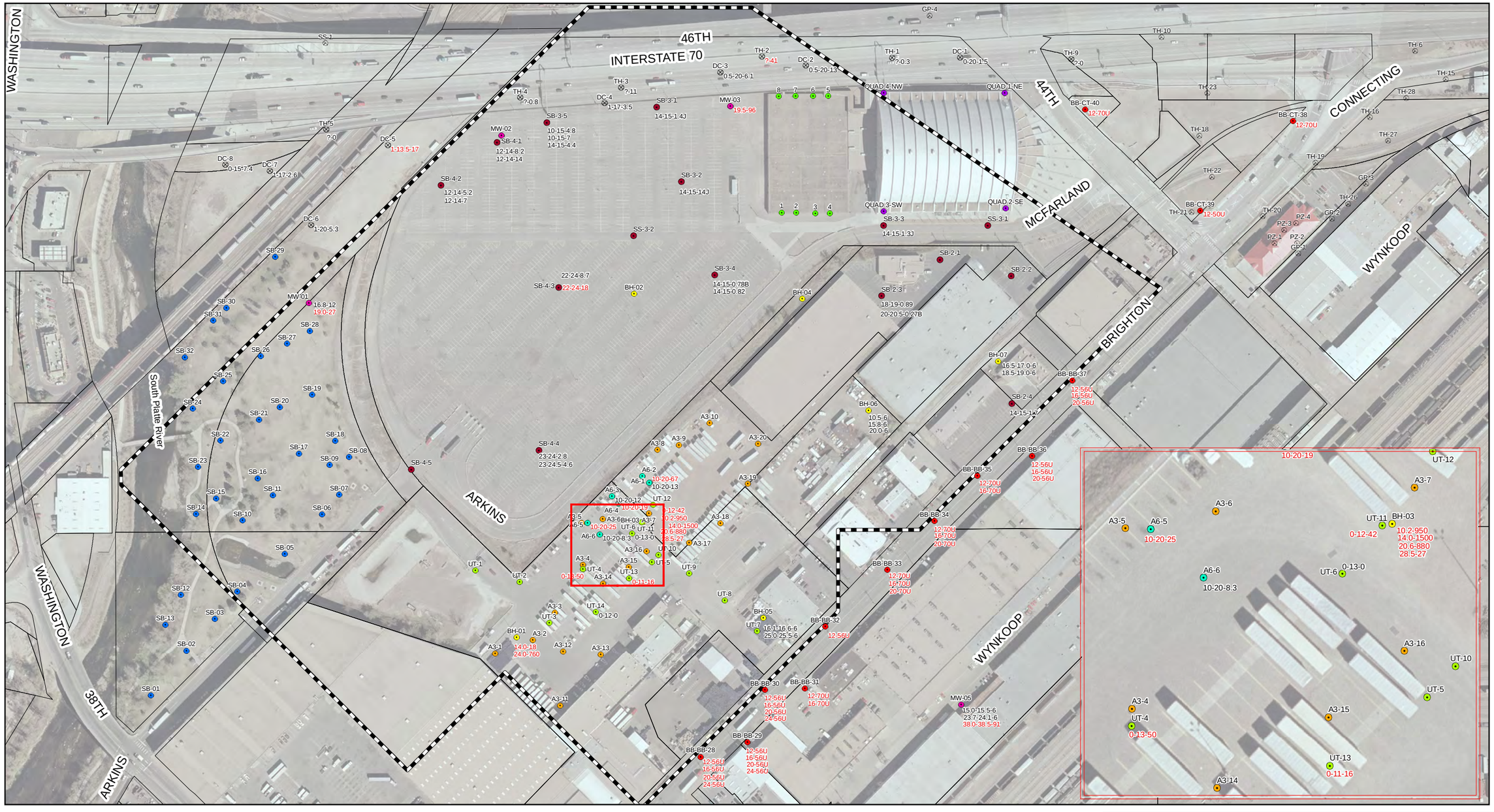
N

Figure 12

Arsenic Soil Sample Concentrations 5 to 10 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- Barn Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- BB-BB-xx Holes
- BH Soil Samples
- MW Holes
- QUAD Samples
- SB Soil Samples
- CDOT Holes
- Pepsi UT (Utility Trenches) Soil Locations

As concentrations exceeding 15 ppm background limit (red)

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

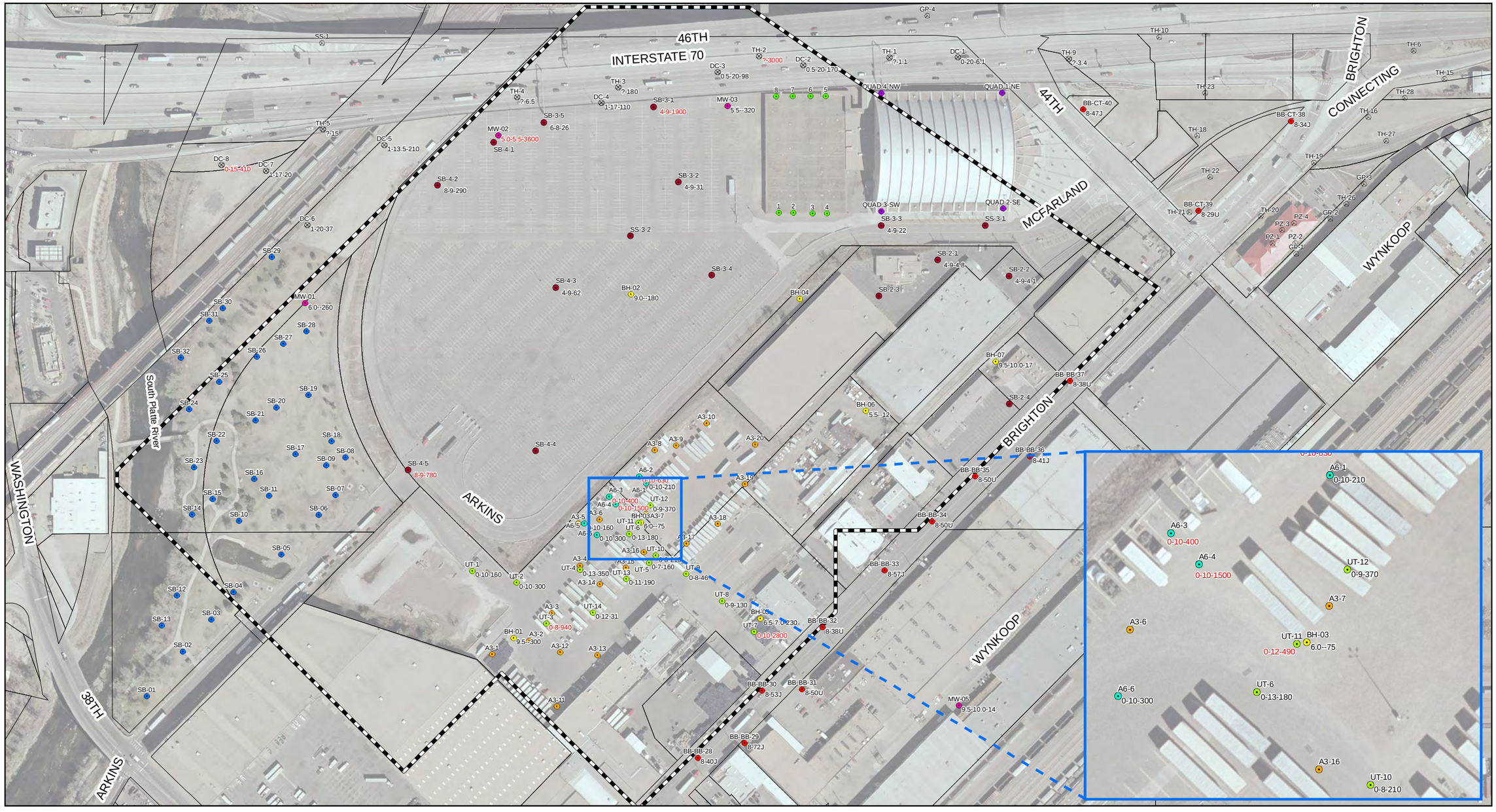
N

Figure 13

Arsenic Soil Sample Concentrations 10 feet and Greater Depth

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- Barn Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- BB-BB-xx Holes
- BH Soil Samples
- MW Holes
- QUAD Samples
- SB Soil Samples
- CDOT Holes
- Pepsi UT (Utility Trenches) Soil Locations

Pb concentrations exceeding 400 ppm background limit (red)

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

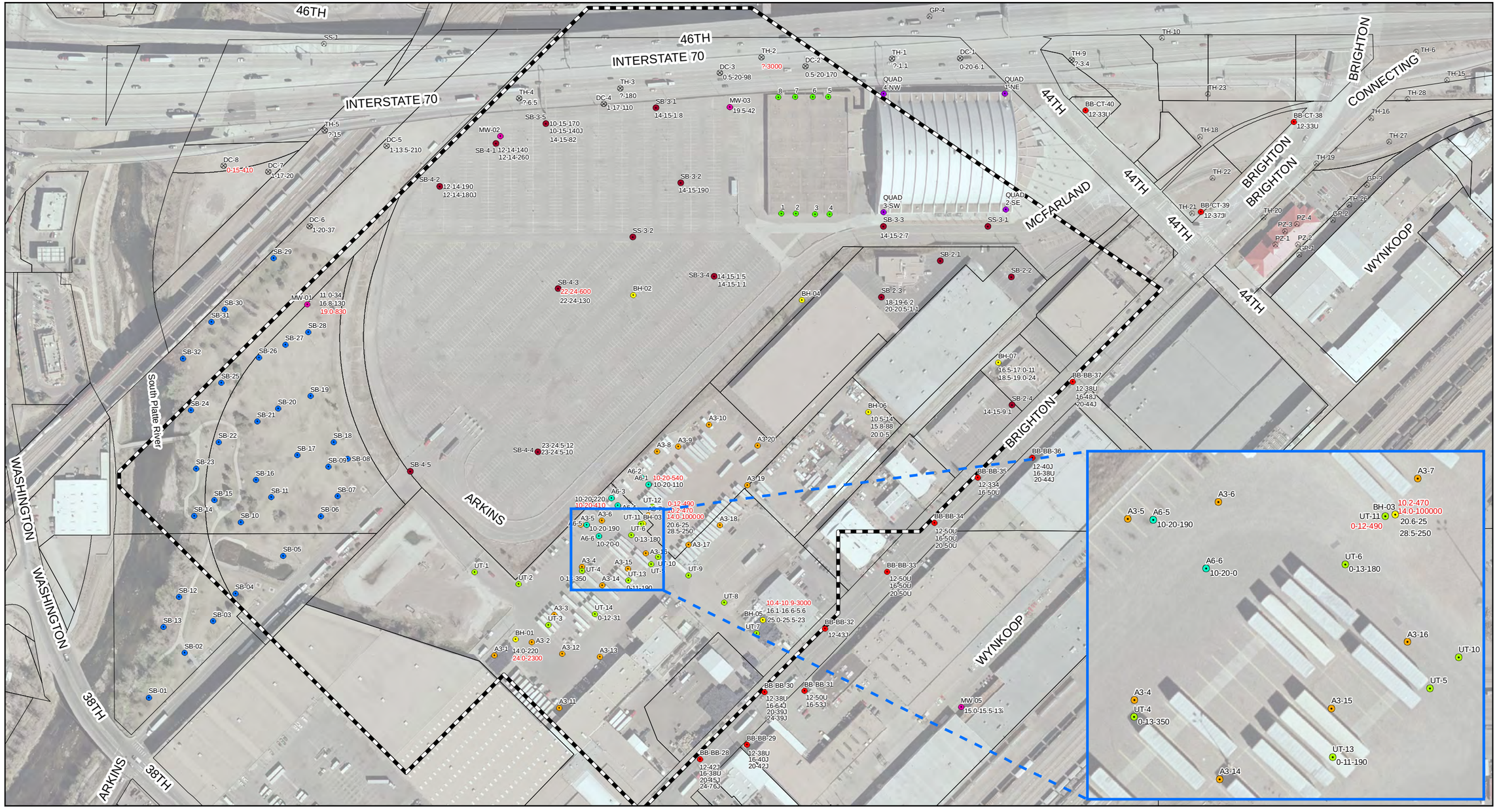
N

Figure 14

Lead Soil Sample Concentrations 5 to 10 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- Barn Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- BB-BB-xx Holes
- BH Soil Samples
- MW Holes
- QUAD Samples
- SB Soil Samples
- CDOT Holes
- Pepsi UT (Utility Trenches) Soil Locations

Pb concentrations exceeding 400 ppm background limit (red)

Depth (ft) - Concentration (ppm)

0 62.5 125 250 375 500

Feet

1 inch = 250 feet

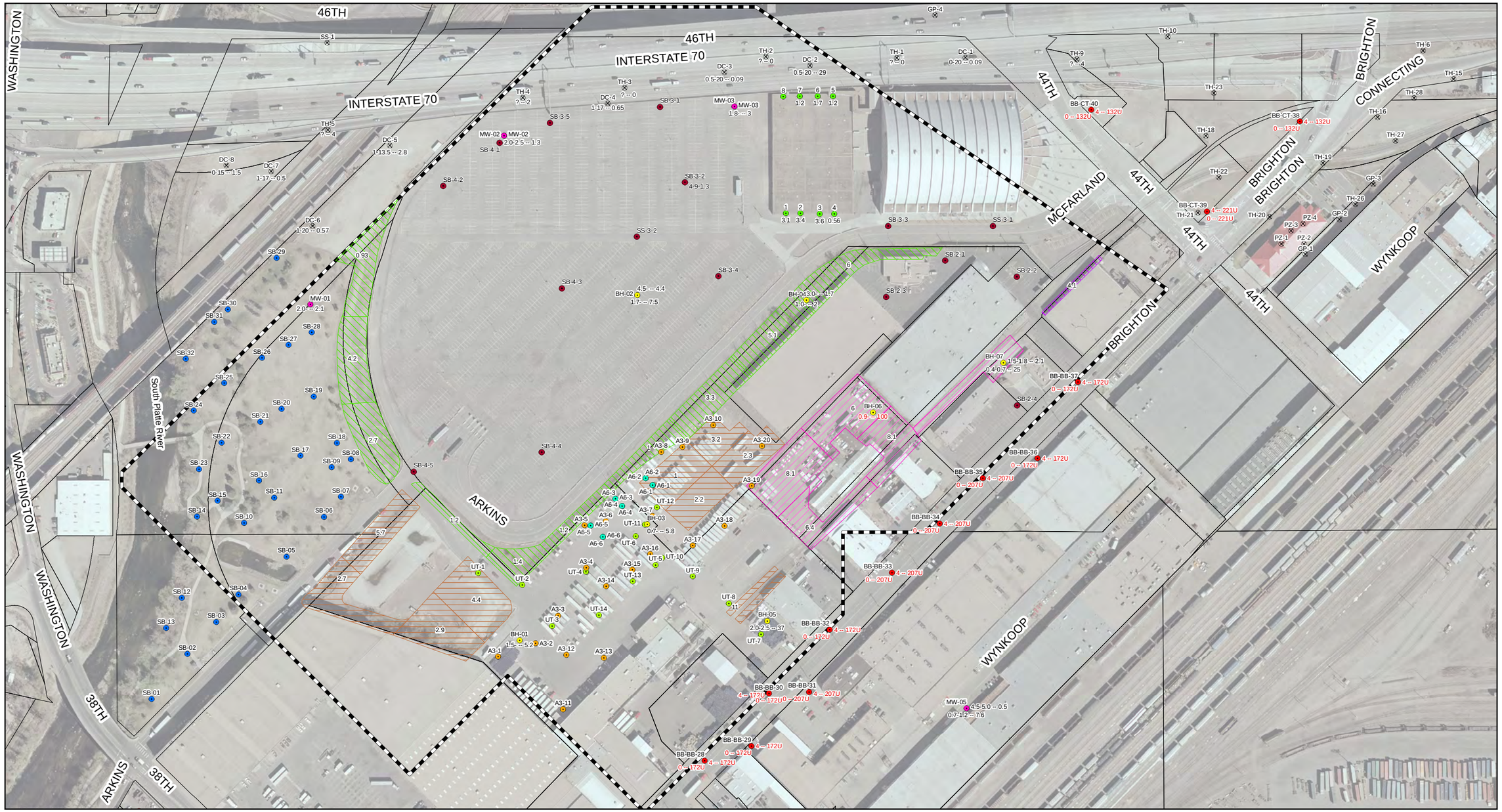
N

Figure 15

Lead Soil Sample Concentrations 10 feet and Greater Depth

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Barn Samples
- BB-BB-xx Holes
- BH Soil Samples
- CDOT Holes
- MW Holes
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi UT (Utility Trenches) Soil Locations

Areal Soil Samples with Addresses

- Parking Restrictor
- 3801 Brighton Blvd
- 4301 Brighton Blvd
- 4375 Brighton Blvd
- 4600 Humbolt

Cd concentrations exceeding 70 ppm (residential) in red

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

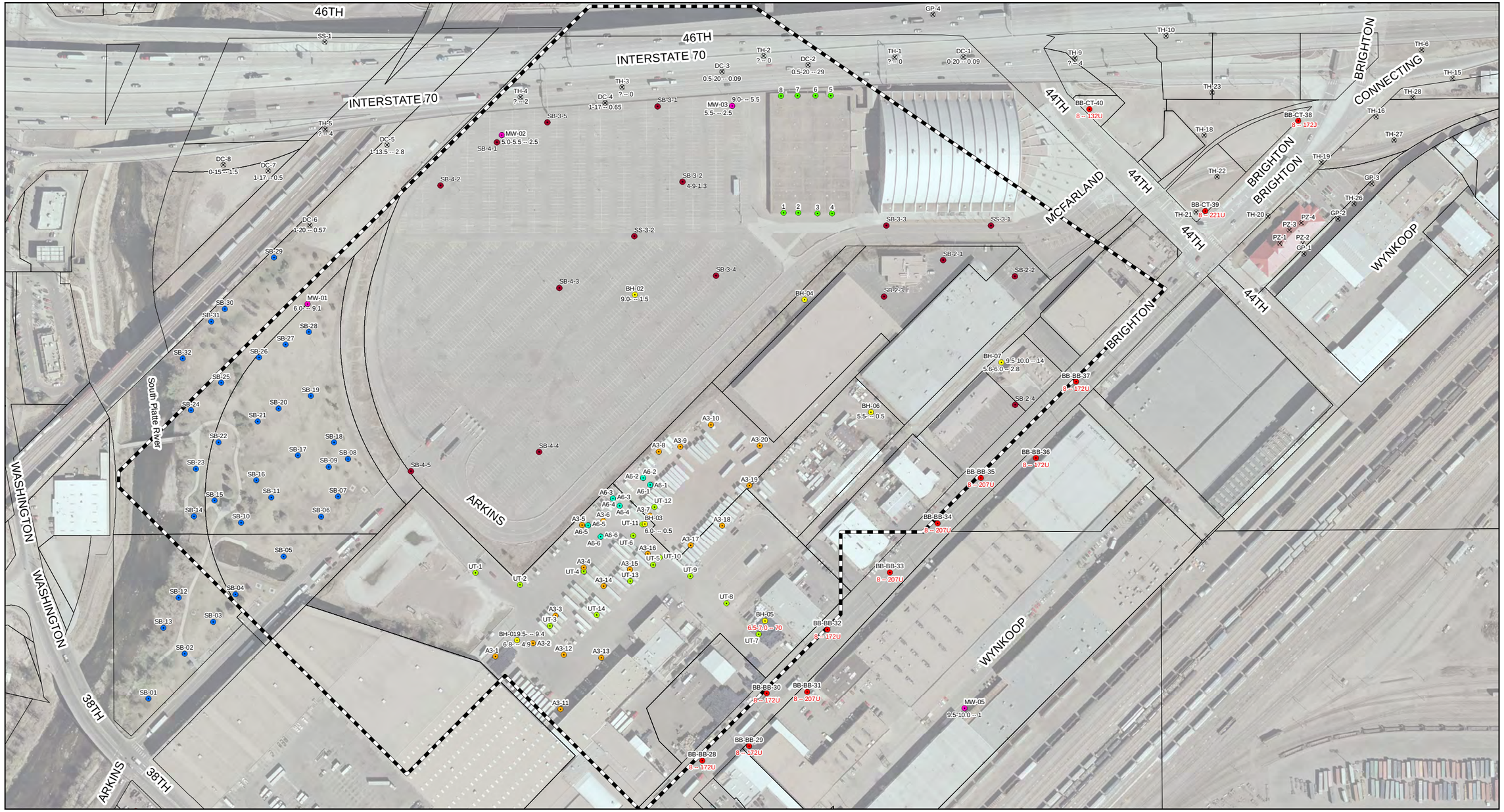
N

Figure 16

Cadmium Soil Sample Concentrations 0 to 5 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Barn Samples
- BB-BB-xx Holes
- BH Soil Samples
- CDOT Holes
- MW Holes
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi UT (Utility Trenches) Soil Locations

Cd concentrations exceeding 70 ppm (residential) in red

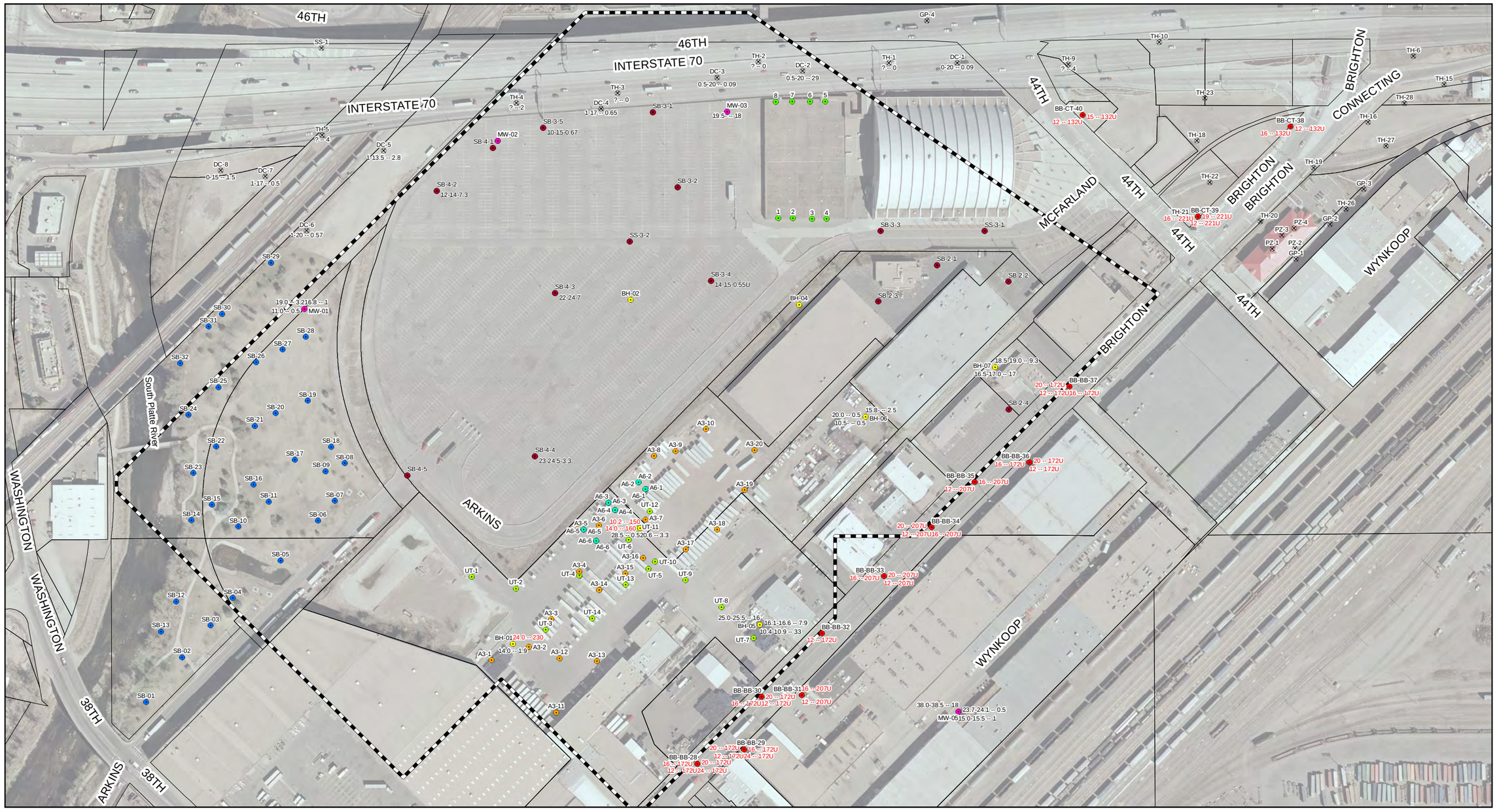
Depth (ft) - Concentration (ppm)

0 125 250 500
Feet
1 inch = 250 feet

N

Figure 17
Cadmium Soil Sample Concentrations 5 to 10 feet
VB/I-70 Remedial Investigations

EMSI Engineering Support Management, Inc.



Legend

- Barn Samples
- BB-BB-xx Holes
- BH Soil Samples
- CDOT Holes
- MW Holes
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi UT (Utility Trenches) Soil Locations

Cd concentrations exceeding 70 ppm (residential) in red

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

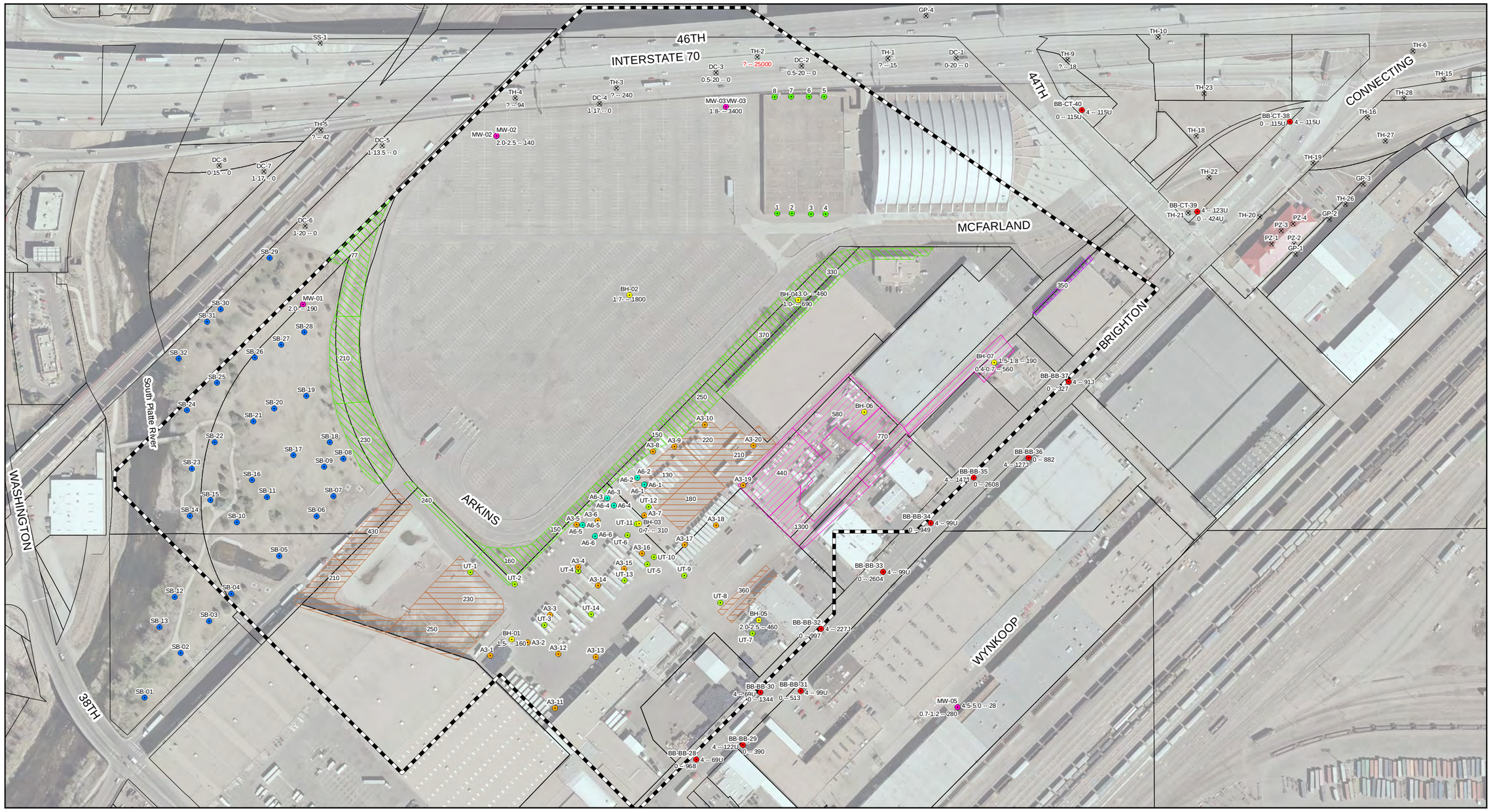
N

Figure 18

Cadmium Soil Sample Concentrations 10 feet and Greater Depth

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Barn Samples
- BB-BB-xx Holes
- BH Soil Samples
- CDOT Holes
- MW Holes
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi UT (Utility Trenches) Soil Locations

Areal Soil Samples with Addresses

- Parking Restrictor
- 3801 Brighton Blvd
- 4301 Brighton Blvd
- 4375 Brighton Blvd
- 4600 Humbolt

Zn concentrations exceeding 23,000 ppm (residential) in red

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

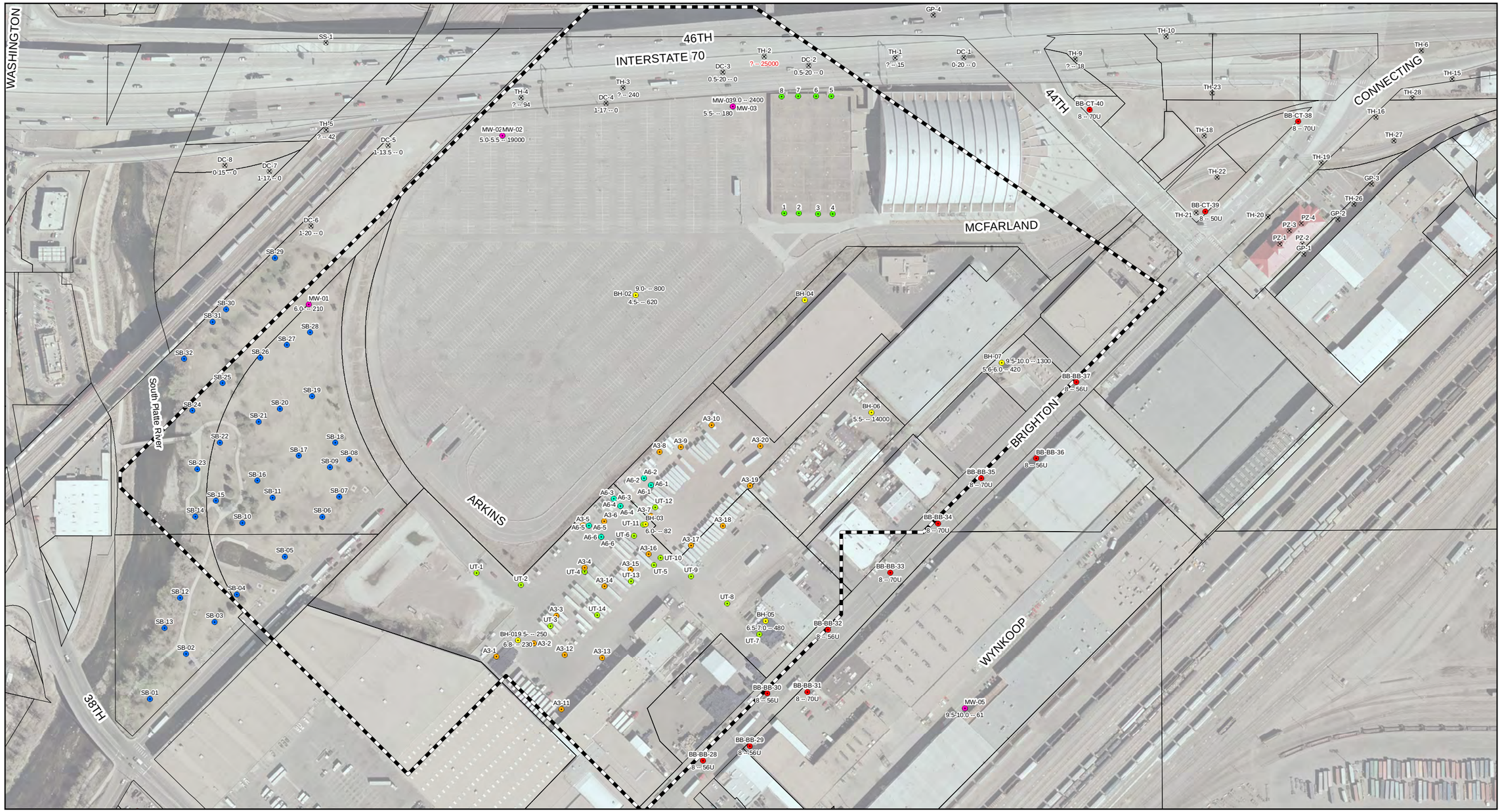
N

Figure 19

Zinc Soil Sample Concentrations 0 to 5 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Barn Samples
- BB-BB-xx Holes
- BH Soil Samples
- CDOT Holes
- MW Holes
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi UT (Utility Trenches) Soil Locations

Zn concentrations exceeding 23,000 ppm (residential) in red

Depth (ft) - Concentration (ppm)

0 120 240 480
Feet

1 inch = 250 feet

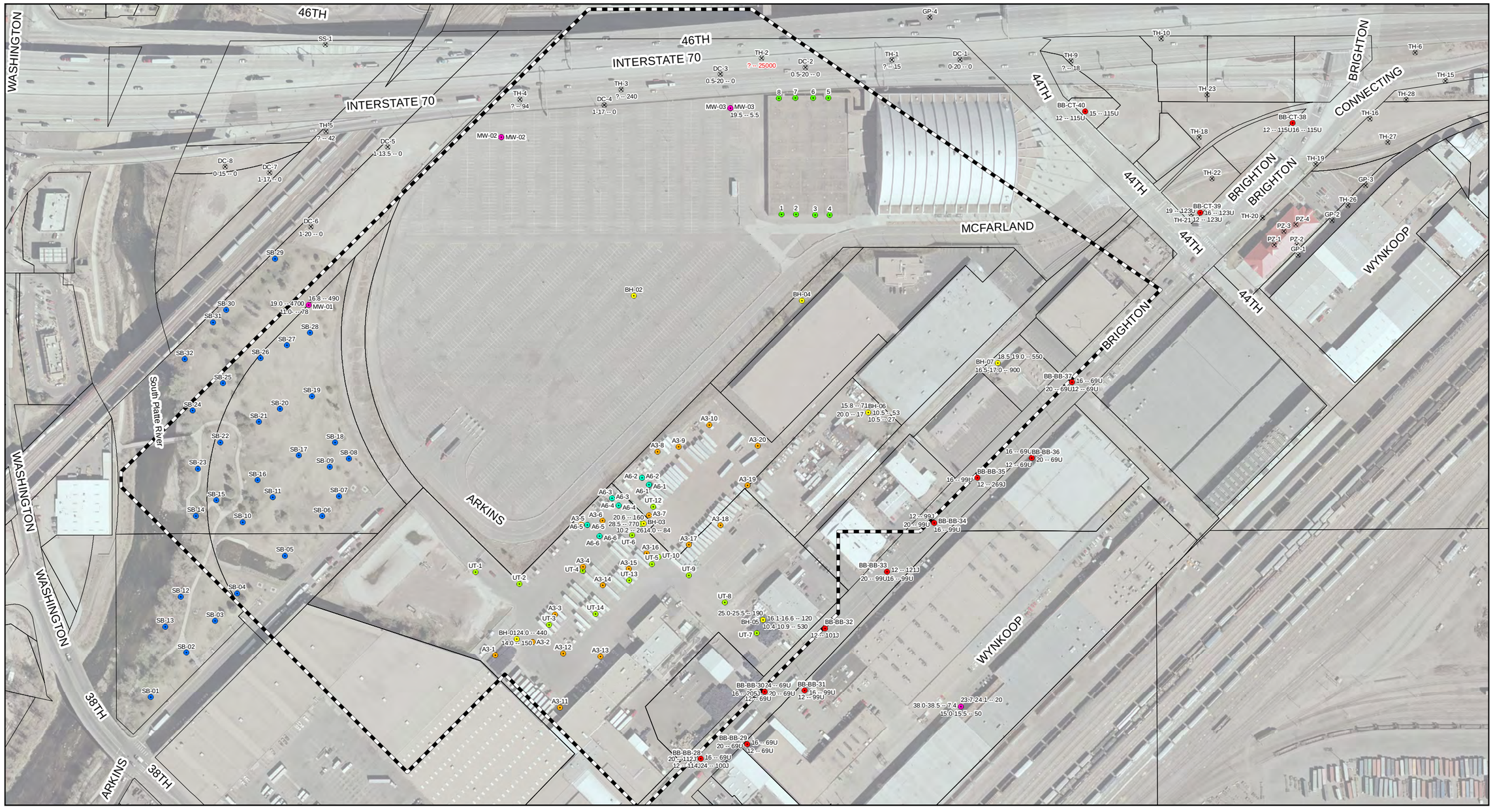
N

Figure 20

Zinc Soil Sample Concentrations 5 to 10 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Barn Samples
- BB-BB-xx Holes
- BH Soil Samples
- CDOT Holes
- MW Holes
- SB Soil Samples
- Pepsi Area 3 Soil Samples
- Pepsi Area 5 Soil Samples
- Pepsi Area 6 Soil Samples
- Pepsi UT (Utility Trenches) Soil Locations

