DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, PICATINNY
PICATINNY ARSENAL, NEW JERSEY 07806-5000
February 6, 2013

REPLY TO
ATTENTION OF
IMCOM-PIC-PWE

SUBJECT: Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)/Interagency Agreement (IAG) Administrative Docket No. II-CERCLA-FFA-001-04: Submittal of the **No Further Action with Monitoring of Land Use Proposed Plans within PICA 001, 006, 022, 085, 143, 146, 163, 171, 192, AND 199:** Review is ER,A-eligible

Mr. William Roach
U.S. Environmental Protection Agency
Region 2
290 Broadway, 18th Floor
New York, NY 10007-1866

Ms. Anne Pavelka, Case Manager
New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
P.O. Box 420. Mail
401 East State Street, Floor 5
Code 401-05F
Trenton, New Jersey 08625-0028

Mr. Roach and Ms. Pavelka:

Enclosed for your records are copies of the ***No Further Action with Monitoring of Land Use Proposed Plan within PICA 001, 006, 022, 085, 143, 146, 163, 171, 192, and 199 (****the 25 Site NFA PP****)*** developed by ARCADIS and approved by the Army and ready to be public noticed.

The Army has scheduled a public meeting for this *"25 Site NFA PP"* at the Hilton Garden Inn in Rockaway at 6:30 PM on March 7th: we anticipate your attendance as usual. The document will also be placed in the Administrative Record and the repositories before the public notice.

We realize that the NJDEP has not supported this proposal as I noted in my January 20th letter with an earlier draft.

Sincerely,

Project Manager for Environmental Restoration

Enclosure
CC: ftp (site only)
Ms. Barbara Dolce, TAPP contractor
Mr. Jim Kealy, NJDEP

Final Proposed Plan for 25 Picatinny Sites within PICA 001, 006, 022, 085, 143, 146, 163, 171, 192, and 199

U.S. Army Garrison Picatinny Arsenal, New Jersey

February 2013

NO FURTHER ACTION WITH MONITORING OF LAND USE PROPOSED PLAN
FOR 25 PICATINNY SITES WITHIN PICA 001, 006, 022, 085, 143, 146, 163, 171, 192, AND 199
PICATINNY ARSENAL, NEW JERSEY

February 2013

INTRODUCTION AND PURPOSE

This Proposed Plan provides information necessary to allow the public to participate with the U.S. Department of the Army (Army), the Lead Agency, in selecting appropriate response actions (RAs) for surface and subsurface soil contamination, as well as sediment, surface water, and groundwater contamination at the following ten PICA Sites: PICA 001, 006, 022, 085, 143, 146, 163, 171, 192, and 199, located at Picatinny Arsenal (Picatinny), Rockaway Township, New Jersey.

A list of acronyms and abbreviations is provided at the end of this Proposed Plan (PP). Additionally, a glossary of select terms, which are written in italic, bold type throughout this PP, is also provided at the end of this document to define the terminology used.

The PICA Sites addressed within this PP consist of twenty-six Remedial Investigation Concept Numbers that are maintained in the Army Environmental Database - Restoration (AEDB-R) system [formerly the Defense Sites Environmental Restoration Tracking System]. The Remedial Investigation Concept Number Sites (referred to collectively as the Sites) are defined within PICA Sites as follows, with site locations shown in **Figure 1**:

PICA 001: Tetryl Pits. This PICA consists of the following two sites:

- Site 17 – Northern Tetryl Pits
- Site 18 – Southern Tetryl Pits

PICA 006: This PICA consists of the following site:

- Site 16 – Guncotton Line

PICA 022: Power Plant. This PICA consists of the following two sites:

- Site 50 – Still House and Hazardous Waste Storage Tank (Buildings 519 and 519-A)
- Sites 63/65 – Steam and Power Plant (Building 506)

PICA 085: 500 Area. This PICA includes the following nine sites:

- Site 32 – Storage Tanks (Building 553)
- Site 33 – Storage Tanks (Building 527A)
- Site 46 – 90-Day Waste Accumulation Area (Building 507)
- Site 97 – Post Engineering Maintenance Shop (Building 501)
- Site 105 – Propellant Plant (Building 511)
- Site 147 – Poach House (Former Building 520)
- Site 148 – Nitrocellulose Production Facility (Former Building 527)
- Site 150 – Propellant Plant (Former Building 555)
- Site 184 – Refrigeration and Inert Gas Plant (Former Building 523)

PICA 143: This PICA consists of the following site:

- Site 108 – Ordnance Facilities and Flare Testing Laboratory

PICA 146: This PICA consists of the following site:

- Site 113 – Propellant Plant (Building 561)

PICA 163: Former Nitration Buildings. This PICA includes the following six sites:

- Site 35 – Nitroglycerin Processing Area (1360s Buildings)
- Site 91 – Rocket Motor Assembly Facility (Building 1301)
- Site 161 – Nitration Building (Building 1031)
- Site 166 – Storage Magazines (Buildings 1354, 1357, and 1359)
- Site 168 – Propellant Roll House (Building 1400), Propellant Cutting Building (Building 1402) and Propellant Extrusion Building (Building 1403)
- Site 169 – Propellant Plants (Buildings 1408, 1408A through 1408C, 1409 and 1411)

PICA 171: Ordnance Buildings. This PICA includes the following two sites:

- Site 162 – Spent Acid Storage Tanks (Building 1070), Crystallizing Building (Building 1071) and Solvent Storage Building (Building 1071C)
- Site 171 – Ordnance Facilities (Buildings 3106, 3109, and 3111)

PICA 192: This PICA consists of the following site:

- Site 189 – Apple Tree Recreational Area

PICA 199: This PICA consists of the following site:

- Site 199 – Abandoned Pistol Range and Former Manure Dumping Area

IMPORTANT DATES AND LOCATIONS

Public Comment Period: March 7, 2013 to April 6, 2013
The Army will accept written comments on the Proposed Plan during the public comment period.

Public Meeting: March 7, 2013
The Army will hold a public meeting to explain the Proposed Plan. Oral and written comments will also be accepted at the meeting. The meeting will be held at the Hilton Garden Inn, 375 Mount Hope Avenue, Rockaway, New Jersey at 6:30 PM.

The Administrative Record, containing information used in selecting the Recommended RA, is available for public review at the following location:

Installation Restoration Program Office
Building 319
Picatinny, NJ 07806

Limited information is maintained at the following locations:

Rockaway Township Library
61 Mount Hope Road
Rockaway Township, NJ 07866

Morris County Library
30 East Hanover Avenue
Whippany, NJ 07981

This PP summarizes information found in detail in the ***Remedial Investigation*** (RI) and other reports, which are available for review as part of the ***Administrative Record*** for this site. This PP highlights the recommended Response Action (RA) for the aforementioned sites.

The Army and U.S. Environmental Protection Agency (USEPA) will present the selected RA for the site in a ***Record of Decision*** (ROD). The final selection of the RA will not occur until after the public comment period to allow for the possibility of new information, or concerns that may be expressed during this time. New information or arguments provided to the Army or USEPA during the public comment period could result in the selection of a final RA that differs from the recommended RA described herein and the public is encouraged to provide comments. Information about how to submit comments may be found in the "Community Participation" section of this PP.

The Army at Picatinny, with input from USEPA and the New Jersey Department of Environmental Protection (NJDEP) input, issues this PP in order to fulfill public participation requirements under Section 117(a) of the ***Comprehensive Environmental Response, Compensation, and Liability Act*** of 1980 (CERCLA), as amended by the ***Superfund Amendments and Reauthorization Act*** of 1986 (SARA) and the ***National Oil and Hazardous Substances Pollution Contingency Plan*** (NCP) Section 300.430(f)(2). The Army, USEPA, and NJDEP encourage the public to review all of the documents relevant to activities conducted at PICA 001, 006, 022, 085, 143, 146, 163, 171, 192, and 199 in order to assist in the selection of an appropriate RA for the 26 sites addressed herein.

There are no unacceptable risks for the current or reasonably anticipated future uses based on soil, sediment, or surface water, In addition, Picatinny has institutional and land use controls (ICs and LUCs) in place as components of regular facility operations, which ensure protection of human health, including: Picatinny access regulations, Picatinny safety program, Army military construction program development and execution, site clearance/soil management procedures, munitions and explosives of concern clearance procedures, and Picatinny Installation Master Plan environmental notations, which includes the Picatinny Geographic Information System (GIS or EPRISM) Database that shows the boundaries of land-use restrictions. Therefore, under the CERCLA/NCP process, the "No Action" response is considered to be protective of human health and the environment. To ensure the existing institutional and land use controls remain intact, the Army will monitor the ICs and LUCs and provide an annual report to the USEPA Region 2 to document that the existing ICs/LUCs remain protective of human health and the environment. The Army will also notify the USEPA Region 2 of any land use changes for sites within this PP and evaluate whether the "No Action" remedy remains protective of human health and the environment under the new land use.

Relevant documents used in the preparation of this PP are listed in the "References" section found at the end of this document.

PICATINNY SITE BACKGROUND

Picatinny is located in Rockaway Township, Morris County, New Jersey, as presented in **Figure 2**. The area surrounding Picatinny was once predominantly rural with many summer homes, forested areas, lakes, and mountains. Since initial production activities began at Picatinny, the surrounding area has changed, with suburban growth occurring as a consequence of urban sprawl along the I-80 corridor. Neighboring communities include Mount Hope, Rockaway Borough, Rockaway Township, Wharton, Dover, Denville, and Jefferson Township.

Picatinny consists of 5,900 acres of improved and unimproved property. Picatinny is located in an elongated, U-shaped valley between Green Pond Mountain and Copperas Mountain to the northwest and an unnamed hill to the southeast. Most of the buildings and other facilities at Picatinny are located on the valley floor or on the slopes along the southeast side of the property. Several firing and testing ranges are located on Green Pond Mountain.

Picatinny is owned and operated by the Army. The facility was a major source of munitions for World War I, World War II, the Korean War, and the Vietnam Conflict. During those periods, Picatinny was involved in the production of explosives, rocket and munitions propellants, pyrotechnic signals and flares, fuzes, and metal components. Currently, the primary mission of Picatinny is research, development, and engineering of munitions and weapons.

Picatinny is not closed to the public but access to the Arsenal is controlled. Trespassing and unauthorized activities on Picatinny are illegal. Picatinny has seven elements of site controls including Site Clearance and Soil Management Procedures; Munitions and Explosives of Concern Clearance Procedures; Master Plan Regulations; Picatinny GIS Database; Picatinny Base Access Restrictions; Picatinny Safety Program; and Army Military Construction Program Development and Execution. These controls have been developed with consideration of all reasonably anticipated land uses at the Arsenal; these include administrative and industrial military operations and outdoor recreation/golf course. Picatinny Office of the Chief of Security Division, Public Safety and Environmental Affairs Division, are in charge of enforcing these regulations.

Over the years, environmental investigations into Picatinny operations and waste management activities have indicated the potential for contamination on site. In March 1990, Picatinny was included on the ***National Priorities List***.

Because Picatinny has a large number of buildings and former production operations, investigating all of the operations at one time would have been unmanageable. To help manage the environmental studies, the Army organized these operations into 16 areas and assigned site numbers to the buildings and surrounding land that were of concern within these areas.

To ensure that the areas with the greatest potential for environmental contamination were addressed first, the Army categorized the 16 parts of the base into Areas labeled A (greatest potential) through P (least potential). The Army further categorized these Areas into three phases. Phase I included Areas A though G, Phase II included Areas H through K, and Phase III included Areas L through P. The ten PICA sites addressed in this PP are located within Areas D, I, K, and L, as designated in the Argonne National Laboratory (ANL) Rl Concept Plan (ANL, 1991).

Further descriptions of the site backgrounds and site characteristics for the ten PICA sites addressed within this PP are provided below.

SITE BACKGROUNDS

The RI study sites addressed herein are as follows: 1 site in Area D (189); 14 sites in Area I, (16, 32, 33, 46, 50, 63/65, 97, 105, 108, 113, 147, 148, 150, and 184); 1 site in Area K (199); and 10 sites in Area L (17, 18, 35, 91, 161, 162, 166, 168, 169, and 171). Area D covers approximately 89 acres and is located in the west-central portion of Picatinny. Area I is located at the approximate center of Picatinny and consists of Picatinny Lake and production and storage facilities located around the shore of the lake. Area K is located in a heavily wooded, central portion of Picatinny, and east of Picatinny Lake. Area L is located near the southeast border of the facility. **Figure 1** presents the site locations. The site descriptions are included below, as provided from the RI.

Area D Site

Site 189

The site layout is shown on **Figure 3**. Site 189 is a recreational area lined with approximately 20 apple trees scattered throughout the site. The exact age of this site is unknown. However, a 1938 Picatinny map indicates that this site once contained numerous apple trees. In the spring of 2004, Site 189 was re-classified by the Army from an apple orchard to a recreational area.

Area I Sites

Site 16

The site layout is shown on **Figure 4**. Site 16, the Guncotton Line (GCL), is located near the southern end of Picatinny Lake and is believed to have been either an abandoned sanitary sewer line or a storm drain that inadvertently received nitrocellulose, referred to as guncotton. Reportedly, the GCL was about 2,500 feet (ft) long and ran from a pit near Building 554 (Site 32), past Building 506 (Sites 63/65), under the location of the former coal pile, and ended southwest of Picatinny Lake. The GCL is situated in the main valley floor, which slopes gently to the southwest. It includes portions of open trench which collect surface runoff. A drainage divide along the course of the trench channels runs east of Whittemore Road toward Picatinny Lake. The remaining portion of the trench is relatively flat. Water in the remainder of the trench flows south-southwest, but stagnates and generally percolates downward.

In April 2000, a GCL investigation and removal action was conducted to remove nitrocellulose in the GCL and surrounding soil (Shaw, 2001). Approximately 270 ft of 12-inch diameter vitrified clay pipe, 200 ft of the original 8-inch GCL, and surrounding impacted soils to a maximum depth of 8 ft bgs were removed. In 2010/2011, a new Packaging, Handling, Storage, and Transportation Center (PHST) was constructed over a portion of Site 16 along Whitmore Avenue. Impacted soils from the ditch (approximately 250 cubic yards [CY]) were placed under the asphalt parking area adjacent to the PHST building.

Site 32

The site layout is shown on **Figure 5**. Site 32 covers 1.5 acres, located on a hill approximately 600 feet southeast of Picatinny Lake in the southeastern portion of Area I, and contains Building 553 - constructed in 1942 as an open concrete structure to house 11 aboveground storage tanks (ASTs). The primary function of the tanks in Building 553 was to support the manufacturing of nitrocellulose, which took place in the surrounding buildings. The tanks were removed in 1991 as part of a Resource Conservation and Recovery Act (RCRA) closure; however, use of the tanks ceased sometime before 1980. Building 553 has since been demolished. The 11 tanks at former Building 553 are believed to have ranged in capacity from 3,000 to 10,000 gallons. These tanks were used to store ether, alcohol, diesel fuel,

unknown process wastes, mixed solvents, and spent solvents containing explosives and propellant wastes. According to Picatinny personnel, an unknown quantity of liquid was released when a valve assembly on one of the tanks failed. Otherwise, there are no known reports of major spills from the tanks. In 2009, this site was included in the construction area for the New Pyrotechnic Building.

Site 33

The site layout is shown on **Figure 6**. Site 33 is a small site measuring approximately 0.2 acres in area, located on the southeastern shore of Picatinny Lake and contains Building 527A. Building 527A was a small rectangular building that formerly operated as a pump house for Building 527. Two steel ASTs (with a combined capacity of 6,325 gallons) were housed just east of the pump house. It is known that the ASTs stored spent ethyl alcohol contaminated with nitrocellulose from Building 527. The spent ethyl alcohol was conveyed to the ASTs via an aboveground conveyance. The ASTs were removed and the building was demolished in 1991 as part of a RCRA closure.

Site 46

The site layout is shown on **Figure 7**. Site 46 is located approximately 300 feet southeast of Picatinny Lake and contains Building 507. Building 507 was constructed in 1929 for use as a train engine maintenance facility. From 1987 to the present, Building 507 has been used as a garage facility for utility line maintenance vehicles. Waste oil and spent cleaning solvents were generated at Building 507 as a result of maintenance-related operations. Waste materials were reportedly stored in 55-gallon drums in a shed adjacent to the east side of the building. In April 1991, the shed was closed in accordance with New Jersey hazardous waste regulations and currently remains vacant. A polychlorinated biphenyl (PCB)-contaminated transformer (TR) was removed from Building 507 in 1989. According to the Phase II RI Report, Rounds 1 and 2, Volume 3 – Area I 500 Area Sites (Shaw, 2005d), soil samples were proposed to be collected around the former transformer pad, but the location of the former transformer could not be identified. No information exists to indicate whether any environmental studies related to the transformer were conducted.

Site 50

The site layout is shown on **Figure 8**. Site 50 consists of Building 519, a former still house for storage of ether and alcohol, and Building 519-A, which formerly housed an inactive 3,800-gallon AST that was used to store spent alcohol. Building 519 and associated buildings (e.g., 523, 521, and 527) were used as a single-base propellant manufacturing area; these constituents include nitrocellulose, diphenylamine, dinitrotoluene (DNT), and potassium sulfate. Operations at Building 519 also included the manufacture of ether prior to 1940. Materials utilized for this process were sulfuric acid, ethanol, and lead monoxide. The manufacturing process utilized two 400-gallon acid neutralization underground storage tanks (USTs) that have since been removed. Both tanks were located on the south wall of Building 519, directly east of Picatinny Lake. One of the tanks connected to a storm sewer at the edge of Building 519. The building was deactivated in February 1975 when the explosive allowance was rescinded and demolished in 1995. In 2009, this site was included in the construction area for the New Pyro Building.

Site 63/65

The site layout is shown on **Figure 9**. Site 63/65 is located southeast of Picatinny Lake. Building 506, originally constructed in 1907 and enlarged in 1956, served as Picatinny's main power plant and housed three seven-story boilers that provide Picatinny with electricity and steam for heating. This building has since been demolished. Coal was used to generate power until 1964. From 1964 to the 1970s, a combination of coal and No. 6 Fuel Oil was used. Currently, only oil is used to generate power. The oil is stored in two 420,000-gallon ASTs and one 850,000-gallon AST, which are located approximately 1,000 feet southeast of Building 506. Two reportable fuel oil spills have occurred at this site. In 1981, 20,000 gallons of No. 6 fuel oil spilled onto the soil and migrated to Picatinny Lake and the nearby sewage drains. In addition, 3,000 gallons of oil spilled in 1987 and was remediated. In June 1990, two 25,000-gallon USTs used for storing No. 6 Fuel Oil were removed. Petroleum-contaminated soil and free product floating on the water table were observed during removal of the USTs. As a result, contaminated backfill was removed, free product was recovered, and passive oil skimmers were installed. A large coal pile left near Building 506 was removed in 1984 and disposed of off-site. Materials used at Building 506 included: fuel oil, coal, hydraulic oil, lubricating oils, compressed gases, and degreasers, as well as sodium hydroxide, batteries, caustics, sodium sulfides, various solvents, paints, enamel thinners, and possibly pesticides.

Site 97

The site layout is shown on **Figure 10**. Site 97 (Building 501) is a small site measuring approximately 0.2 acres in area located immediately adjacent to the southern end of Picatinny Lake. Building 501 has served as a maintenance shop for repairing pumps. According to Picatinny personnel, pump oil and mercury were spilled onto the floor during pump repairs and was cleaned up. During excavation activities in January 1990, a 5-gallon pail of an unknown substance was unearthed. Approximately 1 pint of the substance had leaked onto the ground. The substance tested negative for energetics (i.e., explosives). The affected area was subsequently cleaned up. The unknown substance was disposed of off-site. Building 501 is currently used as a storage area for the powerhouse.

Site 105

The site layout is shown on **Figure 11**. Site 105 (Building 511) is located approximately 500 feet southeast of the southeastern shore of Picatinny Lake. Building 511 was constructed in 1942 as a nitrating house and propellant production plant. The nitrating process involved mixing nitric acid and sulfuric acid with cotton fibers to make nitrocellulose (also known as guncotton). Building wastewater was conveyed to a sump located outside the building. Building 511 has been inactive since 1959 and was demolished in 1985. Picatinny personnel reported that transformers were removed at Building 511 prior to demolition activities and that at one time oils contaminated with PCBs were spilled. It is not known where the reported PCB leak originated from or whether the PCB-contaminated oil leaked inside or outside the building. There were no known USTs or ASTs in the vicinity of this building.

During the 2004 Sump and Drywell Investigation (Shaw, 2005j) a large sump measuring 5 ft square and 4 ft deep was discovered below a concrete catch basin. Trenches were excavated around the sump to a depth approximately 1 ft below the bottom of the sump. Five post-excavation samples were collected: two samples were collected from the closed sides of the vault (511-EX1-SWN-1 and SWS-1); two samples were collected from the soil directly beneath the influent and effluent pipes where they intersected the sump (511-EX1-B1-1 and B2-1); and one sample was collected from the bottom of the trench on the east side of the sump (511-EX1-SWE-1). The sediment contained within the sump, estimated to be approximately 1 CY, was sampled (511EX1-BOX-1), removed, and disposed off site. There were no level of concern (LOC) exceedances for soil or sediment. It is not explicitly stated that the excavated soils were used to close the trenches, but the only discussion of off-site disposal referred to the sediments within the sump. The catch basin was restored after this portion of the investigation was complete.

The second structure investigated was an abandoned communication box located south of the aforementioned sump. Due to its size (4 ft square and 6 ft deep), the box was not removed, but trenches were excavated (approximately 6 ft by 4 ft to a depth of 7 ft) on three sides of the box and one post-excavation sample was collected from the bottom of each trench. Because the sample results indicated there were no LOC exceedances, the excavated soil was used to close the trenches.