Zn concentrations exceeding 23,000 ppm (residential) in red

Depth (ft) - Concentration (ppm)

0 125 250 500
Feet

1 inch = 250 feet

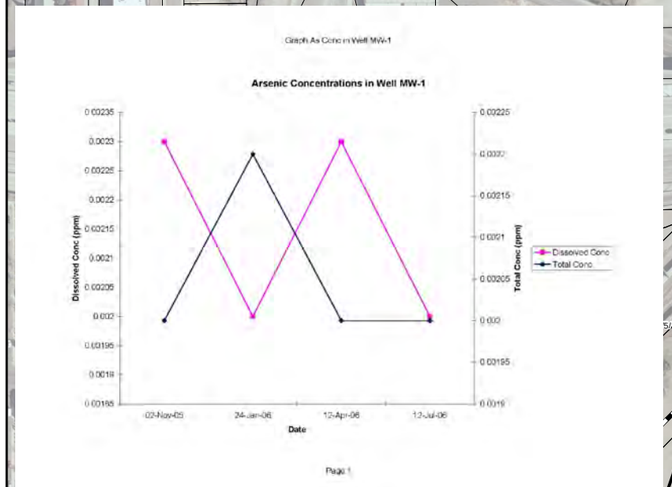
N

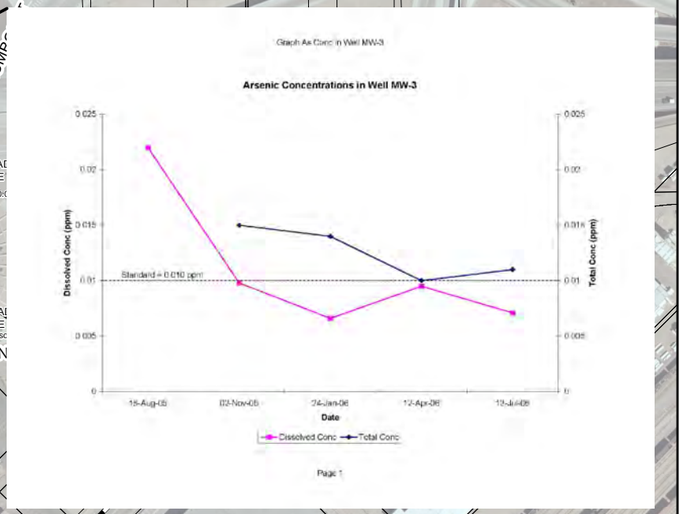
Figure 21

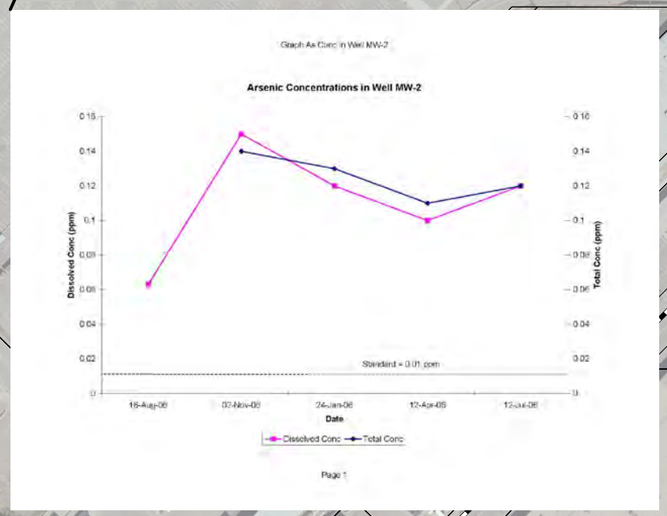
Zinc Soil Sample Concentrations 10 feet and Greater Depth

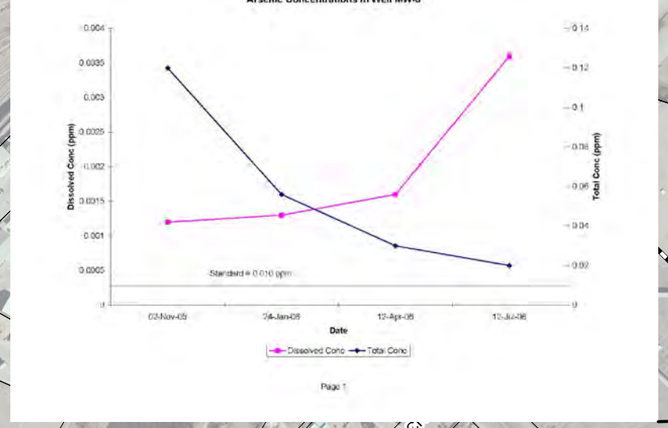
VB/I-70 Remedial Investigation

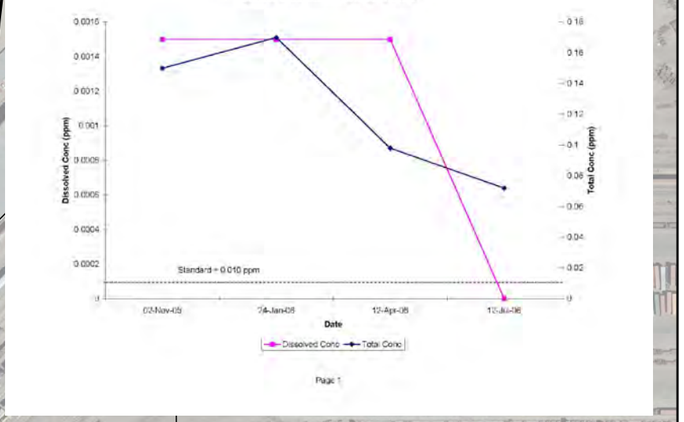
EMSI Engineering Support Management, Inc.











Legend

- GW-SampleLocations

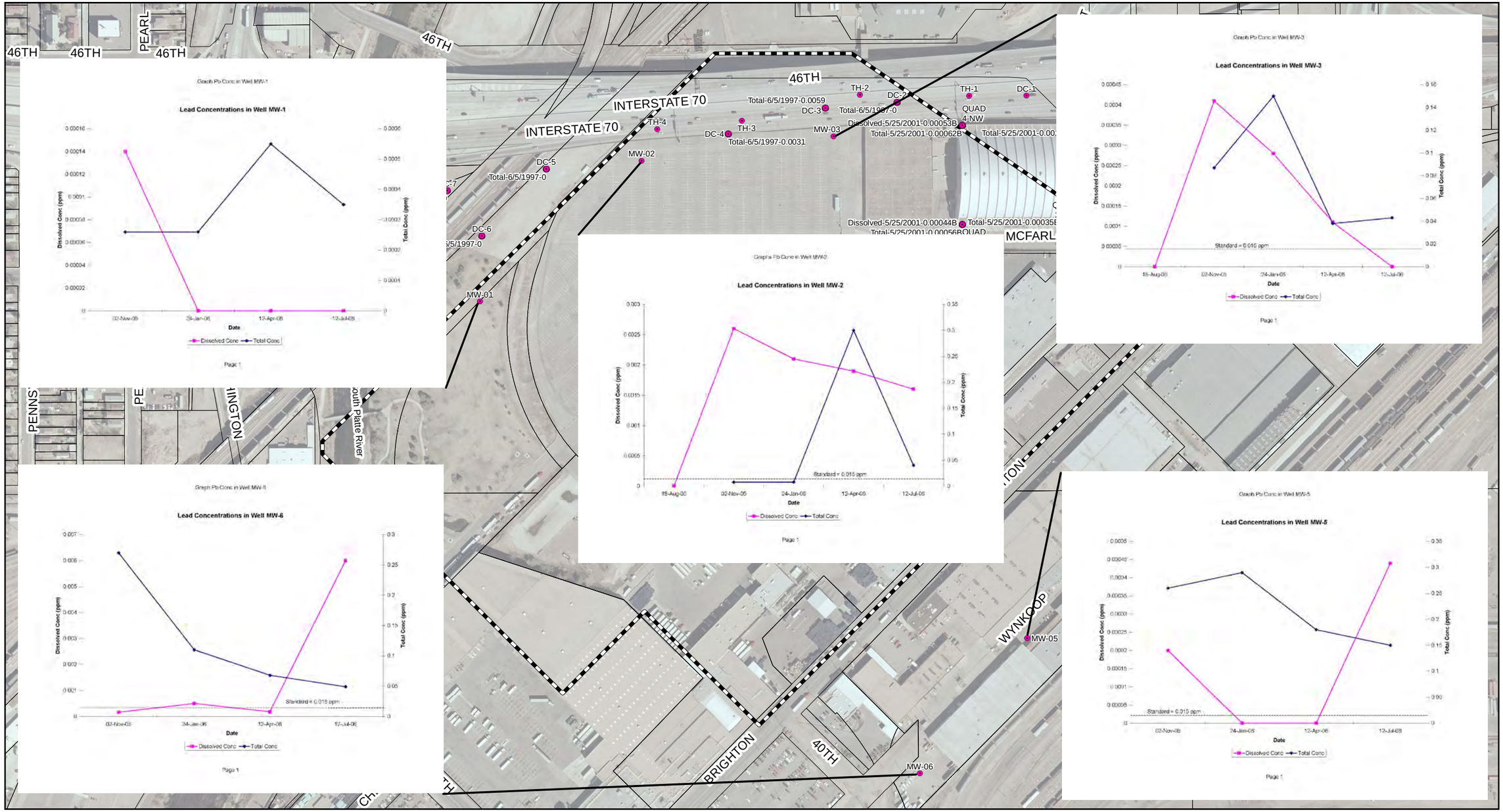
0 150 300 600
Feet

1 inch = 300 feet

N

Figure 22
Arsenic Groundwater Concentrations
VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Graph Pb Conc in Well MW-1

Lead Concentrations in Well MW-1

Page 1

Graph Pb Conc in Well MW-2

Lead Concentrations in Well MW-2

Page 1

Graph Pb Conc in Well MW-3

Lead Concentrations in Well MW-3

Page 1

Graph Pb Conc in Well MW-4

Lead Concentrations in Well MW-4

Page 1

Graph Pb Conc in Well MW-5

Lead Concentrations in Well MW-5

Page 1

Legend

- GW-SampleLocations

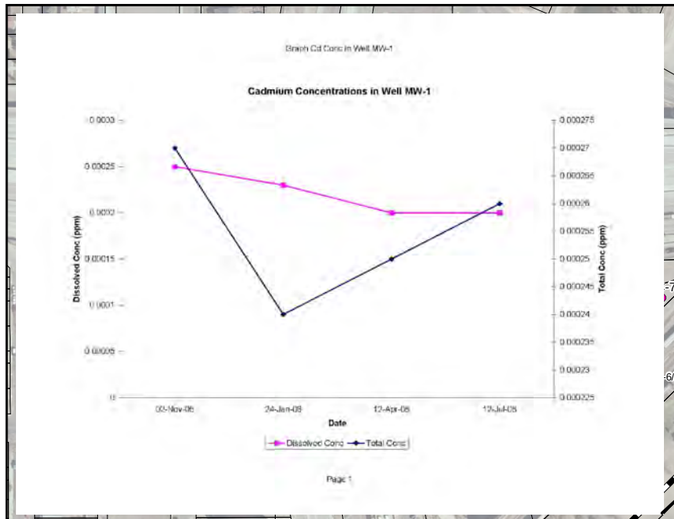
0 150 300 600
Feet

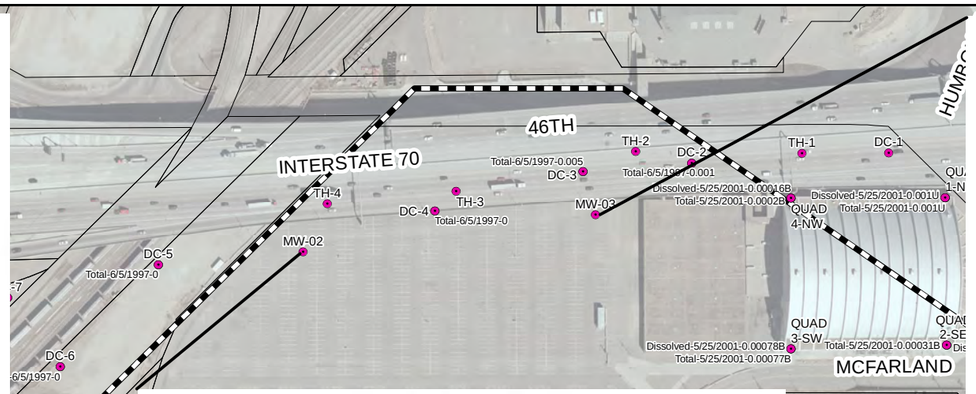
1 inch = 300 feet

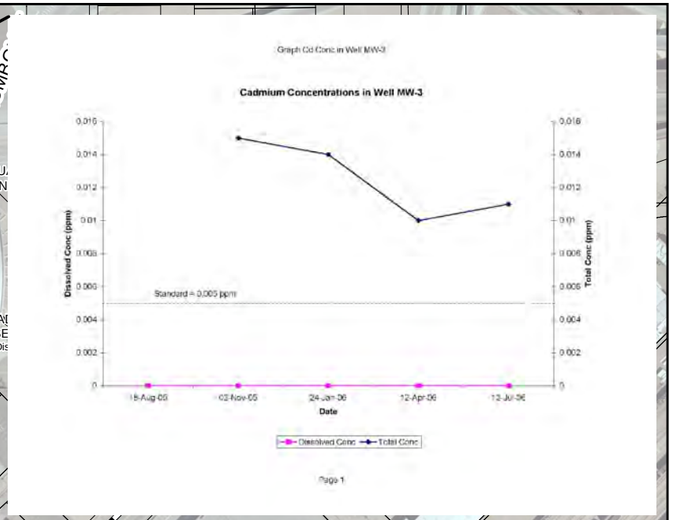
N

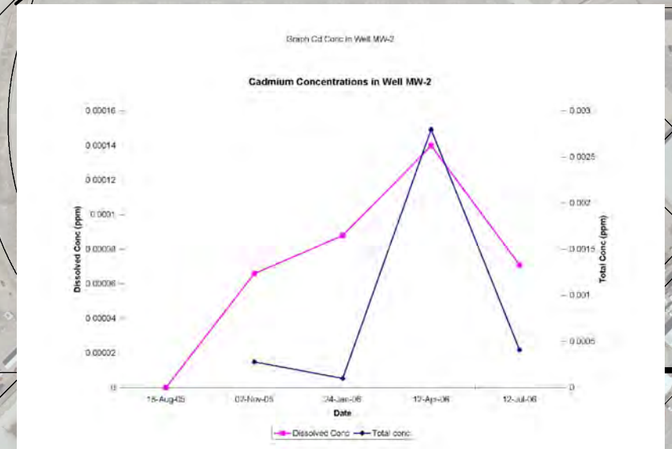
Figure 23
Lead Groundwater Concentrations
VB/I-70 Remedial Investigation

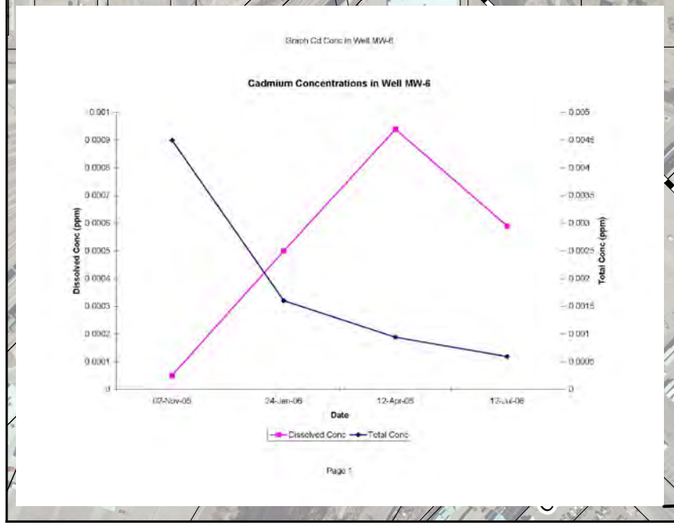
EMSI Engineering Support Management, Inc.

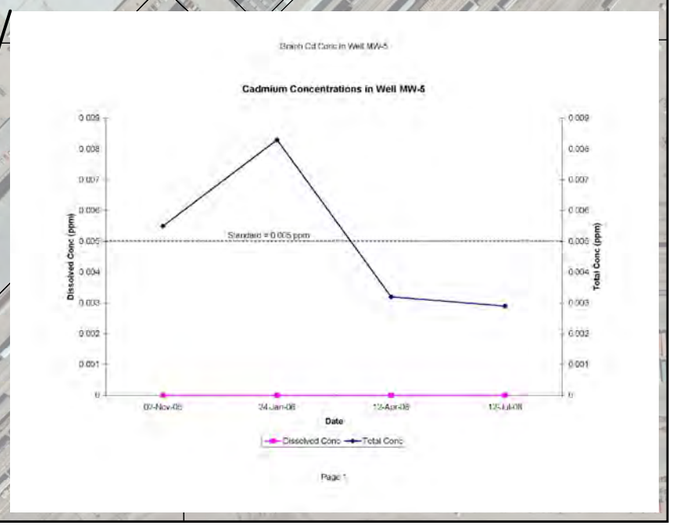












Legend

- Groundwater Sample Locations

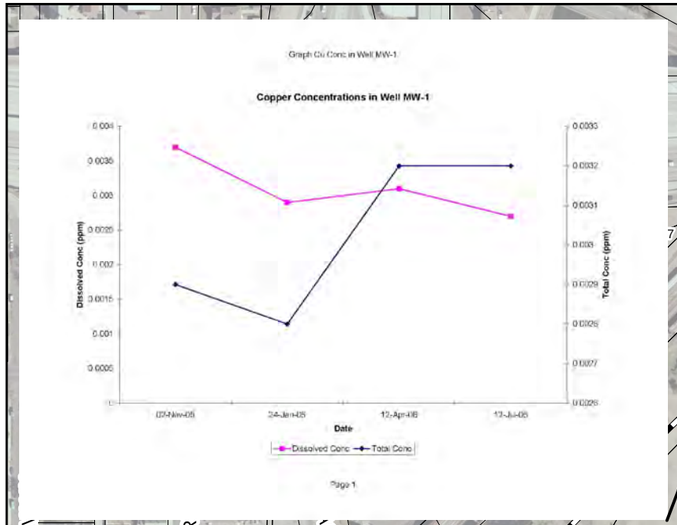
0 150 300 600
Feet

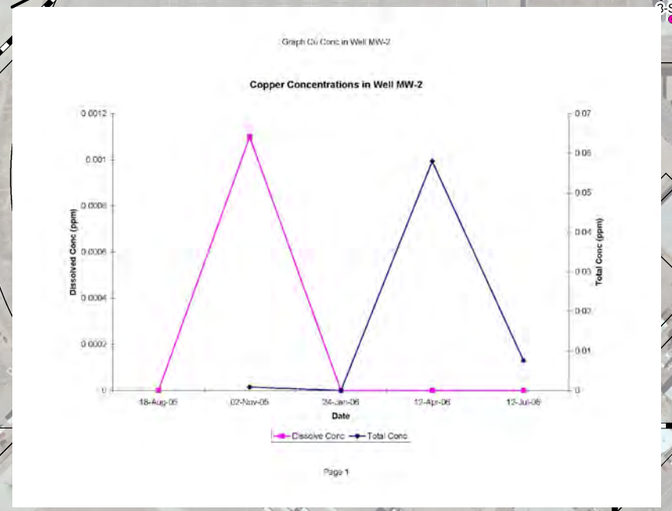
1 inch = 300 feet

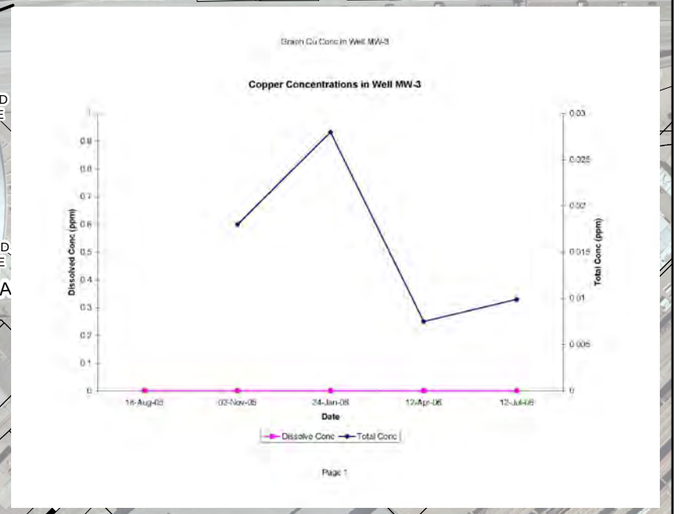
N

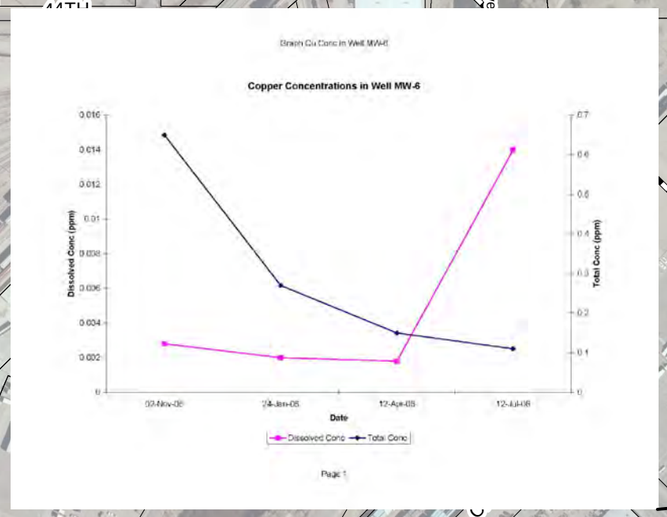
Figure 24
Cadmium Groundwater Concentrations
VB/I-70 Remedial Investigation

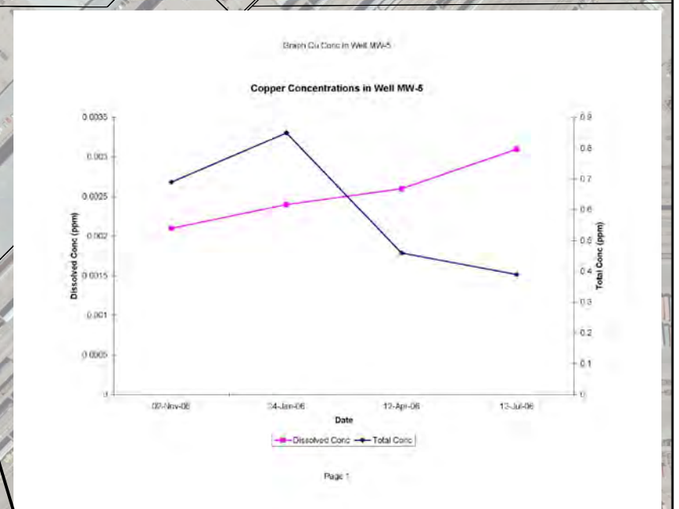
EMSI Engineering Support Management, Inc.











Legend

- Groundwater Sample Locations

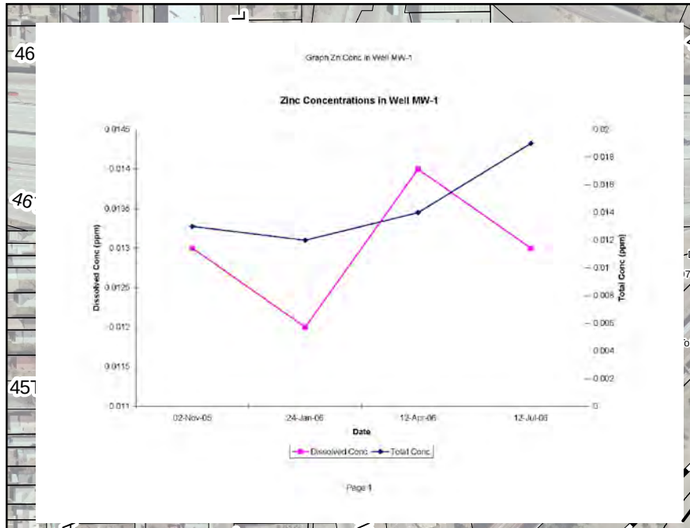
0 150 300 600
Feet

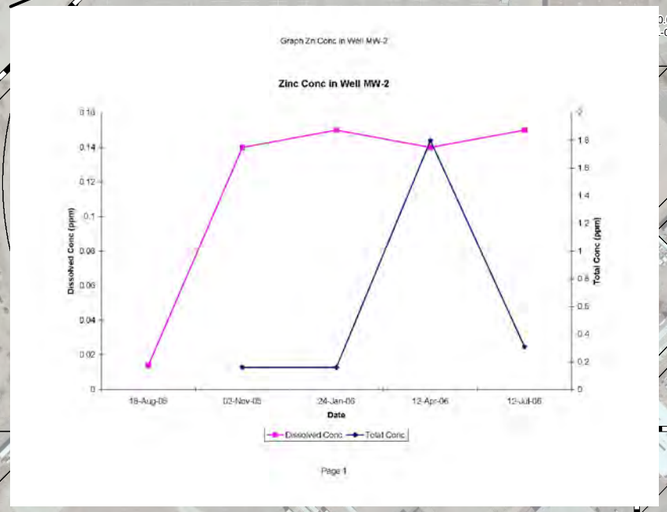
1 inch = 300 feet

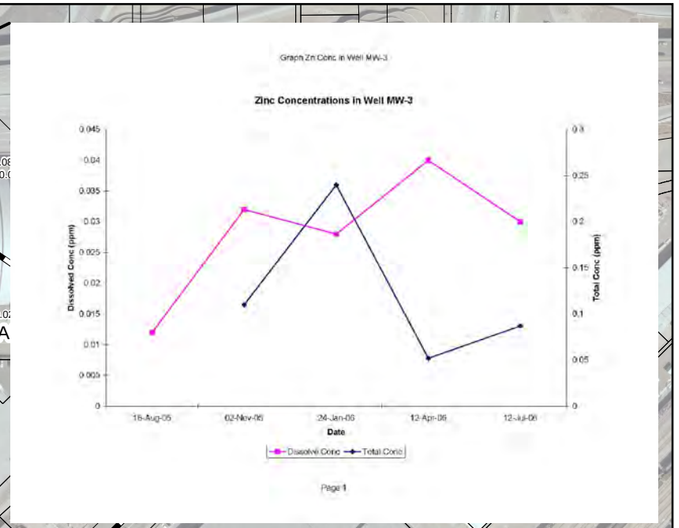
N

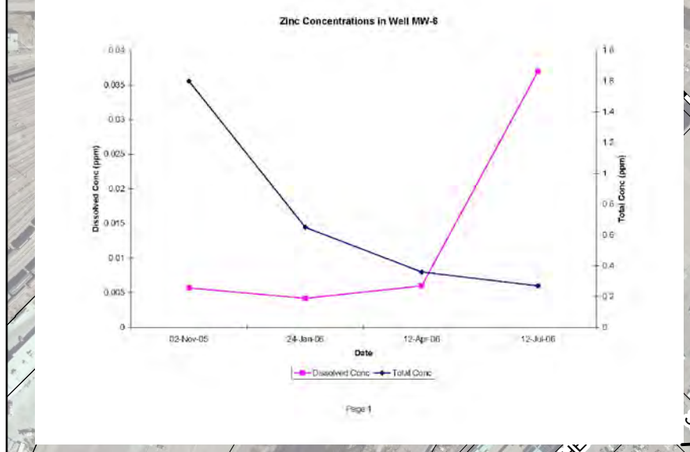
Figure 25
Copper Groundwater Concentrations
VB/I-70 Remedial Investigation

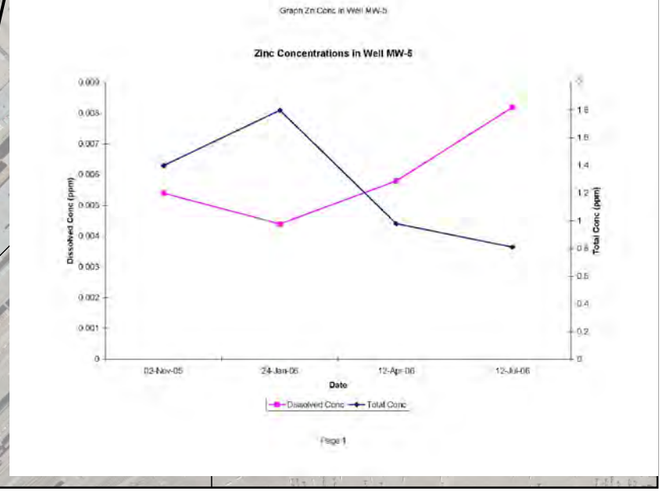
EMSI Engineering Support Management, Inc.











Legend

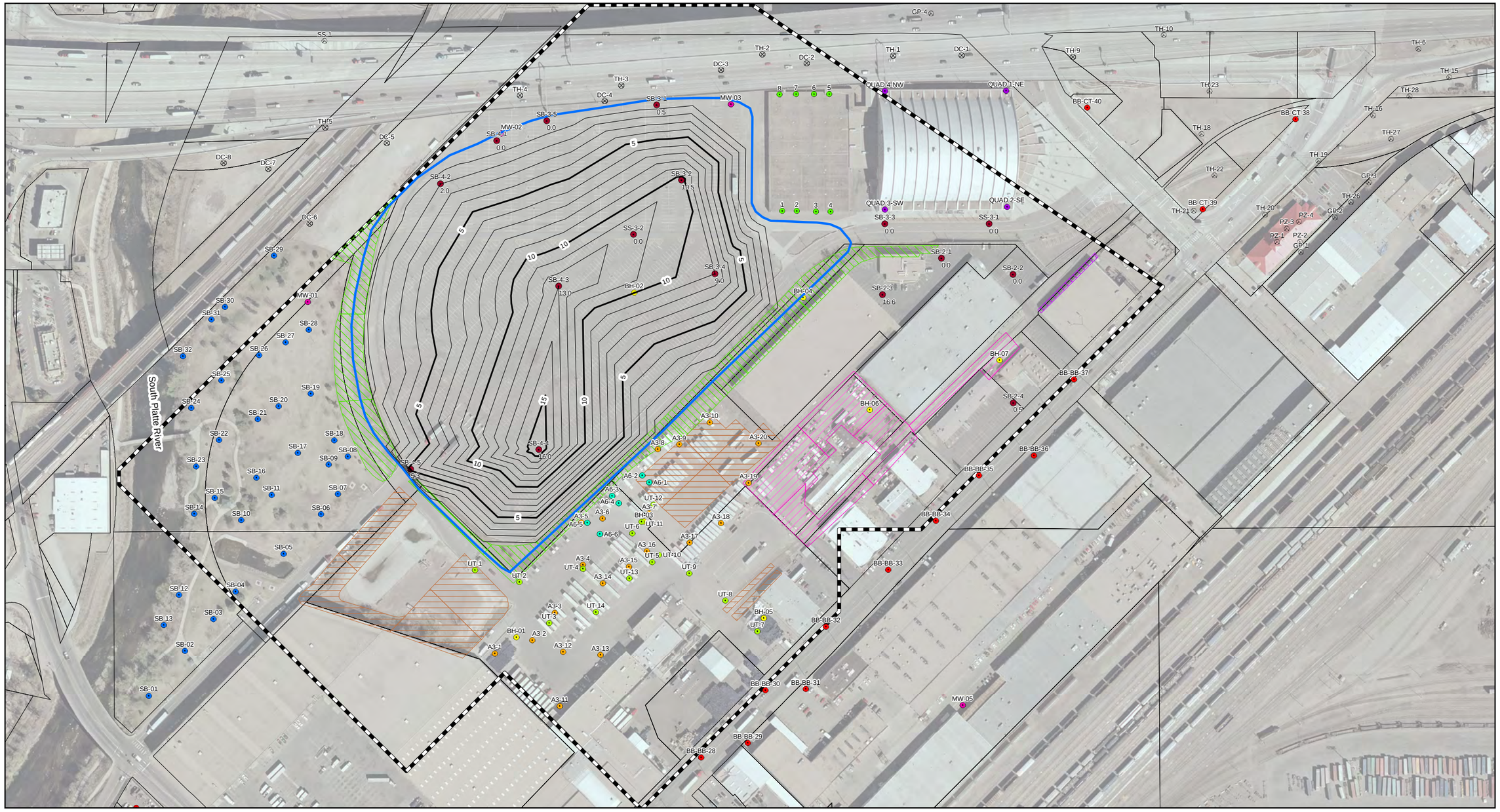
- Groundwater Sample Locations

0 150 300 600
Feet
1 inch = 300 feet

N

Figure 26
Zinc Groundwater Concentrations
VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- 2008 Drilling
- Major Contour Line 5 Feet
- Minor Contour Line 1 Foot
- One foot Isopack Contours

Areal Soil Samples with Addresses

- Parking Restrictor
- 3801 Brighton Blvd
- 4301 Brighton Blvd
- 4375 Brighton Blvd
- 4600 Humbolt

0 125 250 500
Feet

1 inch = 250 feet

N

Figure 27

Extent and Depths of Landfill Wastes

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.