Site 108

The site layout is shown on **Figure 12**. Site 108 is located at the southwestern end of Picatinny Lake and consists of Building 717 – an ordnance facility, Building 722 – a physics and flare-testing laboratory, Building 732 – a physics laboratory and ordnance facility, and a peninsula located on the western shore of Picatinny Lake. Building 717, constructed in 1941, has had multiple uses as a major-caliber loading facility; a fuze loading, flare assembly, and pyrotechnic operations facility; and its current function as an ARDEC Electromagnetic and Electrothermal/Chemical Armament Research Facility for research of thrusts caused by the application of high electrical currents to chemical oxidizers. Substances used or possibly stored in Building 717 during flare production operations included black powder and other pyrotechnic materials. Materials associated with the current operations include hydrogen peroxide and JP4 (jet fuel). Three 75-kilovolt-ampere (KVA) pad-mounted transformers (TR-717) are located on the north side of Building 717. According to the Picatinny transformer database, two of the transformers are PCB-contaminated. Building 722, constructed in 1930, has also had multiple uses: an office and testing laboratory; a flare testing facility; and a photographic processing area. The building contained a flare tunnel, which included an instrument containing a radioactive source, and ash hearth. No radioactive material is known to have escaped; however, photographic processing chemicals were reportedly disposed of down sinks and drains that discharged to Picatinny Lake. Building 722 is currently vacant. Building 732 was constructed in 1938 as an operating building. From 1957 through the 1970s, the building was used as a pyrotechnic facility; activities reported to have occurred included unit inspection using a radiological source. During a 1992 inspection, Building 732 was vacant and inactive. Chemicals that were used in Building 732 included: dicyclohexylphosphide, barium chromate, sulfur, strontium, lithium, antimony, potassium chlorate, aluminum, magnesium, and heavy metals. Mercury spills were observed within the building; however, as mercury was not used in pyrotechnic production, Picatinny personnel indicated that the mercury spill may have been a product of a broken test instrument. Wastewater and stormwater from Building 732 was conveyed to Green Pond Brook (GPB). A flare fire, possibly containing zirconium and Teflon, occurred on a loading platform adjacent to Building 732.

In August 2003, the three sumps and one catch basin that were part of the wastewater collection system at Building 732 were excavated. The concrete sumps were broken up and disposed of off-site as non-hazardous waste. Sediment from the sumps and soil around two of the sumps were drummed and staged at Picatinny.

In April 2004 two additional areas of concern were added to the scope of work at Site 108 adjacent to Building 722. Excavation 1 was a small 8 foot by 8 foot area located on the east side of Bldg 722 and adjacent to Fidlar Road was excavated around sample location 108SS-7 to a depth of 2 feet bgs. Excavation 2 was the flare tunnel clean-out sump, including the metal sump and concrete base that it rested upon. This excavation was 4-ft square by 2-ft deep. Approximately 4 CY of soil were excavated from Excavation 1 and 1 cubic yard of soil was excavated from Excavation 2 at Building 722.

Site 113

Site 113, which measures approximately 0.9 acres, is located on a small delta situated along the eastern shore of Picatinny Lake (**Figure 1**). Building 561 was a five-story structure, which was constructed in 1931. It is not known how long Building 561 was in operation, but records indicate that the building was in operation during 1960 as a blending facility for propellants. Water spray nozzles were used during the charging and blending cycles to control static electricity accumulation. Although documents do not indicate that wastewater was generated or discharged from this process, the nature of the operations and the documented use of spray nozzles in this building suggest that wastewater was likely to have been generated. Building 561 was demolished under the Toxic and Energetic Cleanup Program sometime prior to 1988.

Site 147

The site layout is shown on **Figure 13**. Site 147 is located in the eastern portion of Area I in the main valley floor and less than 300 feet from the southeast shore of Picatinny Lake. This site includes 1.5 acres of open grass field and Building 520, which was constructed in 1943 for use as a poaching house for nitrocellulose water slurry processing. Poaching is a purification process used in the manufacturing of propellant to destroy unstable sulfur esters and completely remove free acids. Building 520 was deactivated in September 1972 when the explosive allowance was cancelled and was subsequently demolished. Wastewater generated during the poaching process at Building 520 was reportedly disposed of in pits in the basement of the building and liquid waste containing trinitrotoluene (TNT) may have been discharged into an underground pipeline (i.e., the GCL) that flowed toward Picatinny Lake and GPB. According to Picatinny personnel, a discharge of nitrocellulose also flowed into the GCL and may have traveled as far as Picatinny Lake. A transformer (TR-520) was located east of Building 520. The transformer was reportedly removed some time before the building was demolished. In 2009, this site was included in the construction area for the New Pyro Building.

Site 148

The site layout is shown on **Figure 14**. Site 148 (Building 527) covers approximately 1.3 acres on the southeast shore of Picatinny Lake. Building 527 was constructed in 1929 for use as part of the smokeless powder production line. Operations at Building 527 reportedly ceased in the mid-1970s, and the building was demolished in 2000. According to Picatinny personnel, single- and double-base solid propellants were processed in Building 527. Wastes from propellant operations included: nitrocellulose, DNT, dibutyl thiolate, diphenylamine, ether, and alcohols. According to a historical drawing a drainage line exited the building and discharged to a dry well located approximately 10 ft from the northwest corner of the building. During two separate site visits, no evidence of the dry well or sump was discovered.

Site 150

The site layout is shown on **Figure 15**. Site 150 (Former Building 555) is located on the slope of an elevated plateau, approximately 250 feet southeast of the eastern shore of Picatinny. The site consists of 0.5 acre of forested land. Building 555 was constructed in 1930 as a continuous drying house for explosive powder. Railroad tracks were used to transport the explosive powder to this facility. Wastewater from explosive operations at Building 555 was formerly discharged to a lead-lined trough, which discharged to a sawdust filter located on the west side of the building. Once the explosives were filtered from the waste stream, the water was discharged directly onto the ground. Nitrocellulose chunks and water from explosive operations at Building 555 were reported to be found in a drainpipe and an explosion occurred when the pipeline was cut. Building 555 was demolished in the 1990s.

In 2002, a wooden filter box, soil, and debris were removed from Site 150. Analytical samples collected from the base of the excavation indicated that all contamination had been removed to levels below the LOCs, and the excavation was backfilled. In 2009, this site was included in the construction area for the New Pyro Building.

Site 184

The site layout is shown on **Figure 16**. Site 184 (Former Building 523) is located on Babbitt Road in the center of Picatinny. The site is situated in the main valley floor approximately 200 feet from the southeast shore of Picatinny Lake. Building 523 was constructed in 1938 for use as a refrigeration house. Freon was used in the refrigeration unit to cool brine (salt water) which was circulated to nearby buildings for use in maintaining ether at low temperatures during the explosives manufacturing process. An inert gas manufacturing process was also located at Building 523. The process produced INGAS (a mixture of carbon dioxide and nitrogen). INGAS was distributed to Buildings 519, 521, and 553. Gasoline was used to fuel a combustion engine for powering the coolant pumps and compressors used in the production of INGAS. The gasoline was fed to the engine by underground lines from two USTs (capacities of 2,000 and 1,000 gallons) located on the west side of Building 523. In 1976 Building 523 was deactivated and most of the process equipment was removed. In 1991, the USTs were removed as part of a RCRA closure. The building was demolished in 1998. In 2009, this site was included in the construction area for the New Pyro Building.

Area K Site

Site 199

The site layout is shown on **Figure 17**. Site 199 is located between Areas I and K and consists of an abandoned pistol range and a former dumping area. The site is located at the junction of Belt and Quarry Roads within a heavily

wooded portion of Picatinny. The pistol range portion of Site 199 was active from approximately 1936 to 1980. The range has not been used since and is overgrown. Building 3054 and an unnumbered building are the only two structures located at the site. The area to the north of the pistol range was used as a dumping area. The former dumping area, approximately one acre in size, contains construction and demolition debris, as well as domestic trash. The type of trash present at the area suggests that the site was active from the 1920s to the mid-1930s, with sporadic activity as late as 1970.

Area L Sites

Site 17

The site layout is shown on **Figure 18**. Site 17 is located at the southeastern portion of Picatinny near the base of the unnamed ridge near the Mt. Hope entrance, just up-slope from Area F. All of the buildings in and near Site 17 are part of the 1000 series buildings that were associated with the production of high explosives.

Site 17 consists of four unlined, bermed pits located in the former tetryl production area in the 1300 and 1000 area enclosure and believed to have operated from at least 1932 until 1945. All piping and settling systems have been removed, with the exception of three wooden settling tanks downgradient of Building 1055 and small portions of piping leading from the settling tanks to the upper northern tetryl pits. Lines feeding the pits consisted of process water and floor wash (tetryl waste, water, and spent acid), which came from former Building 1055 (a nitrating building), former Building 1051 (a laundry), former Building 1054 (a dry house) and several tetryl dry houses and storage facilities. Pit #4 (the "lime pit") also received waste from an apparently unlined acid drain ditch, which ran from the spent acid storage tanks at former Building 1070 (currently wooded and inactive) and one of the lower pits (an acid neutralizing pit with limestone) received waste from an acid line coming from former Building 1067 (an acid storage building). Wastes generated at the site included tetryl waste, water, spent acid (possibly nitric acid), lead (as indicated in a 1987 memorandum from the NJDEP Division of Water Resources), and sellite (from floor washdown, as indicated in the ANL RI Concept Plan). This site is currently inactive.

A removal action was conducted in 2002 to remove the tetryl contaminated soil from and around the four northern tetryl pits, treat the soil to reduce tetryl concentrations, and reuse the soil to restore the site. Tetryl-contaminated soils were removed from three tetryl pits and in the vicinity of the former settling tanks near the fourth tetryl pit.

Site 18

The site layout is shown on **Figure 19**. The southern tetryl pits located at Site 18 reportedly operated from 1938 to 1945. A sludge area, fed by two process lines that ran through Building 1068: one of tetryl, acid, and water, and the other one of floor wash-down water that was discharged from former Building 1052 (a nitrating building), was identified immediately south of former Building 1068 and northwest of Building 1031. There are also two ditch or trough lines from the southern tetryl area leading to the Buildings 1033/1071/1031 trough system, one of which appears to lead to the second catch basin/settling tank. Wastes generated at the site included tetryl waste, acid (possibly nitric acid), water, lead (as indicated in a 1987 memorandum from the NJDEP Division of Water Resources), and sellite (from floor wash down, as indicated in the Argonne RI Concept Plan [ANL, 1991]). This site is currently inactive.

Site 18 was included in the investigation of sumps and dry wells in 2003 (Shaw, 2005c). The investigation addressed a wooden catch basin that was located in a marshy area northwest of Building 1031. The catch basin consisted of a wooden box which was 10-ft long by 5-ft wide by 5-ft deep. The box was rotted and filled with debris, organic matter, and soil. After the box was removed, post-excavation confirmation samples (locations L-162) were collected on 15 July 2003, including a composite sample from the waste soil pile. The post-excavation and soil pile samples were analyzed for explosives and nitrocellulose and showed that all of the baseline explosives concentrations were less than the corresponding LOCs at the time of the excavation. Approximately 25 CY of soil were excavated from the area during the investigation and was returned to the excavation as fill after confirmatory data was reviewed. The catch basin has been eliminated as a potential source for explosives contamination at Site 18.

Site 35

The site layout is shown on **Figure 20**. Five buildings within the former nitroglycerin production area (1300 area buildings) were included as part of Site 35 for investigation: Building 1361 (Nitroglycerin Buggy Storage and Block Breaker Building), Building 1361A (Catch Tank House), Building 1363 (Neutralizing Building), Building 1363A (Slum House), and Building 1365 (Spent Acid Storage Building). Building 1361 is located in the 1300 area enclosure. The building was used in various capacities in support of propellant manufacturing operations from the time of its construction in 1948 until 1993, but was originally used as a propellant roll dewatering building. Currently, the building is inactive. Former Building 1361A, constructed in 1947, was located in the 1000 and 1300 area enclosure directly northwest of Building 1361. The building was used as a catch tank house from the time of its construction until the early 1990s. The building has been demolished, although the concrete foundation is still present. The building had contained an AST that accepted wastewater from Building 1361 through a lead-lined trough. Wastewater then discharged to the ground immediately north of Building 1361A. Wastewater from Building 1373 also may have discharged to the 1361A catch tank through a set of gutters. Building 1363, located in the 1000 and 1300 area enclosure, was constructed in 1945 as a neutralizing building in the nitroglycerin production area. The building was certified in 1988 as having no solid or hazardous waste. Nitroglycerin was

fed into the building via an elevated pipeline from Building 1362, two similar pipelines exited Building 1363 to go to Buildings 1373 and 1377 for further processing. The building currently houses wash and catch tanks and scales that are part of the Biazzi nitroglycerin production rewash system, installed in 1971. Building 1363 is listed as having a 170-gallon concrete UST containing wash-water with trace explosives. It is believed that this listing refers to a concrete storm catch basin located outside the northern side of the building. A second storm catch basin is located at the southeast corner of the building immediately outside the barricade. The building is currently standing, but inactive. Building 1363A was originally constructed in 1945 as a slum house, and received wastewater from Building 1363. According to historic manufacturing data sheets, a nitroglycerin filtering operation was conducted in Building 1363A during the 1950s. The building currently contains one 25-gallon water tank and one catch tank designed to receive and treat waste from Building 1363. Building 1365 was originally constructed in 1945 as a flammable materials storage facility but was used to store spent nitric and sulfuric acid generated by the nitrating buildings (Building 1367 and Building 1362). The building contained two ASTs, to store spent acid and to pipe spent acid to the ASTs at Building 1355. In 1987, 2,000 pounds of explosively contaminated acid were discovered in the Building 1365 storage tanks. The material was eventually disposed of as hazardous waste during closure activities. In the mid to late 1980s until its demolition in 1991, the building was inspected weekly as a "special" area, which met the 90-day hazardous waste area requirements.

In 1995, a non-time critical removal action was conducted at Building 1363A. Eight and one-half cubic feet of soil around the western trough and the trough itself were removed and disposed of off-site.

Site 91

The site layout is shown on **Figure 21**. Site 91 (Building 1301) was constructed in 1945 as a double-base propellant finishing plant and is located east of Double Base Road. Building 1301 encompasses a total area of 31,000 ft^2. The building was modified multiple times for the production of rocket powder, for the production of anti-personnel mines, and for the assembly/disassembly of rocket motors for various projectiles. Washdown water from the building is reported to have discharged into lead-lined catch basins and tanks located on the east side of the building. The wastewater from the catch basins and tanks was discharged in the woods west of Building 1301. Materials used during rocket motor assembly/disassembly operations include nitrocellulose, nitroglycerin, Cyclotrimethylene-trinitramene (RDX), lead azide, acetone, isopropyl alcohol, ethanol, methyl ethyl ketone, n-butyl acetate, ethyl acetate, trichloroethene (TCE), trichloroethane (TCA), xylene, various paints and paint thinners, kerosene and No. 10 lubricant oil. Wastes generated during operations include spent fixer and developer from film processing and PCB contaminated dielectric fluid. Building 1301 is currently inactive; however, may be renovated for industrial use.

In June 2002, 14 sumps and catch basins, 4 drainage troughs, and a soil hot spot at the northwest corner of Building 1301, which were part of the Building 1301 wastewater collection system, were excavated. Approximately 62 CY of soil and sediment were excavated from these areas.

Site 161

The site layout is shown on **Figure 22**. Site 161 (Building 1031) is located in the 1000 and 1300 area enclosure. Building 1031 was constructed in 1952 as a research and development facility, operating pilot-scale operations for explosives (RDX and Cyclortetramethylene-tetranitramine [HMX]) manufacturing. The building may also have housed a fine grind operation with a jet mill as part of the Low Vulnerability Ammunition (LOVA) propellant program. The building has been inactive since the early 1980s. The waste products from the RDX/HMX processes consisted of spent acid that may have contained dissolved explosives and process wastes from earlier processes may have contained solvents as well.

In April 2004, two 4 ft by 8 ft stainless steel above-ground sumps, located adjacent to the southwest corner of Building 1031, were removed, along with approximately 4 CY of soil.

In addition, during the period from July to September 2004, approximately 786 CY of soil were excavated from three delineated lead impacted locations as part of the facility-wide lead removal action, located to the west of Building 1031 (Shaw 2005k).

Site 162

The site layout is shown on **Figure 23**. Site 162 consists of three buildings formerly used in the production of high explosives. Building 1070 consisted of four tanks that were used to store spent acid from tetryl production. There were no documented spills or releases from the Building 1070 tanks. Potential discharges may have occurred at the loading dock set between Buildings 1053 and 1095, or at the possible end of the pipeline identified in the 400 area. Building 1071 was constructed in 1942 as the crystallizing building for tetryl production. The building also housed (not concurrently) Haleite production; tetryl and TNT recrystallizing processes; a nitroguanidine precipitation process; and slurrying, wax coating, and drying of RDX. Six non-PCB pad-mounted transformers (TR-1071), a concrete catch basin (removed in 2004 prior to demolition), a steel settling tank, and a recrystallization tank (removed in 1993) were located at Building 1071. A 1987 PCB test report indicated that these transformers had leaks at the primary and secondary bushings. The building has been inactive since the 1980s and was demolished in 2004. Building 1071C, constructed in 1943, stored solvent for use in the production operations of Building 1071. There

are no obvious floor drains or piping in or leading to or from the building. Typical materials stored in Building 1071C were acetone and alcohol. HMX was also reported to have been stored in the building at one time. In 1988, Building 1071C was inspected and listed as having no hazardous waste at that time and there are no records of spills. Building 1071C has since been demolished.

In March 2004, the concrete sump associated with Building 1071 was removed from the ground. The elbow pipe associated with Building 1071C was also removed in March 2004, along with surrounding soils. The wooden filter box associated with Building 1071 was destroyed during demolition of an adjacent wooden walkway in 2000. The soil in this area was excavated, as well, although the date of this excavation is not identified in the Report on the Investigation of Sumps and Dry Wells with Previously Identified COCs at Various Sites (Shaw, 2005j). A total of approximately 25 CY of soil was removed from the three excavation areas. Additional RDX impacted soils are planned for removal as part of the Mid-Valley RA as documented in the Mid-Valley ROD.

Site 166

The site layout is shown on **Figure 24**. Site 166 consists of Buildings 1354, 1357, and 1359. Similar in operational history, these three buildings have served as explosives and propellant storage magazines supporting operations conducted in the 1300 and 1400 areas since their construction in the late 1940s. The following materials have been located at Buildings 1354, 1357, and 1359: RDX, HMX, nitroguanidine, nitroglycerin, nitrocellulose, and liquid propellant. In addition to these materials, Building 1359 has stored other various explosive constituents. Buildings 1354, 1357, and 1359 each had a sand-filled catch box which was located along an intermittent stream west of the buildings in order to catch wastewater from washdown activities. Once filtered, the wastewater was discharged directly to the intermittent stream, located northwest of the buildings. In April 2004, the catch boxes and 0.33 CY of soil were excavated as part of a facility-wide sump and dry well investigation.

Site 168

The site layout is shown on **Figure 25**. Site 168 consists of three buildings: Building 1400 (Propellant Roll House), Building 1402 (Propellant Cutting Building), and Building 1403 (Propellant Extrusion Building). Building 1400, constructed in 1948 as a propellant roll house, is located south of Rocket Production Road. Building 1400 is presently being used to store equipment for the RDX fine-grind facility to be located in Buildings 1461 and 1462. Building 1402, constructed in 1948, is located northwest of Building 1400 and south of Rocket Production Road. Until around 1990, Building 1402 received solvent-less propellant sheets from Building 1400 and cut them into strips in preparation for loading projectiles. Building 1402 is presently being used to store decontaminated propellant processing equipment. Standard operating procedure for propellant processing buildings included periodic wash-downs of the equipment and flooring to remove residual explosive material. Building 1402 did not have a wastewater catch basin; therefore, the explosives contaminated wash-down water may have flowed out the building doors and discharged directly onto the ground or flowed into the storm sewer located on the north side of Building 1402. The storm sewer discharges in the woods north of the building. Various explosive and inorganic materials were used during propellant related operations at Buildings 1400 and 1402. Building 1403, constructed in 1948 as a propellant extrusion building, is located south of Rocket Production Road. Building 1403 was used for extrusion and cutting of solvent-less propellants until 1987. The building was then renovated for the installation of a twin-screw mixer/extruder in 1992 as part of a pilot process for the production of LOVA propellants (75% RDX and 25% wax). Inert processing utilizing calcium carbonate instead of RDX is currently being conducted with the twin-screw mixer/extruder. Four catch basins located within the extrusion pressroom of Building 1403, discharged to concrete troughs and catch basins. Presently, any wastewater generated during propellant processing operations is collected in lead-lined troughs that discharge to two interior catch basins. The two catch basins are pumped to a 5,000-gallon AST with secondary containment. The wastewater stored in the AST is transferred to Building 809 for treatment. Building 1403 currently remains active.

Excavation of sumps, catch tanks, and catch basins at the site occurred from November 2003 to May 2004 (Shaw, 2005j). At Building 1400, approximately 18 CY of soil were removed from the locations of two catch basins and a pipe which connected the catch basins. Approximately 8 CY of soil were removed from a catch basin and sewer outfall near Building 1403.