Appendix A

Summary of RI and Previous Investigation Metals Data for Soils

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
RI Samples Collected by EMSI								
SB-2-1-SS	0.5-2	12/18/08	SW846 6020	Arsenic	1.4			mg/kg
SB-2-1-2-4	2-4	12/18/08	SW846 6020	Arsenic	2.1			mg/kg
SB-2-1-4-9	4-9	12/18/08	SW846 6020	Arsenic	0.68			mg/kg
SB-12-1-4-9	4-9	12/18/08	SW846 6020	Arsenic	0.81			mg/kg
SB-2-2-SS	0.5-2	12/18/08	SW846 6020	Arsenic	7.7			mg/kg
SB-2-2-2-4	2-4	12/18/08	SW846 6020	Arsenic	1.6			mg/kg
SB-2-2-4-9	4-9	12/18/08	SW846 6020	Arsenic	0.79			mg/kg
SB-2-3-SS	2-4	12/18/08	SW846 6020	Arsenic	2.4			mg/kg
SB-2-3-18-19	18-19	12/18/08	SW846 6020	Arsenic	0.89			mg/kg
SB-2-3-20-20.5	20-20.5	12/18/08	SW846 6020	Arsenic	0.27	B		mg/kg
SB-2-4-SS	0.5-2	12/18/08	SW846 6020	Arsenic	7.4			mg/kg
SB-2-4-4-5	4-5	12/18/08	SW846 6020	Arsenic	0.95			mg/kg
SB-2-4-14-15	14-15	12/18/08	SW846 6020	Arsenic	1.7			mg/kg
SS-3-1-SS	1-2	12/17/08	SW846 6020	Arsenic	7.6	L	J	mg/kg
SB-3-1-SS	3-4	12/17/08	SW846 6020	Arsenic	5.9	L	J	mg/kg
SB-3-1-4-9	4-9	12/17/08	SW846 6020	Arsenic	32	L	J	mg/kg
SB-3-1-14-15	14-15	12/17/08	SW846 6020	Arsenic	1.4	L	J	mg/kg
SB-3-2-SS	1-2	12/17/08	SW846 6020	Arsenic	2.9			mg/kg
SB-3-2-2-3	2-3	12/17/08	SW846 6020	Arsenic	9.7	L	J	mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6010B	Arsenic	2.9			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6020	Arsenic	1.7	L	J	mg/kg
SB-3-2-14-15	14-15	12/17/08	SW846 6020	Arsenic	14	L		mg/kg
SB-3-3-SS	1-2	12/17/08	SW846 6020	Arsenic	7.8	L	J	mg/kg
SB-3-3-4-9	4-9	12/17/08	SW846 6020	Arsenic	1.9	L	J	mg/kg
SB-3-3-14-15	14-15	12/17/08	SW846 6020	Arsenic	1.3	L	J	mg/kg
SB-3-4-SS	1-2	12/17/08	SW846 6020	Arsenic	4.6	L	J	mg/kg
SB-3-4-2-4	2-4	12/17/08	SW846 6020	Arsenic	1.3			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6010B	Arsenic	0.78	B		mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6020	Arsenic	0.82			mg/kg
SB-3-5-SS	2-4	12/18/08	SW846 6020	Arsenic	5.9			mg/kg
SB-3-5-6-8	6-8	12/18/08	SW846 6020	Arsenic	4.9			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6010B	Arsenic	7			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6020	Arsenic	4.8			mg/kg
SB-3-5-14-15	14-15	12/18/08	SW846 6020	Arsenic	4.4			mg/kg
SB-4-1-SS	0.5-2	12/18/08	SW846 6020	Arsenic	3			mg/kg
SB-4-1-2-4	2-4	12/18/08	SW846 6020	Arsenic	4.1			mg/kg
SB-4-1-12-14	12-14	12/18/08	SW846 6020	Arsenic	14			mg/kg
SB-14-1-12-14	12-14	12/18/08	SW846 6020	Arsenic	8.2			mg/kg
SB-4-2-SS	0.5-2	12/18/08	SW846 6020	Arsenic	3.4			mg/kg
SB-14-2-SS	0.5-2	12/18/08	SW846 6020	Arsenic	3.5			mg/kg
SB-4-2-2-4	2-4	12/18/08	SW846 6020	Arsenic	3.4			mg/kg
SB-4-2-8-9	8-9	12/18/08	SW846 6020	Arsenic	9.4			mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6010B	Arsenic	7			mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6020	Arsenic	5.2			mg/kg
SB-4-3-SS	0.5-2	12/17/08	SW846 6020	Arsenic	3.4			mg/kg
SB-4-3-2-4	2-4	12/17/08	SW846 6020	Arsenic	2.3			mg/kg
SB-4-3-4-9	4-9	12/17/08	SW846 6020	Arsenic	4.1			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
SB-4-3-22-24	22-24	12/17/08	SW846 6010B	Arsenic	8.7			mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6020	Arsenic	18			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6010B	Arsenic	4.6			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6020	Arsenic	2.8			mg/kg
SB-4-4-SS	0.5-2	12/17/08	SW846 6020	Arsenic	5.3			mg/kg
SB-4-5-SS	0.5-2	12/18/08	SW846 6020	Arsenic	1.5			mg/kg
SB-4-4-2-4	2-4	12/17/08	SW846 6020	Arsenic	1.2			mg/kg
SB-4-5-2-4	2-4	12/18/08	SW846 6020	Arsenic	2.1			mg/kg
SB-4-5-8-9	8-9	12/18/08	SW846 6020	Arsenic	22			mg/kg
SB-2-1-SS	0.5-2	12/18/08	SW846 6020	Lead	7			mg/kg
SB-2-1-2-4	2-4	12/18/08	SW846 6020	Lead	11			mg/kg
SB-2-1-4-9	4-9	12/18/08	SW846 6020	Lead	4.8			mg/kg
SB-12-1-4-9	4-9	12/18/08	SW846 6020	Lead	4.8			mg/kg
SB-2-2-SS	0.5-2	12/18/08	SW846 6020	Lead	280			mg/kg
SB-2-2-2-4	2-4	12/18/08	SW846 6020	Lead	18			mg/kg
SB-2-2-4-9	4-9	12/18/08	SW846 6020	Lead	4.1			mg/kg
SB-2-3-SS	2-4	12/18/08	SW846 6020	Lead	1.9			mg/kg
SB-2-3-18-19	18-19	12/18/08	SW846 6020	Lead	6.2			mg/kg
SB-2-3-20-20.5	20-20.5	12/18/08	SW846 6020	Lead	1.1			mg/kg
SB-2-4-SS	0.5-2	12/18/08	SW846 6020	Lead	160			mg/kg
SB-2-4-4-5	4-5	12/18/08	SW846 6020	Lead	6.3			mg/kg
SB-2-4-14-15	14-15	12/18/08	SW846 6020	Lead	9.1			mg/kg
SS-3-1-SS	1-2	12/17/08	SW846 6020	Lead	130			mg/kg
SB-3-1-SS	3-4	12/17/08	SW846 6020	Lead	190			mg/kg
SB-3-1-4-9	4-9	12/17/08	SW846 6020	Lead	1900			mg/kg
SB-3-1-14-15	14-15	12/17/08	SW846 6020	Lead	1.8			mg/kg
SB-3-2-SS	1-2	12/17/08	SW846 6020	Lead	13			mg/kg
SB-3-2-2-3	2-3	12/17/08	SW846 6020	Lead	210			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6010B	Lead	41			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6020	Lead	31			mg/kg
SB-3-2-14-15	14-15	12/17/08	SW846 6020	Lead	190			mg/kg
SB-3-3-SS	1-2	12/17/08	SW846 6020	Lead	140			mg/kg
SB-3-3-4-9	4-9	12/17/08	SW846 6020	Lead	22			mg/kg
SB-3-3-14-15	14-15	12/17/08	SW846 6020	Lead	2.7			mg/kg
SB-3-4-SS	1-2	12/17/08	SW846 6020	Lead	270			mg/kg
SB-3-4-2-4	2-4	12/17/08	SW846 6020	Lead	14			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6010B	Lead	1.1			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6020	Lead	1.5			mg/kg
SB-3-5-SS	2-4	12/18/08	SW846 6020	Lead	180			mg/kg
SB-3-5-6-8	6-8	12/18/08	SW846 6020	Lead	26			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6010B	Lead	140	L	J+	mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6020	Lead	170			mg/kg
SB-3-5-14-15	14-15	12/18/08	SW846 6020	Lead	82			mg/kg
SB-4-1-SS	0.5-2	12/18/08	SW846 6020	Lead	30			mg/kg
SB-14-2-SS	0.5-2	12/18/08	SW846 6020	Lead	57			mg/kg
SB-4-1-2-4	2-4	12/18/08	SW846 6020	Lead	51			mg/kg
SB-4-1-12-14	12-14	12/18/08	SW846 6020	Lead	140			mg/kg
SB-14-1-12-14	12-14	12/18/08	SW846 6020	Lead	260			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
SB-4-2-SS	0.5-2	12/18/08	SW846 6020	Lead	55			mg/kg
SB-4-2-2-4	2-4	12/18/08	SW846 6020	Lead	61			mg/kg
SB-4-2-8-9	8-9	12/18/08	SW846 6020	Lead	290			mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6010B	Lead	180	L	J	mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6020	Lead	190			mg/kg
SB-4-3-SS	0.5-2	12/17/08	SW846 6020	Lead	39			mg/kg
SB-4-3-2-4	2-4	12/17/08	SW846 6020	Lead	64			mg/kg
SB-4-3-4-9	4-9	12/17/08	SW846 6020	Lead	62			mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6010B	Lead	130			mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6020	Lead	600			mg/kg
SB-4-4-SS	0.5-2	12/17/08	SW846 6020	Lead	150			mg/kg
SB-4-4-2-4	2-4	12/17/08	SW846 6020	Lead	17			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6010B	Lead	10			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6020	Lead	12			mg/kg
SB-4-5-SS	0.5-2	12/18/08	SW846 6020	Lead	12			mg/kg
SB-4-5-2-4	2-4	12/18/08	SW846 6020	Lead	21			mg/kg
SB-4-5-8-9	8-9	12/18/08	SW846 6020	Lead	780			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6010B	Barium	100			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6010B	Barium	8.6			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6010B	Barium	260	J L		mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6010B	Barium	410	J L		mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6010B	Barium	260			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6010B	Barium	150			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6010B	Cadmium	1.3			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6010B	Cadmium	ND			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6010B	Cadmium	0.67			mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6010B	Cadmium	7.3			mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6010B	Cadmium	7			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6010B	Cadmium	3.3			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6010B	Chromium	8.7			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6010B	Chromium	0.58	B		mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6010B	Chromium	13	L		mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6010B	Chromium	14	L		mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6010B	Chromium	13			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6010B	Chromium	5.6			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 7471A	Mercury	0.028			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 7471A	Mercury	ND			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 7471A	Mercury	0.03			mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 7471A	Mercury	0.083			mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 7471A	Mercury	0.074			mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 7471A	Mercury	0.03			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6010B	Selenium	ND			mg/kg
SB-3-4-14-15	14-15	12/17/08	SW846 6010B	Selenium	ND			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6010B	Selenium	ND			mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6010B	Selenium	ND			mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6010B	Selenium	1.6	B		mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6010B	Selenium	ND			mg/kg
SB-3-2-4-9	4-9	12/17/08	SW846 6010B	Silver	0.28	B J		mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
SB-3-4-14-15	14-15	12/17/08	SW846 6010B	Silver	ND			mg/kg
SB-3-5-10-15	10-15	12/18/08	SW846 6010B	Silver	1.4			mg/kg
SB-4-2-12-14	12-14	12/18/08	SW846 6010B	Silver	1.4			mg/kg
SB-4-3-22-24	22-24	12/17/08	SW846 6010B	Silver	0.98	B J		mg/kg
SB-4-4-23-24.5	23-24.5	12/17/08	SW846 6010B	Silver	ND			mg/kg
Samples Collect by EnviroGroup								
MW-01	2 - 2.5	12/14/04	SW6010A	Arsenic	7.80			mg/kg
MW-01	6 - 6.5	12/14/04	SW6010A	Arsenic	31			mg/kg
MW-01	11 - 11.5	12/14/04	SW6010A	Arsenic	6			mg/kg
MW-01	16.8 - 17.3	12/14/04	SW6010A	Arsenic	12			mg/kg
MW-01	19 - 19.5	12/14/04	SW6010A	Arsenic	27			mg/kg
MW-02	2.0-2.5	3/24/05	SW6010A	Arsenic	6			mg/kg
MW-02	5.0-5.5	3/24/05	SW6010A	Arsenic	59			mg/kg
MW-03	1.8 - 2.3	12/14/04	SW6010A	Arsenic	23			mg/kg
MW-03	5.5 - 6	12/14/04	SW6010A	Arsenic	13			mg/kg
MW-03	9 - 9.5	12/14/04	SW6010A	Arsenic	8.80			mg/kg
MW-03	19.5 - 20.0	12/14/04	SW6010A	Arsenic	96			mg/kg
MW-05	0.7-1.2	3/28/05	SW6010A	Arsenic	23			mg/kg
MW-05	4.5-5.0	3/28/05	SW6010A	Arsenic	6			mg/kg
MW-05	9.5-10.0	3/28/05	SW6010A	Arsenic	6			mg/kg
MW-05	15.0-15.5	3/28/05	SW6010A	Arsenic	6			mg/kg
MW-05	23.7-24.1	3/28/05	SW6010A	Arsenic	6			mg/kg
MW-05	38.0-38.5	3/28/05	SW6010A	Arsenic	91			mg/kg
MW-06	1.6-2.1	3/24/05	SW6010A	Arsenic	100			mg/kg
MW-06	5.0-5.5	3/24/05	SW6010A	Arsenic	6			mg/kg
MW-06	15.0-15.5	3/24/05	SW6010A	Arsenic	6			mg/kg
MW-06	20.0-20.5	3/24/05	SW6010A	Arsenic	6			mg/kg
MW-06	34.0-34.3	3/24/05	SW6010A	Arsenic	22			mg/kg
BH-01	1.5 - 2.0	12/15/04	SW6010A	Arsenic	30			mg/kg
BH-01	6.8 - 7.2	12/15/04	SW6010A	Arsenic	21			mg/kg
BH-01	9.5 - 10.0	12/15/04	SW6010A	Arsenic	46			mg/kg
BH-01	14.0 - 14.3	12/15/04	SW6010A	Arsenic	18			mg/kg
BH-01	24 - 24.5	12/15/04	SW6010A	Arsenic	760			mg/kg
BH-02	1.7 - 2.0	12/14/04	SW6010A	Arsenic	48			mg/kg
BH-02	4.5 - 5.0	12/14/04	SW6010A	Arsenic	21			mg/kg
BH-02	9 - 9.4	12/14/04	SW6010A	Arsenic	15			mg/kg
BH-03	0.7 - 1.0	12/15/04	SW6010A	Arsenic	22			mg/kg
BH-03	6 - 6.5	12/15/04	SW6010A	Arsenic	6			mg/kg
BH-03	10.2 - 10.8	12/15/04	SW6010A	Arsenic	950			mg/kg
BH-03	14 - 14.8	12/15/04	SW6010A	Arsenic	1500			mg/kg
BH-03	20.6 - 21.0	12/15/04	SW6010A	Arsenic	880			mg/kg
BH-03	28.5 - 29	12/15/04	SW6010A	Arsenic	27			mg/kg
BH-04	1 - 1.5	12/20/04	SW6010A	Arsenic	16			mg/kg
BH-04	3 - 3.5	12/20/04	SW6010A	Arsenic	14			mg/kg
BH-05	2.0-2.5	3/24/05	SW6010A	Arsenic	420			mg/kg
BH-05	6.5-7.0	3/24/05	SW6010A	Arsenic	15			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BH-05	10.4-10.9	3/24/05	SW6010A	Arsenic	85			mg/kg
BH-05	16.1-16.6	3/24/05	SW6010A	Arsenic	6			mg/kg
BH-05	25.0-25.5	3/24/05	SW6010A	Arsenic	6			mg/kg
BH-06	0.9 - 1.2	12/15/04	SW6010A	Arsenic	270			mg/kg
BH-06	5.5 - 6.0	12/15/04	SW6010A	Arsenic	6			mg/kg
BH-06	10.5 - 11	12/15/04	SW6010A	Arsenic	6			mg/kg
BH-06	15.8 - 16.3	12/15/04	SW6010A	Arsenic	6			mg/kg
BH-06	20 - 20.5	12/15/04	SW6010A	Arsenic	6			mg/kg
BH-07	0.4-0.7	3/28/05	SW6010A	Arsenic	510			mg/kg
BH-07	1.5-1.8	3/28/05	SW6010A	Arsenic	17			mg/kg
BH-07	5.6-6.0	3/28/05	SW6010A	Arsenic	6			mg/kg
BH-07	9.5-10.0	3/28/05	SW6010A	Arsenic	6			mg/kg
BH-07	16.5-17.0	3/28/05	SW6010A	Arsenic	6			mg/kg
BH-07	18.5-19.0	3/28/05	SW6010A	Arsenic	6			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	27			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	46			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	11			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	7.10			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	7.5			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	7.60			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	6.40			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	13			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	17			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Arsenic	52			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Arsenic	34			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Arsenic	48			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Arsenic	36			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Arsenic	86			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Arsenic	88			mg/kg
3801 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Arsenic	11			mg/kg
3801 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Arsenic	94			mg/kg
3801 Brighton-Sector 03	0-0.17	6/23/05	SW6010A	Arsenic	15			mg/kg
3801 Brighton-Sector 04	0-0.17	6/23/05	SW6010A	Arsenic	15			mg/kg
3801 Brighton-Sector 05	0-0.17	6/23/05	SW6010A	Arsenic	8.3			mg/kg
3801 Brighton-Sector 06	0-0.17	6/23/05	SW6010A	Arsenic	15			mg/kg
3801 Brighton-Sector 07	0-0.17	6/23/05	SW6010A	Arsenic	18			mg/kg
3801 Brighton-Sector 08	0-0.17	6/23/05	SW6010A	Arsenic	22			mg/kg
3801 Brighton-Sector 09	0-0.17	6/23/05	SW6010A	Arsenic	85			mg/kg
4375 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Arsenic	23			mg/kg
4375 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Arsenic	21			mg/kg
4301 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Arsenic	9.9			mg/kg
MW-01	2.0	12/14/04	SW6010A	Lead	180			mg/kg
MW-01	6.0	12/14/04	SW6010A	Lead	260			mg/kg
MW-01	11.0	12/14/04	SW6010A	Lead	34			mg/kg
MW-01	16.8	12/14/04	SW6010A	Lead	130			mg/kg
MW-01	19.0	12/14/04	SW6010A	Lead	830			mg/kg
MW-03	1.8	12/14/04	SW6010A	Lead	950			mg/kg
MW-03	5.5	12/14/04	SW6010A	Lead	320			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
MW-03	9.0	12/14/04	SW6010A	Lead	1600			mg/kg
MW-03	19.5	12/14/04	SW6010A	Lead	42			mg/kg
BH-02	1.7	12/14/04	SW6010A	Lead	1400			mg/kg
BH-02	4.5	12/14/04	SW6010A	Lead	330			mg/kg
BH-02	9.0	12/14/04	SW6010A	Lead	180			mg/kg
BH-06	0.9	12/15/04	SW6010A	Lead	34000			mg/kg
BH-06	5.5	12/15/04	SW6010A	Lead	12			mg/kg
BH-06	10.5	12/15/04	SW6010A	Lead	14			mg/kg
BH-06	15.8	12/15/04	SW6010A	Lead	88			mg/kg
BH-06	20.0	12/15/04	SW6010A	Lead	5			mg/kg
BH-01	1.5	12/15/04	SW6010A	Lead	240			mg/kg
BH-01	6.8	12/15/04	SW6010A	Lead	250			mg/kg
BH-01	9.5	12/15/04	SW6010A	Lead	300			mg/kg
BH-01	14.0	12/15/04	SW6010A	Lead	220			mg/kg
BH-01	24.0	12/15/04	SW6010A	Lead	2300			mg/kg
BH-03	0.7	12/15/04	SW6010A	Lead	1200			mg/kg
BH-03	6.0	12/15/04	SW6010A	Lead	75			mg/kg
BH-03	10.2	12/15/04	SW6010A	Lead	470			mg/kg
BH-03	14.0	12/15/04	SW6010A	Lead	100000			mg/kg
BH-03	20.6	12/15/04	SW6010A	Lead	25			mg/kg
BH-03	28.5	12/15/04	SW6010A	Lead	250			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	380			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	380			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	82			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	110			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	170			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	190			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	110			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	230			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	260			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Lead	270			mg/kg
BH-04	1.0	12/20/04	SW6010A	Lead	460			mg/kg
BH-04	3.0	12/20/04	SW6010A	Lead	330			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Lead	540			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Lead	1600			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Lead	1300			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Lead	880			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Lead	36			mg/kg
BH-05	2.0-2.5	3/24/05	SW6010A	Lead	2900			mg/kg
BH-05	6.5-7.0	3/24/05	SW6010A	Lead	230			mg/kg
BH-05	10.4-10.9	3/24/05	SW6010A	Lead	3000			mg/kg
BH-05	16.1-16.6	3/24/05	SW6010A	Lead	5.60			mg/kg
BH-05	25.0-25.5	3/24/05	SW6010A	Lead	23			mg/kg
MW-06	1.6-2.1	3/24/05	SW6010A	Lead	3300			mg/kg
MW-06	5.0-5.5	3/24/05	SW6010A	Lead	7.20			mg/kg
MW-06	15.0-15.5	3/24/05	SW6010A	Lead	20			mg/kg
MW-06	20.0-20.5	3/24/05	SW6010A	Lead	5.40			mg/kg
MW-06	34.0-34.3	3/24/05	SW6010A	Lead	240			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
MW-02	2.0-2.5	3/24/05	SW6010A	Lead	130			mg/kg
MW-02	5.0-5.5	3/24/05	SW6010A	Lead	3600			mg/kg
BH-07	0.4-0.7	3/28/05	SW6010A	Lead	15000			mg/kg
BH-07	1.5-1.8	3/28/05	SW6010A	Lead	180			mg/kg
BH-07	5.6-6.0	3/28/05	SW6010A	Lead	8.90			mg/kg
BH-07	9.5-10.0	3/28/05	SW6010A	Lead	17			mg/kg
BH-07	16.5-17.0	3/28/05	SW6010A	Lead	11			mg/kg
BH-07	18.5-19.0	3/28/05	SW6010A	Lead	24			mg/kg
MW-05	0.7-1.2	3/28/05	SW6010A	Lead	530			mg/kg
MW-05	4.5-5.0	3/28/05	SW6010A	Lead	6.30			mg/kg
MW-05	9.5-10.0	3/28/05	SW6010A	Lead	14			mg/kg
MW-05	15.0-15.5	3/28/05	SW6010A	Lead	13			mg/kg
MW-05	23.7-24.1	3/28/05	SW6010A	Lead	5.5			mg/kg
MW-05	38.0-38.5	3/28/05	SW6010A	Lead	42			mg/kg
3801 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Lead	140			mg/kg
3801 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Lead	640			mg/kg
3801 Brighton-Sector 03	0-0.17	6/23/05	SW6010A	Lead	260			mg/kg
3801 Brighton-Sector 04	0-0.17	6/23/05	SW6010A	Lead	170			mg/kg
3801 Brighton-Sector 05	0-0.17	6/23/05	SW6010A	Lead	98			mg/kg
3801 Brighton-Sector 06	0-0.17	6/23/05	SW6010A	Lead	230			mg/kg
3801 Brighton-Sector 07	0-0.17	6/23/05	SW6010A	Lead	200			mg/kg
3801 Brighton-Sector 08	0-0.17	6/23/05	SW6010A	Lead	230			mg/kg
3801 Brighton-Sector 09	0-0.17	6/23/05	SW6010A	Lead	790			mg/kg
4375 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Lead	470			mg/kg
4375 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Lead	230			mg/kg
4301 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Lead	330			mg/kg
MW-01	2.0	12/14/04	SW6010A	Cadmium	2.10			mg/kg
MW-01	6.0	12/14/04	SW6010A	Cadmium	9.10			mg/kg
MW-01	11.0	12/14/04	SW6010A	Cadmium	0.5			mg/kg
MW-01	16.8	12/14/04	SW6010A	Cadmium	1			mg/kg
MW-01	19.0	12/14/04	SW6010A	Cadmium	3.20			mg/kg
MW-03	1.8	12/14/04	SW6010A	Cadmium	3			mg/kg
MW-03	5.5	12/14/04	SW6010A	Cadmium	2.5			mg/kg
MW-03	9.0	12/14/04	SW6010A	Cadmium	5.5			mg/kg
MW-03	19.5	12/14/04	SW6010A	Cadmium	18			mg/kg
BH-02	1.7	12/14/04	SW6010A	Cadmium	7.5			mg/kg
BH-02	4.5	12/14/04	SW6010A	Cadmium	4.40			mg/kg
BH-02	9.0	12/14/04	SW6010A	Cadmium	1.5			mg/kg
BH-06	0.9	12/15/04	SW6010A	Cadmium	100			mg/kg
BH-06	5.5	12/15/04	SW6010A	Cadmium	0.5			mg/kg
BH-06	10.5	12/15/04	SW6010A	Cadmium	0.5			mg/kg
BH-06	15.8	12/15/04	SW6010A	Cadmium	2.5			mg/kg
BH-06	20.0	12/15/04	SW6010A	Cadmium	0.5			mg/kg
BH-01	1.5	12/15/04	SW6010A	Cadmium	5.20			mg/kg
BH-01	6.8	12/15/04	SW6010A	Cadmium	4.90			mg/kg
BH-01	9.5	12/15/04	SW6010A	Cadmium	9.40			mg/kg
BH-01	14.0	12/15/04	SW6010A	Cadmium	1.90			mg/kg
BH-01	24.0	12/15/04	SW6010A	Cadmium	230			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BH-03	0.7	12/15/04	SW6010A	Cadmium	5.80			mg/kg
BH-03	6.0	12/15/04	SW6010A	Cadmium	0.50			mg/kg
BH-03	10.2	12/15/04	SW6010A	Cadmium	150			mg/kg
BH-03	14.0	12/15/04	SW6010A	Cadmium	160			mg/kg
BH-03	20.6	12/15/04	SW6010A	Cadmium	3.30			mg/kg
BH-03	28.5	12/15/04	SW6010A	Cadmium	0.5			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	2.70			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	4.20			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	0.93			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	1.20			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	1.40			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	1.20			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	1			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	3.30			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	5.10			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Cadmium	6			mg/kg
BH-04	1.0	12/20/04	SW6010A	Cadmium	2			mg/kg
BH-04	3.0	12/20/04	SW6010A	Cadmium	1.70			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Cadmium	6.40			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Cadmium	8.10			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Cadmium	6			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Cadmium	8.10			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Cadmium	15			mg/kg
BH-05	2.0-2.5	3/24/05	SW6010A	Cadmium	37			mg/kg
BH-05	6.5-7.0	3/24/05	SW6010A	Cadmium	70			mg/kg
BH-05	10.4-10.9	3/24/05	SW6010A	Cadmium	33			mg/kg
BH-05	16.1-16.6	3/24/05	SW6010A	Cadmium	7.90			mg/kg
BH-05	25.0-25.5	3/24/05	SW6010A	Cadmium	16			mg/kg
MW-06	1.6-2.1	3/24/05	SW6010A	Cadmium	30			mg/kg
MW-06	5.0-5.5	3/24/05	SW6010A	Cadmium	2.80			mg/kg
MW-06	15.0-15.5	3/24/05	SW6010A	Cadmium	1			mg/kg
MW-06	20.0-20.5	3/24/05	SW6010A	Cadmium	0.5			mg/kg
MW-06	34.0-34.3	3/24/05	SW6010A	Cadmium	0.5			mg/kg
MW-02	2.0-2.5	3/24/05	SW6010A	Cadmium	1.30			mg/kg
MW-02	5.0-5.5	3/24/05	SW6010A	Cadmium	2.5			mg/kg
BH-07	0.4-0.7	3/28/05	SW6010A	Cadmium	25			mg/kg
BH-07	1.5-1.8	3/28/05	SW6010A	Cadmium	2.10			mg/kg
BH-07	5.6-6.0	3/28/05	SW6010A	Cadmium	2.80			mg/kg
BH-07	9.5-10.0	3/28/05	SW6010A	Cadmium	14			mg/kg
BH-07	16.5-17.0	3/28/05	SW6010A	Cadmium	17			mg/kg
BH-07	18.5-19.0	3/28/05	SW6010A	Cadmium	9.30			mg/kg
MW-05	0.7-1.2	3/28/05	SW6010A	Cadmium	7.60			mg/kg
MW-05	4.5-5.0	3/28/05	SW6010A	Cadmium	0.5			mg/kg
MW-05	9.5-10.0	3/28/05	SW6010A	Cadmium	1			mg/kg
MW-05	15.0-15.5	3/28/05	SW6010A	Cadmium	1			mg/kg
MW-05	23.7-24.1	3/28/05	SW6010A	Cadmium	0.5			mg/kg
MW-05	38.0-38.5	3/28/05	SW6010A	Cadmium	18			mg/kg
3801 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Cadmium	2.7			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
3801 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Cadmium	5.7			mg/kg
3801 Brighton-Sector 03	0-0.17	6/23/05	SW6010A	Cadmium	2.9			mg/kg
3801 Brighton-Sector 04	0-0.17	6/23/05	SW6010A	Cadmium	4.4			mg/kg
3801 Brighton-Sector 05	0-0.17	6/23/05	SW6010A	Cadmium	1			mg/kg
3801 Brighton-Sector 06	0-0.17	6/23/05	SW6010A	Cadmium	3.2			mg/kg
3801 Brighton-Sector 07	0-0.17	6/23/05	SW6010A	Cadmium	2.2			mg/kg
3801 Brighton-Sector 08	0-0.17	6/23/05	SW6010A	Cadmium	2.3			mg/kg
3801 Brighton-Sector 09	0-0.17	6/23/05	SW6010A	Cadmium	11			mg/kg
4375 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Cadmium	4.1			mg/kg
4375 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Cadmium	0.5			mg/kg
4301 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Cadmium	3			mg/kg
MW-01	2.0	12/14/04	SW6010A	Zinc	190			mg/kg
MW-01	6.0	12/14/04	SW6010A	Zinc	210			mg/kg
MW-01	11.0	12/14/04	SW6010A	Zinc	78			mg/kg
MW-01	16.8	12/14/04	SW6010A	Zinc	490			mg/kg
MW-01	19.0	12/14/04	SW6010A	Zinc	4700			mg/kg
MW-03	1.8	12/14/04	SW6010A	Zinc	3400			mg/kg
MW-03	5.5	12/14/04	SW6010A	Zinc	180			mg/kg
MW-03	9.0	12/14/04	SW6010A	Zinc	2400			mg/kg
MW-03	19.5	12/14/04	SW6010A	Zinc	5.5			mg/kg
BH-02	1.7	12/14/04	SW6010A	Zinc	1800			mg/kg
BH-02	4.5	12/14/04	SW6010A	Zinc	620			mg/kg
BH-02	9.0	12/14/04	SW6010A	Zinc	800			mg/kg
BH-06	0.9	12/15/04	SW6010A	Zinc	14000			mg/kg
BH-06	5.5	12/15/04	SW6010A	Zinc	27			mg/kg
BH-06	10.5	12/15/04	SW6010A	Zinc	53			mg/kg
BH-06	15.8	12/15/04	SW6010A	Zinc	71			mg/kg
BH-06	20.0	12/15/04	SW6010A	Zinc	17			mg/kg
BH-01	1.5	12/15/04	SW6010A	Zinc	160			mg/kg
BH-01	6.8	12/15/04	SW6010A	Zinc	230			mg/kg
BH-01	9.5	12/15/04	SW6010A	Zinc	250			mg/kg
BH-01	14.0	12/15/04	SW6010A	Zinc	150			mg/kg
BH-01	24.0	12/15/04	SW6010A	Zinc	440			mg/kg
BH-03	0.7	12/15/04	SW6010A	Zinc	310			mg/kg
BH-03	6.0	12/15/04	SW6010A	Zinc	82			mg/kg
BH-03	10.2	12/15/04	SW6010A	Zinc	26			mg/kg
BH-03	14.0	12/15/04	SW6010A	Zinc	84			mg/kg
BH-03	20.6	12/15/04	SW6010A	Zinc	160			mg/kg
BH-03	28.5	12/15/04	SW6010A	Zinc	770			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	230			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	210			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	77			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	240			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	160			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	150			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	150			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	250			mg/kg
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	370			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
4600 Humbo	0-0.17	12/17/04	SW6010A	Zinc	330			mg/kg
BH-04	1.0	12/20/04	SW6010A	Zinc	690			mg/kg
BH-04	3.0	12/20/04	SW6010A	Zinc	460			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Zinc	1300			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Zinc	770			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Zinc	580			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Zinc	440			mg/kg
4201 Brigh	0-0.17	12/20/04	SW6010A	Zinc	3.5			mg/kg
BH-05	2.0-2.5	3/24/05	SW6010A	Zinc	460			mg/kg
BH-05	6.5-7.0	3/24/05	SW6010A	Zinc	480			mg/kg
BH-05	10.4-10.9	3/24/05	SW6010A	Zinc	530			mg/kg
BH-05	16.1-16.6	3/24/05	SW6010A	Zinc	120			mg/kg
BH-05	25.0-25.5	3/24/05	SW6010A	Zinc	190			mg/kg
MW-06	1.6-2.1	3/24/05	SW6010A	Zinc	3000			mg/kg
MW-06	5.0-5.5	3/24/05	SW6010A	Zinc	360			mg/kg
MW-06	15.0-15.5	3/24/05	SW6010A	Zinc	58			mg/kg
MW-06	20.0-20.5	3/24/05	SW6010A	Zinc	10			mg/kg
MW-06	34.0-34.3	3/24/05	SW6010A	Zinc	750			mg/kg
MW-02	2.0-2.5	3/24/05	SW6010A	Zinc	140			mg/kg
MW-02	5.0-5.5	3/24/05	SW6010A	Zinc	19000			mg/kg
BH-07	0.4-0.7	3/28/05	SW6010A	Zinc	560			mg/kg
BH-07	1.5-1.8	3/28/05	SW6010A	Zinc	190			mg/kg
BH-07	5.6-6.0	3/28/05	SW6010A	Zinc	420			mg/kg
BH-07	9.5-10.0	3/28/05	SW6010A	Zinc	1300			mg/kg
BH-07	16.5-17.0	3/28/05	SW6010A	Zinc	900			mg/kg
BH-07	18.5-19.0	3/28/05	SW6010A	Zinc	550			mg/kg
MW-05	0.7-1.2	3/28/05	SW6010A	Zinc	280			mg/kg
MW-05	4.5-5.0	3/28/05	SW6010A	Zinc	28			mg/kg
MW-05	9.5-10.0	3/28/05	SW6010A	Zinc	61			mg/kg
MW-05	15.0-15.5	3/28/05	SW6010A	Zinc	50			mg/kg
MW-05	23.7-24.1	3/28/05	SW6010A	Zinc	20			mg/kg
MW-05	38.0-38.5	3/28/05	SW6010A	Zinc	7.40			mg/kg
3801 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Zinc	210			mg/kg
3801 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Zinc	430			mg/kg
3801 Brighton-Sector 03	0-0.17	6/23/05	SW6010A	Zinc	250			mg/kg
3801 Brighton-Sector 04	0-0.17	6/23/05	SW6010A	Zinc	230			mg/kg
3801 Brighton-Sector 05	0-0.17	6/23/05	SW6010A	Zinc	130			mg/kg
3801 Brighton-Sector 06	0-0.17	6/23/05	SW6010A	Zinc	220			mg/kg
3801 Brighton-Sector 07	0-0.17	6/23/05	SW6010A	Zinc	180			mg/kg
3801 Brighton-Sector 08	0-0.17	6/23/05	SW6010A	Zinc	210			mg/kg
3801 Brighton-Sector 09	0-0.17	6/23/05	SW6010A	Zinc	360			mg/kg
4375 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Zinc	350			mg/kg
4375 Brighton-Sector 02	0-0.17	6/23/05	SW6010A	Zinc	730			mg/kg
4301 Brighton-Sector 01	0-0.17	6/23/05	SW6010A	Zinc	470			mg/kg
Samples Collected Along Brighton Blvd.								
BBCT38	0.0	6/24/03	XRF	Arsenic	70			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBCT38	0.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT38	0.0	6/24/03	XRF	Lead	33			mg/kg
BBCT38	0.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT38	4.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT38	4.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT38	4.0	6/24/03	XRF	Lead	47			mg/kg
BBCT38	4.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT38	4.0	6/24/03	SWA6010A	Arsenic	1.40			mg/kg
BBCT38	4.0	6/24/03	SWA6010A	Cadmium	1.00			mg/kg
BBCT38	4.0	6/24/03	SWA6010A	Lead	3.4			mg/kg
BBCT38	4.0	6/24/03	SWA6010A	Zinc	10.2			mg/kg
BBCT38	8.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT38	8.0	6/24/03	XRF	Cadmium	172			mg/kg
BBCT38	8.0	6/24/03	XRF	Lead	34			mg/kg
BBCT38	8.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT38	12.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT38	12.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT38	12.0	6/24/03	XRF	Lead	33			mg/kg
BBCT38	12.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT38	16.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT38	16.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT38	16.0	6/24/03	XRF	Lead	33			mg/kg
BBCT38	16.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT39	0.0	6/20/03	XRF	Arsenic	68			mg/kg
BBCT39	0.0	6/20/03	XRF	Cadmium	221			mg/kg
BBCT39	0.0	6/20/03	XRF	Lead	681			mg/kg
BBCT39	0.0	6/20/03	XRF	Zinc	424			mg/kg
BBCT39	0.0	6/20/03	SW6010A	Arsenic	23.3			mg/kg
BBCT39	0.0	6/20/03	SW6010A	Cadmium	3.5			mg/kg
BBCT39	0.0	6/20/03	SW6010A	Lead	836			mg/kg
BBCT39	0.0	6/20/03	SW6010A	Zinc	350			mg/kg
BBCT39	4.0	6/20/03	XRF	Arsenic	50			mg/kg
BBCT39	4.0	6/20/03	XRF	Cadmium	221			mg/kg
BBCT39	4.0	6/20/03	XRF	Lead	40			mg/kg
BBCT39	4.0	6/20/03	XRF	Zinc	123			mg/kg
BBCT39	8.0	6/20/03	XRF	Arsenic	50			mg/kg
BBCT39	8.0	6/20/03	XRF	Cadmium	221			mg/kg
BBCT39	8.0	6/20/03	XRF	Lead	29			mg/kg
BBCT39	8.0	6/20/03	XRF	Zinc	123			mg/kg
BBCT39	12.0	6/20/03	XRF	Arsenic	50			mg/kg
BBCT39	12.0	6/20/03	XRF	Cadmium	221			mg/kg
BBCT39	12.0	6/20/03	XRF	Lead	37			mg/kg
BBCT39	12.0	6/20/03	XRF	Zinc	123			mg/kg
BBCT39	16.0	6/20/03	XRF	Arsenic	50			mg/kg
BBCT39	16.0	6/20/03	XRF	Cadmium	221			mg/kg
BBCT39	16.0	6/20/03	XRF	Lead	51			mg/kg
BBCT39	16.0	6/20/03	XRF	Zinc	123			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBCT39	19.0	6/20/03	XRF	Arsenic	50			mg/kg
BBCT39	19.0	6/20/03	XRF	Cadmium	221			mg/kg
BBCT39	19.0	6/20/03	XRF	Lead	50			mg/kg
BBCT39	19.0	6/20/03	XRF	Zinc	123			mg/kg
BBCT40	0.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT40	0.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT40	0.0	6/24/03	XRF	Lead	58			mg/kg
BBCT40	0.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT40	0.0	6/24/03	SW6010A	Arsenic	2.4			mg/kg
BBCT40	0.0	6/24/03	SW6010A	Cadmium	0.1			mg/kg
BBCT40	0.0	6/24/03	SW6010A	Lead	16.9			mg/kg
BBCT40	0.0	6/24/03	SW6010A	Zinc	31.9			mg/kg
BBCT40	4.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT40	4.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT40	4.0	6/24/03	XRF	Lead	33			mg/kg
BBCT40	4.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT40	8.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT40	8.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT40	8.0	6/24/03	XRF	Lead	47			mg/kg
BBCT40	8.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT40	12.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT40	12.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT40	12.0	6/24/03	XRF	Lead	33			mg/kg
BBCT40	12.0	6/24/03	XRF	Zinc	115			mg/kg
BBCT40	15.0	6/24/03	XRF	Arsenic	70			mg/kg
BBCT40	15.0	6/24/03	XRF	Cadmium	132			mg/kg
BBCT40	15.0	6/24/03	XRF	Lead	33			mg/kg
BBCT40	15.0	6/24/03	XRF	Zinc	115			mg/kg
BBBB37	0.0	5/7/03	XRF	Arsenic	58			mg/kg
BBBB37	0.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB37	0.0	5/7/03	XRF	Lead	576			mg/kg
BBBB37	0.0	5/7/03	XRF	Zinc	327			mg/kg
BBBB37	0.0	5/7/03	SW6010	Arsenic	15.9			mg/kg
BBBB37	0.0	5/7/03	SW6010	Cadmium	2.8			mg/kg
BBBB37	0.0	5/7/03	SW6010	Lead	407			mg/kg
BBBB37	0.0	5/7/03	SW6010	Zinc	217			mg/kg
BBBB37	4.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB37	4.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB37	4.0	5/7/03	XRF	Lead	38			mg/kg
BBBB37	4.0	5/7/03	XRF	Zinc	91			mg/kg
BBBB37	8.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB37	8.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB37	8.0	5/7/03	XRF	Lead	38			mg/kg
BBBB37	8.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB37	12.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB37	12.0	5/7/03	XRF	Cadmium	172			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBBB37	12.0	5/7/03	XRF	Lead	38			mg/kg
BBBB37	12.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB37	16.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB37	16.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB37	16.0	5/7/03	XRF	Lead	48			mg/kg
BBBB37	16.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB37	20.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB37	20.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB37	20.0	5/7/03	XRF	Lead	44			mg/kg
BBBB37	20.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB36	0.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB36	0.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB36	0.0	5/7/03	XRF	Lead	283			mg/kg
BBBB36	0.0	5/7/03	XRF	Zinc	882			mg/kg
BBBB36	0.0	5/7/03	SW6010	Arsenic	8.7			mg/kg
BBBB36	0.0	5/7/03	SW6010	Cadmium	1.4			mg/kg
BBBB36	0.0	5/7/03	SW6010	Lead	234			mg/kg
BBBB36	0.0	5/7/03	SW6010	Zinc	598			mg/kg
BBBB36	4.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB36	4.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB36	4.0	5/7/03	XRF	Lead	38			mg/kg
BBBB36	4.0	5/7/03	XRF	Zinc	127			mg/kg
BBBB36	8.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB36	8.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB36	8.0	5/7/03	XRF	Lead	41			mg/kg
BBBB36	8.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB36	12.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB36	12.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB36	12.0	5/7/03	XRF	Lead	40			mg/kg
BBBB36	12.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB36	16.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB36	16.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB36	16.0	5/7/03	XRF	Lead	38			mg/kg
BBBB36	16.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB36	20.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB36	20.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB36	20.0	5/7/03	XRF	Lead	44			mg/kg
BBBB36	20.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB35	0.0	5/16/03	XRF	Arsenic	409			mg/kg
BBBB35	0.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB35	0.0	5/16/03	XRF	Lead	4086			mg/kg
BBBB35	0.0	5/16/03	XRF	Zinc	2608			mg/kg
BBBB35	0.0	5/16/03	SW6010	Arsenic	94.6			mg/kg
BBBB35	0.0	5/16/03	SW6010	Cadmium	30.4			mg/kg
BBBB35	0.0	5/16/03	SW6010	Lead	4120			mg/kg
BBBB35	0.0	5/16/03	SW6010	Zinc	13500			mg/kg
BBBB35	4.0	5/16/03	XRF	Arsenic	70			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBBB35	4.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB35	4.0	5/16/03	XRF	Lead	50			mg/kg
BBBB35	4.0	5/16/03	XRF	Zinc	147			mg/kg
BBBB35	8.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB35	8.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB35	8.0	5/16/03	XRF	Lead	50			mg/kg