Site 169

The site layout is shown on **Figure 26**. Site 169 consists of Buildings 1408, 1408A, 1408B, 1408C, 1409, and 1411. Four of the six buildings performed propellant processing operations, while the remaining two served as storage buildings for propellant operations conducted in the 1400 Area. Building 1408, constructed in 1948, was used to mix explosives and propellants. Six pad-mounted transformers, three of which were reported to contain PCBs, were located west of Building 1408 between Buildings 1411 and 1408A. The transformers have since been removed. Building 1408 also contained two catch tanks with 720 gallon and 370 gallon capacities. Complete wash-down operations have since ceased at the building. Building 1408A has been used since its construction in 1948 as a shipping, receiving, and storage building for propellant operations conducted in the 1400 Area. The building is currently used to store and weigh inert chemicals used in the manufacture of propellants. Inert chemicals stored at Building 1408A included: cellulose ester, lead stearate, diphenylamine, potassium sulfate, and graphite. Building 1408B has been used since its construction in 1944 as a storage

structure for propellant operations conducted in the 1400 Area, including the storage of flammable solvents used in propellant manufacturing. Flammable solvents stored at Building 1408B included: acetone, ether, isopropanol, ethanol, ethyl acetate, acetyl triethyl citrate, and bis(2,2-Dinitropropyl) acetal. Building 1408C, constructed in 1948, has been used for the glazing of propellants since its construction. A wastewater trough and catch tank existed on the west side of Building 1408C for the collection of explosives contaminated wastewater generated from wash-down of flooring and equipment. The three waste streams generated during propellant glazing operations included: dried propellant containing explosives, propellant contaminated rags, and propellant contaminated solvents. Building 1409, constructed in 1956, was used as a propellant extrusion press building until around 1987. A fire gutted the entire building in April 1989 and all remnants of Building 1409 have since been removed. Six pad-mounted transformers, three of which contained Aroclor 1260, were located southeast of Building 1409. In addition, five catch basins were located at former Building 1409 for the collection of explosives-contaminated wastewater generated from wash-down activities. Building 1411, constructed in 1948, has been used for the extrusion and cutting of solvent-based propellants since its construction. A catch tank was installed for the collection of explosives-contaminated wastewater generated from washdown activities and is located on the west side of the building. The four waste streams generated in addition to explosives-contaminated wastewater included: dried propellant, solvents contaminated with explosives, solvent wet propellant, and rags contaminated with solvents and explosives.

In January 2004, the catch tank was investigated as part of a facility-wide Sump and Dry Well Investigation to determine its potential for subsurface contamination (Shaw, 2005j). Approximately 2.5 CY of soil were removed during the excavation.

Site 171

The site layout is shown on **Figure 27**. PICA 171 (PICA 171)/Site 171 consists of Buildings 3106, 3109 and 3111, which were all used as magazines while under naval ownership. All three of these buildings have been renovated for use as ordnance testing facilities. Physical and environmental tests are currently carried out on ordnance and associated items at these three buildings.

Building 3106 was constructed in 1934 as a magazine (dry storage) on the foundation of a structure, which was destroyed in the 1926 Lake Denmark explosion. It was modified for use as an environmental test facility in 1964-65 and is still used for that purpose. The building is currently occupied by the Explosive Test Unit, Environmental Test Section Systems Test Branch.

In 1948, the building was used to store 245,000 lbs of magnesium powder. At the time of the building's transition from Navy to Army control, the building contained oxidizers, explosives, and rocket fuels. A request to cancel the explosive allowance for the building was submitted in 1963, but it is unknown if the explosive allowance was canceled or when the last time explosives were stored in the building. The building was renovated in 1964-1965 for use as an ordinance testing facility.

Building 3109 was originally constructed by the Navy in 1943 as a magazine. In 1960, additions were constructed to the north and south ends of the original building when it was renovated for use as an environmental testing facility, which is its current function. As an environmental testing facility, packaging materials and ordnance components are subjected to physical stresses while responses are measured.

Prior to 1989, eight transformers were located inside the building. In 1985, the building experienced an electrical fire in the transformer room. Reportedly, no release of dielectric fluids from the transformers occurred; however, there was limited damage to the room. All of the transformers were removed in 1989. Additionally, there are three transformers located on a pad (TR-3109) 100 ft northeast of the building. These transformers were documented to be PCB transformers until the 1980s when the transformers were retrofitted. According to the 1988 Picatinny transformer database, these transformers were in fair condition and some had experienced leaks.

Building 3109 has two RCRA-permitted satellite waste accumulation areas, one in the north wing of the building and one in the south wing. Reportedly, very limited amounts of waste are generated at the building and the satellite status of the building is maintained for convenience when repairing equipment. These repairs generate small quantities of oil and oily rags. According to the facilities Hazardous Waste Minimization (HAZMIN) plan, hazardous wastes generated in Building 3109 are limited to hydraulic oil (60 gallons/year) and oily rags (5 gallons/year) generated during the servicing of machinery (USAEHA, 1991a).

During the building's tenure as an environmental testing facility, a small number of incidents have occurred. In 1967, a canister of button bomblettes ruptured during testing. This incident reportedly caused no damage to equipment or the building. Also in 1967, during the vibration test of XM411 rounds one of the rounds functioned. This resulted in a fire which reportedly damaged the building. This incident is thought to have had a limited impact on the environment because the entire explosive was thought to have burned before fire-fighting activities would have the opportunity to wash any contaminants away.

Tritium-containing equipment underwent a variety of tests in the building. According to a radiation area survey conducted in the late 1970s, swipe sampling of equipment after testing indicated that no release occurred and no residual contamination existed.

Building 3111 was constructed by the Navy in 1943 for use as a smokeless powder storage building. Building

3111 was transitioned from Navy ownership to Army ownership with the rest of the buildings in the area in the early 1960s. In the early 1960s, the building was converted for use as an air gun facility. The building has served that purpose since that time. These guns use compressed air to fire pistons containing ordnance components to test the response to high G forces.

Two additions were made in 1965, one to the west side of the building with a shed roof and the other on the south side of the building. According to a Public Works project list, the third and final addition to Building 3111 to fully house the third air gun was completed in 1988. This addition is on the west side of the building.

Building 3111 contains a RCRA permitted satellite waste accumulation area which stores accumulated hydraulic oil (60 gallons/year) and oily rags (5 gallons/year) from servicing compressors and machinery. In addition, small amounts of other chemicals are used in the development of new testing equipment and procedures.

The building is equipped with a flammable materials storage cabinet in the third air gun room. The cabinet is used for the storage of small amounts of paints and petroleum products used in the maintenance of the compressors and building equipment.

Building 3111 also houses a "dynamic machine" which was designed to simulate the forces inflicted on a shell upon conventional firing. The project was initiated in the 1980s and development continued until the 1990s. The system was never perfected and never used on a regular basis. However, when used, the machine released "biodegradable hydraulic fluid" to a floor drain. Engineering drawings do not detail the discharge point of this floor drain.

When the original building was renovated for use as an air gun facility in the 1960s, a small drum was half-buried and the compressor vent discharged to this drum. When air is compressed a small amount of oil enters the air. Releasing the pressure releases the oil. The drum was not designed to contain the entire oil vapor and soil staining resulted. This drum was removed and soil was removed at the same time.

In March 2004, approximately 180 CY of soil were excavated from Site 171 as identified in the Lead Site Removal Action Workplan (Shaw, 2004c).

CURRENT AND FUTURE USE

Picatinny's Master Plan designates future use of Areas D, I, K, and L as military and industrial conducted in a secured area. There are no plans to change this land-use in the foreseeable future.

IDENTIFICATION OF ENVIRONMENTAL CONTAMINATION

The initial field investigation of the sites included herein was performed under the purview of the U.S. Army, USEPA Region 2, and NJDEP. **Table 1** provides a chronology of events related to the Preliminary Assessment/Site Investigation (PA/SI), Phase I RI, Phase II RI, and Phase III RI efforts.

Levels of Concern

For soils, the promulgated NJDEP Non-Residential Soil Remediation Standards (NRSRS) were used as the LOC for preliminary screening criteria. In the absence of state criteria, the USEPA Industrial Regional Screening Levels (IRSLs) were used as screening criteria.

For sediments, the LOC was selected as the lower of the ISQGs, New York Sediment Criteria, and sediment quality benchmarks. In the absence of the aforementioned guidance values, the Effects Range-Low (ER-L) from NJDEP were used. If there were also no ER-Ls, the lower of IRSL and NRSRS were selected for the preliminary screening criteria. If the Picatinny-specific background value was higher than the selected guidance criteria, the background value was selected as the screening criteria.

For surface water, the promulgated New Jersey Surface Water Quality Criteria were selected as the LOC for preliminary screening criteria. If state criteria were absent, the USEPA Water Quality Criteria were selected as LOCs. Only in the absence of water quality criteria was the USEPA Tap Water (1E-06 risk level for carcinogens or a hazard quotient of 1 for noncarcinogens) Regional Screening Level (RSL) selected as the LOC. If the Picatinny-specific background value was higher than the selected guidance criteria, the background value was selected as the screening criteria.

For groundwater, the lower of the New Jersey Groundwater Quality Standards (or the Practical Quantitation Limit if higher), the New Jersey Maximum Contaminant Levels (MCLs), the Federal MCLs; or the Federal non-zero Maximum Contaminant Level Goals (MCLGs) were used as LOCs. If none of these were available, Federal Health Advisories or USEPA RSLs for Tap Water were used as screening criteria. Environmental conditions related to groundwater at some of these sites are addressed on an area-wide basis in the Mid-Valley ROD (U.S. Army, 2012) or in the Area D Record of Decision (Shaw, 2004).

Figures 3 through **27** show the LOC exceedances for all media at the Sites addressed within this Proposed Plan: 189, 16, 32, 33, 46, 50, 63/65, 97, 105, 108, 147, 148, 150, 184, 199, 17, 18, 35, 91, 161, 162, 166, 168, 169, and 171, respectively.

Table 1
Chronology of Investigatory Events

EVENT	DATE RANGE
1. Preliminary Assessments/Site Investigations (PA/SI)	1988 - 1998
2. Remedial Investigations (RI)	1994 - 2003
3. Follow up activities on RI (additional sampling and/or focused remedial actions)	1990-2005
4. Feasibility Study (FS)	2009- 2012

The media not included with these sites because they are addressed within other operable units that include the following sites/media:

- Site 108 sediment and surface water are addressed with the Lakes FS.
- Site 161 surface water and groundwater are addressed through the Mid-Valley ROD.
- Groundwater at Sites 17, 18, 35, 162, and 171 are addressed through the Mid-Valley ROD.

SUMMARY OF THE SITE RISKS

Baseline human health risk assessments, lead blood models (for sites where lead was present), and ecological risk assessments (ERAs) were conducted for the sites as part of the various RIs that evaluated these sites. Additional evaluation/reevaluation of some of the human health risk assessments/lead blood levels was conducted for some of the sites since the RI due to the availability of revised/current toxicity values. As discussed previously, the sites are currently used for military/industrial purposes with no plans to change the use in the foreseeable future. The risk assessments were conducted to evaluate the potential risk associated with exposure to chemicals in soil, sediment, groundwater, and surface water. Risks were calculated for the reasonably anticipated future use as well as hypothetical use scenarios. Potential receptors considered during the risk evaluations for current and future exposure scenarios are the industrial/research worker, the construction excavation worker, the on-site visitor, the adult resident, the child resident and the combined adult and child resident. However, the adult resident, child resident, and combined adult/child resident scenarios are not reasonably anticipated future use scenarios.

A summary of the results of the human health and ecological risk assessments and the lead blood model are included below for each of the sites evaluated within this PP. Conclusions regarding ecological risk as some sites were not based on an ERA.

Area D Site

Site 189

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk range is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are expected to be minimal based on the highly active and urban nature of the site.

Area I Sites

Site 16

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is at or less than 1;
- Lead is not a concern at this site; and
- Ecological risks to wildlife populations are not expected to be significant.

Site 32

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not considered to be significant.

Site 33

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are expected to be minimal.

Site 46

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is at or less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not a concern due to limited habitat.

WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the contaminants of concern at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a reasonable maximum exposure scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response) are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

Risk Characterization: This step summarizes and combines exposure information and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a one-in-ten-thousand excess cancer risk; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk). For non-cancer health effects, a hazard index (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a non-cancer HI is that a threshold level (measured as an HI of less than or equal to1) exists below which non-cancer health effects are not expected.

Site 50

Based on the risk assessments performed for this site for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not a concern based on the ERA and poor habitat quality.

Site 63/65

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- Though the total hazard index (HI) is greater than the USEPA's target noncancer hazard threshold of 1, hazards are less than 1 when broken down by target organ.
- Lead is not a concern at this site; and
- Ecological risks are not a concern.

Site 97

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not a concern due to minimal habitat.

Site 105

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risk is not considered to be significant.

Site 108

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The estimated hazards have been recalculated and are now less than the USEPA's target noncarcinogenic hazard threshold of 1, due to the removal of mercury by earlier actions;
- Lead is not a concern at this site; and
- Ecological risks are not considered significant, the site is predominantly asphalt-covered and has low habitat value, and soils did not exhibit toxicity to test organisms in bioassay tests. Therefore there are no expected ecological risks at this site.

Site 113

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and,
- Ecological risks are not a concern.

Site 147

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not a concern.

Site 148

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is at or less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not a concern.

Site 150

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is at or less than 1;
- The site has been redeveloped as part of the Pyrotechnic facility and the lead in soils were capped during construction; and
- Ecological risks are not considered to be significant.

Site 184

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not a concern based on the small area of the site.

Area K Site

Site 199

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk range is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is at or less than 1;
- Lead is not a concern at this site; and
- No ERA has been conducted; ecological risks are not a concern because potential contaminants are not bioavailable.

Area L Sites

Site 17

Based on the risk assessments performed for this site for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- The ERA indicates there is little impact to small mammals or birds.

Site 18

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is at or less than 1;
- Lead is not a concern at this site; and
- Risks to ecological communities are unlikely at this site.

Site 35

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are not considered to be significant.

Site 91

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risk is not considered a concern.

Site 161

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern; and
- Ecological risks are expected to be minimal.

Site 162

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is at or less than 1;
- Lead is not a concern at this site; and
- ERA was not conducted based on limited potential for exposure after a removal action.

Site 166

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological receptors risks are not anticipated due to limited terrain.

Site 168

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are considered to be minimal.

Site 169

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk is within or less than the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are expected to be minimal.

Site 171

Based on the risk assessments performed for this site, for current and reasonably anticipated future use:

- The carcinogenic risk range is within the generally acceptable range of 1E-04 and 1E-06;
- The noncarcinogenic hazard is less than 1;
- Lead is not a concern at this site; and
- Ecological risks are expected to be minimal.

SUMMARY OF THE PREFERRED RESPONSE ACTIONS

The recommended RA is proposed based on results of the Risk Assessments completed for these sites as part of the RI. The Preferred RA is:

- No Action.

This RA is preferred based on the determination that the baseline risk assessment concludes that current or potential future site conditions pose no unacceptable risks for human health or to the environment. According to the HHRA, cumulative cancer risks for human receptors are within or less than USEPA's generally acceptable target risk range of 1E-04 to 1E-06 for health protectiveness under the current and reasonably anticipated future use scenarios. Cumulative non-cancer HIs for all receptors are less than 1, indicating that adverse noncarcinogenic effects are not likely to occur.

Existing controls will be monitored and maintained to ensure protection of human health, including: Picatinny access regulations, Picatinny safety program, Army military construction program development and execution, site clearance/soil management procedures, munitions and explosives of concern clearance procedures, and Picatinny Installation Master Plan environmental notations, which includes the Picatinny GIS Database that shows the boundaries of land-use restrictions. The Army will provide an annual report to the USEPA Region 2 to document that the aforementioned controls remain protective of human health and the environment. The results of the annual reports will be summarized in the 5-Year Review. The Army will also notify the USEPA Region 2 of any land use changes for sites within this PP and evaluate whether the "No Action"

remedy remains protective of human health and the environment under the new land use.

COMMUNITY PARTICIPATION

Public participation is an important component of remedy selection. The Army, USEPA, and NJDEP are soliciting input from the community on the recommended RA. The comment period extends from March 7, 2013 until April 6, 2013 (30 days). This period includes a public meeting at which the Army will present the PP. The Army will accept both **oral and written** comments at this meeting.

A critical component of Picatinny's program to keep the public informed about the environmental cleanup activities and be involved in decision-making is the Picatinny Arsenal Environmental Restoration Advisory Board (PAERAB). The PAERAB gives community members, particularly those who may be affected by the cleanup activities, and government representatives a chance to exchange information and participate in meaningful dialogue.

Public Comment Period

The Army is providing a 30-day comment period from **March 7, 2013 to April 6, 2013**, to provide an opportunity for public involvement in the decision-making process for the proposed action. If any significant new information or public comments are received during the public comment period, the Army, in consultation with NJDEP and USEPA, may modify the recommended RA outlined in this PP. The public is encouraged, therefore, to review and comment on this document. During the public comment period, the public is encouraged to review reports and other documents pertinent to this site and the Superfund process. This information is available at the Picatinny Installation Restoration Program Office, located in Building 319 at Picatinny. To obtain further information, the following representatives may be contacted:

Mr. Ted Gabel
Environmental Affairs Division
U.S. Army Installation Management Agency
Northeast Regional Garrison Office
Building 319
Picatinny, New Jersey 07806-5000
(973) 724-6748

Mr. William Roach
Remedial Project Manager - USEPA Region II
290 Broadway
New York, NY 10007-1866
(212) 637-4335

Ms. Anne Pavelka
NJ Department of Environmental Protection
Bureau of Case Management
P.O. Box 028, Mail Code 401-05F
401 East State Street,
Trenton, NJ 08625-0028
(609) 292-3007

Written Comments

If the public would like to comment in writing on the PP or other relevant issues, comments should be delivered to the Army at the public meeting or mailed (postmarked no later than April 6, 2013) to Mr. Ted Gabel at the address above.

Public Meeting

The Army will hold a public meeting to accept comments on this PP on March 7, 2013 at the Hilton Garden Inn, located at 375 Mount Hope Avenue, Rockaway, New Jersey. This meeting will provide an opportunity for the public to comment on the proposed action. Comments made at the meeting will be transcribed. A copy of the transcript will be included in the ROD Responsiveness Summary and will be added to the Picatinny Administrative Record file and information repositories.

Army's Review of Public Comment

The Army will review the public's comments as part of the process in reaching a final decision on the most appropriate action to be taken. The Army's final choice of action will be issued in a ROD. A Responsiveness Summary, documenting and responding to written and oral comments received from the public, will be issued with the ROD. Once community response and input are received and the Army and USEPA sign the ROD, it will become part of the ***Administrative Record***.

ACRONYMS AND ABBREVIATIONS

AEDB-R.....Army Environmental Database - Restoration
ANL.....Argonne National Laboratory
Army.....U.S. Department of the Army
AST.....Aboveground Storage Tank
ATSDR.....Agency for Toxic Substances and Disease Registry
CEA.....Classification Exception Area
CERCLA.....Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COC.....Contaminant of Concern
CY.....Cubic Yard
DNT.....Dinitrotoluene
ERA.....Ecological Risk Assessment
ER-L.....Effects Range - Low
FS.....Feasibility Study
ft.....feet
GCL.....Guncotton Line
GIS.....Geographic Information System
GPB.....Green Pond Brook
HAZMIN.....Hazardous Waste Minimization
HI.....Hazard Index
HMX.....Cyclortetramethylenetetranitramine
IC.....Institutional Control
INGAS.....a mixture of carbon dioxide and nitrogen
IRSL.....Industrial Regional Screening Levels
KVA.....Kilovolt-Ampere
LOC.....Level of Concern
LOVA.....Low Vulnerability Ammunition
LUC.....Land Use Control
MCL.....Maximum Contaminant Level
MCLG.....Maximum Contaminant Level Goal
NCP.....National Contingency Plan
NJDEP.....New Jersey Department of Environmental Protection
NRSRS.....Non-Residential Soil Remediation Standards
OSWER.....Office of Solid Waste and Emergency Response
PAERAB.....Picatinny Arsenal Environmental Restoration Advisory Board
PA/SI.....Preliminary Assessment/Site Investigation
PCB.....Polychlorinated biphenyl
PHST.....Packaging, Handling, Storage, and Transportation Center
PICA.....Picatinny
Picatinny.....Picatinny Arsenal
PP.....Proposed Plan
RA.....Response Action
RCRA.....Resource Conservation and Recovery Act
RDX.....Cyclotrimethylenetrinitramene
RI.....Remedial Investigation
ROD.....Record of Decision
RSL.....Regional Screening Level
SARA.....Superfund Amendments and Reauthorization Act of 1986
TCA.....Trichloroethane
TCE.....Trichloroethene
TNT.....Trinitrotoluene
TR.....Transformer
USAEHA.....United States Army Environmental Hygiene Agency
USEPA.....U.S. Environmental Protection Agency
UST.....underground storage tank
WRA.....Well Restriction Area

GLOSSARY OF TERMS

Administrative Record: This is a collection of documents (including plans, correspondence and reports) generated during site investigation and remedial activities. Information in the Administrative Record is used to select the Preferred Response Actions and is available for public review.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): This federal law was passed in 1980 and is commonly referred to as the Superfund Program. It provides for liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous waste disposal sites that endanger public health and safety or the environment.

Feasibility Study (FS): This CERCLA document reviews the contaminants of concern at a site, and evaluates multiple remedial technologies for use at the site. It identifies the most feasible response actions.

Level of Concern (LOC): The lowest value based on either human or ecological concern that is used to screen the detected chemicals for further consideration during the RI and FS process.

National Contingency Plan (NCP): The National Oil and Hazardous Substances Pollution Contingency Plan. These CERCLA regulations provide the federal government the authority to respond to the problems of abandoned or uncontrolled hazardous waste disposal sites as well as to certain incidents involving hazardous wastes (e.g., spills).