BBBB35	8.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB35	12.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB35	12.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB35	12.0	5/16/03	XRF	Lead	334			mg/kg
BBBB35	12.0	5/16/03	XRF	Zinc	269			mg/kg
BBBB35	16.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB35	16.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB35	16.0	5/16/03	XRF	Lead	50			mg/kg
BBBB35	16.0	5/16/03	XRF	Zinc	99			mg/kg
BBB34	0.0	5/16/03	XRF	Arsenic	284			mg/kg
BBB34	0.0	5/16/03	XRF	Cadmium	207			mg/kg
BBB34	0.0	5/16/03	XRF	Lead	2836			mg/kg
BBB34	0.0	5/16/03	XRF	Zinc	949			mg/kg
BBB34	0.0	5/16/03	SW6010	Arsenic	85.8			mg/kg
BBB34	0.0	5/16/03	SW6010	Cadmium	11.4			mg/kg
BBB34	0.0	5/16/03	SW6010	Lead	4530			mg/kg
BBB34	0.0	5/16/03	SW6010	Zinc	1180			mg/kg
BBB34	4.0	5/16/03	XRF	Arsenic	70			mg/kg
BBB34	4.0	5/16/03	XRF	Cadmium	207			mg/kg
BBB34	4.0	5/16/03	XRF	Lead	50			mg/kg
BBB34	4.0	5/16/03	XRF	Zinc	99			mg/kg
BBB34	8.0	5/16/03	XRF	Arsenic	70			mg/kg
BBB34	8.0	5/16/03	XRF	Cadmium	207			mg/kg
BBB34	8.0	5/16/03	XRF	Lead	50			mg/kg
BBB34	8.0	5/16/03	XRF	Zinc	99			mg/kg
BBB34	12.0	5/16/03	XRF	Arsenic	70			mg/kg
BBB34	12.0	5/16/03	XRF	Cadmium	207			mg/kg
BBB34	12.0	5/16/03	XRF	Lead	50			mg/kg
BBB34	12.0	5/16/03	XRF	Zinc	99			mg/kg
BBB34	16.0	5/16/03	XRF	Arsenic	70			mg/kg
BBB34	16.0	5/16/03	XRF	Cadmium	207			mg/kg
BBB34	16.0	5/16/03	XRF	Lead	50			mg/kg
BBB34	16.0	5/16/03	XRF	Zinc	99			mg/kg
BBB34	20.0	5/16/03	XRF	Arsenic	70			mg/kg
BBB34	20.0	5/16/03	XRF	Cadmium	207			mg/kg
BBB34	20.0	5/16/03	XRF	Lead	50			mg/kg
BBB34	20.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB33	0.0	5/16/03	XRF	Arsenic	77			mg/kg
BBBB33	0.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB33	0.0	5/16/03	XRF	Lead	774			mg/kg
BBBB33	0.0	5/16/03	XRF	Zinc	2604			mg/kg
BBBB33	0.0	5/16/03	SW6010	Arsenic	26.3			mg/kg
BBBB33	0.0	5/16/03	SW6010	Cadmium	26.9			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBBB33	0.0	5/16/03	SW6010	Lead	690			mg/kg
BBBB33	0.0	5/16/03	SW6010	Zinc	2240			mg/kg
BBBB33	4.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB33	4.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB33	4.0	5/16/03	XRF	Lead	64			mg/kg
BBBB33	4.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB33	8.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB33	8.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB33	8.0	5/16/03	XRF	Lead	57			mg/kg
BBBB33	8.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB33	12.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB33	12.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB33	12.0	5/16/03	XRF	Lead	50			mg/kg
BBBB33	12.0	5/16/03	XRF	Zinc	121			mg/kg
BBBB33	16.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB33	16.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB33	16.0	5/16/03	XRF	Lead	50			mg/kg
BBBB33	16.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB33	20.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB33	20.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB33	20.0	5/16/03	XRF	Lead	50			mg/kg
BBBB33	20.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB32	0.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB32	0.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB32	0.0	5/7/03	XRF	Lead	529			mg/kg
BBBB32	0.0	5/7/03	XRF	Zinc	997			mg/kg
BBBB32	0.0	5/7/03	SW6010	Arsenic	23.3			mg/kg
BBBB32	0.0	5/7/03	SW6010	Cadmium	4.5			mg/kg
BBBB32	0.0	5/7/03	SW6010	Lead	761			mg/kg
BBBB32	0.0	5/7/03	SW6010	Zinc	2650			mg/kg
BBBB32	4.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB32	4.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB32	4.0	5/7/03	XRF	Lead	124			mg/kg
BBBB32	4.0	5/7/03	XRF	Zinc	227			mg/kg
BBBB32	8.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB32	8.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB32	8.0	5/7/03	XRF	Lead	38			mg/kg
BBBB32	8.0	5/7/03	XRF	Zinc	80			mg/kg
BBBB32	12.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB32	12.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB32	12.0	5/7/03	XRF	Lead	43			mg/kg
BBBB32	12.0	5/7/03	XRF	Zinc	101			mg/kg
BBBB31	0.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB31	0.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB31	0.0	5/16/03	XRF	Lead	163			mg/kg
BBBB31	0.0	5/16/03	XRF	Zinc	513			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBBB31	0.0	5/16/03	SW6010	Arsenic	8.9			mg/kg
BBBB31	0.0	5/16/03	SW6010	Cadmium	2.1			mg/kg
BBBB31	0.0	5/16/03	SW6010	Lead	182			mg/kg
BBBB31	0.0	5/16/03	SW6010	Zinc	649			mg/kg
BBBB31	4.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB31	4.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB31	4.0	5/16/03	XRF	Lead	54			mg/kg
BBBB31	4.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB31	8.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB31	8.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB31	8.0	5/16/03	XRF	Lead	50			mg/kg
BBBB31	8.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB31	12.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB31	12.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB31	12.0	5/16/03	XRF	Lead	50			mg/kg
BBBB31	12.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB31	16.0	5/16/03	XRF	Arsenic	70			mg/kg
BBBB31	16.0	5/16/03	XRF	Cadmium	207			mg/kg
BBBB31	16.0	5/16/03	XRF	Lead	53			mg/kg
BBBB31	16.0	5/16/03	XRF	Zinc	99			mg/kg
BBBB30	0.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB30	0.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB30	0.0	5/7/03	XRF	Lead	382			mg/kg
BBBB30	0.0	5/7/03	XRF	Zinc	1344			mg/kg
BBBB30	0.0	5/7/03	SW6010	Arsenic	16.4			mg/kg
BBBB30	0.0	5/7/03	SW6010	Cadmium	2.9			mg/kg
BBBB30	0.0	5/7/03	SW6010	Lead	406			mg/kg
BBBB30	0.0	5/7/03	SW6010	Zinc	1300			mg/kg
BBBB30	4.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB30	4.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB30	4.0	5/7/03	XRF	Lead	56			mg/kg
BBBB30	4.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB30	8.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB30	8.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB30	8.0	5/7/03	XRF	Lead	53			mg/kg
BBBB30	8.0	5/7/03	XRF	Zinc	93			mg/kg
BBBB30	12.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB30	12.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB30	12.0	5/7/03	XRF	Lead	38			mg/kg
BBBB30	12.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB30	16.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB30	16.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB30	16.0	5/7/03	XRF	Lead	64			mg/kg
BBBB30	16.0	5/7/03	XRF	Zinc	205			mg/kg
BBBB30	20.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB30	20.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB30	20.0	5/7/03	XRF	Lead	39			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBBB30	20.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB30	24.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB30	24.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB30	24.0	5/7/03	XRF	Lead	39			mg/kg
BBBB30	24.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB29	0.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB29	0.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB29	0.0	5/7/03	XRF	Lead	112			mg/kg
BBBB29	0.0	5/7/03	XRF	Zinc	390			mg/kg
BBBB29	0.0	5/7/03	SW6010	Arsenic	5.0			mg/kg
BBBB29	0.0	5/7/03	SW6010	Cadmium	2.4			mg/kg
BBBB29	0.0	5/7/03	SW6010	Lead	113			mg/kg
BBBB29	0.0	5/7/03	SW6010	Zinc	492			mg/kg
BBBB29	4.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB29	4.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB29	4.0	5/7/03	XRF	Lead	40			mg/kg
BBBB29	4.0	5/7/03	XRF	Zinc	122			mg/kg
BBBB29	8.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB29	8.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB29	8.0	5/7/03	XRF	Lead	72			mg/kg
BBBB29	8.0	5/7/03	XRF	Zinc	116			mg/kg
BBBB29	12.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB29	12.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB29	12.0	5/7/03	XRF	Lead	38			mg/kg
BBBB29	12.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB29	16.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB29	16.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB29	16.0	5/7/03	XRF	Lead	40			mg/kg
BBBB29	16.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB29	20.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB29	20.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB29	20.0	5/7/03	XRF	Lead	42			mg/kg
BBBB29	20.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB29	24.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB29	24.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB29	24.0	5/7/03	XRF	Lead	41			mg/kg
BBBB29	24.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB28	0.0	5/7/03	XRF	Arsenic	129			mg/kg
BBBB28	0.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB28	0.0	5/7/03	XRF	Lead	1285			mg/kg
BBBB28	0.0	5/7/03	XRF	Zinc	968			mg/kg
BBBB28	0.0	5/7/03	SW6010	Arsenic	117			mg/kg
BBBB28	0.0	5/7/03	SW6010	Cadmium	26.5			mg/kg
BBBB28	0.0	5/7/03	SW6010	Lead	1880			mg/kg
BBBB28	0.0	5/7/03	SW6010	Zinc	778			mg/kg
BBBB28	4.0	5/7/03	XRF	Arsenic	56			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BBBB28	4.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB28	4.0	5/7/03	XRF	Lead	38			mg/kg
BBBB28	4.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB28	8.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB28	8.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB28	8.0	5/7/03	XRF	Lead	40			mg/kg
BBBB28	8.0	5/7/03	XRF	Zinc	81			mg/kg
BBBB28	12.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB28	12.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB28	12.0	5/7/03	XRF	Lead	42			mg/kg
BBBB28	12.0	5/7/03	XRF	Zinc	114			mg/kg
BBBB28	16.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB28	16.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB28	16.0	5/7/03	XRF	Lead	38			mg/kg
BBBB28	16.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB28	20.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB28	20.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB28	20.0	5/7/03	XRF	Lead	45			mg/kg
BBBB28	20.0	5/7/03	XRF	Zinc	112			mg/kg
BBBB28	24.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB28	24.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB28	24.0	5/7/03	XRF	Lead	76			mg/kg
BBBB28	24.0	5/7/03	XRF	Zinc	100			mg/kg
BBBB27	0.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB27	0.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB27	0.0	5/7/03	XRF	Lead	139			mg/kg
BBBB27	0.0	5/7/03	XRF	Zinc	251			mg/kg
BBBB27	0.0	5/7/03	SW6010	Arsenic	11.1			mg/kg
BBBB27	0.0	5/7/03	SW6010	Cadmium	2.4			mg/kg
BBBB27	0.0	5/7/03	SW6010	Lead	166			mg/kg
BBBB27	0.0	5/7/03	SW6010	Zinc	238			mg/kg
BBBB27	4.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB27	4.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB27	4.0	5/7/03	XRF	Lead	89			mg/kg
BBBB27	4.0	5/7/03	XRF	Zinc	210			mg/kg
BBBB27	8.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB27	8.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB27	8.0	5/7/03	XRF	Lead	38			mg/kg
BBBB27	8.0	5/7/03	XRF	Zinc	69			mg/kg
BBBB27	12.0	5/7/03	XRF	Arsenic	56			mg/kg
BBBB27	12.0	5/7/03	XRF	Cadmium	172			mg/kg
BBBB27	12.0	5/7/03	XRF	Lead	60			mg/kg
BBBB27	12.0	5/7/03	XRF	Zinc	151			mg/kg
BB3822	0.0	5/16/03	XRF	Arsenic	70			mg/kg
BB3822	0.0	5/16/03	XRF	Cadmium	207			mg/kg
BB3822	0.0	5/16/03	XRF	Lead	79			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
BB3822	0.0	5/16/03	XRF	Zinc	107			mg/kg
BB3822	0.0	5/16/03	SW6010	Arsenic	2.3			mg/kg
BB3822	0.0	5/16/03	SW6010	Cadmium	0.62			mg/kg
BB3822	0.0	5/16/03	SW6010	Lead	49.1			mg/kg
BB3822	0.0	5/16/03	SW6010	Zinc	93.3			mg/kg
BB3822	4.0	5/16/03	XRF	Arsenic	70			mg/kg
BB3822	4.0	5/16/03	XRF	Cadmium	207			mg/kg
BB3822	4.0	5/16/03	XRF	Lead	50			mg/kg
BB3822	4.0	5/16/03	XRF	Zinc	99			mg/kg
BB3822	8.0	5/16/03	XRF	Arsenic	70			mg/kg
BB3822	8.0	5/16/03	XRF	Cadmium	207			mg/kg
BB3822	8.0	5/16/03	XRF	Lead	50			mg/kg
BB3822	8.0	5/16/03	XRF	Zinc	99			mg/kg
BB3822	12.0	5/16/03	XRF	Arsenic	70			mg/kg
BB3822	12.0	5/16/03	XRF	Cadmium	207			mg/kg
BB3822	12.0	5/16/03	XRF	Lead	50			mg/kg
BB3822	12.0	5/16/03	XRF	Zinc	99			mg/kg
BB3825	0.0	5/6/03	XRF	Arsenic	70			mg/kg
BB3825	0.0	5/6/03	XRF	Cadmium	109			mg/kg
BB3825	0.0	5/6/03	XRF	Lead	49			mg/kg
BB3825	0.0	5/6/03	XRF	Zinc	91			mg/kg
BB3825	0.0	5/6/03	SW6010	Arsenic	5.6			mg/kg
BB3825	0.0	5/6/03	SW6010	Cadmium	0.55			mg/kg
BB3825	0.0	5/6/03	SW6010	Lead	80.1			mg/kg
BB3825	0.0	5/6/03	SW6010	Zinc	135			mg/kg
BB3825	4.0	5/6/03	XRF	Arsenic	71			mg/kg
BB3825	4.0	5/6/03	XRF	Cadmium	109			mg/kg
BB3825	4.0	5/6/03	XRF	Lead	49			mg/kg
BB3825	4.0	5/6/03	XRF	Zinc	91			mg/kg
BB3825	8.0	5/6/03	XRF	Arsenic	71			mg/kg
BB3825	8.0	5/6/03	XRF	Cadmium	109			mg/kg
BB3825	8.0	5/6/03	XRF	Lead	36			mg/kg
BB3825	8.0	5/6/03	XRF	Zinc	91			mg/kg
BB3825	12.0	5/6/03	XRF	Arsenic	71			mg/kg
BB3825	12.0	5/6/03	XRF	Cadmium	109			mg/kg
BB3825	12.0	5/6/03	XRF	Lead	36			mg/kg
BB3825	12.0	5/6/03	XRF	Zinc	91			mg/kg
Globeville Park Samples								
SB-01	0 - 2	7/24/02	SW6020	Arsenic	7.78			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	11.1			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic	7.38			mg/kg
SB-02	0 - 2	7/24/02	SW6020	Arsenic	4.45			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	6.14			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-03	0 - 2	7/24/02	SW6020	Arsenic	7.69			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
	2 - 3	7/24/02	SW6020	Arsenic	6.55			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic	9.26			mg/kg
SB-04	0 - 2	7/24/02	SW6020	Arsenic	5.95			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	7.24			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-05	0 - 2	7/24/02	SW6020	Arsenic	2.76			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	3.92			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-06	0 - 2	7/24/02	SW6020	Arsenic	3.25			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	5.67			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-07	0 - 2	7/24/02	SW6020	Arsenic	2.2			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	2.56			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-08	0 - 2	7/24/02	SW6020	Arsenic	2.31			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	3.26			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-09	0 - 2	7/24/02	SW6020	Arsenic	2.13			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	3.08			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-10	0 - 2	7/24/02	SW6020	Arsenic	8.15			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	9.7			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-11	0 - 2	7/24/02	SW6020	Arsenic	4.06			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	5.97			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-12	0 - 2	7/24/02	SW6020	Arsenic	10.4			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	8.49			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-13	0 - 2	7/24/02	SW6020	Arsenic	6.27			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	3.43			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-14	0 - 2	7/24/02	SW6020	Arsenic	3.44			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	2.26			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-15	0 - 2	7/24/02	SW6020	Arsenic	8.15			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	2.86			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-16	0 - 2	7/24/02	SW6020	Arsenic	4.88			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	5.31			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-17	0 - 2	7/24/02	SW6020	Arsenic	8.03			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	8.43			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-18	0 - 2	7/24/02	SW6020	Arsenic	2.16			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	2.87			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic	4.99			mg/kg
SB-19	0 - 2	7/24/02	SW6020	Arsenic	2.33			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
	2 - 3	7/24/02	SW6020	Arsenic	2.99			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-20	0 - 2	7/24/02	SW6020	Arsenic	4.21			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	9.41			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-21	0 - 2	7/24/02	SW6020	Arsenic	3.29			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	3.58			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-22	0 - 2	7/24/02	SW6020	Arsenic	3.11			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	4.85			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-23	0 - 2	7/24/02	SW6020	Arsenic	5.91			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	7.54			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-24	0 - 2	7/24/02	SW6020	Arsenic	5.43			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	7.76			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-25	0 - 2	7/24/02	SW6020	Arsenic	4.61			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	4.93			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-26	0 - 2	7/24/02	SW6020	Arsenic	7.33			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	8.29			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-27	0 - 2	7/24/02	SW6020	Arsenic	6.96			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	4.53			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-28	0 - 2	7/24/02	SW6020	Arsenic	3.83			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	7.68			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-29	0 - 2	7/24/02	SW6020	Arsenic	3.15			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	7.65			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-30	0 - 2	7/24/02	SW6020	Arsenic	2.53			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	2.88			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-31	0 - 2	7/24/02	SW6020	Arsenic	7.66			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	3.89			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-32	0 - 2	7/24/02	SW6020	Arsenic	3.13			mg/kg
	2 - 3	7/24/02	SW6020	Arsenic	3.17			mg/kg
	4 - 6	7/24/02	SW6020	Arsenic				mg/kg
SB-01	0 - 2	7/24/02	SW6020	Lead	193			mg/kg
	2 - 3	7/24/02	SW6020	Lead	185			mg/kg
	4 - 6	7/24/02	SW6020	Lead	147			mg/kg
SB-02	0 - 2	7/24/02	SW6020	Lead	114			mg/kg
	2 - 3	7/24/02	SW6020	Lead	148			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
SB-03	0 - 2	7/24/02	SW6020	Lead	149			mg/kg
	2 - 3	7/24/02	SW6020	Lead	120			mg/kg
	4 - 6	7/24/02	SW6020	Lead	143			mg/kg
SB-04	0 - 2	7/24/02	SW6020	Lead	128			mg/kg
	2 - 3	7/24/02	SW6020	Lead	159			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-05	0 - 2	7/24/02	SW6020	Lead	35.7			mg/kg
	2 - 3	7/24/02	SW6020	Lead	84.8			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-06	0 - 2	7/24/02	SW6020	Lead	60.6			mg/kg
	2 - 3	7/24/02	SW6020	Lead	152			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-07	0 - 2	7/24/02	SW6020	Lead	21.8			mg/kg
	2 - 3	7/24/02	SW6020	Lead	36.5			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-08	0 - 2	7/24/02	SW6020	Lead	31.6			mg/kg
	2 - 3	7/24/02	SW6020	Lead	51.7			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-09	0 - 2	7/24/02	SW6020	Lead	37			mg/kg
	2 - 3	7/24/02	SW6020	Lead	37			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-10	0 - 2	7/24/02	SW6020	Lead	84.4			mg/kg
	2 - 3	7/24/02	SW6020	Lead	88.4			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-11	0 - 2	7/24/02	SW6020	Lead	132			mg/kg
	2 - 3	7/24/02	SW6020	Lead	458			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-12	0 - 2	7/24/02	SW6020	Lead	209			mg/kg
	2 - 3	7/24/02	SW6020	Lead	166			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-13	0 - 2	7/24/02	SW6020	Lead	105			mg/kg
	2 - 3	7/24/02	SW6020	Lead	16.7			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-14	0 - 2	7/24/02	SW6020	Lead	66.1			mg/kg
	2 - 3	7/24/02	SW6020	Lead	46.6			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-15	0 - 2	7/24/02	SW6020	Lead	126			mg/kg
	2 - 3	7/24/02	SW6020	Lead	17.1			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-16	0 - 2	7/24/02	SW6020	Lead	51.1			mg/kg
	2 - 3	7/24/02	SW6020	Lead	57.1			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-17	0 - 2	7/24/02	SW6020	Lead	220			mg/kg
	2 - 3	7/24/02	SW6020	Lead	144			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-18	0 - 2	7/24/02	SW6020	Lead	24.2			mg/kg
	2 - 3	7/24/02	SW6020	Lead	82.2			mg/kg
	4 - 6	7/24/02	SW6020	Lead	274			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
SB-19	0 - 2	7/24/02	SW6020	Lead	29.1			mg/kg
	2 - 3	7/24/02	SW6020	Lead	40			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-20	0 - 2	7/24/02	SW6020	Lead	56			mg/kg
	2 - 3	7/24/02	SW6020	Lead	84.7			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-21	0 - 2	7/24/02	SW6020	Lead	50.3			mg/kg
	2 - 3	7/24/02	SW6020	Lead	82.1			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-22	0 - 2	7/24/02	SW6020	Lead	55.5			mg/kg
	2 - 3	7/24/02	SW6020	Lead	79			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-23	0 - 2	7/24/02	SW6020	Lead	118			mg/kg
	2 - 3	7/24/02	SW6020	Lead	158			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-24	0 - 2	7/24/02	SW6020	Lead	175			mg/kg
	2 - 3	7/24/02	SW6020	Lead	342			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-25	0 - 2	7/24/02	SW6020	Lead	346			mg/kg
	2 - 3	7/24/02	SW6020	Lead	326			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-26	0 - 2	7/24/02	SW6020	Lead	272			mg/kg
	2 - 3	7/24/02	SW6020	Lead	570			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-27	0 - 2	7/24/02	SW6020	Lead	105			mg/kg
	2 - 3	7/24/02	SW6020	Lead	75.8			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-28	0 - 2	7/24/02	SW6020	Lead	53			mg/kg
	2 - 3	7/24/02	SW6020	Lead	115			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-29	0 - 2	7/24/02	SW6020	Lead	78.3			mg/kg
	2 - 3	7/24/02	SW6020	Lead	88.5			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-30	0 - 2	7/24/02	SW6020	Lead	54.7			mg/kg
	2 - 3	7/24/02	SW6020	Lead	87.8			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-31	0 - 2	7/24/02	SW6020	Lead	200			mg/kg
	2 - 3	7/24/02	SW6020	Lead	200			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
SB-32	0 - 2	7/24/02	SW6020	Lead	66.5			mg/kg
	2 - 3	7/24/02	SW6020	Lead	50.3			mg/kg
	4 - 6	7/24/02	SW6020	Lead				mg/kg
Samples Collected by Walsh								
TH-1	?	6/13/05	SW6020	Arsenic	0.30			mg/kg
	?	6/13/05	SW6020	Cadmium	ND			mg/kg
	?	6/13/05	SW6020	Chromium	ND			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
	?	6/13/05	SW6020	Lead	1.10			mg/kg
	?	6/13/05	SW6020	Zinc	15			mg/kg
TH-2	?	6/13/05	SW6020	Arsenic	41.00			mg/kg
	?	6/13/05	SW6020	Cadmium	ND			mg/kg
	?	6/13/05	SW6020	Chromium	ND			mg/kg
	?	6/13/05	SW6020	Lead	3000			mg/kg
	?	6/13/05	SW6020	Zinc	25000			mg/kg
TH-3	?	6/13/05	SW6020	Arsenic	11.00			mg/kg
	?	6/13/05	SW6020	Cadmium	ND			mg/kg
	?	6/13/05	SW6020	Chromium	19			mg/kg
	?	6/13/05	SW6020	Lead	180			mg/kg
	?	6/13/05	SW6020	Zinc	240			mg/kg
TH-4	?	6/13/05	SW6020	Arsenic	0.80			mg/kg
	?	6/13/05	SW6020	Cadmium	2.00			mg/kg
	?	6/13/05	SW6020	Chromium	ND			mg/kg
	?	6/13/05	SW6020	Lead	6.5			mg/kg
	?	6/13/05	SW6020	Zinc	94.0			mg/kg
TH-5	?	6/13/05	SW6020	Arsenic	NA			mg/kg
	?	6/13/05	SW6020	Cadmium	4			mg/kg
	?	6/13/05	SW6020	Chromium	5			mg/kg
	?	6/13/05	SW6020	Lead	15			mg/kg
	?	6/13/05	SW6020	Zinc	42			mg/kg
TH-8	?	6/13/05	SW6020	Arsenic	NA			mg/kg
	?	6/13/05	SW6020	Cadmium	ND			mg/kg
	?	6/13/05	SW6020	Chromium	2			mg/kg
	?	6/13/05	SW6020	Lead	2.3			mg/kg
	?	6/13/05	SW6020	Zinc	15			mg/kg
TH-9	?	6/13/05	SW6020	Arsenic	ND			mg/kg
	?	6/13/05	SW6020	Cadmium	4			mg/kg
	?	6/13/05	SW6020	Chromium	2			mg/kg
	?	6/13/05	SW6020	Lead	3.4			mg/kg
	?	6/13/05	SW6020	Zinc	18			mg/kg
DC-1	0-20'	5/30/97	SW6020	Arsenic	1.5			mg/kg
	0-20'	5/30/97	SW6020	Cadmium	0.09			mg/kg
	0-20'	5/30/97	SW6020	Chromium	5.9			mg/kg
	0-20'	5/30/97	SW6020	Lead	6.1			mg/kg
	0-20'	5/30/97	SW6020	Zinc	NA			mg/kg
DC-2	0.5-22'	5/30/97	SW6020	Arsenic	13			mg/kg
	0.5-22'	5/30/97	SW6020	Cadmium	29			mg/kg
	0.5-22'	5/30/97	SW6020	Chromium	13			mg/kg
	0.5-22'	5/30/97	SW6020	Lead	170			mg/kg
	0.5-22'	5/30/97	SW6020	Zinc	NA			mg/kg
DC-3	0.5-20'	5/30/97	SW6020	Arsenic	6.1			mg/kg
	0.5-20'	5/30/97	SW6020	Cadmium	0.09			mg/kg
	0.5-20'	5/30/97	SW6020	Chromium	7.8			mg/kg
	0.5-20'	5/30/97	SW6020	Lead	98			mg/kg
	0.5-20'	5/30/97	SW6020	Zinc	NA			mg/kg
DC-4	1-17'	6/2/97	SW6020	Arsenic	3.5			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
	1-17'	6/2/97	SW6020	Cadmium	0.65			mg/kg
	1-17'	6/2/97	SW6020	Chromium	7.6			mg/kg
	1-17'	6/2/97	SW6020	Lead	110			mg/kg
	1-17'	6/2/97	SW6020	Zinc	NA			mg/kg
DC-5	1-13.5'	6/2/97	SW6020	Arsenic	17			mg/kg
	1-13.5'	6/2/97	SW6020	Cadmium	2.8			mg/kg
	1-13.5'	6/2/97	SW6020	Chromium	2.9			mg/kg
	1-13.5'	6/2/97	SW6020	Lead	210			mg/kg
	1-13.5'	6/2/97	SW6020	Zinc	NA			mg/kg
DC-6	1-20'	6/2/97	SW6020	Arsenic	5.3			mg/kg
	1-20'	6/2/97	SW6020	Cadmium	0.57			mg/kg
	1-20'	6/2/97	SW6020	Chromium	7.1			mg/kg
	1-20'	6/2/97	SW6020	Lead	37			mg/kg
	1-20'	6/2/97	SW6020	Zinc	NA			mg/kg
DC-7	1-17'	6/2/97	SW6020	Arsenic	2.6			mg/kg
	1-17'	6/2/97	SW6020	Cadmium	0.5			mg/kg
	1-17'	6/2/97	SW6020	Chromium	8.6			mg/kg
	1-17'	6/2/97	SW6020	Lead	20			mg/kg
	1-17'	6/2/97	SW6020	Zinc	NA			mg/kg
DC-8	0-15'	6/2/97	SW6020	Arsenic	7.4			mg/kg
	0-15'	6/2/97	SW6020	Cadmium	1.5			mg/kg
	0-15'	6/2/97	SW6020	Chromium	14			mg/kg
	0-15'	6/2/97	SW6020	Lead	410			mg/kg
	0-15'	6/2/97	SW6020	Zinc	NA			mg/kg
Samples Collected at Pepsi Bottling Plant								
Area 3 Samples								
A3-1	0-2'	10/18/01	SW6010	Arsenic	52			mg/kg
	0-2'	10/18/01	SW6010	Lead	290			mg/kg
A3-2	0-2'	10/18/01	SW6010	Arsenic	9.4			mg/kg
	0-2'	10/18/01	SW6010	Lead	90			mg/kg
A3-3	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	37			mg/kg
A3-4	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	60			mg/kg
A3-5	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	66			mg/kg
A3-6	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	93			mg/kg
A3-7	0-2'	10/18/01	SW6010	Arsenic	61			mg/kg
	0-2'	10/18/01	SW6010	Lead	260			mg/kg
A3-8	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	88			mg/kg
A3-9	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	100			mg/kg
A3-10	0-2'	10/18/01	SW6010	Arsenic	55			mg/kg
	0-2'	10/18/01	SW6010	Lead	430			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
A3-11	0-2'	10/18/01	SW6010	Arsenic	9			mg/kg
	0-2'	10/18/01	SW6010	Lead	110			mg/kg
A3-12	0-2'	10/18/01	SW6010	Arsenic	50			mg/kg
	0-2'	10/18/01	SW6010	Lead	370			mg/kg
A3-13	0-2'	10/18/01	SW6010	Arsenic	30			mg/kg
	0-2'	10/18/01	SW6010	Lead	340			mg/kg
A3-14	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	300			mg/kg
A3-15	0-2'	10/18/01	SW6010	Arsenic	65			mg/kg
	0-2'	10/18/01	SW6010	Lead	610			mg/kg
A3-16	0-2'	10/18/01	SW6010	Arsenic	18			mg/kg
	0-2'	10/18/01	SW6010	Lead	150			mg/kg
A3-17	0-2'	10/18/01	SW6010	Arsenic	21			mg/kg
	0-2'	10/18/01	SW6010	Lead	290			mg/kg
A3-18	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	11			mg/kg
A3-19	0-2'	10/18/01	SW6010	Arsenic	U			mg/kg
	0-2'	10/18/01	SW6010	Lead	290			mg/kg
A3-20	0-2'	10/18/01	SW6010	Arsenic	8.6			mg/kg
	0-2'	10/18/01	SW6010	Lead	350			mg/kg
Area 4 Samples								
A4-1	0 - 3	9/5/01	SW6010	Arsenic	79			mg/kg
A4-1	0 - 3	9/5/01	SW6010	Lead	1100			mg/kg
A4-2	0 - 2.5	9/5/01	SW6010	Arsenic	3.9			mg/kg
A4-2	0 - 2.5	9/5/01	SW6010	Lead	27			mg/kg
A4-3	0 - 3	9/5/01	SW6010	Arsenic	32			mg/kg
A4-3	0 - 3	9/5/01	SW6010	Lead	360			mg/kg
A4-4	0 - 2.8	9/5/01	SW6010	Arsenic	63			mg/kg
A4-4	0 - 2.8	9/5/01	SW6010	Lead	580			mg/kg
A4-5	0 - 3	9/5/01	SW6010	Arsenic	18			mg/kg
A4-5	0 - 3	9/5/01	SW6010	Lead	240			mg/kg
A4-6	0 - 3	9/5/01	SW6010	Arsenic	54			mg/kg
A4-6	0 - 3	9/5/01	SW6010	Lead	570			mg/kg
A4-7	0 - 2.6	9/5/01	SW6010	Arsenic	37			mg/kg
A4-7	0 - 2.6	9/5/01	SW6010	Lead	520			mg/kg
A4-8	0 - 3	9/5/01	SW6010	Arsenic	85			mg/kg
A4-8	0 - 3	9/5/01	SW6010	Lead	600			mg/kg
A4-9	0 - 3	9/5/01	SW6010	Arsenic	27			mg/kg
A4-9	0 - 3	9/5/01	SW6010	Lead	280			mg/kg
A4-10	0 - 1.8	9/5/01	SW6010	Arsenic	20			mg/kg
A4-10	0 - 1.8	9/5/01	SW6010	Lead	230			mg/kg
A4-11	0 - 1.2	9/5/01	SW6010	Arsenic	55			mg/kg
A4-11	0 - 1.2	9/5/01	SW6010	Lead	380			mg/kg
A4-12	0 - 2	9/5/01	SW6010	Arsenic	29			mg/kg
A4-12	0 - 2	9/5/01	SW6010	Lead	310			mg/kg
A4-13	0 - 2.6	9/5/01	SW6010	Arsenic	33			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
A4-13	0 - 2.6	9/5/01	SW6010	Lead	410			mg/kg
A4-14	0 - 2.2	9/5/01	SW6010	Arsenic	17			mg/kg
A4-14	0 - 2.2	9/5/01	SW6010	Lead	210			mg/kg
A4-15	0 - 1.6	9/5/01	SW6010	Arsenic	38			mg/kg
A4-15	0 - 1.6	9/5/01	SW6010	Lead	270			mg/kg
A4-16	0 - 1.4	9/5/01	SW6010	Arsenic	44			mg/kg
A4-16	0 - 1.4	9/5/01	SW6010	Lead	390			mg/kg
Area 5 Samples								
A5-1-1	0'-10'	3/27/02	SW6010	Arsenic	28			mg/kg
	0'-10'	3/27/02	SW6010	Lead	210			mg/kg
A5-1-2	10'-20'	3/27/02	SW6010	Arsenic	U			mg/kg
	10'-20'	3/27/02	SW6010	Lead	500			mg/kg
A5-2-1	0'-10'	3/27/02	SW6010	Arsenic	U			mg/kg
	0'-10'	3/27/02	SW6010	Lead	27			mg/kg
A5-2-2	10'-20'	3/27/02	SW6010	Arsenic	U			mg/kg
	10'-20'	3/27/02	SW6010	Lead	51			mg/kg
A5-3-1	0'-10'	3/27/02	SW6010	Arsenic	10			mg/kg
	0'-10'	3/27/02	SW6010	Lead	330			mg/kg
A5-3-2	10'-20'	3/27/02	SW6010	Arsenic	U			mg/kg
	10'-20'	3/27/02	SW6010	Lead	30			mg/kg
A5-4-1	0'-10'	3/27/02	SW6010	Arsenic	U			mg/kg
	0'-10'	3/27/02	SW6010	Lead	39			mg/kg
A5-4-2	10'-20'	3/27/02	SW6010	Arsenic	U			mg/kg
	10'-20'	3/27/02	SW6010	Lead	130			mg/kg
A5-5-1	0'-10'	3/27/02	SW6010	Arsenic	U			mg/kg
	0'-10'	3/27/02	SW6010	Lead	51			mg/kg
A5-5-2	10'-20'	3/27/02	SW6010	Arsenic	U			mg/kg
	10'-20'	3/27/02	SW6010	Lead	U			mg/kg
Area 6 Samples								
								mg/kg
A6-1	0'-10'	10/15/01	SW6010	Arsenic	9.2			mg/kg
A6-1	0'-10'	10/15/01	SW6010	Lead	210			mg/kg
A6-1	10'-20'	10/15/01	SW6010	Arsenic	13			mg/kg
A6-1	10'-20'	10/15/01	SW6010	Lead	110			mg/kg
A6-2	0'-10'	10/15/01	SW6010	Arsenic	16			mg/kg
A6-2	0'-10'	10/15/01	SW6010	Lead	630			mg/kg
A6-2	10'-20'	10/15/01	SW6010	Arsenic	67			mg/kg
A6-2	10'-20'	10/15/01	SW6010	Lead	540			mg/kg
A6-3	0'-10'	10/15/01	SW6010	Arsenic	23			mg/kg
A6-3	0'-10'	10/15/01	SW6010	Lead	400			mg/kg
A6-3	10'-20'	10/15/01	SW6010	Arsenic	12			mg/kg
A6-3	10'-20'	10/15/01	SW6010	Lead	220			mg/kg
A6-4	0'-10'	10/15/01	SW6010	Arsenic	19			mg/kg
A6-4	0'-10'	10/15/01	SW6010	Lead	1500			mg/kg
A6-4	10'-20'	10/15/01	SW6010	Arsenic	19			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
A6-4	10'-20'	10/15/01	SW6010	Lead	410			mg/kg
A6-5	0'-10'	10/15/01	SW6010	Arsenic	19			mg/kg
A6-5	0'-10'	10/15/01	SW6010	Lead	160			mg/kg
A6-5	10'-20'	10/15/01	SW6010	Arsenic	25			mg/kg
A6-5	10'-20'	10/15/01	SW6010	Lead	190			mg/kg
A6-6	0'-10'	10/15/01	SW6010	Arsenic	10			mg/kg
A6-6	0'-10'	10/15/01	SW6010	Lead	300			mg/kg
A6-6	10'-20'	10/15/01	SW6010	Arsenic	8.3			mg/kg
A6-6	10'-20'	10/15/01	SW6010	Lead	4900&230			mg/kg
Area 7 Samples								
A7-1	0 - 6	10/15/01	SW6010	Arsenic	73			mg/kg
A7-1	0 - 6	10/15/01	SW6010	Lead	560			mg/kg
A7-2	0 - 6	10/17/01	SW6010	Arsenic	9.5			mg/kg
A7-2	0 - 6	10/17/01	SW6010	Lead	130			mg/kg
A7-3	0 - 6	10/17/01	SW6010	Arsenic	3.8			mg/kg
A7-3	0 - 6	10/17/01	SW6010	Lead	33			mg/kg
A7-4	0 - 6	10/17/01	SW6010	Arsenic	7.7			mg/kg
A7-4	0 - 6	10/17/01	SW6010	Lead	39			mg/kg
A7-5	0 - 6	10/15/01	SW6010	Arsenic	3.8			mg/kg
A7-5	0 - 6	10/15/01	SW6010	Lead	71			mg/kg
A7-6	0 - 6	10/15/01	SW6010	Arsenic	24			mg/kg
A7-6	0 - 6	10/15/01	SW6010	Lead	240			mg/kg
A7-7	0 - 6	10/17/01	SW6010	Arsenic	12			mg/kg
A7-7	0 - 6	10/17/01	SW6010	Lead	85			mg/kg
A7-8	0 - 6	10/15/01	SW6010	Arsenic	8			mg/kg
A7-8	0 - 6	10/15/01	SW6010	Lead	61			mg/kg
A7-9	0 - 6	10/17/01	SW6010	Arsenic	8			mg/kg
A7-9	0 - 6	10/17/01	SW6010	Lead	120			mg/kg
A7-10	0 - 6	10/15/01	SW6010	Arsenic	12			mg/kg
A7-10	0 - 6	10/15/01	SW6010	Lead	200			mg/kg
Utility Trench Samples								
UT-1	0-10'	10/17/01	SW6010	Arsenic	11			mg/kg
	0-10'	10/17/01	SW6010	Lead	160			mg/kg
UT-2	0-10'	10/17/01	SW6010	Arsenic	12			mg/kg
	0-10'	10/17/01	SW6010	Lead	300			mg/kg
UT-3	0-8'	10/17/01	SW6010	Arsenic	14			mg/kg
	0-8'	10/17/01	SW6010	Lead	940			mg/kg
UT-4a	0-13'	10/17/01	SW6010	Arsenic	50			mg/kg
	0-13'	10/17/01	SW6010	Lead	350			mg/kg
UT-5	0-7'	10/17/01	SW6010	Arsenic	9.1			mg/kg
	0-7'	10/17/01	SW6010	Lead	160			mg/kg
UT-6	0-13'	10/17/01	SW6010	Arsenic	U			mg/kg
	0-13'	10/17/01	SW6010	Lead	180			mg/kg
UT-7	0-10'	10/17/01	SW6010	Arsenic	630			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
	0-10'	10/17/01	SW6010	Lead	2800			mg/kg
UT-8	0-9'	10/17/01	SW6010	Arsenic	16			mg/kg
	0-9'	10/17/01	SW6010	Lead	130			mg/kg
UT-9	0-8'	10/17/01	SW6010	Arsenic	U			mg/kg
	0-8'	10/17/01	SW6010	Lead	46			mg/kg
UT-10	0-8'	10/17/01	SW6010	Arsenic	17			mg/kg
	0-8'	10/17/01	SW6010	Lead	210			mg/kg
UT-11	0-12'	10/17/01	SW6010	Arsenic	42			mg/kg
	0-12'	10/17/01	SW6010	Lead	490			mg/kg
UT-12	0-9'	10/17/01	SW6010	Arsenic	9.4			mg/kg
	0-9'	10/17/01	SW6010	Lead	370			mg/kg
UT-13	0-12'	10/17/01	SW6010	Arsenic	U			mg/kg
	0-12'	10/17/01	SW6010	Lead	31			mg/kg
UT-14	0-11'	10/17/01	SW6010	Arsenic	16			mg/kg
	0-11'	10/17/01	SW6010	Lead	190			mg/kg
Samples Collected at Coliseum Barn								
VB10220301	Composites	10/22/03	SW6020	Arsenic	14			mg/kg
VB10220301	Composites	10/22/03	SW6020	Barium	140			mg/kg
VB10220301	Composites	10/22/03	SW6020	Cadmium	3.1			mg/kg
VB10220301	Composites	10/22/03	SW6020	Chromium	4.5 J			mg/kg
VB10220301	Composites	10/22/03	SW6020	Lead	120 J			mg/kg
VB10220302	Composites	10/22/03	SW6020	Arsenic	24			mg/kg
VB10220302	Composites	10/22/03	SW6020	Barium	160			mg/kg
VB10220302	Composites	10/22/03	SW6020	Cadmium	3.4			mg/kg
VB10220302	Composites	10/22/03	SW6020	Chromium	11 J			mg/kg
VB10220302	Composites	10/22/03	SW6020	Lead	700 J			mg/kg
VB10220303	Composites	10/22/03	SW6020	Arsenic	17			mg/kg
VB10220303	Composites	10/22/03	SW6020	Barium	180			mg/kg
VB10220303	Composites	10/22/03	SW6020	Cadmium	3.6			mg/kg
VB10220303	Composites	10/22/03	SW6020	Chromium	13 J			mg/kg
VB10220303	Composites	10/22/03	SW6020	Lead	590 J			mg/kg
VB10220304	Composites	10/22/03	SW6020	Arsenic	5.5			mg/kg
VB10220304	Composites	10/22/03	SW6020	Barium	150			mg/kg
VB10220304	Composites	10/22/03	SW6020	Cadmium	0.56			mg/kg
VB10220304	Composites	10/22/03	SW6020	Chromium	17 J			mg/kg
VB10220304	Composites	10/22/03	SW6020	Lead	50 J			mg/kg
VB10220305	Composites	10/22/03	SW6020	Arsenic	7.4			mg/kg
VB10220305	Composites	10/22/03	SW6020	Barium	89			mg/kg
VB10220305	Composites	10/22/03	SW6020	Cadmium	1.2			mg/kg
VB10220305	Composites	10/22/03	SW6020	Chromium	8.3 J			mg/kg
VB10220305	Composites	10/22/03	SW6020	Lead	160 J			mg/kg
VB10220306	Composites	10/22/03	SW6020	Arsenic	14			mg/kg
VB10220306	Composites	10/22/03	SW6020	Barium	120			mg/kg
VB10220306	Composites	10/22/03	SW6020	Cadmium	1.7			mg/kg
VB10220306	Composites	10/22/03	SW6020	Chromium	11 J			mg/kg
VB10220306	Composites	10/22/03	SW6020	Lead	330 J			mg/kg