National Priorities List (NPL): A list of sites that are qualified to receive expenditures of CERCLA funds.

Record of Decision (ROD): This legal record is signed by the Army and the USEPA and will be reviewed by the NJDEP for concurrence. It provides the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments, responses to comments, and the estimated cost of the remedy.

Remedial Investigation (RI): An investigation under CERCLA that involves sampling environmental media such as air, soil, and water to determine the nature and extent of contamination and human health and environmental risks that result from the contamination.

Superfund Amendments and Reauthorization Act (SARA): A congressional act that modified CERCLA. SARA was enacted in 1986 and again in 1990 to authorize additional funding for the Superfund Program.

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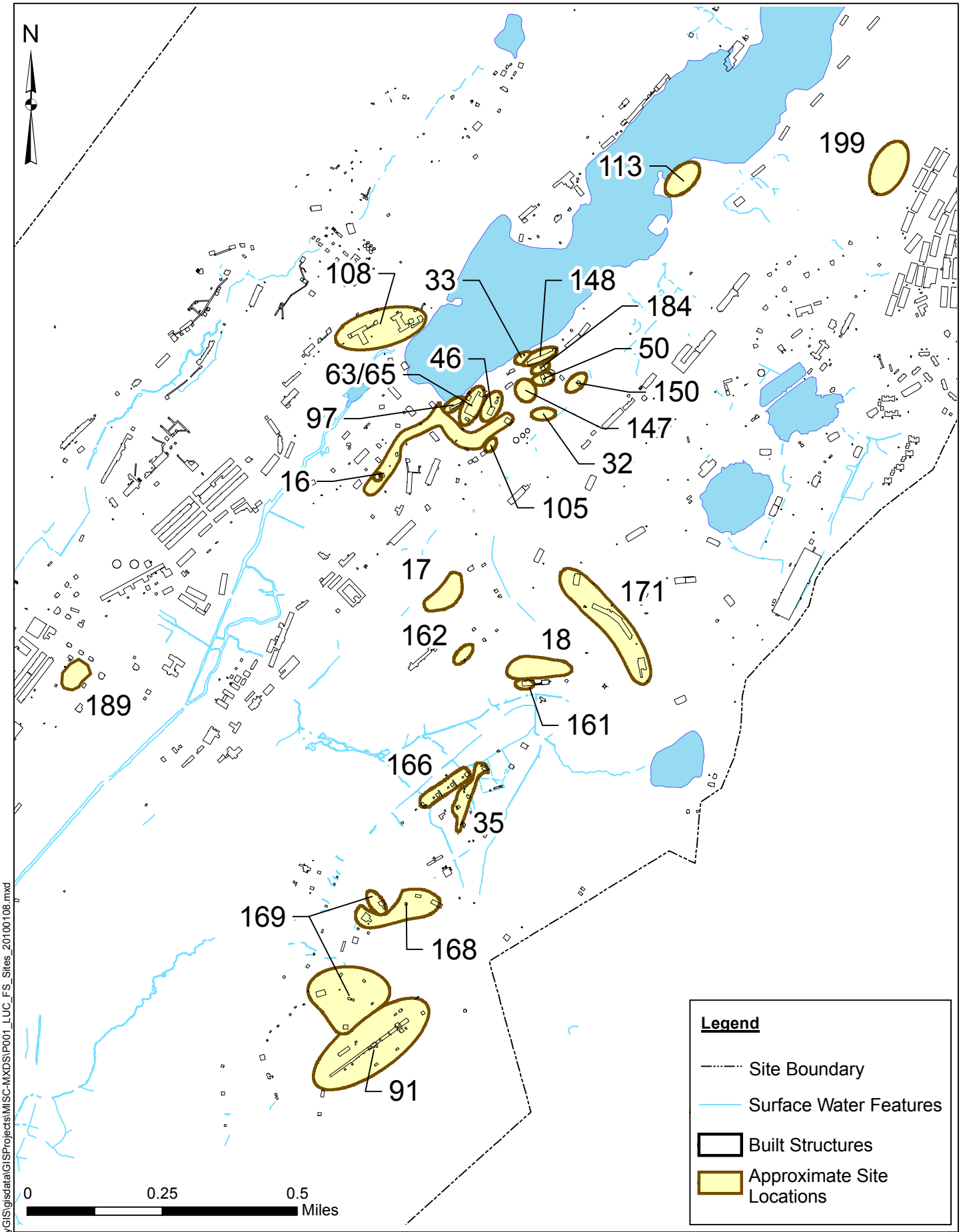
Figures



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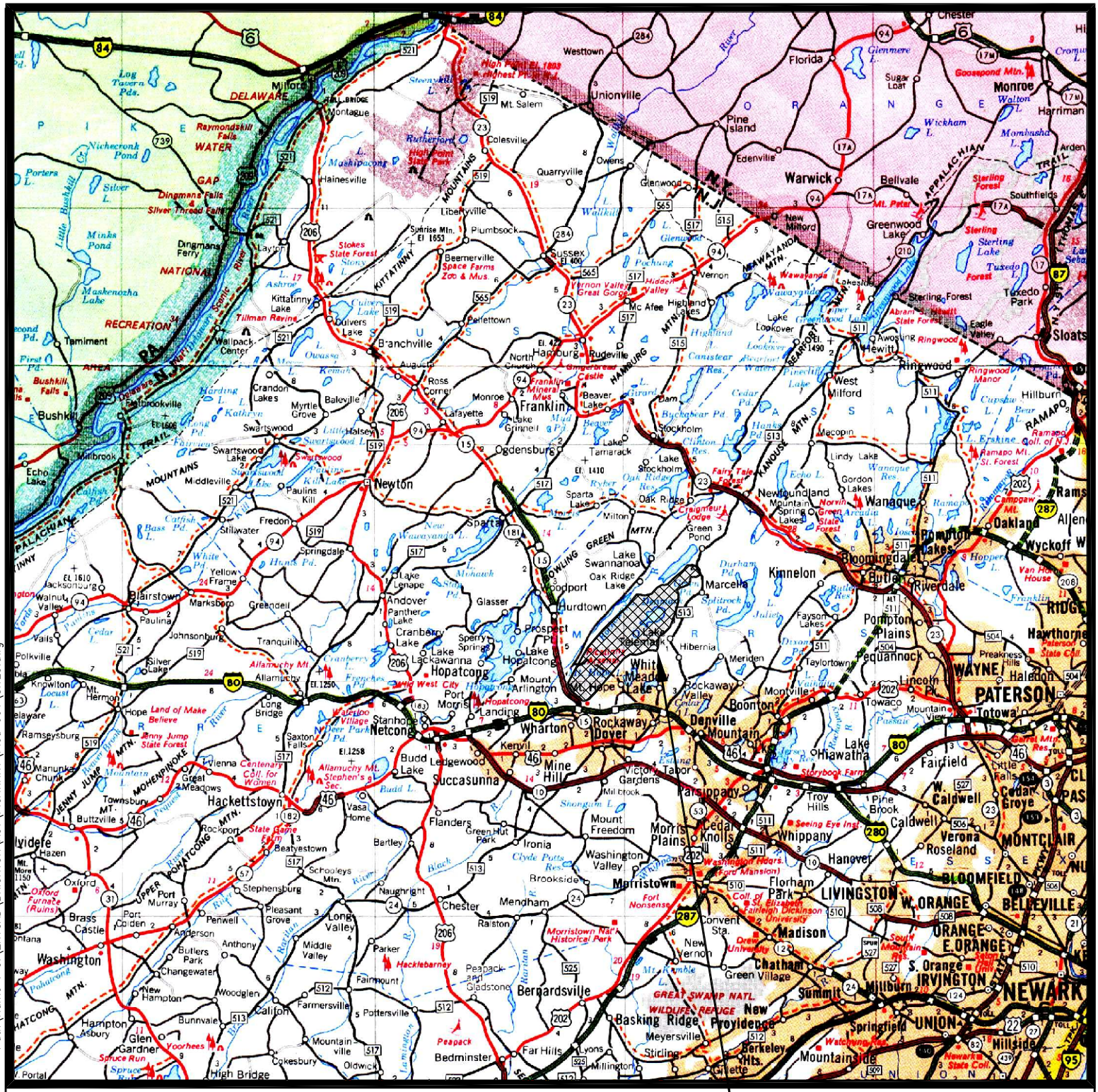
ARCADIS

ARCADIS - Edison, NJ
101 Fieldcrest Avenue, Suite 5E , Edison, NJ 08817
Phone: (732) 225-5061 Fax: (732) 225-5067

SITE LOCATIONS
PICATINNY ARSENAL, NEW JERSEY

PROJECT MANAGER T. LLEWELLYN	DEPARTMENT MANAGER M. MOHUIDDIN
DRAWN M. GRESS	CHECKED K. TIPTON
PROJECT NUMBER GP06PICA.P011.NJ001	DRAWING NUMBER 1