Appendix A.
Summary of RI and Previous Investigation Metals Data for Soil
VB/I-70 OU-2

Client Sample ID	Depth (ft)	Collected	Method	Analyte	Result	Lab Q	DVQ	Unit
VB10220307	Composites	10/22/03	SW6020	Arsenic	6.9			mg/kg
VB10220307	Composites	10/22/03	SW6020	Barium	170			mg/kg
VB10220307	Composites	10/22/03	SW6020	Cadmium	1.2			mg/kg
VB10220307	Composites	10/22/03	SW6020	Chromium	17 J			mg/kg
VB10220307	Composites	10/22/03	SW6020	Lead	110 J			mg/kg

Appendix B

Soil Boring Logs
and
Soil Boring Location Survey Data

Denver Coliseum

X SS-3-1

McFarland Drive

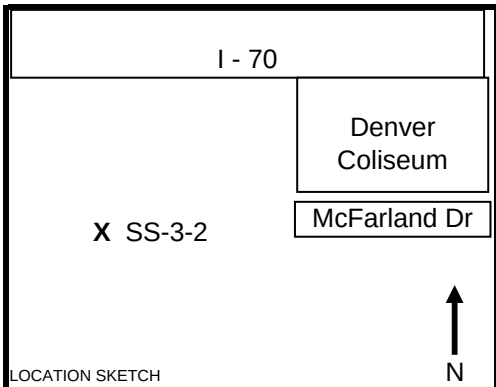
LOCATION SKETCH

N

ENGINEERING MANAGEMENT SUPPORT, INC.
7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426

Well/Boring Identifier: **SS-3-1**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1		Road Base
1' - 2'	75			√	2	SC	Clayey SAND, dark brown, med dense, slightly moist
							Total Depth = 24 inches.



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7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426

Well/Boring Identifier: **SS-3-2**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1		Road Base
1' - 2'	100			√	2	SM	Silty SAND, fine grained, olive grey, dense, slightly moist, underlain by
							by fill material.
							Total Depth = 24 inches

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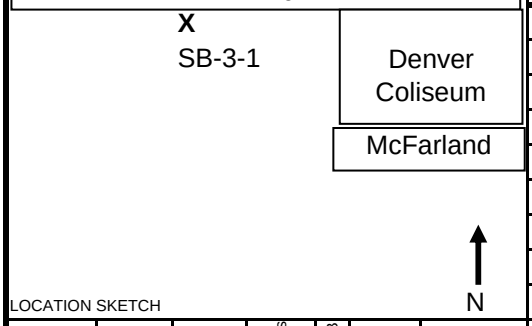

LOCATION SKETCH

Well/Boring Identifier: **SB-3-1**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings)	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1		
					2		Road Base 0.5 - 3.0 feet
					3		
3'-4'	50	*,**	*,**	√	3-3.5	ML	SILT with sand, dk grey, loose, moist
					4	Trash	Trash (3.5 - 4.0 feet)
					4-4.5	SW-SM	Well-graded SAND with silt and gravel, dk grey, loose, moist. Some
					5	CL	woody material (4.0 - 4.5 feet)
					6		CLAY, dk brown, stiff, moist (4.5 - 7.0 feet)
4'-9'	20	*,**	*,**	√	7		
					8	SW	
					9		
					10		Well-graded SAND with gravel, light grey, loose, slightly moist,
					11		trace feldspar (7.0 - 14.0 feet)
9'-14'	10	*,**	*,**		12		
					13		
					14		
14'-15'	100	*,**	*,**	√	15	SP	Poorly-graded SAND, yellowish orange, loose, wet (14.0 - 15.0)
							Total Depth = 15.0 feet
							* No LEL or PID/FID readings as instrument still being calibrated. ** No odors detected.

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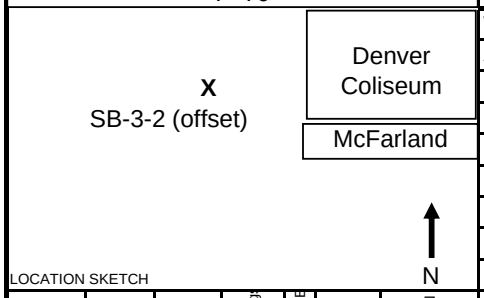
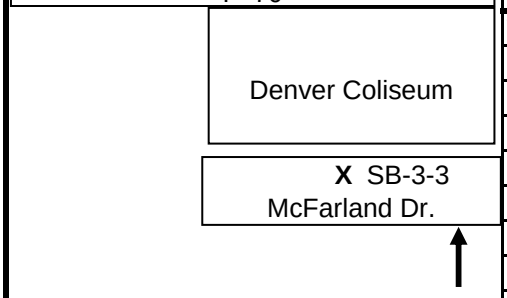


Well/Boring Identifier: **SB-3-2 (offset)**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cutting)	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5		Asphalt
					0.5-1	Fill	Road Base 0.5 - 2.0 feet
					2		

Note: original boring was offset due to auger refusal at about 8.0 feet and no core recovery. Same conditions in upper 2 feet were encountered in both borings. Deeper lithology and samples were obtained from offset boring (offset by approximately 4 feet)

2'-3'	100	226		√	3		
					4		Well-graded SAND with clay and gravel, olive grey, loose, moist
					5	SW-SC	(2.0 - 6.5 feet)
					6		
					6.5		
4'-9'	40	50		√	7		
					8		
					9		
					10		Fill comprised of silty SAND, olive grey, loose, moist, mixed with
					11		coal fragments, ash, woody material, and brick fragments
9'-14'	10	bkgd			12	Trash and Fill	(6.5 - 17.0 feet)
					13		
					14		
14'-15'	10	bkgd		√	15		
					16		
14'-19'	0	bkgd			17		
					18		Clayey SAND, dk grey, loose-med dense, moist (17.0 - 19.0 feet)
					19		
							Total Depth = 19 feet

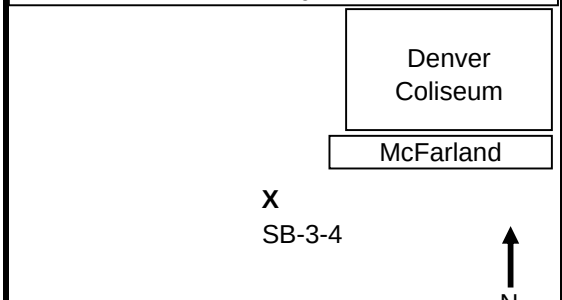


LOCATION SKETCH

ENGINEERING MANAGEMENT SUPPORT, INC.
7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426

Well/Boring Identifier: **SB-3-3**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1		Road Base 0.5 - 1.0 feet
1'-2'	60	*,**	*,**	√	2	CH	Sandy CLAY, dk brown, soft, moist (1.0 - 3.0 feet)
					3		
					4		
					5		
4' 9'	20	*,**	*,**	√	6		
					7		
					8		
					9		
					10		Well-graded SAND with gravel, light brown, loose, moist, some feldspar
					11	SW	(3.0 - 14.0 feet)
9'-14'	0	*,**	*,**		12		
					13		
					14		
					15		
					14		
14'-15'	100	*,**	*,**	√	15		SAA, but wet at 14.0 - 15.0 feet
							Total Depth = 15 feet
							* PID still being calibrated at time of drilling. ** No odors detected.



LOCATION SKETCH

ENGINEERING MANAGEMENT SUPPORT, INC.
7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426

Well/Boring Identifier: **SB-3-4**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings)	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1		Road Base 0.5 - 1.0 feet
1'-2'	60	**	**	√	1-1.4	MH	Elastic SILT, olive grey, dense, slightly moist (1.0 - 1.4 feet)
		bkgd			1.4-1.5	Trash	Black organic material with tarry odor (1.4 - 1.5 feet)
					2	GW-GM	
2'-4'	50	**	**	√	3		Well-graded GRAVEL with silt and sand, yellowish-orange, loose,
					4		slightly moist, mixed with black ash material (1.5 - 5.0 feet).
					5		
					6	Trash and Fill	
4'-9'	0	6			7		
					8		
					9		
					10		Landfill material mixed with gravel, sand, and silt (5.0 - 14.0 feet)
					11		FID = 1.7%, PID - 6 ppm
9'-14'	0	6			12		
					13		
					14		
14'-15.5'	100	**	**	√	15	SW	Well-graded SAND, yellowish-brown, loose, wet (14.0 - 15.5 feet)
					15.5		
							Total Depth = 15.5 feet
							** No odors detected.

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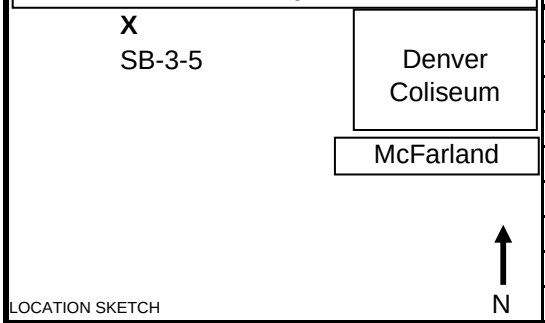
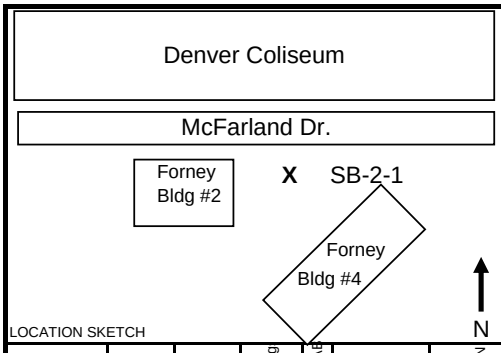


Well/Boring Identifier: **SB-3-5**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 18, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1.5		Road Base 0.5 - 1.5 feet
					2	CL	
2'-4'	50	*,**	*,**	√	3		
					4		
					5		
					6		CLAY with sand, black to olive-green, soft to medium stiff, dry. Trace
4'-9'	0	*		√	7		woody material, ash, and brick dust (1.5-12 feet). Slight petroleum
					8		(tarry) odor detected throughout interval.
					9		
					10		
					11		
9'-14'	25	*	*, ***	√	12		
					13		SAA, with color change to dark grey, stiff, moist (12.0 - 14.5 feet),
					14		then soft and wet at 14.8 feet
14'-15.5'	100	*,**	*,**	√	15	SM	Silty SAND, olive grey, loose, wet (14.8 to 15.5 feet)
					15.5		
							Total Depth = 15.5 feet
							* No LEL or PID/FID readings due to dead battery. ** No odor detected. *** Composite samples from 10.0 to 15.0 feet collected from core and drill cuttings for VOC, SVOC, and metals analyses.



LOCATION SKETCH

ENGINEERING MANAGEMENT SUPPORT, INC.
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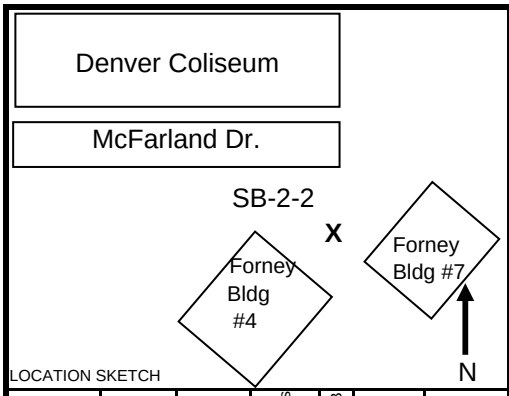
Well/Boring Identifier: **SB-2-1**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 18, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cutting	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
0.5' - 2'	100	*,**	*,**	√	1	SP	Poorly-graded SAND, light brown, loose, slightly moist
					2		(0.5 - 2.0 feet)
2'-4'	50	*,**	*,**	√	3	SM	Silty SAND, light brown, loose, slightly moist (2.0 - 4.0 feet)
					4		
					5	SP	
					6		Poorly-graded SAND, light brown, loose, slightly moist
4'-9'	30	*,**	*,**	√	7		(4.0 - 9.0 feet)
					8		
					9		
					10	SW	
					11		Well-graded SAND with gravel, light brown, loose, slightly moist
9'-14'	25	*,**	*,**		12		(9.0 - 13.5 feet)
					13.5		
					14	SC	
14'-15.5'	100	*,**	*,**		15		Clayey SAND, light brown, medium stiff, slightly moist (13.5 - 15.5 feet)
					15.5		
							Total Depth = 15.5 feet
							* No LEL or PID/FID readings due to dead battery. ** No odors detected.

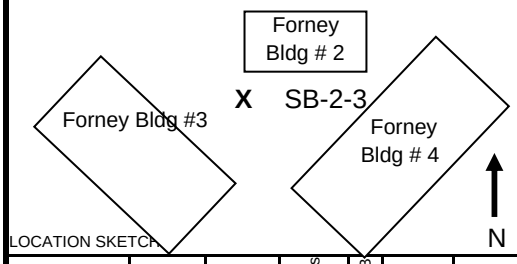


LOCATION SKETCH

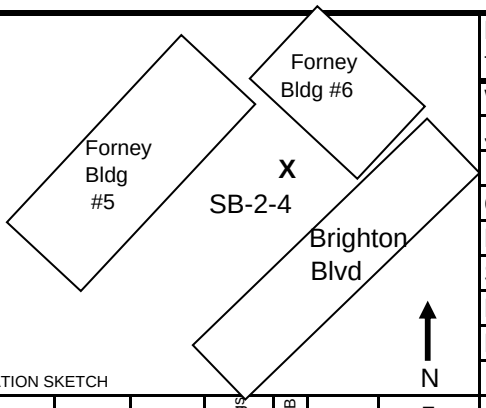
ENGINEERING MANAGEMENT SUPPORT, INC.
7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426

Well/Boring Identifier: **SB-2-2**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 18, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
0.5' - 2'	100	*,**	*,**	√	1		
					2		
2'-4'	75	*,**	*,**	√	3		Elastic SILT, light brown-to-yellow orange, medium dense, slightly moist
					4	MH	(0.5 - 7.0 feet)
					5		
					6		
4'-9'	50	*,**	*,**	√	7		
					8		
					9	GM	Silty GRAVEL with sand, light grey, loose, slightly moist (7.0 - 11.0 feet)
					10		
					11		
9'-14'	25	*,**	*,**		12	SP	Poorly-graded SAND, light brown, dense, slightly moist (11.0 - 14.0 feet)
					14		
							Total Depth = 14.0 feet
							* No LEL or PID/FID readings due to dead battery. ** No odors detected.

Denver Coliseum	**ENGINEERING MANAGEMENT SUPPORT, INC.** 7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426
McFarland Dr.  LOCATION SKETCH	Well/Boring Identifier: **SB-2-3** Job Name: **VB/I-70 RI/FS** Location: **Denver Coliseum** Client: **CCoD Dept. of Env. Services - Div. of Env. Health** Drilling Method: **Hollow Stem Augers** Sampling Method: **Continuous Soil Core and/or Driven Split Spoon** Date Drilled: **December 18, 2008** EMSI Field representative: **Tim Shangraw** Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0		Asphalt and concrete (0 - 1.0 feet)
1'-2'	75	*,**	*,**		1		Construction fill (red brick fragments, sand, silt, and gravel), loose,
					2		dry (1.0 - 2.0 feet)
2'-4'	50	*,**	*,**	√	3		
					4		
					5		
4'-9'	100	*,**	*,**		6		
					7		
					8	Fill	Red brick-mortar-brick-mortar sequence (appearance of coring a brick
					9		wall vertically), dry (2.0 - 17.5 feet)
					10		
9'-14'	100	*,**	*,**		11		
					12		
					14		
					15		
					16		
14'-19'	50	*,**	*,**	√	17.5		
					18		
					19	GM	Silty GRAVEL with sand, light brown, loose, slightly moist
19'-20.5'	25	*,**	*,**	√	20		(17.5 - 20.5 feet)
					20.5		Total Deepth = 20.5 feet
							* No LEL or PID/FID readings due to dead battery. ** No odors detected.

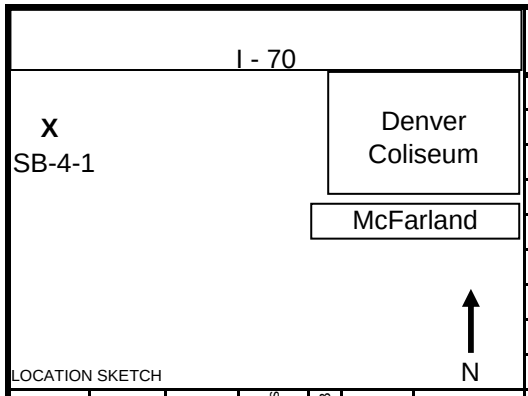


LOCATION SKETCH

ENGINEERING MANAGEMENT SUPPORT, INC.
7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426

Well/Boring Identifier: **SB-2-4**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 18, 2008**
EMSI Field representative: **Tim Shangraw**

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
0.5' - 2'	100	*,**	*,**	√	0.5-1		Road Base 0.5 - 1.0 feet
					2	SM	Silty SAND with gravel, olive grey, dense, slightly moist (1.0 - 3.0 feet)
2'-4'	50	*,**	*,**		3		
					3.5	Fill	Fill soil with black ash and brick fragments (3.0 - 3.5 feet)
					4		
					5		Silty SAND, olive grey, dense, slightly moist (3.5 - 5.0 feet)
4'-9'	50	*,**	*,**	√	6	SM	
					7		SAA, but yellowish-orange and med dense (5.0 - 8.0 feet)
					8		
					9		
					10		
9'-14'	20	*,**	*,**		11	SP	Poorly-graded SAND, yellowish-orange, loose, dry (8.0 - 14.0 feet)
					12		
					13		
					14		
14'-15.5'	100	*,**	*,**	√	15	MH	Elastic SILT, light brown, medium dense, slightly moist
					15.5		(14.0 - 15.5 feet)
							Total Depth = 15.5 feet
							* No LEL or PID/FID readings due to dead battery. ** No odors detected.



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Well/Boring Identifier: **SB-4-1**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 18, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1		Road Base 0.5 - 1.0 feet
0.5'-2'	100	**	**	√	2	SW-SM	Well-graded SAND with silt, olive grey, med dense, slightly moist
2'-4'	50	**	**	√	3		(1.0 - 2.0 feet)
					4		
					5		
					6		
4'-9'	15	**	**		7	MH	Elastic SILT, olive grey, dense, slightly moist (2.0 - 11.5 feet)
					8		
					9		
					10		
					11		note: thin layer at base of MH contained dk grey tarry material with
9'-14'	50	bkgd		√	11.5		petroleum odor. LEL = 0 and PID and FID at background
					12		
					13	CL	CLAY with sand, light grey, med stiff, wet
					14		Total Depth = 14.0 feet
							** No odors detected.

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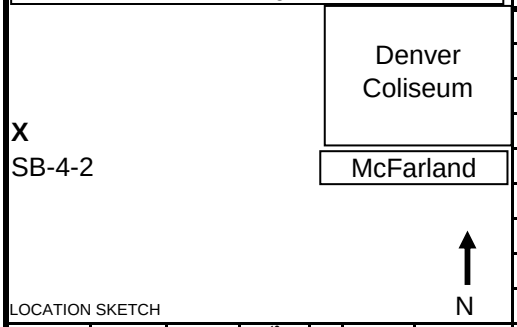
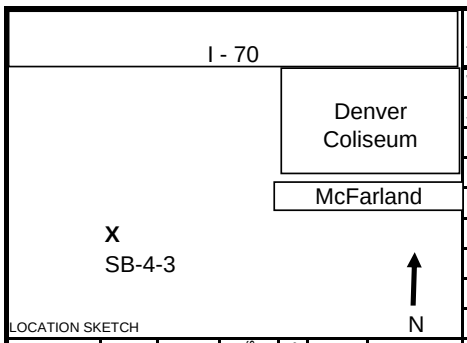


Well/Boring Identifier: **SB-4-2**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 18, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1		Road Base 0.5 - 1.0 feet
0.5'-2'	100	*, **	*, **	√	2	SW-SM	
2'-4'	50	*, **	*, **	√	3		Well-graded SAND with silt, olive grey, loose, slightly moist,
					4		some cobbles (1.0 - 4.0 feet)
					5		
					6		
4'-9'	20	*, **	*, **	√	7		SAA, but med dense (4.0 - 7.5 feet)
					7.5		
					8	ML	SILT with sand, olive grey, med dense, slightly moist, some cobbles
					9		(7.5 - 9.0 feet)
					10	Trash and Fill	Woody material mixed with clay (9.0 - 11.0 feet). Faint petroleum odor.
9'-14'	50	*	*	√	11		
					12	CL	CLAY, olive green, stiff, moist to 12.5 feet, then wet 12.5 to 14.0 feet
					13		note: strong petroleum odor in this clay layer underlying the woody
					14		debris. Sampled the clay for VOCs and SVOCs.
							Total Depth = 14.0 feet
							* No LEL or PID/FID readings due to dead battery. ** No odors detected.



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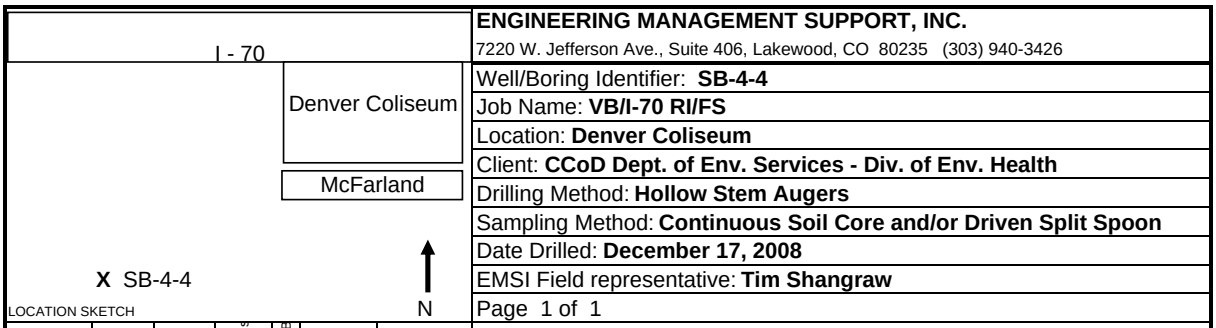
Well/Boring Identifier: **SB-4-3**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
0.5'-2'	100	**	**	√	2	SW-SM	Well-graded SAND with silt, olive grey, loose, slightly moist, some clay mixed with black ash (0.5 - 2.0 feet)
2'-4'	50	**	**	√	3	GW-GM	Well-graded GRAVEL with silt, light brown, loose, sl moist (2.0 - 3.5 ft)
					3.5		
					4	SW-SM	
					5		
					6		Well-graded SAND with silt, olive grey, medium dense, slightly moist,
4'-9'	20	**	**	√	7		trace gravel (3.5 - 9.0 feet)
					8		
					9		
					10	Trash and Fill	
9'-14'	5	**	**		11		
					12		
					13		
					14		
14'-15.5'	10				15		Trash fill comprised of woody material, brick fragments, black ash,
					16		and well-graded sand, silt, and clay. Wet, slight petroleum (tarry) odor
					17		(9.0 - 22.0 feet). FID (3-5 ppm)
					18		
					19		
					20		
					21		
					22		
22'-24'	60	**	**	√	23	CL	CLAY with silt, yellowish-orange, soft, wet (22.0 - 24.0 feet)
					24		
					25	CLS	CLAYSTONE (Denver Blue), blue-grey, hard, dry (24.0-25.0 feet) - TD
							** No odors detected.



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7220 W. Jefferson Ave., Suite 406, Lakewood, CO 80235 (303) 940-3426

Well/Boring Identifier: **SB-4-4**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 17, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1.5		Road Base 0.5 - 1.5 feet
0.5'-2'	75	*,**	*,**	√	2	SW-SM	Well-graded SAND with silt, olive grey, loose, slightly moist. Some
2'-4'	50	*,**	*,**	√	3		clay and gravel between 1.5 and 2.0 feet. (1.5 to 4.0 feet)
					4		
					5		
					6		
4'-9'	0	*,**			7		
					7.5		
					8		
					9		
					10		
9'-14'	50	*	*		11	Trash and Fill	Trash fill comprised of woody material, brick fragments, black ash, and
					12		wire mixed with sand, silt, and clay (4.0 - 20.0 feet). Strong petroluem
					13		odor at top of fill (4.0 - 6.0 feet). Slight petroleum odor in remainder of fill.
					14		
					15		
					16		
					17		
					18		
					19		
20'-21.5'	0	*,**	*,**		20		
					21	SP	
					22		Poorly-graded SAND with gravel, pink, loose, wet (20.0 - 23.0 feet)
23'-24.5'	75	*,**	*,**	√	23		
					23.8	GP-GM	Poorly-graded GRAVEL with silt and sand, pink, loose, wet (23.0 - 23.8 feet)
					24.5	CL	CLAY with silt, yellowish-orange, very hard, miost, trace brown mottles
							and cobbles (23.8 - 24.5 feet) Total Depth = 24.5 feet
							* No LEL or PID/FID readings. ** No odors detected.

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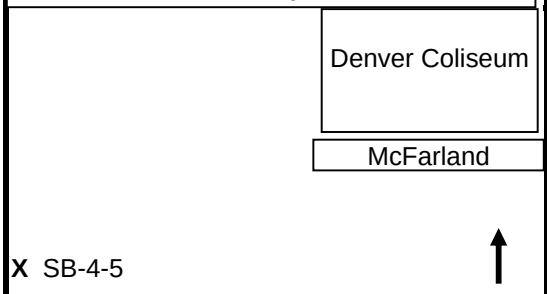


LOCATION SKETCH

Well/Boring Identifier: **SB-4-5**
Job Name: **VB/I-70 RI/FS**
Location: **Denver Coliseum**
Client: **CCoD Dept. of Env. Services - Div. of Env. Health**
Drilling Method: **Hollow Stem Augers**
Sampling Method: **Continuous Soil Core and/or Driven Split Spoon**
Date Drilled: **December 18, 2008**
EMSI Field representative: **Tim Shangraw**
Page 1 of 1

INTERVAL SAMPLED	Core recovery (%)	PID READING (hole collar)	PID READING (sample/cuttings)	SAMPLE SUBMITTED TO LAB	DEPTH IN FEET	MATERIAL CLASSIFICATION	LITHOLOGIC DESCRIPTION
					0-0.5	Fill	Asphalt
					0.5-1.0		Road Base 0.5 - 1.0 feet
0.5'-2'	100	*,**	*,**	√	2	SW-SM	
2'-4'	50	*,**	*,**	√	3		
					4		Well-graded SAND with silt, olive grey, medium dense, slightly moist.
					5		(1.0 - 7.0 feet)
					6		
4'-9'	10	*,**	*,**	√	7		
					8	SM and Fill	Silty SAND, black to dk grey, loose, slightly moist. Some cobbles
					9		and woody debris (7.0 - 12.3 feet)
					10		
9'-14'	20	*,**	*,**		11		
					12.3		SAA, but with mixture of reddish-brown brick dust (12.0 - 12.3 feet)
					13	CL	CLAY with silt, olive green, soft, slightly moist, some gravel
14'-15.5'	75	*,**	*,**		14		(12.3 - 15.5 feet)
					15		
					15.5		SAA, but with mixture of black ash (15.0 - 15.5 feet).
							Total Depth = 15.5 feet
							* No LEL or PID/FID readings due to dead battery. ** No odors detected.

Appendix C

Laboratory Analytical Reports
RI Soil Samples


TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Report# DEL170344
www.testamericainc.com

Lot # D8L170344

Close Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

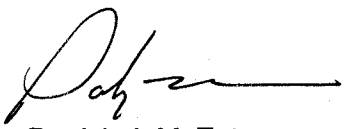
ANALYTICAL REPORT

VB I-70

Lot #: D8L170344

Paul Rosasco

Engineering Management Support, Inc.
7220 W. Jefferson Ave.
Suite 406
Lakewood, CO 80235



Patrick J. McEntee
Project Manager

January 2, 2009

Case Narrative

The results included in this report have been reviewed for compliance with TestAmerica Laboratories, Inc Quality Assurance/Quality Control (QA/QC) plan. The test results shown in this report meet all requirements of NELAC and any exceptions are noted below.

Dilution factors and footnotes have been provided to assist in the interpretation of the results. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interferences or analytes present at concentrations above the linear calibration curve, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Laboratories, Inc. utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. A summary of quality control parameters is provided below.

Quality Control Summary for Lot D8L170344

Sample Receiving
Twenty-one aqueous samples were received by TestAmerica Denver under chain of custody on December 17, 2008.

The samples were received intact at a temperature of 1.3°C.

Method SW846 8260B, Volatile Organic Analysis
Samples D8L170344-009 and -018 were analyzed with a dilution factor due to the varying mass in the Encore sampler.

A low level of acetone, 1,1-dichloroethene, 4-isopropyltoluene, methylene chloride and naphthalene are present in the method blank associated with QC batch 8357158. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated positive results in the analytical report have been flagged with a "B". Usability of the sample data is not compromised.

MS/MSD analyses associated with QC batch 8357158 were preformed on a sample from another client and/or lot and were in control.

Method SW846 8270C, Semi-volatile Organic Analysis
MS/MSD analyses associated with QC batch 8353218 were preformed on sample D8L170344-009 and were in control.

Method SW846 6010B/6020/7471A, Total Metals Analysis
A low level of silver is present in the method blank associated with 6010B QC batch 8353471. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated positive results in the analytical report have been flagged with a "J". Usability of the sample data is not compromised.

MS/MSD analyses associated with 6010B QC batch 8353471 were preformed on sample D8L170344-009 and were in control.

Quality Control Summary for Lot D8L170344

Percent recoveries and RPD data could not be calculated for the lead MS/MSD performed on sample D8L170344-001 associated with 6020 QC batch 8353490 due to the sample concentration reading greater than four times the spike amount

MS/MSD analyses associated with 6020 QC batch 8353496 were preformed on sample D8L170344-012 and were in control.

MS/MSD analyses associated with 7471A QC batch 8357256 were preformed on a sample from another client and/or lot and were in control.

The serial dilution performed on sample D8L170344-001 indicates that physical and chemical interferences are present for arsenic in QC batch 8353490. Results in the analytical report have been flagged with an "L".

Method MCAWW 160.3 Mod, Percent Moisture Analysis

The RPD was within QC limits for the duplicate analysis performed on samples D8L170344-001 and -021.

Quality Control Definitions of Terms

Term	Definition
Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD)	A volume of regent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. A LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. An LCSD is a second Laboratory Control Sample.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MSs/MSDs are carried throughout he entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.
Sample Duplicate	A second aliquot of an environmental sample, taken form the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative to the precision for other samples in the batch.
Method Detection Limit "MDL"	The method detection limit is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from replicate analyses of low level standards in a typical representative matrix.
Reporting Limit "RL"	The STL reporting limit is normally the lowest level at which measurements become quantitatively meaningful, ie., the quantitation limit, which is approximately three times the MDL. Some projects require RLs that are less than the quantitation limit to achieve particular maximum contaminant levels (MCLs) or relevant and appropriate requirements (ARARs), but RLs cannot be less than the statistically determined MDL.

Quality Control Definitions of Qualifiers

Qualifier	Definition
*	Surrogate or Relative Percent Difference (RPD) is outside control limits.
U	Result is less than the method detection limit (MDL)
a	Spiked analyte recovery is outside control limits.
B	Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level. Inorganics: Estimated result. Result is less than the RL
COL	More than 40% difference between the primary and confirmation detector results. The lower of the two results is reported.
DIL	The concentration is estimated or not reported due to dilution.
E	Estimated result. Result concentrations exceeds the calibration range.
G	Inorganics: Elevated reporting limit. The reporting limit is elevated due to matrix interference.
J	Organics: Estimated result. Result is less than RL Inorganics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.
L	Serial dilution of a digestate in the analytical batch indicates that physical and chemical interferences are present
N	Spiked analyte recovery is outside stated control limits.
NC	The recovery and/or RPD were not calculated.
ND	The analyte was not detected at the MDL concentration and with a measurable degree of confidence can be said not to be present at or above the RL concentration.
p	Relative percent difference (RPD) is outside stated control limits.
Q	Elevated reporting limit. The reporting limit is elevated due to high analyte levels.
V	General Chemistry: Elevated reporting limit due to limited sample volume.
Wa	Post digestion spike recovery fell between 40-85% due to matrix interference.
Wb	Post digestion spike recovery fell between 115-150% due to matrix interference.
I	Percent recovery is estimated since the results exceeded the calibration range.
T1	A tentatively identified compound that did not generate a spectral match of 80% or greater. Typically called "unknown"
T2	A tentatively identified compound with a spectral match of 80% or better
T3	A tentatively identified compound that was calibrated for by the lab, but not on the client target analyte list.
MSB	The recovery and/or RPD were not calculated because the sample amount was greater than four times the spiked amount.
IC	Diluted due to high inorganic chloride.

EXECUTIVE SUMMARY - Detection Highlights

D8L170344

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SS-3-1-SS 12/17/08 08:15 001				
Arsenic	7.6 L	0.65	mg/kg	SW846 6020
Lead	130	0.16	mg/kg	SW846 6020
Percent Moisture	7.3	0.10	%	MCAWW 160.3 MOD
SB-3-3-SS 12/17/08 09:00 002				
Arsenic	7.8 L	0.67	mg/kg	SW846 6020
Lead	140	0.17	mg/kg	SW846 6020
Percent Moisture	10	0.10	%	MCAWW 160.3 MOD
SB-3-3-4-9 12/17/08 09:00 003				
Arsenic	1.9 L	0.62	mg/kg	SW846 6020
Lead	22	0.15	mg/kg	SW846 6020
Percent Moisture	3.1	0.10	%	MCAWW 160.3 MOD
SB-3-3-14-15 12/17/08 09:00 004				
Arsenic	1.3 L	0.67	mg/kg	SW846 6020
Lead	2.7	0.17	mg/kg	SW846 6020
Percent Moisture	9.8	0.10	%	MCAWW 160.3 MOD
SB-3-1-SS 12/17/08 10:00 005				
Arsenic	5.9 L	0.65	mg/kg	SW846 6020
Lead	190	0.16	mg/kg	SW846 6020
Percent Moisture	7.7	0.10	%	MCAWW 160.3 MOD
SB-3-1-4-9 12/17/08 10:15 006				
Arsenic	32 L	0.69	mg/kg	SW846 6020
Lead	1900	0.17	mg/kg	SW846 6020
Percent Moisture	13	0.10	%	MCAWW 160.3 MOD
SB-3-1-14-15 12/17/08 10:30 007				
Arsenic	1.4 L	0.69	mg/kg	SW846 6020
Lead	1.8	0.17	mg/kg	SW846 6020
Percent Moisture	13	0.10	%	MCAWW 160.3 MOD

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EXECUTIVE SUMMARY - Detection Highlights

D8L170344

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SB-3-2-2-3 12/17/08 11:45 008				
Arsenic	9.7 L	0.64	mg/kg	SW846 6020
Lead	210	0.16	mg/kg	SW846 6020
Percent Moisture	6.6	0.10	%	MCAWW 160.3 MOD
SB-3-2-4-9 12/17/08 11:10 009				
Arsenic	1.7 L	0.69	mg/kg	SW846 6020
Lead	31	0.17	mg/kg	SW846 6020
Mercury	0.028	0.019	mg/kg	SW846 7471A
Barium	100	1.1	mg/kg	SW846 6010B
Cadmium	1.3	0.57	mg/kg	SW846 6010B
Chromium	8.7	1.7	mg/kg	SW846 6010B
Silver	0.28 B,J	1.1	mg/kg	SW846 6010B
Arsenic	2.9	2.3	mg/kg	SW846 6010B
Lead	41	0.91	mg/kg	SW846 6010B
Acetone	25 B	17	ug/kg	SW846 8260B
2-Butanone (MEK)	4.9 J	17	ug/kg	SW846 8260B
1,1-Dichloroethene	0.71 J,B	4.3	ug/kg	SW846 8260B
Naphthalene	0.90 J,B	4.3	ug/kg	SW846 8260B
Percent Moisture	12	0.10	%	MCAWW 160.3 MOD
SB-3-2-14-15 12/17/08 11:15 010				
Arsenic	14 L	0.78	mg/kg	SW846 6020
Lead	190	0.20	mg/kg	SW846 6020
Percent Moisture	23	0.10	%	MCAWW 160.3 MOD
SB-3-4-SS 12/17/08 12:30 011				
Arsenic	4.6 L	0.69	mg/kg	SW846 6020
Lead	270	0.17	mg/kg	SW846 6020
Percent Moisture	13	0.10	%	MCAWW 160.3 MOD
SB-3-4-2-4 12/17/08 12:45 012				
Arsenic	1.3	0.63	mg/kg	SW846 6020
Lead	14	0.16	mg/kg	SW846 6020
Percent Moisture	4.2	0.10	%	MCAWW 160.3 MOD

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EXECUTIVE SUMMARY - Detection Highlights

D8L170344

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SB-3-4-14-15 12/17/08 13:00 013				
Arsenic	0.82	0.67	mg/kg	SW846 6020
Lead	1.5	0.17	mg/kg	SW846 6020
Barium	8.6	1.1	mg/kg	SW846 6010B
Chromium	0.58 B	1.7	mg/kg	SW846 6010B
Arsenic	0.78 B	2.2	mg/kg	SW846 6010B
Lead	1.1	0.89	mg/kg	SW846 6010B
Acetone	8.5 J,B	22	ug/kg	SW846 8260B
Methylene chloride	1.2 J,B	5.5	ug/kg	SW846 8260B
Naphthalene	1.5 J,B	5.5	ug/kg	SW846 8260B
Percent Moisture	9.9	0.10	%	MCAWW 160.3 MOD
SB-3-2-SS 12/17/08 13:45 014				
Arsenic	2.9	0.70	mg/kg	SW846 6020
Lead	13	0.17	mg/kg	SW846 6020
Percent Moisture	14	0.10	%	MCAWW 160.3 MOD
SB-4-3-SS 12/17/08 14:00 015				
Arsenic	3.4	0.69	mg/kg	SW846 6020
Lead	39	0.17	mg/kg	SW846 6020
Percent Moisture	13	0.10	%	MCAWW 160.3 MOD
SB-4-3-2-4 12/17/08 14:05 016				
Arsenic	2.3	0.66	mg/kg	SW846 6020
Lead	64	0.16	mg/kg	SW846 6020
Percent Moisture	8.5	0.10	%	MCAWW 160.3 MOD
SB-4-3-4-9 12/17/08 14:15 017				
Arsenic	4.1	0.65	mg/kg	SW846 6020
Lead	62	0.16	mg/kg	SW846 6020
Percent Moisture	7.5	0.10	%	MCAWW 160.3 MOD
SB-4-3-22-24 12/17/08 14:30 018				
Arsenic	18	0.90	mg/kg	SW846 6020
Lead	600	0.22	mg/kg	SW846 6020
Mercury	0.074	0.025	mg/kg	SW846 7471A
Selenium	1.6 B	1.9	mg/kg	SW846 6010B
Barium	260	1.5	mg/kg	SW846 6010B
Cadmium	7.0	0.75	mg/kg	SW846 6010B

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EXECUTIVE SUMMARY - Detection Highlights

D8L170344

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SB-4-3-22-24 12/17/08 14:30 018				
Chromium	13	2.2	mg/kg	SW846 6010B
Silver	0.98 B,J	1.5	mg/kg	SW846 6010B
Arsenic	8.7	3.0	mg/kg	SW846 6010B
Lead	130	1.2	mg/kg	SW846 6010B
Pyrene	27 J	490	ug/kg	SW846 8270C
Acetone	23 J,B	44	ug/kg	SW846 8260B
1,1-Dichloroethene	2.8 J,B	11	ug/kg	SW846 8260B
Methylene chloride	2.6 J,B	11	ug/kg	SW846 8260B
Naphthalene	1.9 J,B	11	ug/kg	SW846 8260B
Percent Moisture	33	0.10	%	MCAWW 160.3 MOD
SB-4-4-SS 12/17/08 15:40 019				
Arsenic	5.3	0.69	mg/kg	SW846 6020
Lead	150	0.17	mg/kg	SW846 6020
Percent Moisture	12	0.10	%	MCAWW 160.3 MOD
SB-4-4-2-4 12/17/08 13:50 020				
Arsenic	1.2	0.64	mg/kg	SW846 6020
Lead	17	0.16	mg/kg	SW846 6020
Percent Moisture	5.7	0.10	%	MCAWW 160.3 MOD
SB-4-4-23-24.5 12/17/08 16:20 021				
Arsenic	2.8	0.71	mg/kg	SW846 6020
Lead	12	0.18	mg/kg	SW846 6020
Mercury	0.030	0.020	mg/kg	SW846 7471A
Barium	150	1.2	mg/kg	SW846 6010B
Cadmium	3.3	0.60	mg/kg	SW846 6010B
Chromium	5.6	1.8	mg/kg	SW846 6010B
Arsenic	4.6	2.4	mg/kg	SW846 6010B
Lead	10	0.95	mg/kg	SW846 6010B
Acetone	8.2 J,B	24	ug/kg	SW846 8260B
Methylene chloride	1.7 J,B	6.0	ug/kg	SW846 8260B
Naphthalene	0.78 J,B	6.0	ug/kg	SW846 8260B
Percent Moisture	16	0.10	%	MCAWW 160.3 MOD

METHODS SUMMARY

D8L170344

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
ICP-MS (6020)	SW846 6020	SW846 3050B
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3550B
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826
Volatile Organics by GC/MS	SW846 8260B	SW846 5035

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

METHOD / ANALYST SUMMARY

D8L170344

ANALYTICAL METHOD	ANALYST	ANALYST ID
MCAWW 160.3 MOD	Reva M. Golden	010906
SW846 6010B	David Wells	5099
SW846 6020	Thomas Lill	006929
SW846 6020	Thomas Lill	6929
SW846 7471A	Christopher Grisdale	9582
SW846 8260B	Jason Reinhardt	013454
SW846 8270C	Daniel Kiekel	011370

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

D8L170344

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
K4W0N	001	SS-3-1-SS	12/17/08	08:15
K4W0W	002	SB-3-3-SS	12/17/08	09:00
K4W0X	003	SB-3-3-4-9	12/17/08	09:00
K4W01	004	SB-3-3-14-15	12/17/08	09:00
K4W03	005	SB-3-1-SS	12/17/08	10:00
K4W04	006	SB-3-1-4-9	12/17/08	10:15
K4W06	007	SB-3-1-14-15	12/17/08	10:30
K4W07	008	SB-3-2-2-3	12/17/08	11:45
K4W09	009	SB-3-2-4-9	12/17/08	11:10
K4W1F	010	SB-3-2-14-15	12/17/08	11:15
K4W1H	011	SB-3-4-SS	12/17/08	12:30
K4W1J	012	SB-3-4-2-4	12/17/08	12:45
K4W1K	013	SB-3-4-14-15	12/17/08	13:00
K4W1N	014	SB-3-2-SS	12/17/08	13:45
K4W1Q	015	SB-4-3-SS	12/17/08	14:00
K4W1R	016	SB-4-3-2-4	12/17/08	14:05
K4W1T	017	SB-4-3-4-9	12/17/08	14:15
K4W1V	018	SB-4-3-22-24	12/17/08	14:30
K4W1W	019	SB-4-4-SS	12/17/08	15:40
K4W10	020	SB-4-4-2-4	12/17/08	13:50
K4W12	021	SB-4-4-23-24.5	12/17/08	16:20

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Appendix D

Data Validation Reports
RI Soil Samples

Appendix E

Arsenic and Lead
Soil Volume Estimates

Table E-1 - Soil Volume Containing Arsenic Above 15 ppm in the 0 to 5 ft Depth Interval

Area	As > 15 ppm	Cubic Yards	
2742.00	Yes	507.78	
557.03	Yes	103.15	
85532.37	Yes	15839.33	
8723.00	Yes	1615.37	
26830.23	Yes	4968.56	
10837.18	Yes	2006.89	
58114.12	Yes	10761.87	
5669.42	Yes	1049.89	
1812.12	Yes	335.58	
2589.97	Yes	479.62	
4065.69	Yes	752.91	
46266.44	Yes	8567.86	
41818.24	Yes	7744.12	
7113.13	Yes	1317.25	
30573.72	Yes	5661.80	
1883.19	Yes	348.74	
8993.12	Yes	1665.39	
3356.52	Yes	621.58	
12670.25	Yes	2346.34	
11901.59	Yes	2204.00	
1461.37	Yes	270.62	
18256.11	Yes	3380.76	
22289.45	Yes	4127.68	
2633.99	Yes	487.78	
61563.82	Yes	11400.71	
9850.83	Yes	1824.23	
39370.53	Yes	7290.84	
3766.16	Yes	697.44	
18767.04	Yes	3475.38	
17044.79	Yes	3156.44	
19139.66	Yes	3544.38	
91533.51	Yes	16950.65	
24133.05	Yes	4469.08	
824.23	Yes	152.64	
48252.36	Yes	8935.62	
24995.13	Yes	4628.73	
35043.04	Yes	6489.45	
7682.47	Yes	1422.68	
0.00	Yes	0.00	
17363.02	Yes	3215.37	
8210.88	Areal	1520.53	
14567.20	Areal	2697.63	
17124.54	Areal	3171.21	
10976.18	Areal	2032.63	
12588.79	Areal	2331.26	
384.19	Areal	71.15	
33142.44	Areal	6137.49	
2584.31	Areal	478.58	Total
2501.25	Areal	463.19	Volume
8170.37	Areal	1513.03	175235

Table E-2: Soil Volume Containing Arsenic Above 15 ppm in the 5 - 10 ft Depth Interval

Area	As >15 ppm	Cubic Yards	
2742.00	Yes	507.78	
557.03	Yes	103.15	
8723.00	Yes	1615.37	
89973.21	Yes	16661.71	
8594.81	Yes	1591.63	
28554.31	Yes	5287.84	
58114.12	Yes	10761.87	
5669.42	Yes	1049.89	
7113.13	Yes	1317.25	
30573.72	Yes	5661.80	
1883.19	Yes	348.74	
8993.12	Yes	1665.39	
3356.52	Yes	621.58	
12670.25	Yes	2346.34	
11901.59	Yes	2204.00	
18259.98	Yes	3381.48	
22289.45	Yes	4127.68	
39370.53	Yes	7290.84	
3766.16	Yes	697.44	
18767.04	Yes	3475.38	
17044.79	Yes	3156.44	
19139.66	Yes	3544.38	
17363.02	Yes	3215.37	
24133.05	Yes	4469.08	
824.23	Yes	152.64	Total
24995.13	Yes	4628.73	Volume
35043.04	Yes	6489.45	96373

Table E-3: Soil Volume Containing Arsenic Above 15 ppm in the 10 - 20 ft Depth Interval

Area	As > 15 ppm	Cubic Yards	
35757.01	Yes	13243.34	
2742.00	Yes	1015.56	
557.03	Yes	206.31	
8723.00	Yes	3230.74	
26830.23	Yes	9937.12	
5669.42	Yes	2099.79	
1812.12	Yes	671.16	
7113.13	Yes	2634.49	
1883.19	Yes	697.48	
8993.12	Yes	3330.79	
3356.52	Yes	1243.16	
11901.59	Yes	4408.00	
1461.37	Yes	541.25	
39370.53	Yes	14581.68	
18767.04	Yes	6950.76	
17044.79	Yes	6312.89	
19139.66	Yes	7088.76	
17363.02	Yes	6430.75	
24133.05	Yes	8938.17	
824.23	Yes	305.27	Total
24995.13	Yes	9257.46	Volume
35043.04	Yes	12978.90	116,104

Table E-4: Soil Volume Containing Lead Above 400 ppm in the 0 - 5 ft Depth Interval

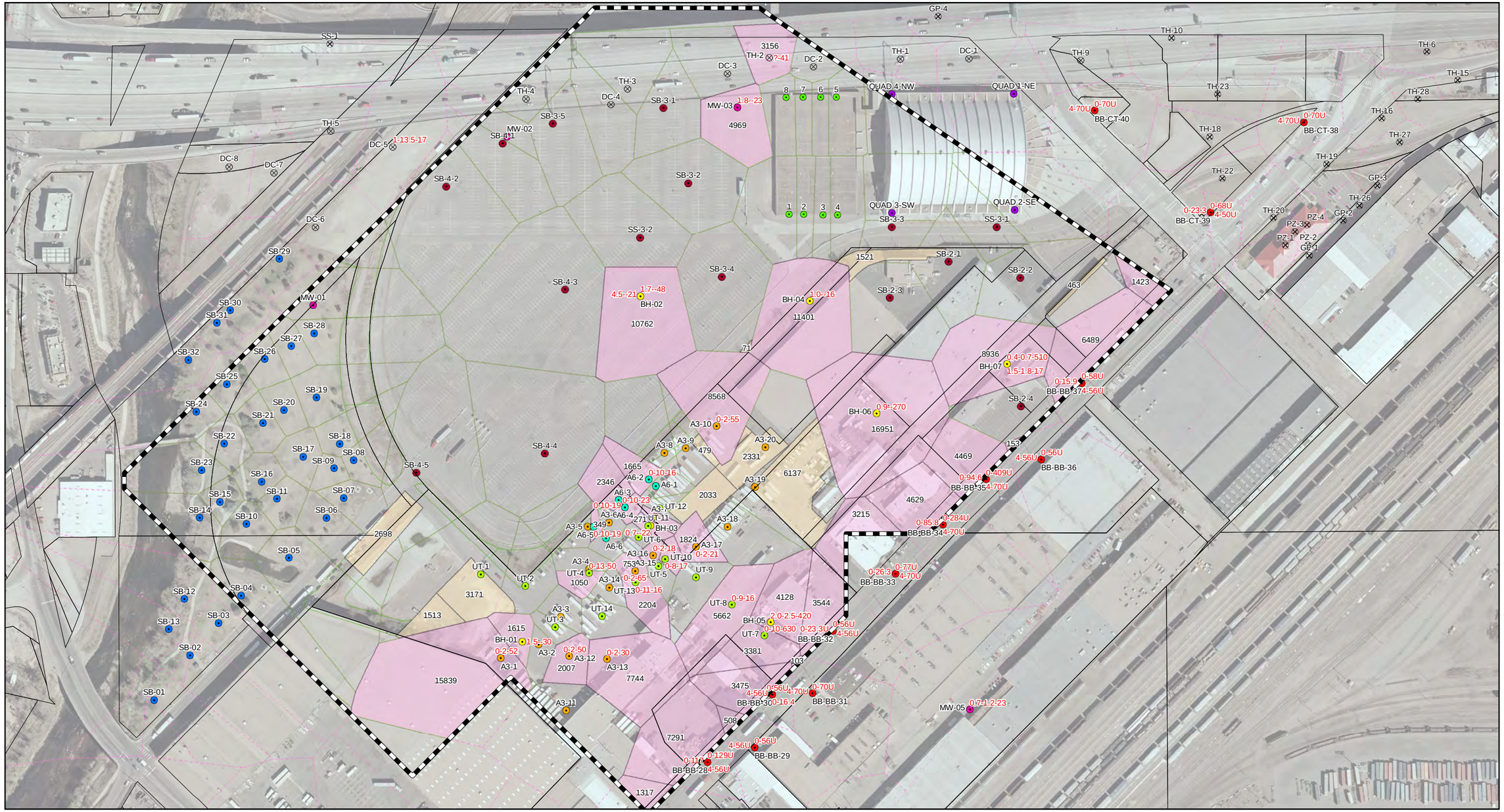
Area	Pb > 400 ppm	Cubic Yards	
10779.59	Yes	1996.22	
10253.45	Yes	1898.79	
28554.31	Yes	5287.84	
26830.23	Yes	4968.56	
4541.80	Yes	841.07	
58114.12	Yes	10761.87	
1812.12	Yes	335.58	
4065.69	Yes	752.91	
46266.44	Yes	8567.86	
8993.12	Yes	1665.39	
3356.52	Yes	621.58	
12670.25	Yes	2346.34	
1461.37	Yes	270.62	
18256.11	Yes	3380.76	
61563.82	Yes	11400.71	
39370.53	Yes	7290.84	
18767.04	Yes	3475.38	
17044.79	Yes	3156.44	
19139.66	Yes	3544.38	
91533.51	Yes	16950.65	
17363.02	Yes	3215.37	
24133.05	Yes	4469.08	
24995.13	Yes	4628.73	
35043.04	Yes	6489.45	
22289.20	Yes	4127.63	
48252.36	Yes	8935.62	
14567.20	Areal	2697.63	
2369.53	Areal	438.80	
8335.05	Areal	1543.53	
22989.41	Areal	4257.30	Total
1813.05	Areal	335.75	Volume
2501.25	Areal	463.19	131,116

Table E-5: Soil Volume Containing Lead Above 400 ppm in the 5 - 10 ft Depth Interval

Area	Pb > 400 ppm	Cubic Yards	
89973.21	Yes	16661.71	
8594.81	Yes	1591.63	
28554.31	Yes	5287.84	
26830.23	Yes	4968.56	
4541.80	Yes	841.07	
8993.12	Yes	1665.39	
3356.52	Yes	621.58	
12670.25	Yes	2346.34	
1461.37	Yes	270.62	Total
18259.98	Yes	3381.48	Volume
17044.79	Yes	3156.44	40,793

Table E-6: Soil Volume Containing Lead Above 400 ppm in the 10 - 20 ft Depth Interval

Area	Pb > 400 ppm	Cubic Yards	
35757.01	Yes	13243.34	
8723.00	Yes	3230.74	
121499.33	Yes	44999.75	
13937.29	Yes	5161.96	
1812.12	Yes	671.16	
8993.12	Yes	3330.79	
3356.52	Yes	1243.16	
1461.37	Yes	541.25	Total
22289.45	Yes	8255.35	Volume
17044.79	Yes	6312.89	86,990



Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons >= 15ppm As
- Large Area Soil Samples >= 15 ppm As
- Drill Hole Theissen Polygon < 15ppm As

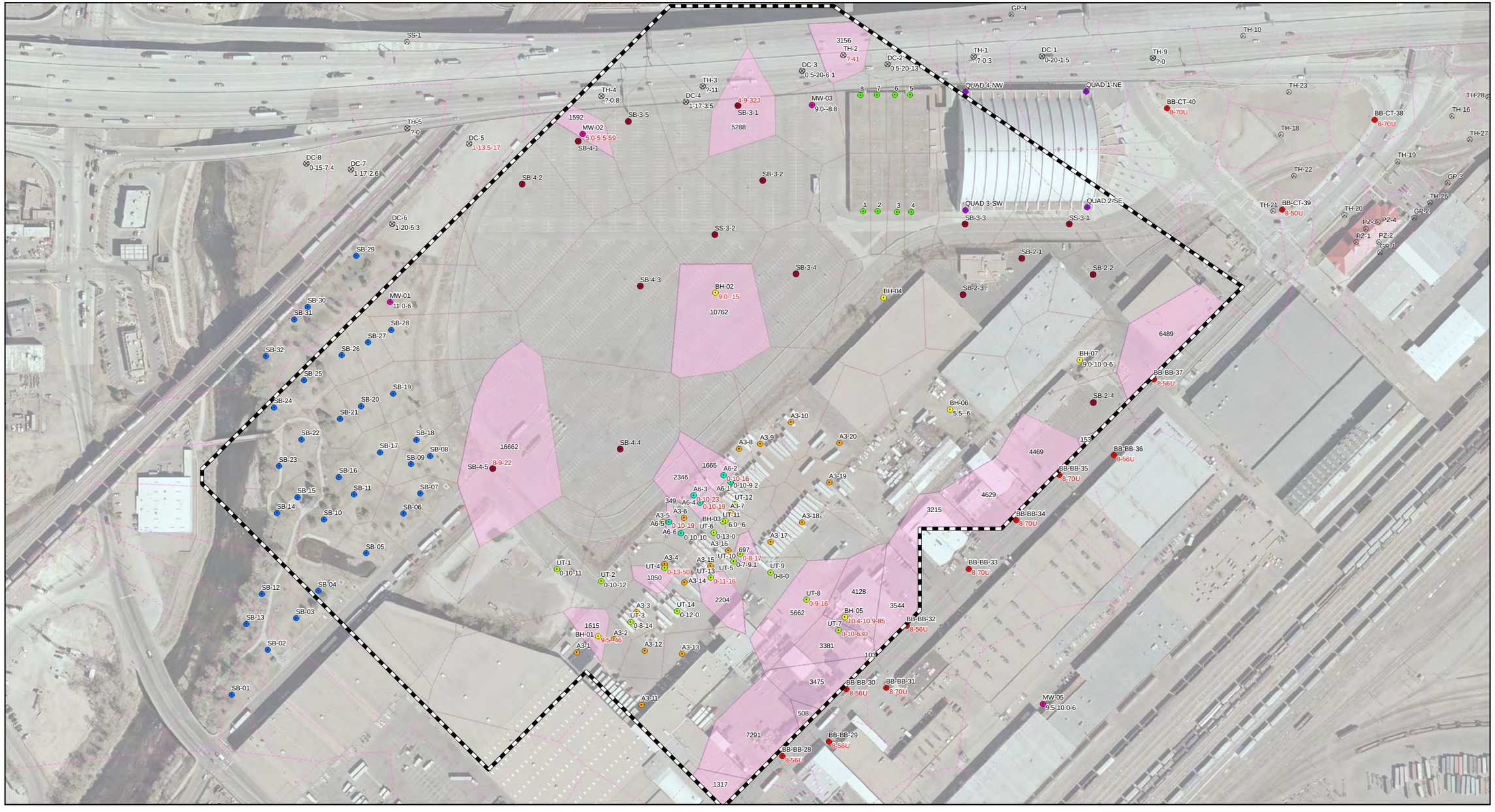
Polygon value is soil volume (surface area * 5 ft depth / 27.0) in Cubic Yards.

Figure E-1

Area with Arsenic greater than 15 ppm 0 to 5 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons >= 15ppm As
- Drill Hole Theissen Polygon < 15ppm As

Polygon value is soil volume (surface area * 5 ft depth / 27.0) in Cubic Yards.

0 125 250 500
Feet

1 inch = 250 feet

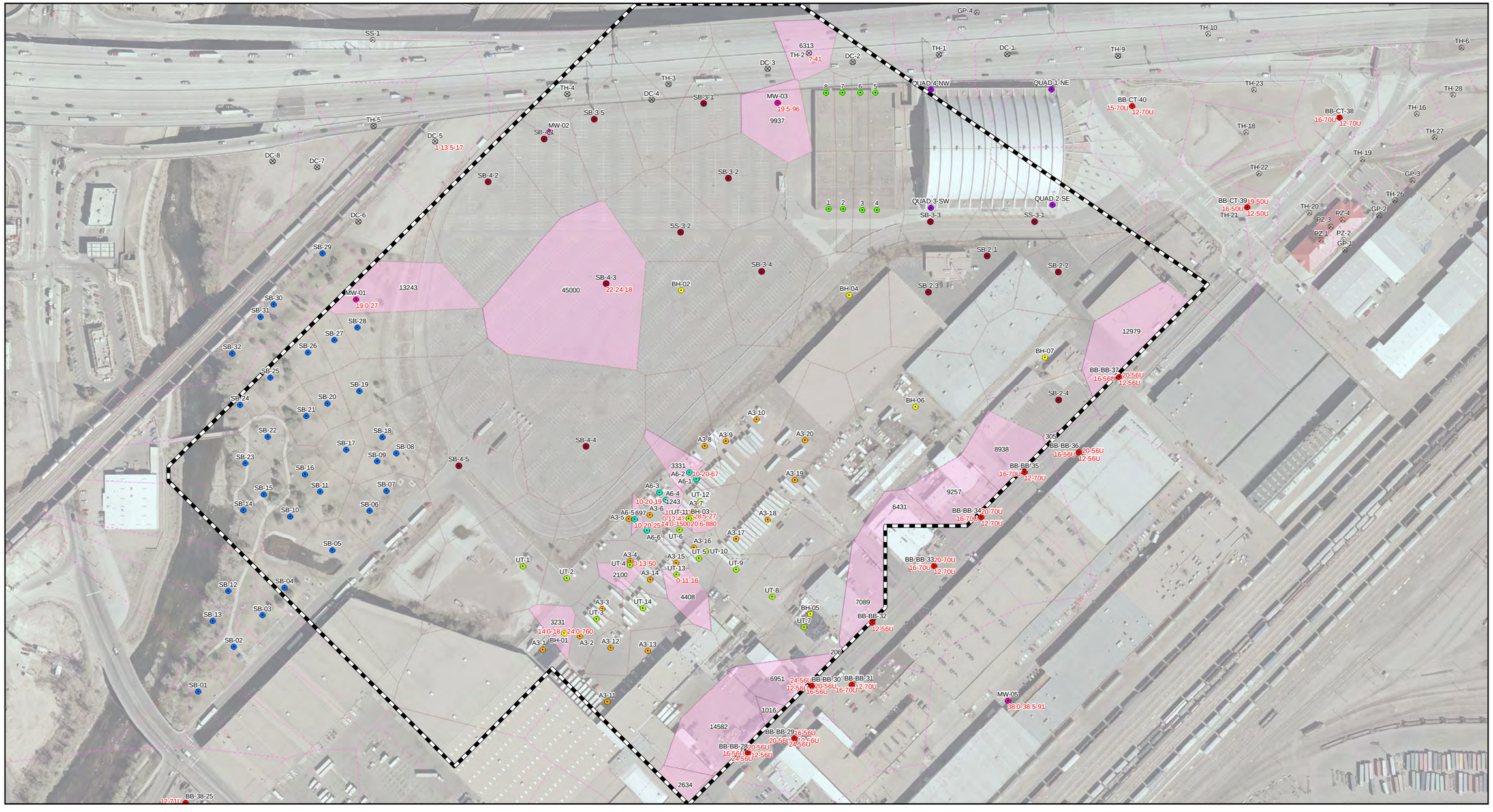
N

Figure E-2

Area with Arsenic greater than 15 ppm 5 to 10 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons >= 15ppm As
- Drill Hole Theissen Polygon < 15ppm As

Polygon value is soil volume (surface area * 10 ft depth / 27.0) in Cubic Yards.
Thickness assumed to be 10 feet.

0 130 260 520
Feet

1 inch = 250 feet

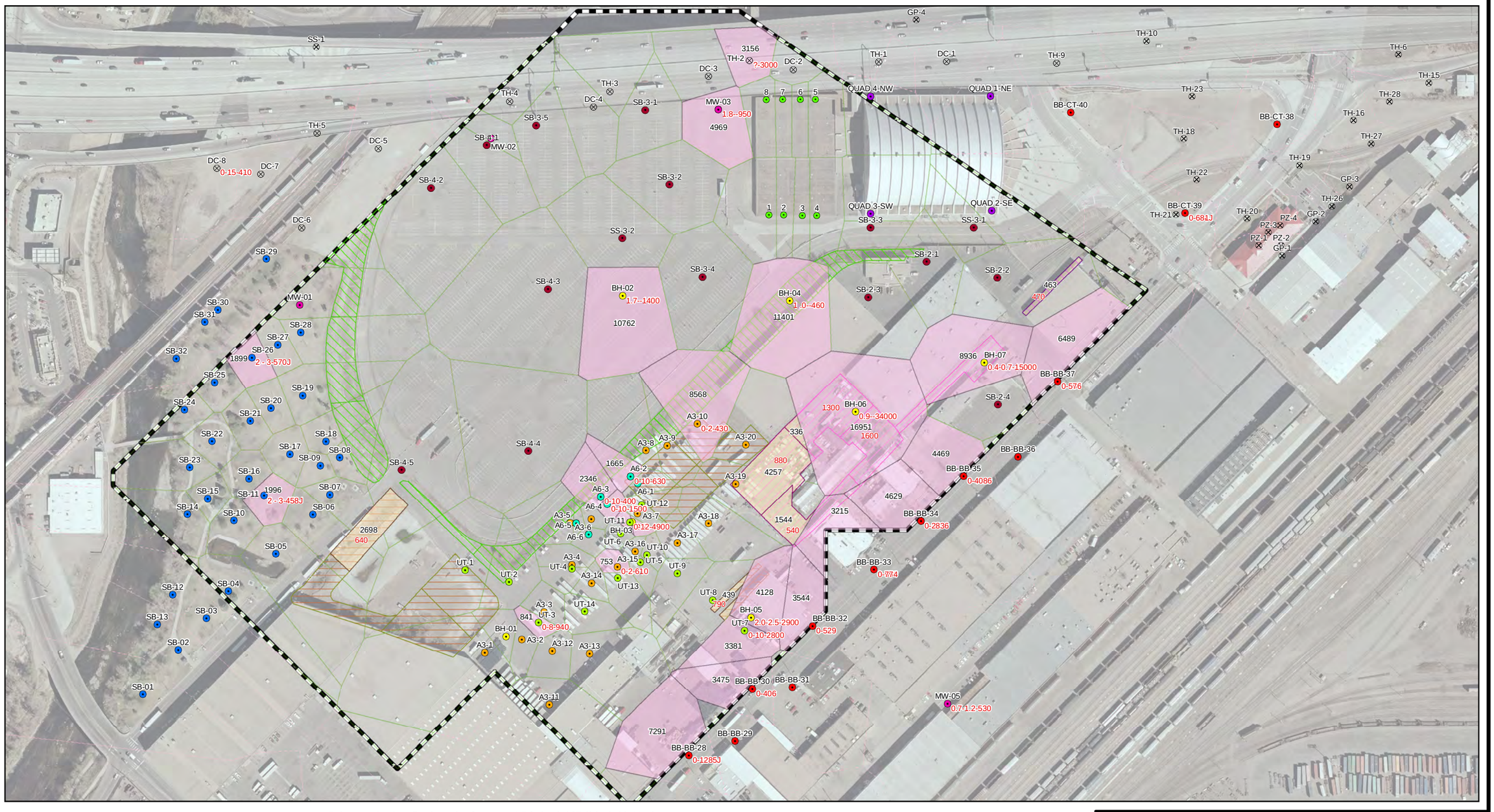
N

Figure E-3

Area with Arsenic greater than 15ppm 10 feet and Greater

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons >= 400 ppm Pb
- Large Area Soil Samples >= 400 ppm Pb
- Drill Hole Theissen Polygons < 400 ppm Pb

Polygon value is soil volume (surface area * 5 ft depth / 27.0) in Cubic Yards.

0 130 260 520
Feet

1 inch = 250 feet

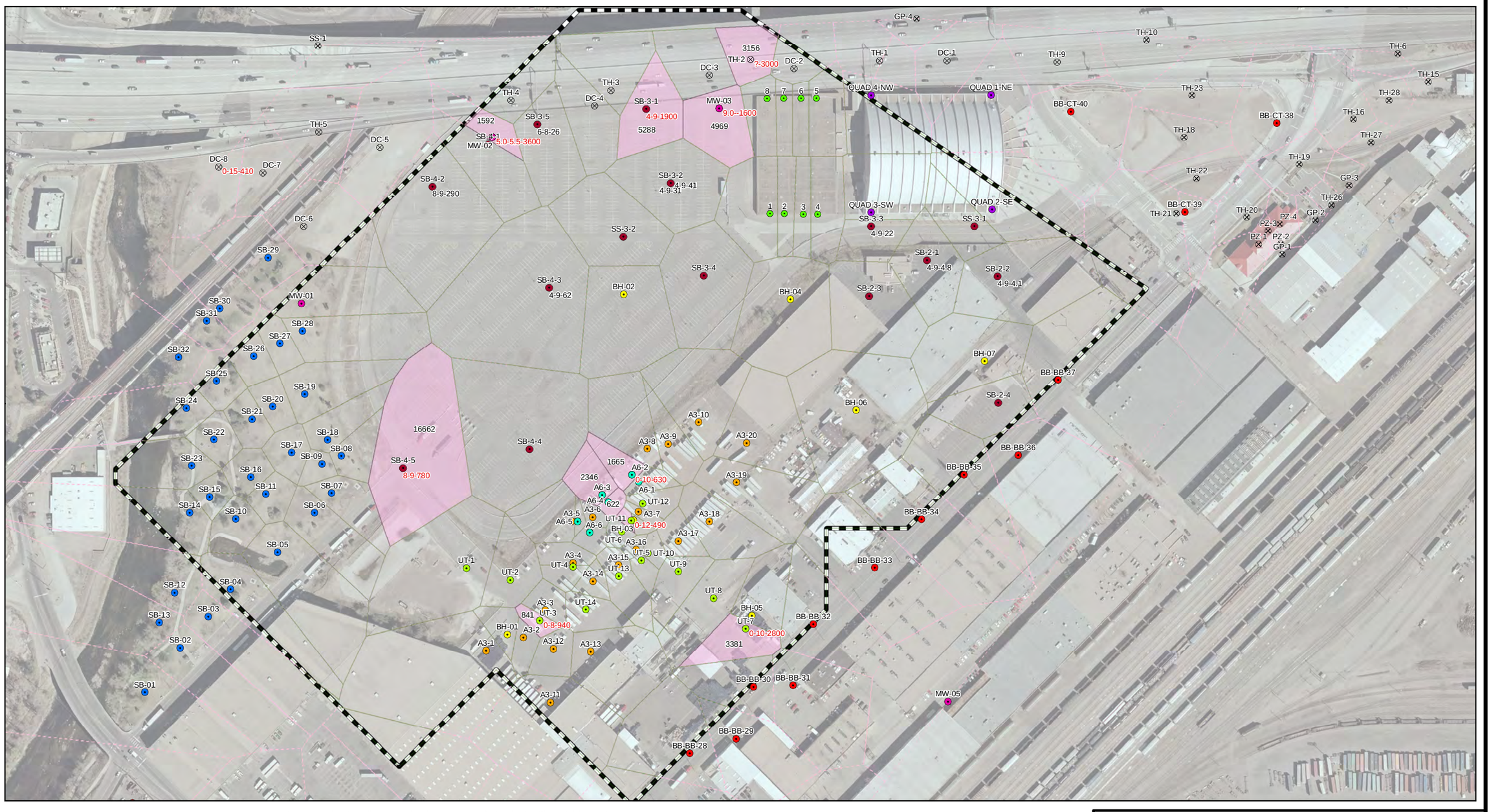
N

Figure E-4

Area with Lead greater than 400 ppm 0 to 5 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons >= 400 ppm Pb
- Drill Hole Theissen Polygons < 400 ppm Pb

Polygon value is soil volume (surface area * 5 ft depth / 27.0) in Cubic Yards.

0 125 250 500
Feet

1 inch = 250 feet

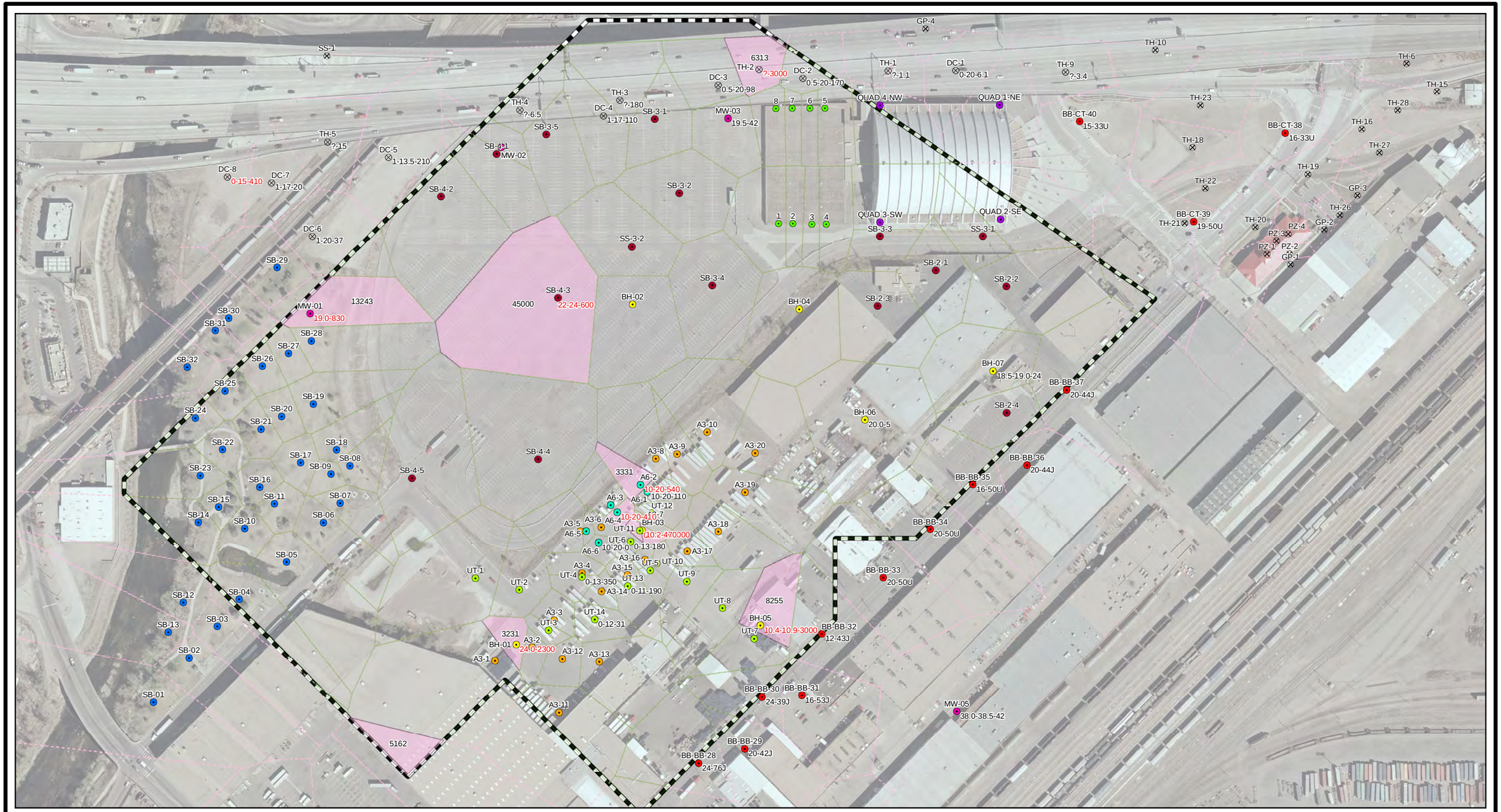
N

Figure E-5

Area with Lead greater than 400 ppm 5 to 10 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons >= 400 ppm Pb
- Drill Hole Theissen Polygons < 400 ppm Pb

Polygon value is soil volume (surface area * 10 ft depth / 27.0) in Cubic Yards.
Thickness assumed to be 10 feet.

0 130 260 520
Feet

1 inch = 250 feet

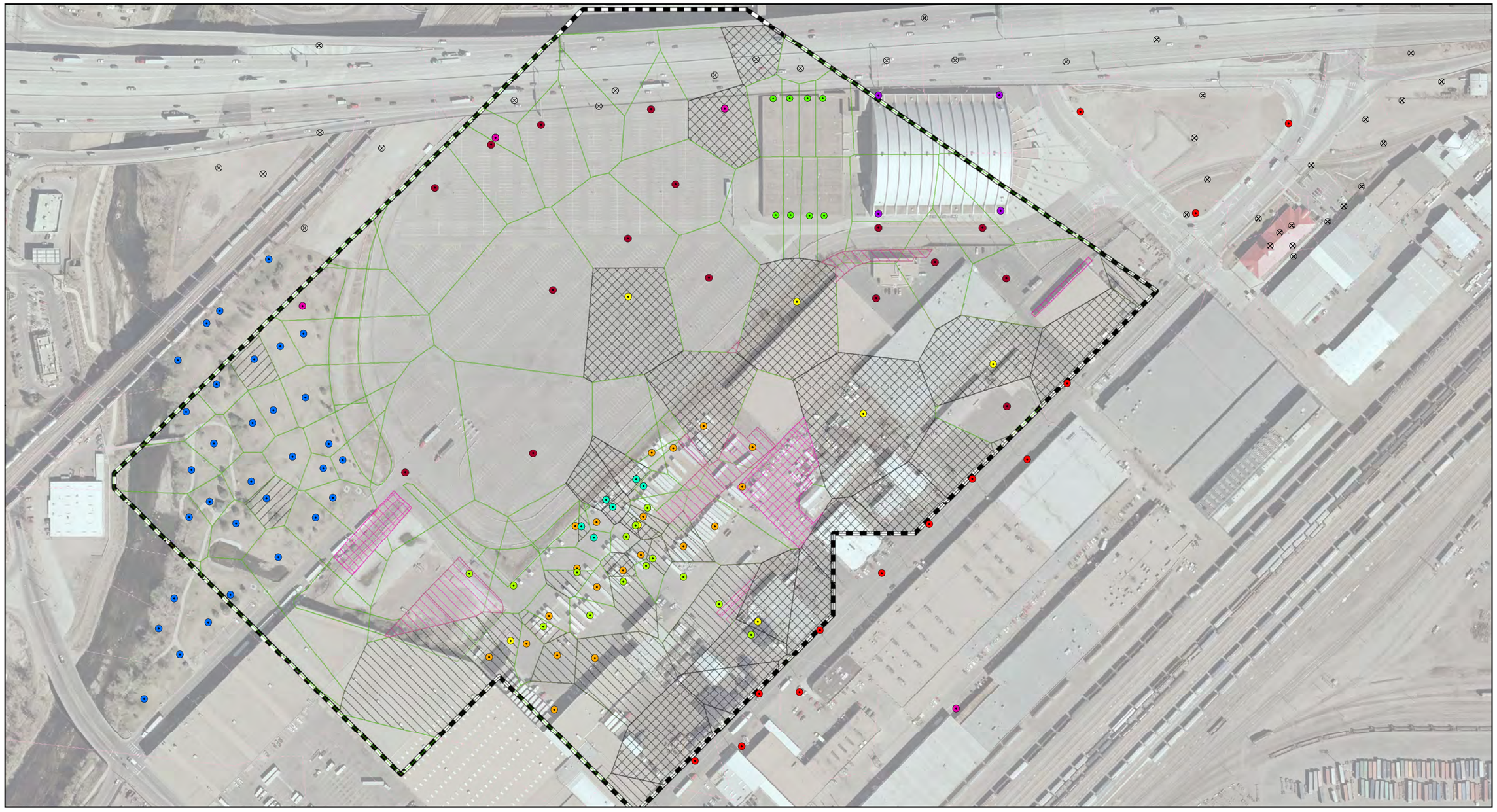
N

Figure E-6

Area with Lead greater than 400 ppm 10 feet and Greater

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Boundary OU2 (Operable Unit 2)
- Combined Large Area Soil Samples As > 15 ppm and Pb > 400 ppm
- Combined Large Area Soil Sample As > 15 ppm
- Combined Large Area Soil Sample Pb > 400 ppm
- Drill Hole Theissen Polygon As > 15 ppm and Pb > 400 ppm
- Drill Hole Theissen Polygons As > 15 ppm
- Drill Hole Theissen Polygons Pb > 400 ppm
- Theissen Polygons below Background

0 125 250 500
Feet

1 inch = 250 feet

N

Figure E-7
Areas with As and Pb concentrations greater than Background
0 to 5 feet
VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.

Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons As > 15 ppm and Pb > 400 ppm
- Drill Hole Theissen Polygons > 15 ppm As
- Drill Hole Theissen Polygons > 400 ppm Pb
- Drill Hole Theissen Polygons less than backgrounds

0 125 250 500
Feet

1 inch = 250 feet

N

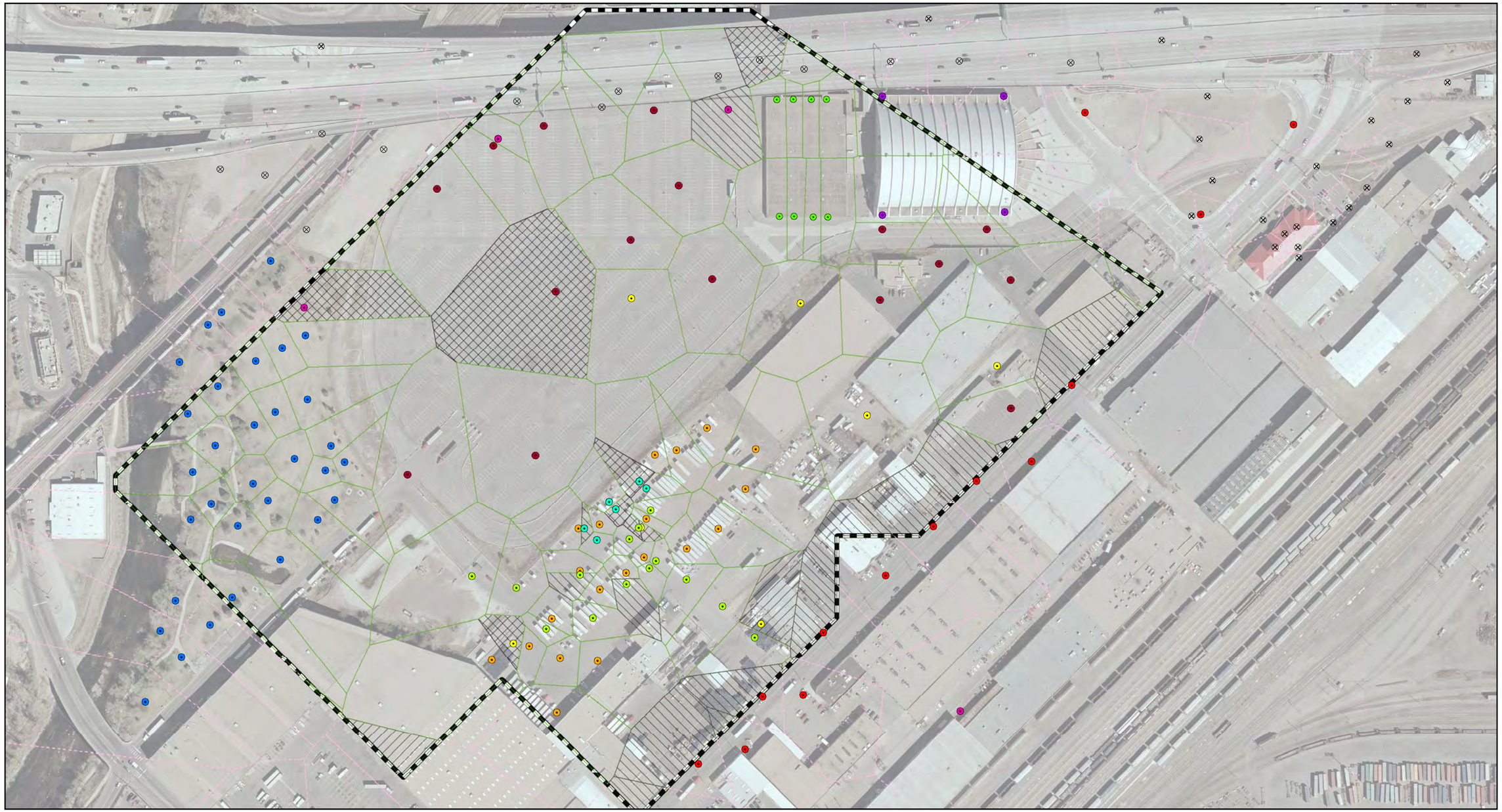
Figure E-8

Areas with As and Pb concentrations greater than Background

5 to 10 feet

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.



Legend

- Boundary OU2 (Operable Unit 2)
- Drill Hole Theissen Polygons As > 15 ppm and Pb > 400 ppm
- Drill Hole Theissen Polygons As > 15 ppm
- Drill Hole Theissen Polygons Pb > 400 ppm
- Drill Hole Theissen Polygons less than backgrounds

0 125 250 500
Feet

1 inch = 250 feet

N

Figure E-9

Areas with As and Pb concentrations greater than Background 10 feet and greater

VB/I-70 Remedial Investigation

EMSI Engineering Support Management, Inc.

Appendix F

Groundwater, Surface Water and Sediment Analytical Results From Prior Investigations

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
MW-1	GW	02-Nov-05	SW846 6020	Arsenic	0.002	B		mg/L
MW-1	GW	02-Nov-05	SW846 6020	Arsenic	0.0023	B		mg/L
MW-1	WATER	02-Nov-05	SW846 6020	Arsenic	0.002	B		mg/L
MW-1	WATER	24-Jan-06	SW846 6020	Arsenic	0.002	B		mg/L
MW-1	GW	24-Jan-06	SW846 6020	Arsenic	0.0022	B		mg/L
MW-1	GW	24-Jan-06	SW846 6020	Arsenic	0.002	B		mg/L
MW-1	GW	12-Apr-06	SW846 6020	Arsenic	0.0023	B		mg/L
MW-1	GW	12-Apr-06	SW846 6020	Arsenic	0.002	B		mg/L
MW-1	GW	12-Jul-06	SW846 6020	Arsenic	0.002	B		mg/L
MW-1	GW	12-Jul-06	SW846 6020	Arsenic	0.002	B		mg/L
MW-1	GW	02-Nov-05	SW846 6020	Cadmium	0.00027	B		mg/L
MW-1	GW	02-Nov-05	SW846 6020	Cadmium	0.00025	B		mg/L
MW-1	GW	24-Jan-06	SW846 6020	Cadmium	0.00024	B		mg/L
MW-1	GW	24-Jan-06	SW846 6020	Cadmium	0.00023	B		mg/L
MW-1	GW	12-Apr-06	SW846 6020	Cadmium	0.0002	B		mg/L
MW-1	GW	12-Apr-06	SW846 6020	Cadmium	0.00025	B		mg/L
MW-1	GW	12-Jul-06	SW846 6020	Cadmium	0.0002	B		mg/L
MW-1	GW	12-Jul-06	SW846 6020	Cadmium	0.00026	B		mg/L
MW-1	GW	02-Nov-05	SW846 6020	Copper	0.0029			mg/L
MW-1	GW	02-Nov-05	SW846 6020	Copper	0.0037			mg/L
MW-1	GW	24-Jan-06	SW846 6020	Copper	0.0028			mg/L
MW-1	GW	24-Jan-06	SW846 6020	Copper	0.0029			mg/L
MW-1	GW	12-Apr-06	SW846 6020	Copper	0.0031			mg/L
MW-1	GW	12-Apr-06	SW846 6020	Copper	0.0032			mg/L
MW-1	GW	12-Jul-06	SW846 6020	Copper	0.0027			mg/L
MW-1	GW	12-Jul-06	SW846 6020	Copper	0.0032			mg/L
MW-1	GW	02-Nov-05	MCAWW 130.2	Hardness, as CaCO3	560			mg/L
MW-1	GW	24-Jan-06	MCAWW 130.2	Hardness, as CaCO3	710	Q		mg/L
MW-1	GW	12-Apr-06	MCAWW 130.2	Hardness, as CaCO3	530			mg/L
MW-1	GW	12-Jul-06	MCAWW 130.2	Hardness, as CaCO3	490			mg/L
MW-1	GW	02-Nov-05	SW846 6020	Lead	0.00026	B J	U	mg/L
MW-1	GW	02-Nov-05	SW846 6020	Lead	0.00014	B J	U	mg/L
MW-1	GW	24-Jan-06	SW846 6020	Lead	0.00026	B		mg/L
MW-1	GW	24-Jan-06	SW846 6020	Lead	ND	U		mg/L
MW-1	GW	12-Apr-06	SW846 6020	Lead	ND	U		mg/L
MW-1	GW	12-Apr-06	SW846 6020	Lead	0.00055	B		mg/L
MW-1	GW	12-Jul-06	SW846 6020	Lead	ND	U		mg/L
MW-1	GW	12-Jul-06	SW846 6020	Lead	0.00035	B		mg/L
MW-1	GW	02-Nov-05	SW846 6020	Zinc	0.013			mg/L
MW-1	GW	02-Nov-05	SW846 6020	Zinc	0.013	J		mg/L
MW-1	GW	24-Jan-06	SW846 6020	Zinc	0.012			mg/L
MW-1	GW	24-Jan-06	SW846 6020	Zinc	0.012			mg/L
MW-1	GW	12-Apr-06	SW846 6020	Zinc	0.014	J		mg/L
MW-1	GW	12-Apr-06	SW846 6020	Zinc	0.014		U	mg/L
MW-1	GW	12-Jul-06	SW846 6020	Zinc	0.013			mg/L
MW-1	GW	12-Jul-06	SW846 6020	Zinc	0.019	J		mg/L
MW-2	GW	18-Aug-05	6010B	Arsenic	0.063			mg/L
MW-2	GW	02-Nov-05	SW846 6020	Arsenic	0.14			mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
MW-2	GW	02-Nov-05	SW846 6020	Arsenic	0.15			mg/L
MW-2	GW	24-Jan-06	SW846 6020	Arsenic	0.13			mg/L
MW-2	GW	24-Jan-06	SW846 6020	Arsenic	0.12			mg/L
MW-2	GW	12-Apr-06	SW846 6020	Arsenic	0.1			mg/L
MW-2	GW	12-Apr-06	SW846 6020	Arsenic	0.11			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Arsenic	0.12			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Arsenic	0.12			mg/L
MW-2	GW	18-Aug-05	6010B	Cadmium	ND			mg/L
MW-2	GW	02-Nov-05	SW846 6020	Cadmium	0.00028	B		mg/L
MW-2	GW	02-Nov-05	SW846 6020	Cadmium	0.000066	B		mg/L
MW-2	WATER	24-Jan-06	SW846 6020	Cadmium	0.0001	B		mg/L
MW-2	GW	24-Jan-06	SW846 6020	Cadmium	0.0001	B		mg/L
MW-2	GW	24-Jan-06	SW846 6020	Cadmium	0.000088	B		mg/L
MW-2	GW	12-Apr-06	SW846 6020	Cadmium	0.00014	B		mg/L
MW-2	GW	12-Apr-06	SW846 6020	Cadmium	0.0028			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Cadmium	0.000071	B		mg/L
MW-2	GW	12-Jul-06	SW846 6020	Cadmium	0.00041	B		mg/L
MW-2	GW	18-Aug-05	6010B	Copper	ND			mg/L
MW-2	GW	02-Nov-05	SW846 6020	Copper	0.00087	B		mg/L
MW-2	GW	02-Nov-05	SW846 6020	Copper	0.0011	B		mg/L
MW-2	GW	24-Jan-06	SW846 6020	Copper	ND	U		mg/L
MW-2	GW	24-Jan-06	SW846 6020	Copper	ND	U		mg/L
MW-2	GW	12-Apr-06	SW846 6020	Copper	ND	U		mg/L
MW-2	GW	12-Apr-06	SW846 6020	Copper	0.058			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Copper	ND	U		mg/L
MW-2	GW	12-Jul-06	SW846 6020	Copper	0.0076			mg/L
MW-2	GW	02-Nov-05	MCAWW 130.2	Hardness, as	650			mg/L
MW-2	GW	24-Jan-06	MCAWW 130.2	Hardness, as	920	Q		mg/L
MW-2	GW	12-Apr-06	MCAWW 130.2	Hardness, as	650			mg/L
MW-2	GW	12-Jul-06	MCAWW 130.2	Hardness, as	2900	Q		mg/L
MW-2	GW	18-Aug-05	6010B	Lead	ND			mg/L
MW-2	GW	02-Nov-05	SW846 6020	Lead	0.0076	J		mg/L
MW-2	GW	02-Nov-05	SW846 6020	Lead	0.0026	J		mg/L
MW-2	GW	24-Jan-06	SW846 6020	Lead	0.0077			mg/L
MW-2	GW	24-Jan-06	SW846 6020	Lead	0.0021			mg/L
MW-2	GW	12-Apr-06	SW846 6020	Lead	0.0019	J	U	mg/L
MW-2	GW	12-Apr-06	SW846 6020	Lead	0.3			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Lead	0.0016			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Lead	0.04			mg/L
MW-2	GW	18-Aug-05	6010B	Zinc	0.014	B		mg/L
MW-2	GW	02-Nov-05	SW846 6020	Zinc	0.16			mg/L
MW-2	GW	02-Nov-05	SW846 6020	Zinc	0.14	J		mg/L
MW-2	GW	24-Jan-06	SW846 6020	Zinc	0.16			mg/L
MW-2	GW	24-Jan-06	SW846 6020	Zinc	0.15			mg/L
MW-2	GW	12-Apr-06	SW846 6020	Zinc	0.14	J		mg/L
MW-2	GW	12-Apr-06	SW846 6020	Zinc	1.8			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Zinc	0.15			mg/L
MW-2	GW	12-Jul-06	SW846 6020	Zinc	0.31	J		mg/L
MW-3	GW	18-Aug-05	6010B	Arsenic	0.022			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Arsenic	0.015			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Arsenic	0.0098			mg/L
MW-3	GW	24-Jan-06	SW846 6020	Arsenic	0.014			mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
MW-3	GW	24-Jan-06	SW846 6020	Arsenic	0.0066			mg/L
MW-3	GW	12-Apr-06	SW846 6020	Arsenic	0.0095			mg/L
MW-3	GW	12-Apr-06	SW846 6020	Arsenic	0.01			mg/L
MW-3	GW	12-Jul-06	SW846 6020	Arsenic	0.0071			mg/L
MW-3	GW	12-Jul-06	SW846 6020	Arsenic	0.011			mg/L
MW-3	GW	18-Aug-05	6010B	Cadmium	ND			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Cadmium	0.00037	B		mg/L
MW-3	GW	02-Nov-05	SW846 6020	Cadmium	ND	U		mg/L
MW-3	GW	24-Jan-06	SW846 6020	Cadmium	0.00077	B		mg/L
MW-3	GW	24-Jan-06	SW846 6020	Cadmium	ND	U		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Cadmium	ND	U		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Cadmium	0.00065	B		mg/L
MW-3	GW	12-Jul-06	SW846 6020	Cadmium	ND	U		mg/L
MW-3	GW	12-Jul-06	SW846 6020	Cadmium	0.00047	B		mg/L
MW-3	GW	18-Aug-05	6010B	Copper	ND			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Copper	0.018			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Copper	ND	U		mg/L
MW-3	GW	24-Jan-06	SW846 6020	Copper	0.028			mg/L
MW-3	GW	24-Jan-06	SW846 6020	Copper	ND	U		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Copper	ND	U		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Copper	0.0075			mg/L
MW-3	GW	12-Jul-06	SW846 6020	Copper	ND	U		mg/L
MW-3	GW	12-Jul-06	SW846 6020	Copper	0.0099			mg/L
MW-3	GW	02-Nov-05	MCAWW 130.2	Hardness, as CaCO3	770	Q		mg/L
MW-3	GW	24-Jan-06	MCAWW 130.2	Hardness, as CaCO3	610	Q		mg/L
MW-3	GW	12-Apr-06	MCAWW 130.2	Hardness, as CaCO3	950	Q		mg/L
MW-3	GW	12-Jul-06	MCAWW 130.2	Hardness, as CaCO3	1100	Q		mg/L
MW-3	GW	18-Aug-05	6010B	Lead	ND			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Lead	0.087	J		mg/L
MW-3	GW	02-Nov-05	SW846 6020	Lead	0.00041	B J	U	mg/L
MW-3	GW	24-Jan-06	SW846 6020	Lead	0.15			mg/L
MW-3	GW	24-Jan-06	SW846 6020	Lead	0.00028	B		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Lead	0.00011	B J		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Lead	0.038			mg/L
MW-3	GW	12-Jul-06	SW846 6020	Lead	ND	U		mg/L
MW-3	GW	12-Jul-06	SW846 6020	Lead	0.043			mg/L
MW-3	GW	18-Aug-05	6010B	Zinc	0.012			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Zinc	0.11			mg/L
MW-3	GW	02-Nov-05	SW846 6020	Zinc	0.032	J		mg/L
MW-3	GW	24-Jan-06	SW846 6020	Zinc	0.24			mg/L
MW-3	GW	24-Jan-06	SW846 6020	Zinc	0.028	U		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Zinc	0.04	J		mg/L
MW-3	GW	12-Apr-06	SW846 6020	Zinc	0.052			mg/L
MW-3	GW	12-Jul-06	SW846 6020	Zinc	0.03			mg/L
MW-3	GW	12-Jul-06	SW846 6020	Zinc	0.087	J		mg/L
MW-5	GW	02-Nov-05	SW846 6020	Arsenic	0.15			mg/L
MW-5	GW	02-Nov-05	SW846 6020	Arsenic	0.0015	B		mg/L
MW-5	GW	24-Jan-06	SW846 6020	Arsenic	0.17			mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
MW-5	GW	24-Jan-06	SW846 6020	Arsenic	0.0015	B		mg/L
MW-5	GW	12-Apr-06	SW846 6020	Arsenic	0.0015	B		mg/L
MW-5	GW	12-Apr-06	SW846 6020	Arsenic	0.098			mg/L
MW-5	GW	12-Jul-06	SW846 6020	Arsenic	0.0015	B		mg/L
MW-5	GW	12-Jul-06	SW846 6020	Arsenic	0.072			mg/L
MW-5	GW	02-Nov-05	SW846 6020	Cadmium	0.0055			mg/L
MW-5	GW	02-Nov-05	SW846 6020	Cadmium	ND	U		mg/L
MW-5	GW	24-Jan-06	SW846 6020	Cadmium	0.0083			mg/L
MW-5	GW	24-Jan-06	SW846 6020	Cadmium	ND	U		mg/L
MW-5	GW	12-Apr-06	SW846 6020	Cadmium	ND	U		mg/L
MW-5	GW	12-Apr-06	SW846 6020	Cadmium	0.0032			mg/L
MW-5	GW	12-Jul-06	SW846 6020	Cadmium	ND	U		mg/L
MW-5	GW	12-Jul-06	SW846 6020	Cadmium	0.0029			mg/L
MW-5	GW	02-Nov-05	SW846 6020	Copper	0.69			mg/L
MW-5	GW	02-Nov-05	SW846 6020	Copper	0.0021			mg/L
MW-5	GW	24-Jan-06	SW846 6020	Copper	0.85			mg/L
MW-5	GW	24-Jan-06	SW846 6020	Copper	0.0024			mg/L
MW-5	GW	12-Apr-06	SW846 6020	Copper	0.0026			mg/L
MW-5	GW	12-Apr-06	SW846 6020	Copper	0.46			mg/L
MW-5	GW	12-Jul-06	SW846 6020	Copper	0.0031			mg/L
MW-5	GW	12-Jul-06	SW846 6020	Copper	0.39			mg/L
MW-5	GW	02-Nov-05	MCAWW 130.2	Hardness, as CaCO3	820	Q		mg/L
MW-5	GW	24-Jan-06	MCAWW 130.2	Hardness, as CaCO3	1300	Q		mg/L
MW-5	GW	12-Apr-06	MCAWW 130.2	Hardness, as CaCO3	760	Q		mg/L
MW-5	GW	12-Jul-06	MCAWW 130.2	Hardness, as CaCO3	1200	Q		mg/L
MW-5	GW	02-Nov-05	SW846 6020	Lead	0.26	J		mg/L
MW-5	GW	02-Nov-05	SW846 6020	Lead	0.0002	B J	U	mg/L
MW-5	WATER	02-Nov-05	SW846 6020	Lead	0.0002	B J		mg/L
MW-5	GW	24-Jan-06	SW846 6020	Lead	0.29			mg/L
MW-5	GW	24-Jan-06	SW846 6020	Lead	ND	U		mg/L
MW-5	GW	12-Apr-06	SW846 6020	Lead	ND	U		mg/L
MW-5	GW	12-Apr-06	SW846 6020	Lead	0.18			mg/L
MW-5	GW	12-Jul-06	SW846 6020	Lead	0.00044	B		mg/L
MW-5	GW	12-Jul-06	SW846 6020	Lead	0.15			mg/L
MW-5	GW	02-Nov-05	SW846 6020	Zinc	1.4			mg/L
MW-5	GW	02-Nov-05	SW846 6020	Zinc	0.0054	B J	U	mg/L
MW-5	GW	24-Jan-06	SW846 6020	Zinc	1.8			mg/L
MW-5	GW	24-Jan-06	SW846 6020	Zinc	0.0044	B		mg/L
MW-5	GW	12-Apr-06	SW846 6020	Zinc	0.0058	B J	U	mg/L
MW-5	GW	12-Apr-06	SW846 6020	Zinc	0.98			mg/L
MW-5	GW	12-Jul-06	SW846 6020	Zinc	0.0082	B		mg/L
MW-5	GW	12-Jul-06	SW846 6020	Zinc	0.81	J		mg/L
MW-6	GW	02-Nov-05	SW846 6020	Arsenic	0.12			mg/L
MW-6	GW	02-Nov-05	SW846 6020	Arsenic	0.0012	B		mg/L
MW-6	GW	24-Jan-06	SW846 6020	Arsenic	0.056			mg/L
MW-6	GW	24-Jan-06	SW846 6020	Arsenic	0.0013	B		mg/L
MW-6	GW	12-Apr-06	SW846 6020	Arsenic	0.0016	B		mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
MW-6	GW	12-Apr-06	SW846 6020	Arsenic	0.03			mg/L
MW-6	GW	12-Jul-06	SW846 6020	Arsenic	0.0036	B		mg/L
MW-6	GW	12-Jul-06	SW846 6020	Arsenic	0.02			mg/L
MW-6	GW	02-Nov-05	SW846 6020	Cadmium	0.0045			mg/L
MW-6	GW	02-Nov-05	SW846 6020	Cadmium	0.00005	B		mg/L
MW-6	WATER	02-Nov-05	SW846 6020	Cadmium	0.00005	B		mg/L
MW-6	GW	24-Jan-06	SW846 6020	Cadmium	0.0016			mg/L
MW-6	GW	24-Jan-06	SW846 6020	Cadmium	ND	U		mg/L
MW-6	GW	12-Apr-06	SW846 6020	Cadmium	ND	U		mg/L
MW-6	GW	12-Apr-06	SW846 6020	Cadmium	0.00094	B		mg/L
MW-6	GW	12-Jul-06	SW846 6020	Cadmium	0.00011	B		mg/L
MW-6	GW	12-Jul-06	SW846 6020	Cadmium	0.00059	B		mg/L
MW-6	GW	02-Nov-05	SW846 6020	Copper	0.65			mg/L
MW-6	GW	02-Nov-05	SW846 6020	Copper	0.0028			mg/L
MW-6	WATER	24-Jan-06	SW846 6020	Copper	0.002			mg/L
MW-6	GW	24-Jan-06	SW846 6020	Copper	0.27			mg/L
MW-6	GW	24-Jan-06	SW846 6020	Copper	0.002			mg/L
MW-6	GW	12-Apr-06	SW846 6020	Copper	0.0018	B		mg/L
MW-6	GW	12-Apr-06	SW846 6020	Copper	0.15			mg/L
MW-6	GW	12-Jul-06	SW846 6020	Copper	0.014			mg/L
MW-6	GW	12-Jul-06	SW846 6020	Copper	0.11			mg/L
MW-6	GW	02-Nov-05	MCAWW 130.2	Hardness, as	790	Q		mg/L
MW-6	GW	24-Jan-06	MCAWW 130.2	Hardness, as	990	Q		mg/L
MW-6	GW	12-Apr-06	MCAWW 130.2	Hardness, as	730	Q		mg/L
MW-6	GW	12-Jul-06	MCAWW 130.2	Hardness, as	1100	Q		mg/L
MW-6	GW	02-Nov-05	SW846 6020	Lead	0.27	J		mg/L
MW-6	GW	02-Nov-05	SW846 6020	Lead	0.00016	B J	U	mg/L
MW-6	GW	24-Jan-06	SW846 6020	Lead	0.11			mg/L
MW-6	GW	24-Jan-06	SW846 6020	Lead	ND	U		mg/L
MW-6	GW	12-Apr-06	SW846 6020	Lead	0.00018	B J	U	mg/L
MW-6	GW	12-Apr-06	SW846 6020	Lead	0.068			mg/L
MW-6	GW	12-Jul-06	SW846 6020	Lead	0.006			mg/L
MW-6	GW	12-Jul-06	SW846 6020	Lead	0.049			mg/L
MW-6	GW	02-Nov-05	SW846 6020	Zinc	1.6			mg/L
MW-6	GW	02-Nov-05	SW846 6020	Zinc	0.0057	B J	U	mg/L
MW-6	GW	24-Jan-06	SW846 6020	Zinc	0.65			mg/L
MW-6	GW	24-Jan-06	SW846 6020	Zinc	0.0042	B		mg/L
MW-6	GW	12-Apr-06	SW846 6020	Zinc	0.006	B J	U	mg/L
MW-6	GW	12-Apr-06	SW846 6020	Zinc	0.36			mg/L
MW-6	GW	12-Jul-06	SW846 6020	Zinc	0.037			mg/L
MW-6	GW	12-Jul-06	SW846 6020	Zinc	0.27	J		mg/L
Walsh Samples								
TH-1	GW	1991		Arsenic	ND			mg/L
	GW	1991		Cadmium	ND			mg/L
	GW	1991		Chromium	ND			mg/L
	GW	1991		Lead	ND			mg/L
	GW	1991		Zinc	ND			mg/L
TH-2	GW	1991		Arsenic	ND			mg/L
	GW	1991		Cadmium	ND			mg/L
	GW	1991		Chromium	ND			mg/L
	GW	1991		Lead	ND			mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
	GW	1991		Zinc	0.0200			mg/L
TH-3	GW	1991		Arsenic	ND			mg/L
	GW	1991		Cadmium	ND			mg/L
	GW	1991		Chromium	ND			mg/L
	GW	1991		Lead	ND			mg/L
	GW	1991		Zinc	ND			mg/L
TH-4	GW	1991		Arsenic	ND			mg/L
	GW	1991		Cadmium	ND			mg/L
	GW	1991		Chromium	ND			mg/L
	GW	1991		Lead	ND			mg/L
	GW	1991		Zinc	0.1100			mg/L
TH-5	GW	1991		Arsenic	ND			mg/L
	GW	1991		Cadmium	ND			mg/L
	GW	1991		Chromium	ND			mg/L
	GW	1991		Lead	ND			mg/L
	GW	1991		Zinc	0.0300			mg/L
TH-8	GW	1991		Arsenic	ND			mg/L
	GW	1991		Cadmium	ND			mg/L
	GW	1991		Chromium	ND			mg/L
	GW	1991		Lead	ND			mg/L
	GW	1991		Zinc	ND			mg/L
TH-9	GW	1991		Arsenic	ND			mg/L
	GW	1991		Cadmium	ND			mg/L
	GW	1991		Chromium	ND			mg/L
	GW	1991		Lead	ND			mg/L
	GW	1991		Zinc	ND			mg/L
DC-1	GW	1997		Arsenic	NA			mg/L
	GW	1997		Cadmium	NA			mg/L
	GW	1997		Chromium	NA			mg/L
	GW	1997		Lead	NA			mg/L
	GW	1997		Zinc	NA			mg/L
DC-2	GW	05-Jun-97	SW6020A	Arsenic	0.0100			mg/L
	GW	05-Jun-97	SW6020A	Cadmium	0.0010			mg/L
	GW	05-Jun-97	SW6020A	Chromium	0.0009	J		mg/L
	GW	05-Jun-97	SW6020A	Lead	ND			mg/L
	GW	05-Jun-97	SW6020A	Zinc	NA			mg/L
DC-3	GW	05-Jun-97	SW6020A	Arsenic	0.0420			mg/L
	GW	05-Jun-97	SW6020A	Cadmium	0.0050			mg/L
	GW	05-Jun-97	SW6020A	Chromium	0.0022			mg/L
	GW	05-Jun-97	SW6020A	Lead	0.0059			mg/L
	GW	05-Jun-97	SW6020A	Zinc	NA			mg/L
DC-4	GW	05-Jun-97	SW6020A	Arsenic	0.0270			mg/L
	GW	05-Jun-97	SW6020A	Cadmium	ND			mg/L
	GW	05-Jun-97	SW6020A	Chromium	0.0022			mg/L
	GW	05-Jun-97	SW6020A	Lead	0.0031			mg/L
	GW	05-Jun-97	SW6020A	Zinc	NA			mg/L
DC-5	GW	05-Jun-97	SW6020A	Arsenic	NA			mg/L
	GW	05-Jun-97	SW6020A	Cadmium	NA			mg/L
	GW	05-Jun-97	SW6020A	Chromium	NA			mg/L
	GW	05-Jun-97	SW6020A	Lead	NA			mg/L
	GW	05-Jun-97	SW6020A	Zinc	NA			mg/L
DC-6	GW	05-Jun-97	SW6020A	Arsenic	NA			mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
	GW	05-Jun-97	SW6020A	Cadmium	NA			mg/L
	GW	05-Jun-97	SW6020A	Chromium	NA			mg/L
	GW	05-Jun-97	SW6020A	Lead	NA			mg/L
	GW	05-Jun-97	SW6020A	Zinc	NA			mg/L
DC-7	GW	05-Jun-97	SW6020A	Arsenic	NA			mg/L
	GW	05-Jun-97	SW6020A	Cadmium	NA			mg/L
	GW	05-Jun-97	SW6020A	Chromium	NA			mg/L
	GW	05-Jun-97	SW6020A	Lead	NA			mg/L
	GW	05-Jun-97	SW6020A	Zinc	NA			mg/L
DC-8	GW	05-Jun-97	SW6020A	Arsenic	NA			mg/L
	GW	05-Jun-97	SW6020A	Cadmium	NA			mg/L
	GW	05-Jun-97	SW6020A	Chromium	NA			mg/L
	GW	05-Jun-97	SW6020A	Lead	NA			mg/L
	GW	05-Jun-97	SW6020A	Zinc	NA			mg/L
Denver Coliseum Cooling Water Wells								
QUAD 1-NE	GW	25-May-01		Arsenic	0.005	U		mg/L
	GW	25-May-01		Cadmium	0.001	U		mg/L
	GW	25-May-01		Chromium	0.0024	U		mg/L
	GW	25-May-01		Lead	0.0012			mg/L
	GW	25-May-01		Zinc	0.0759			mg/L
QUAD 1-NE	GW	25-May-01		Arsenic	0.0011	B		mg/L
	GW	25-May-01		Cadmium	0.001	U		mg/L
	GW	25-May-01		Chromium	0.0015	B		mg/L
	GW	25-May-01		Lead	0.00034	B		mg/L
	GW	25-May-01		Zinc	0.0821			mg/L
QUAD 2-SE	GW	25-May-01		Arsenic	0.005	U		mg/L
	GW	25-May-01		Cadmium	0.00031	B		mg/L
	GW	25-May-01		Chromium	0.0027	U		mg/L
	GW	25-May-01		Lead	0.00035	B		mg/L
	GW	25-May-01		Zinc	0.0266			mg/L
QUAD 2-SE	GW	25-May-01		Arsenic	0.0013	B		mg/L
	GW	25-May-01		Cadmium	0.00032	B		mg/L
	GW	25-May-01		Chromium	0.0019	B		mg/L
	GW	25-May-01		Lead	0.00024	B		mg/L
	GW	25-May-01		Zinc	0.0407			mg/L
QUAD 3-SW	GW	25-May-01		Arsenic	0.005	U		mg/L
	GW	25-May-01		Cadmium	0.00077	B		mg/L
	GW	25-May-01		Chromium	0.003	U		mg/L
	GW	25-May-01		Lead	0.00056	B		mg/L
	GW	25-May-01		Zinc	0.0255			mg/L
QUAD 3-SW	GW	25-May-01		Arsenic	0.0021	B		mg/L
	GW	25-May-01		Cadmium	0.00078	B		mg/L
	GW	25-May-01		Chromium	0.0024			mg/L
	GW	25-May-01		Lead	0.00044	B		mg/L
	GW	25-May-01		Zinc	0.0336			mg/L
QUAD 4-NW	GW	25-May-01		Arsenic	0.005	U		mg/L
	GW	25-May-01		Cadmium	0.0002	B		mg/L
	GW	25-May-01		Chromium	0.0028	U		mg/L
	GW	25-May-01		Lead	0.00062	B		mg/L
	GW	25-May-01		Zinc	0.04			mg/L
QUAD 4-NW	GW	25-May-01		Arsenic	0.0023	B		mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
	GW	25-May-01		Cadmium	0.00016	B		mg/L
	GW	25-May-01		Chromium	0.0023			mg/L
	GW	25-May-01		Lead	0.00053	B		mg/L
	GW	25-May-01		Zinc	0.046	B		mg/L
Brighton Boulevard Sample								
BB-GW-BB-27	GW	5/7/2003		Arsenic	0.0255			mg/L
	GW	5/7/2003		Cadmium	0.0019	B		mg/L
	GW	5/7/2003		Chromium	0.0287	E		mg/L
	GW	5/7/2003		Lead	0.0235	N		mg/L
	GW	5/7/2003		Zinc	0.17			mg/L
BB-GW-BB-28	GW	5/7/2003		Arsenic	0.0212			mg/L
	GW	5/7/2003		Cadmium	0.0002	U		mg/L
	GW	5/7/2003		Chromium	0.0422	E		mg/L
	GW	5/7/2003		Lead	0.0315	N		mg/L
	GW	5/7/2003		Zinc	0.236			mg/L
BB-GW-BB-29	GW	5/7/2003		Arsenic	0.0369			mg/L
	GW	5/7/2003		Cadmium	0.0002	U		mg/L
	GW	5/7/2003		Chromium	0.0933	E		mg/L
	GW	5/7/2003		Lead	0.0716	N		mg/L
	GW	5/7/2003		Zinc	0.375			mg/L
BB-GW-BB-30	GW	5/7/2003		Arsenic	0.061			mg/L
	GW	5/7/2003		Cadmium	0.0002	U		mg/L
	GW	5/7/2003		Chromium	0.0709	E		mg/L
	GW	5/7/2003		Lead	0.0705	N		mg/L
	GW	5/7/2003		Zinc	0.428			mg/L
BB-GW-BB-31	GW	5/16/2003		Arsenic	0.0569			mg/L
	GW	5/16/2003		Cadmium	0.00083	B		mg/L
	GW	5/16/2003		Chromium	0.165			mg/L
	GW	5/16/2003		Lead	0.114	N		mg/L
	GW	5/16/2003		Zinc	0.48			mg/L
BB-GW-BB-32	GW	5/7/2003		Arsenic	0.0439			mg/L
	GW	5/7/2003		Cadmium	0.0002	U		mg/L
	GW	5/7/2003		Chromium	0.231	E		mg/L
	GW	5/7/2003		Lead	0.0829	N		mg/L
	GW	5/7/2003		Zinc	0.374			mg/L
BB-GW-BB-33	GW	5/16/2003		Arsenic	0.553			mg/L
	GW	5/16/2003		Cadmium	0.0005	U		mg/L
	GW	5/16/2003		Chromium	0.1			mg/L
	GW	5/16/2003		Lead	0.0756	N		mg/L
	GW	5/16/2003		Zinc	0.312			mg/L
BB-GW-BB-34	GW	5/16/2003		Arsenic	0.0331			mg/L
	GW	5/16/2003		Cadmium	0.0005	U		mg/L
	GW	5/16/2003		Chromium	0.132			mg/L
	GW	5/16/2003		Lead	0.0329	N		mg/L
	GW	5/16/2003		Zinc	0.218			mg/L
BB-GW-BB-35	GW	5/16/2003		Arsenic	0.113			mg/L
	GW	5/16/2003		Cadmium	0.0005	U		mg/L
	GW	5/16/2003		Chromium	0.411			mg/L
	GW	5/16/2003		Lead	0.138	N		mg/L
	GW	5/16/2003		Zinc	0.874			mg/L
BB-GW-BB-36	GW	5/7/2003		Arsenic	0.0171			mg/L

Appendix F-1: Groundwater Sample Analytical Results from Prior Investigations

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
	GW	5/7/2003		Cadmium	0.0002	U		mg/L
	GW	5/7/2003		Chromium	0.0414	E		mg/L
	GW	5/7/2003		Lead	0.0185	N		mg/L
	GW	5/7/2003		Zinc	0.354			mg/L
BB-GW-BB-37	GW	5/7/2003		Arsenic	0.0463			mg/L
	GW	5/7/2003		Cadmium	0.0002	U		mg/L
	GW	5/7/2003		Chromium	0.211	E		mg/L
	GW	5/7/2003		Lead	0.098	N		mg/L
	GW	5/7/2003		Zinc	0.826			mg/L
BB-WY-K-GW	GW	1/15/2004		Arsenic	0.0136	J		mg/L
	GW	1/15/2004		Cadmium	0.006			mg/L
	GW	1/15/2004		Chromium	0.154			mg/L
	GW	1/15/2004		Lead	0.0505			mg/L
	GW	1/15/2004		Zinc	0.37			mg/L

Appendix F-2: Prior INvestigation Surface Water Sample Results

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	Unit
N46	SW	02-Nov-05	SW846 6020	Arsenic	0.0012	B	mg/L
N46	SW	02-Nov-05	SW846 6020	Arsenic	0.0013	B	mg/L
N46	SW	02-Nov-05	SW846 6020	Cadmium	0.00016	B	mg/L
N46	SW	02-Nov-05	SW846 6020	Cadmium	0.00016	B	mg/L
N46	SW	02-Nov-05	SW846 6020	Copper	0.0047		mg/L
N46	SW	02-Nov-05	SW846 6020	Copper	0.0041		mg/L
N46	SW	02-Nov-05	MCAWW 130.2	Hardness, as CaCO3	290		mg/L
N46	SW	02-Nov-05	SW846 6020	Lead	0.00044	B	mg/L
N46	SW	02-Nov-05	SW846 6020	Lead	0.00021	B	mg/L
N46	SW	02-Nov-05	SW846 6020	Zinc	0.03		mg/L
N46	SW	02-Nov-05	SW846 6020	Zinc	0.026		mg/L
N43	SW	02-Nov-05	SW846 6020	Arsenic	0.0015	B	mg/L
N43	SW	02-Nov-05	SW846 6020	Arsenic	0.0016	B	mg/L
N43	SW	02-Nov-05	SW846 6020	Cadmium	0.00018	B	mg/L
N43	SW	02-Nov-05	SW846 6020	Cadmium	0.00016	B	mg/L
N43	SW	02-Nov-05	SW846 6020	Copper	0.004		mg/L
N43	SW	02-Nov-05	SW846 6020	Copper	0.004		mg/L
N43	SW	02-Nov-05	MCAWW 130.2	Hardness, as CaCO3	300		mg/L
N43	SW	02-Nov-05	SW846 6020	Lead	0.00037	B	mg/L
N43	SW	02-Nov-05	SW846 6020	Lead	0.00019	B	mg/L
N43	SW	02-Nov-05	SW846 6020	Zinc	0.023		mg/L
N43	SW	02-Nov-05	SW846 6020	Zinc	0.02		mg/L
N46	SW	24-Jan-06	SW846 6020	Arsenic	0.0011	B	mg/L
N46	SW	24-Jan-06	SW846 6020	Arsenic	0.00095	B	mg/L
N46	SW	24-Jan-06	SW846 6020	Cadmium	0.00014	B	mg/L
N46	SW	24-Jan-06	SW846 6020	Cadmium	0.0001	B	mg/L
N46	SW	24-Jan-06	SW846 6020	Copper	0.0052		mg/L
N46	SW	24-Jan-06	SW846 6020	Copper	0.0031		mg/L
N46	SW	24-Jan-06	MCAWW 130.2	Hardness, as CaCO3	300		mg/L
N46	SW	24-Jan-06	SW846 6020	Lead	0.00091	B	mg/L
N46	SW	24-Jan-06	SW846 6020	Lead	0.00016	B	mg/L
N46	SW	24-Jan-06	SW846 6020	Zinc	0.035		mg/L
N46	SW	24-Jan-06	SW846 6020	Zinc	0.028		mg/L
N43	SW	24-Jan-06	SW846 6020	Arsenic	0.001	B	mg/L
N43	SW	24-Jan-06	SW846 6020	Arsenic	0.001	B	mg/L
N43	SW	24-Jan-06	SW846 6020	Cadmium	0.00013	B	mg/L
N43	SW	24-Jan-06	SW846 6020	Cadmium	0.00013	B	mg/L
N43	SW	24-Jan-06	SW846 6020	Copper	0.0049		mg/L
N43	SW	24-Jan-06	SW846 6020	Copper	0.0037		mg/L
N43	SW	24-Jan-06	MCAWW 130.2	Hardness, as CaCO3	290		mg/L
N43	SW	24-Jan-06	SW846 6020	Lead	0.00064	B	mg/L
N43	SW	24-Jan-06	SW846 6020	Lead	0.00035	B	mg/L
N43	SW	24-Jan-06	SW846 6020	Zinc	0.033		mg/L
N43	SW	24-Jan-06	SW846 6020	Zinc	0.03		mg/L
N46	SW	12-Apr-06	SW846 6020	Arsenic	0.0011	B	mg/L

Appendix F-2: Prior INvestigation Surface Water Sample Results

Client Sample ID	Matrix	Collected	Method	Analyte	Result	Footnotes	Unit
N46	SW	12-Apr-06	SW846 6020	Arsenic	0.0011	B	mg/L
N46	SW	12-Apr-06	SW846 6020	Cadmium	0.00017	B	mg/L
N46	SW	12-Apr-06	SW846 6020	Cadmium	0.000097	B	mg/L
N46	SW	12-Apr-06	SW846 6020	Copper	0.013		mg/L
N46	SW	12-Apr-06	SW846 6020	Copper	0.0039		mg/L
N46	SW	12-Apr-06	MCAWW 130.2	Hardness, as CaCO3	290		mg/L
N46	SW	12-Apr-06	SW846 6020	Lead	0.0012		mg/L
N46	SW	12-Apr-06	SW846 6020	Lead	0.00033	B	mg/L
N46	SW	12-Apr-06	SW846 6020	Zinc	0.039	J	mg/L
N46	SW	12-Apr-06	SW846 6020	Zinc	0.027	J	mg/L
N43	SW	12-Apr-06	SW846 6020	Arsenic	0.0012	B	mg/L
N43	SW	12-Apr-06	SW846 6020	Arsenic	0.0012	B	mg/L
N43	SW	12-Apr-06	SW846 6020	Cadmium	0.00014	B	mg/L
N43	SW	12-Apr-06	SW846 6020	Cadmium	0.000095	B	mg/L
N43	SW	12-Apr-06	SW846 6020	Copper	0.0056		mg/L
N43	SW	12-Apr-06	SW846 6020	Copper	0.0036		mg/L
N43	SW	12-Apr-06	MCAWW 130.2	Hardness, as CaCO3	310		mg/L
N43	SW	12-Apr-06	SW846 6020	Lead	0.0011		mg/L
N43	SW	12-Apr-06	SW846 6020	Lead	0.0003	B	mg/L
N43	SW	12-Apr-06	SW846 6020	Zinc	0.035	J	mg/L
N43	SW	12-Apr-06	SW846 6020	Zinc	0.025	J	mg/L
N46	SW	12-Jul-06	SW846 6020	Arsenic	0.0012	B	mg/L
N46	SW	12-Jul-06	SW846 6020	Arsenic	0.0012	B	mg/L
N46	SW	12-Jul-06	SW846 6020	Cadmium	0.00012	B	mg/L
N46	SW	12-Jul-06	SW846 6020	Cadmium	0.00014	B	mg/L
N46	SW	12-Jul-06	SW846 6020	Copper	0.0062		mg/L
N46	SW	12-Jul-06	SW846 6020	Copper	0.007		mg/L
N46	SW	12-Jul-06	MCAWW 130.2	Hardness, as CaCO3	130		mg/L
N46	SW	12-Jul-06	SW846 6020	Lead	0.0049		mg/L
N46	SW	12-Jul-06	SW846 6020	Lead	0.0054		mg/L
N46	SW	12-Jul-06	SW846 6020	Zinc	0.03		mg/L
N46	SW	12-Jul-06	SW846 6020	Zinc	0.04	J	mg/L
N43	SW	12-Jul-06	SW846 6020	Arsenic	0.00065	B	mg/L
N43	SW	12-Jul-06	SW846 6020	Arsenic	0.0011	B	mg/L
N43	SW	12-Jul-06	SW846 6020	Cadmium	ND	U	mg/L
N43	SW	12-Jul-06	SW846 6020	Cadmium	0.000095	B	mg/L
N43	SW	12-Jul-06	SW846 6020	Copper	0.00093	B	mg/L
N43	SW	12-Jul-06	SW846 6020	Copper	0.0064		mg/L
N43	SW	12-Jul-06	MCAWW 130.2	Hardness, as CaCO3	140		mg/L
N43	SW	12-Jul-06	SW846 6020	Lead	ND	U	mg/L
N43	SW	12-Jul-06	SW846 6020	Lead	0.0046		mg/L
N43	SW	12-Jul-06	SW846 6020	Zinc	0.005	B	mg/L
N43	SW	12-Jul-06	SW846 6020	Zinc	0.035	J	mg/L

Appendix F-2: Prior INvestigation Surface Water Sample Results

Site	Date	Temp ©	DO (mg/L)	Hardness (mg/L)	Lab		
N38	02-Feb-05	6.8	11.02	286	ST		
N38	02-Mar-05	7.6	14.5	299	ST		
N38	04-May-05	9.4	8.92	146	ST		
N38	01-Jun-05	15.3	8.31	117	ST		
N38	06-Jul-05	19.6		228	ST		
N38	03-Aug-05	21.4	7.65	219	ST		
N38	07-Sep-05	18.8	9	238	ST		
N46	02-Feb-05	7	12.62	282	ST		
N46	02-Mar-05	7.7	14.84	290	ST		
N46	06-Apr-05	8.4	10.6	214	ST		
N46	04-May-05	9.4	11.2	144	ST		
N46	01-Jun-05	15.2	8.53	116	ST		
N46	06-Jul-05	19.9	10.89	228	ST		
N46	03-Aug-05	21.6	8.46	215	ST		
N46	07-Sep-05	18.9	9.95	240	ST		

Appendix F-3: Previous Investigation Sediment Sample Results

Client Sample ID	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
N4	08-Oct-01	SW846 6020	Arsenic	0.9			mg/kg
N4	08-Oct-01	SW846 6020	Cadmium	2		U	mg/kg
N4	08-Oct-01	SW846 6020	Lead	20		U	mg/kg
N4	08-Oct-01	SW846 6020	Zinc	82			mg/kg
N4W	17-Oct-02	SW846 6020	Arsenic	1			mg/kg
N4W	17-Oct-02	SW846 6020	Cadmium	13			mg/kg
N4W	17-Oct-02	SW846 6020	Lead	23			mg/kg
N4W	17-Oct-02	SW846 6020	Zinc	707			mg/kg
N4WS	19-Oct-00	SW846 6020	Arsenic	5.60			mg/kg
N4WS	19-Oct-00	SW846 6020	Cadmium	30			mg/kg
N4WS	19-Oct-00	SW846 6020	Lead	109			mg/kg
N4WS	19-Oct-00	SW846 6020	Zinc	2540			mg/kg
N14	11-Oct-01	SW846 6020	Arsenic	0.6			mg/kg
N14	11-Oct-01	SW846 6020	Cadmium	2		U	mg/kg
N14	11-Oct-01	SW846 6020	Lead	20		U	mg/kg
N14	11-Oct-01	SW846 6020	Zinc	44			mg/kg
N14	21-Oct-02	SW846 6020	Arsenic	0.5		U	mg/kg
N14	21-Oct-02	SW846 6020	Cadmium	2		U	mg/kg
N14	21-Oct-02	SW846 6020	Lead	20		U	mg/kg
N14	21-Oct-02	SW846 6020	Zinc	74			mg/kg
N15	14-Oct-98	SW846 6020	Arsenic	0.5		U	mg/kg
N15	14-Oct-98	SW846 6020	Cadmium	3			mg/kg
N15	14-Oct-98	SW846 6020	Lead	20		U	mg/kg
N15	14-Oct-98	SW846 6020	Zinc	108			mg/kg
N15	14-Oct-99	SW846 6020	Arsenic	0.7			mg/kg
N15	14-Oct-99	SW846 6020	Cadmium	3			mg/kg
N15	14-Oct-99	SW846 6020	Lead	260			mg/kg
N15	14-Oct-99	SW846 6020	Zinc	152			mg/kg
N29E	15-Oct-98	SW846 6020	Arsenic	0.9			mg/kg
N29E	15-Oct-98	SW846 6020	Cadmium	3			mg/kg
N29E	15-Oct-98	SW846 6020	Lead	38			mg/kg
N29E	15-Oct-98	SW846 6020	Zinc	110			mg/kg
N38	11-Oct-01	SW846 6020	Arsenic	1.3			mg/kg
N38	11-Oct-01	SW846 6020	Cadmium	2		U	mg/kg
N38	11-Oct-01	SW846 6020	Lead	20		U	mg/kg
N38	11-Oct-01	SW846 6020	Zinc	85			mg/kg
N43	15-Oct-98	SW846 6020	Arsenic	1			mg/kg
N43	15-Oct-98	SW846 6020	Cadmium	3			mg/kg
N43	15-Oct-98	SW846 6020	Lead	34			mg/kg
N43	15-Oct-98	SW846 6020	Zinc	130			mg/kg

Appendix F-3: Previous Investigation Sediment Sample Results

Client Sample ID	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
N43	02-Nov-05	SW846 6020	Arsenic	1.3			mg/kg
N43	02-Nov-05	SW846 6020	Cadmium	0.47			mg/kg
N43	02-Nov-05	SW846 6020	Copper	18	J		mg/kg
N43	02-Nov-05	SW846 6020	Lead	44			mg/kg
N43	02-Nov-05	SW846 6020	Zinc	100			mg/kg
N43	24-Jan-06	SW846 6020	Arsenic	1.6			mg/kg
N43	24-Jan-06	SW846 6020	Cadmium	0.62			mg/kg
N43	24-Jan-06	SW846 6020	Copper	15			mg/kg
N43	24-Jan-06	SW846 6020	Lead	33			mg/kg
N43	24-Jan-06	SW846 6020	Zinc	110	J		mg/kg
N43	12-Apr-06	SW846 6020	Arsenic	1.2			mg/kg
N43	12-Apr-06	SW846 6020	Cadmium	0.46			mg/kg
N43	12-Apr-06	SW846 6020	Copper	15			mg/kg
N43	12-Apr-06	SW846 6020	Lead	550			mg/kg
N43	12-Apr-06	SW846 6020	Zinc	96	J		mg/kg
N43	12-Jul-06	SW846 6020	Arsenic	1.9			mg/kg
N43	12-Jul-06	SW846 6020	Cadmium	0.88			mg/kg
N43	12-Jul-06	SW846 6020	Copper	20	J		mg/kg
N43	12-Jul-06	SW846 6020	Lead	27			mg/kg
N43	12-Jul-06	SW846 6020	Zinc	83			mg/kg
N46	11-Oct-01		Arsenic	2.7			mg/kg
N46	11-Oct-01		Cadmium	6			mg/kg
N46	11-Oct-01		Lead	68			mg/kg
N46	11-Oct-01		Zinc	438			mg/kg
N46	21-Oct-02		Arsenic	0.5		U	mg/kg
N46	21-Oct-02		Cadmium	2		U	mg/kg
N46	21-Oct-02		Lead	20		U	mg/kg
N46	21-Oct-02		Zinc	70			mg/kg
N46	02-Nov-05	SW846 6020	Arsenic	1.5		J	mg/kg
N46	02-Nov-05	SW846 6020	Cadmium	0.29			mg/kg
N46	02-Nov-05	SW846 6020	Copper	9.5	J		mg/kg
N46	02-Nov-05	SW846 6020	Lead	20			mg/kg
N46	02-Nov-05	SW846 6020	Zinc	77			mg/kg
N46	24-Jan-06	SW846 6020	Arsenic	1.1			mg/kg
N46	24-Jan-06	SW846 6020	Cadmium	0.38			mg/kg
N46	24-Jan-06	SW846 6020	Copper	14		J	mg/kg
N46	24-Jan-06	SW846 6020	Lead	25			mg/kg
N46	24-Jan-06	SW846 6020	Zinc	110	J		mg/kg
N46	12-Apr-06	SW846 6020	Arsenic	1			mg/kg
N46	12-Apr-06	SW846 6020	Cadmium	0.57			mg/kg
N46	12-Apr-06	SW846 6020	Copper	19		J	mg/kg
N46	12-Apr-06	SW846 6020	Lead	24			mg/kg
N46	12-Apr-06	SW846 6020	Zinc	100	J		mg/kg

Appendix F-3: Previous Investigation Sediment Sample Results

Client Sample ID	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
N46	12-Jul-06	SW846 6020	Arsenic	1.1			mg/kg
N46	12-Jul-06	SW846 6020	Cadmium	0.33			mg/kg
N46	12-Jul-06	SW846 6020	Copper	14	J		mg/kg
N46	12-Jul-06	SW846 6020	Lead	31			mg/kg
N46	12-Jul-06	SW846 6020	Zinc	94			mg/kg
N49	15-Oct-98		Arsenic	1.7			mg/kg
N49	15-Oct-98		Cadmium	2			mg/kg
N49	15-Oct-98		Lead	33			mg/kg
N49	15-Oct-98		Zinc	130			mg/kg
N50	21-Oct-02		Arsenic	2.8			mg/kg
N50	21-Oct-02		Cadmium	7			mg/kg
N50	21-Oct-02		Lead	68			mg/kg
N50	21-Oct-02		Zinc	472			mg/kg
N50L	14-Oct-99		Arsenic	1.4			mg/kg
N50L	14-Oct-99		Cadmium	4			mg/kg
N50L	14-Oct-99		Lead	31			mg/kg
N50L	14-Oct-99		Zinc	238			mg/kg
N51	15-Oct-98		Arsenic	1.4			mg/kg
N51	15-Oct-98		Cadmium	2			mg/kg
N51	15-Oct-98		Lead	25			mg/kg
N51	15-Oct-98		Zinc	163			mg/kg
EBLNKS	03-Aug-00		Arsenic	0.5		U	mg/kg
EBLNKS	03-Aug-00		Cadmium	2		U	mg/kg
EBLNKS	03-Aug-00		Lead	20		U	mg/kg
EBLNKS	03-Aug-00		Zinc	20		U	mg/kg
HLD-52	04-Nov-02		Arsenic	99			mg/kg
HLD-52	04-Nov-02		Cadmium	64			mg/kg
HLD-52	04-Nov-02		Lead	120			mg/kg
HLD-52	04-Nov-02		Zinc	160			mg/kg
S1	14-Oct-98		Arsenic	0.7			mg/kg
S1	14-Oct-98		Cadmium	3			mg/kg
S1	14-Oct-98		Lead	70			mg/kg
S1	14-Oct-98		Zinc	130			mg/kg
S10	13-Oct-99		Arsenic	0.8			mg/kg
S10	13-Oct-99		Cadmium	2		U	mg/kg
S10	13-Oct-99		Lead	33			mg/kg
S10	13-Oct-99		Zinc	89			mg/kg
S10LS	17-Oct-00		Arsenic	5.4000001			mg/kg
S10LS	17-Oct-00		Cadmium	4			mg/kg
S10LS	17-Oct-00		Lead	36			mg/kg
S10LS	17-Oct-00		Zinc	219			mg/kg

Appendix F-3: Previous Investigation Sediment Sample Results

Client Sample ID	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
S12	08-Oct-01		Arsenic	0.5		U	mg/kg
S12	08-Oct-01		Cadmium	2		U	mg/kg
S12	08-Oct-01		Lead	176			mg/kg
S12	08-Oct-01		Zinc	238			mg/kg
S13LE	13-Oct-98		Arsenic	0.5		U	mg/kg
S13LE	13-Oct-98		Cadmium	4			mg/kg
S13LE	13-Oct-98		Lead	20			mg/kg
S13LE	13-Oct-98		Zinc	85			mg/kg
S13LE	13-Oct-99		Arsenic	0.5		U	mg/kg
S13LE	13-Oct-99		Cadmium	2		U	mg/kg
S13LE	13-Oct-99		Lead	20		U	mg/kg
S13LE	13-Oct-99		Zinc	73			mg/kg
S15	13-Oct-98		Arsenic	2.5			mg/kg
S15	13-Oct-98		Cadmium	4			mg/kg
S15	13-Oct-98		Lead	20		U	mg/kg
S15	13-Oct-98		Zinc	153			mg/kg
S20	13-Oct-99		Arsenic	1.8			mg/kg
S20	13-Oct-99		Cadmium	2		U	mg/kg
S20	13-Oct-99		Lead	20		U	mg/kg
S20	13-Oct-99		Zinc	94			mg/kg
S21	17-Oct-02		Arsenic	0.5		U	mg/kg
S21	17-Oct-02		Cadmium	2		U	mg/kg
S21	17-Oct-02		Lead	20		U	mg/kg
S21	17-Oct-02		Zinc	37			mg/kg
S24	08-Oct-01		Arsenic	0.5		U	mg/kg
S24	08-Oct-01		Cadmium	2		U	mg/kg
S24	08-Oct-01		Lead	20		U	mg/kg
S24	08-Oct-01		Zinc	20		U	mg/kg
S28	12-Oct-98		Arsenic	0.9			mg/kg
S28	12-Oct-98		Cadmium	2			mg/kg
S28	12-Oct-98		Lead	20		U	mg/kg
S28	12-Oct-98		Zinc	107			mg/kg
S30	17-Oct-02		Arsenic	0.5		U	mg/kg
S30	17-Oct-02		Cadmium	2		U	mg/kg
S30	17-Oct-02		Lead	20		U	mg/kg
S30	17-Oct-02		Zinc	25			mg/kg
S31	08-Oct-01		Arsenic	0.5		U	mg/kg
S31	08-Oct-01		Cadmium	2		U	mg/kg
S31	08-Oct-01		Lead	20		U	mg/kg
S31	08-Oct-01		Zinc	20		U	mg/kg

Appendix F-3: Previous Investigation Sediment Sample Results

Client Sample ID	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
SC1	10-Sep-01		Arsenic	8		U	mg/kg
SC1	10-Sep-01		Cadmium	0.4		U	mg/kg
SC1	10-Sep-01		Lead	6.7			mg/kg
SC1	10-Sep-01		Zinc	17			mg/kg
SR1	12-Oct-99		Arsenic	0.8			mg/kg
SR1	12-Oct-99		Cadmium	2		U	mg/kg
SR1	12-Oct-99		Lead	20		U	mg/kg
SR1	12-Oct-99		Zinc	20			mg/kg
SR1P	12-Oct-98		Arsenic	0.5		U	mg/kg
SR1P	12-Oct-98		Cadmium	2		U	mg/kg
SR1P	12-Oct-98		Lead	20		U	mg/kg
SR1P	12-Oct-98		Zinc	20		U	mg/kg
SR2	12-Oct-98		Arsenic	0.5		U	mg/kg
SR2	12-Oct-98		Cadmium	2		U	mg/kg
SR2	12-Oct-98		Lead	20		U	mg/kg
SR2	12-Oct-98		Zinc	58			mg/kg
SR2	12-Oct-99		Arsenic	0.5			mg/kg
SR2	12-Oct-99		Cadmium	2		U	mg/kg
SR2	12-Oct-99		Lead	20		U	mg/kg
SR2	12-Oct-99		Zinc	39			mg/kg
SR2S	17-Oct-00		Arsenic	1.4			mg/kg
SR2S	17-Oct-00		Cadmium	2		U	mg/kg
SR2S	17-Oct-00		Lead	20		U	mg/kg
SR2S	17-Oct-00		Zinc	28			mg/kg
W24	14-Oct-98		Arsenic	1.7			mg/kg
W24	14-Oct-98		Cadmium	2			mg/kg
W24	14-Oct-98		Lead	50			mg/kg
W24	14-Oct-98		Zinc	69			mg/kg
WC2	10-Sep-01		Arsenic	8.1		U	mg/kg
WC2	10-Sep-01		Cadmium	0.4		U	mg/kg
WC2	10-Sep-01		Lead	22			mg/kg
WC2	10-Sep-01		Zinc	16			mg/kg
WC3	10-Sep-01		Arsenic	8.2		U	mg/kg
WC3	10-Sep-01		Cadmium	0.41		U	mg/kg
WC3	10-Sep-01		Lead	20			mg/kg
WC3	10-Sep-01		Zinc	44			mg/kg
WC4	10-Sep-01		Arsenic	8.2		U	mg/kg
WC4	10-Sep-01		Cadmium	0.5			mg/kg
WC4	10-Sep-01		Lead	55			mg/kg
WC4	10-Sep-01		Zinc	64			mg/kg
WC5	10-Sep-01		Arsenic	7.8		U	mg/kg
WC5	10-Sep-01		Cadmium	0.39		U	mg/kg

Appendix F-3: Previous Investigation Sediment Sample Results

Client Sample ID	Collected	Method	Analyte	Result	Footnotes	DV Qual	Unit
WC5	10-Sep-01		Lead	7.6			mg/kg
WC5	10-Sep-01		Zinc	26			mg/kg
SP10E	?		Arsenic	14.5			mg/kg
			Cadmium	0.3			mg/kg
			Lead	60			mg/kg
			Zinc	110			mg/kg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