MAP SOURCE: RAND McNALLY, NEW JERSEY STATE ROAD MAP 1991

NEW JERSEY

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SCALE: FEET

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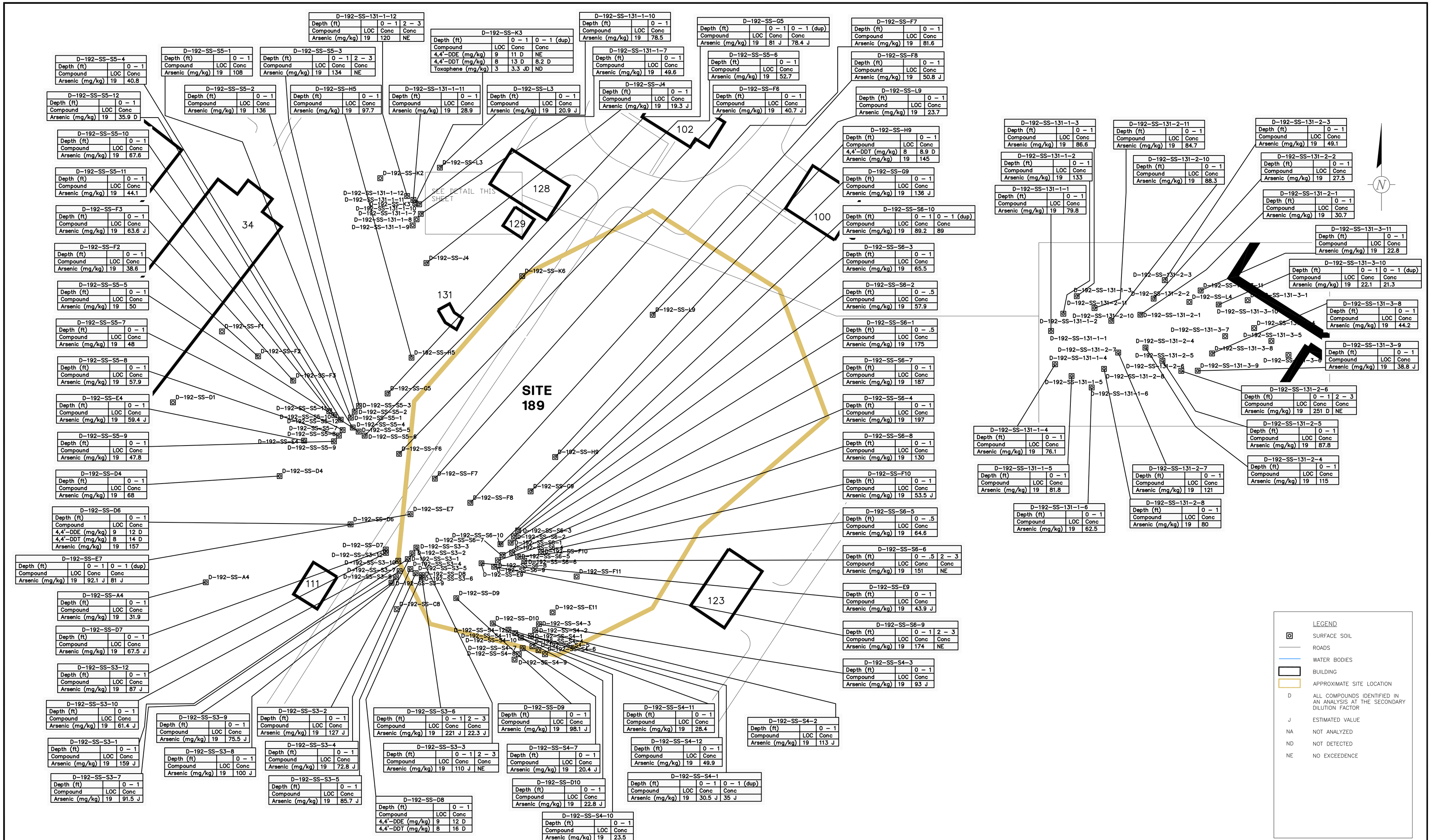
Date\Time : Mon, 11 Jan 2010 - 9:12am

ARCADIS
1114 Benfield Boulevard, Suite A
Millersville, Maryland 21108
Tel (410) 987-0032 Fax (410) 987-4392

SITE LOCATION MAP

PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER TL	DEPARTMENT MANAGER PJS
DRAFTER JSG	CHECKED GSK
PROJECT NUMBER GP06PICA.001	DRAWING NUMBER 2



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User Name : AFOX

SCALE IN FEET 0 30

PLOT SIZE: 22x34

REV. ISSUED DATE DESCRIPTION

KEYPLAN

SEAL

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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER: T. LLEWELLYN
DEPARTMENT MANAGER: M. MOHIUDDIN
LEAD DESIGN PROF.: K. PANHORST
CHECKED BY: T. LLEWELLYN
SHEET TITLE: HISTORICAL DATA EXCEEDING LOCs AT RI SITE 189/PICA 192 APPLE TREES RECREATION AREA
TASK/PHASE NUMBER: EA001
DRAWN BY: A. FOX
PROJECT NUMBER: GP06PICA.P001
DRAWING NUMBER: 3

I-16-TP-4(EB)		
Depth (ft)		4 – 4.5
Compound	LOC	Conc
Arsenic (mg/kg)	19	49.9

I-16-EB3		
Depth (ft)		5 – 5.5
Compound	LOC	Conc
Arsenic (mg/kg)	19	26.2 J

I-16-TP-3(5S)		
Depth (ft)		7 – 8
Compound	LOC	Conc
Arsenic (mg/kg)	19	54.6

I-16-EB2		
Depth (ft)		5 – 5.5
Compound	LOC	Conc
Arsenic (mg/kg)	19	76.9 J

I-16-9S		
Depth (ft)		4 – 5
Compound	LOC	Conc
Arsenic (mg/kg)	19	34.9 J

I-16-SD-008			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	5.51	ND
Acetone (mg/kg)	0.0087	0.04	NA
Arsenic (mg/kg)	16.0	45	NE
Cadmium (mg/kg)	1.70	1.85	NE
Chromium (mg/kg)	37.3	51.5	NE
Copper (mg/kg)	28	168	91.2 J
Lead (mg/kg)	38.8	4150	1390
Mercury (mg/kg)	0.249	1.1	1.1
Nickel (mg/kg)	39.6	303	134
Silver (mg/kg)	1.0	1.69	ND
Strontium (mg/kg)	16	91	NA
Trichloroethene (mg/kg)	0.22	0.55	NA
Vanadium (mg/kg)	1100	1500	NE
Zinc (mg/kg)	171	457	216

I-16-8S		
Depth (ft)		4 – 5
Compound	LOC	Conc
Arsenic (mg/kg)	19	76.9 J

I-16-3S		
Depth (ft)		4 – 5
Compound	LOC	Conc
Arsenic (mg/kg)	19	28.2 J

I-16-EB1		
Depth (ft)		5 – 5.5
Compound	LOC	Conc
Arsenic (mg/kg)	19	53.3 J

I-16-6S		
Depth (ft)		4 – 5
Compound	LOC	Conc
Arsenic (mg/kg)	19	37.8 J

I-16-TP-1(1S)		
Depth (ft)		4 – 5
Compound	LOC	Conc
Arsenic (mg/kg)	19	31.2

I-16-4S		
Depth (ft)		4 – 5
Compound	LOC	Conc
Arsenic (mg/kg)	19	52.3 J

I-16-7S		
Depth (ft)		4 – 5
Compound	LOC	Conc
Arsenic (mg/kg)	19	19.5 J

I-16-SD-007		
Depth (ft)		0 – 1
Compound	LOC	Conc
Acetone (mg/kg)	0.0087	0.02
Copper (mg/kg)	28	73
Lead (mg/kg)	38.8	354
Mercury (mg/kg)	0.249	0.79
Nickel (mg/kg)	39.6	103
Strontium (mg/kg)	16	46
Trichloroethene (mg/kg)	0.22	0.53

I-16-SD-006		
Depth (ft)		0 – 1
Compound	LOC	Conc
Acetone (mg/kg)	0.0087	0.04
Copper (mg/kg)	28	115
Lead (mg/kg)	38.8	354
Mercury (mg/kg)	0.249	0.78
Nickel (mg/kg)	39.6	55.7
Silver (mg/kg)	1.0	1.58
Strontium (mg/kg)	16	19.7

I-16-SD-005			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
Acetone (mg/kg)	0.0087	0.05	NA
Arsenic (mg/kg)	16.0	100	NE
Copper (mg/kg)	28	64	NA
Lead (mg/kg)	38.8	74.5	NA
Mercury (mg/kg)	0.249	0.71	NA
Nickel (mg/kg)	39.6	55.9	NA
Strontium (mg/kg)	16	190	NA
Vanadium (mg/kg)	1100	1260	NA

I-16-SD-004			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	58	23 D
Arsenic (mg/kg)	16.0	27.6	NE
Copper (mg/kg)	28	109	50.5 J
Lead (mg/kg)	38.8	345	143
Mercury (mg/kg)	0.249	1.1	0.56 J
Nickel (mg/kg)	39.6	148	NE
Strontium (mg/kg)	16	55	NA
Zinc (mg/kg)	171	594	NE

I-16-SD-009			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	16.0	23.3	NE
Lead (mg/kg)	38.8	1140	219

I-16-SD-001			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	400	9.2
2,6-Dinitrotoluene (mg/kg)	4.2	23.9	NE
Arsenic (mg/kg)	16.0	31.4	NE
Cadmium (mg/kg)	1.70	2.2	NE
Copper (mg/kg)	28	142	140 J
Lead (mg/kg)	38.8	598	331 J
Mercury (mg/kg)	0.249	1.2	1.1 J
Nickel (mg/kg)	39.6	101	301 J
Silver (mg/kg)	1.0	9.76	ND
Strontium (mg/kg)	16	28.9	NA
Zinc (mg/kg)	171	1280	406 J

I-16-SD-010A			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	15 D	110 D
2,6-Dinitrotoluene (mg/kg)	4.2	NE	8.1 D
Arsenic (mg/kg)	16.0	27.8 JD	NE
Lead (mg/kg)	38.8	1330 JD	192 JD

I-16-SD-002			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	160	NA
2,6-Dinitrotoluene (mg/kg)	4.2	9.49	NA
Arsenic (mg/kg)	16.0	31.6	18 J
Cadmium (mg/kg)	1.70	1.92	NA
Copper (mg/kg)	28	173	NA
Lead (mg/kg)	38.8	1220	NA
Mercury (mg/kg)	0.249	1.36	NA
Nickel (mg/kg)	39.6	110	NA
Silver (mg/kg)	1.0	10.3	NA
Strontium (mg/kg)	16	38.1	NA
Zinc (mg/kg)	171	445	NA

I-16-SD-003				
Depth (ft)		0 – 1	2 – 3	2 – 3 (dup)
Compound	LOC	Conc	Conc	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	20.9	NA	NA
Arsenic (mg/kg)	16.0	31.8	NE	NE
Chromium (mg/kg)	37.3	41.6	NA	NA
Copper (mg/kg)	28	105	NA	NA
Lead (mg/kg)	38.8	240	NA	NA
Mercury (mg/kg)	0.249	1.45	NA	NA
Nickel (mg/kg)	39.6	344	NA	NA
Silver (mg/kg)	1.0	1.18	NA	NA
Strontium (mg/kg)	16	52	NA	NA
Zinc (mg/kg)	171	311	NA	NA

PICATINNY LAKE

SITE 16

SEE DETAIL THIS SHEET

WHITMORE AVE

BABBITT ROAD

13th AVENUE

BUFFINGTON ROAD

501 506 506N 329 332 445 448 506 323 322 321 427 452 455 462 177 424

I-16-SD-008 I-16-SD-007 I-16-SD-006 I-16-SD-005 I-16-SD-004 I-16-SD-003 I-16-SD-002 I-16-SD-001 16SD-11 I-16-SD-010A I-16-SD-009

LEGEND

- ▲ POST-EXCAVATION SOIL SAMPLE
- ◬ SURFACE SEDIMENT
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J ESTIMATED VALUE
- NA NOT ANALYZED
- ND NOT DETECTED
- NE NO EXCEEDENCE

0 200 SCALE IN FEET

PLOT SIZE: 17x22

REV. ISSUED DATE DESCRIPTION

SEAL

ARCADIS
1114 Benfield Blvd.
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PROJECT TITLE

PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE

HISTORICAL DATA
EXCEEDING LOCs AT
RI SITE 16/PICA 006
GUNCOTTON LINE

TASK/PHASE NUMBER	DRAWN BY
EA002	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	4

Acad Version : R18.1s (LMS Tech)
User Name : AFOX
Date\Time : Wed, 02 May 2012 - 9:03am
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\pica 001\site 16\SITE-16.dwg - Layout Tab : LAYOUT1

Acad Version : R18.0s (LMS Tech)
User Name : AFOX

Date\Time : Wed, 28 Jul 2010 - 9:24am
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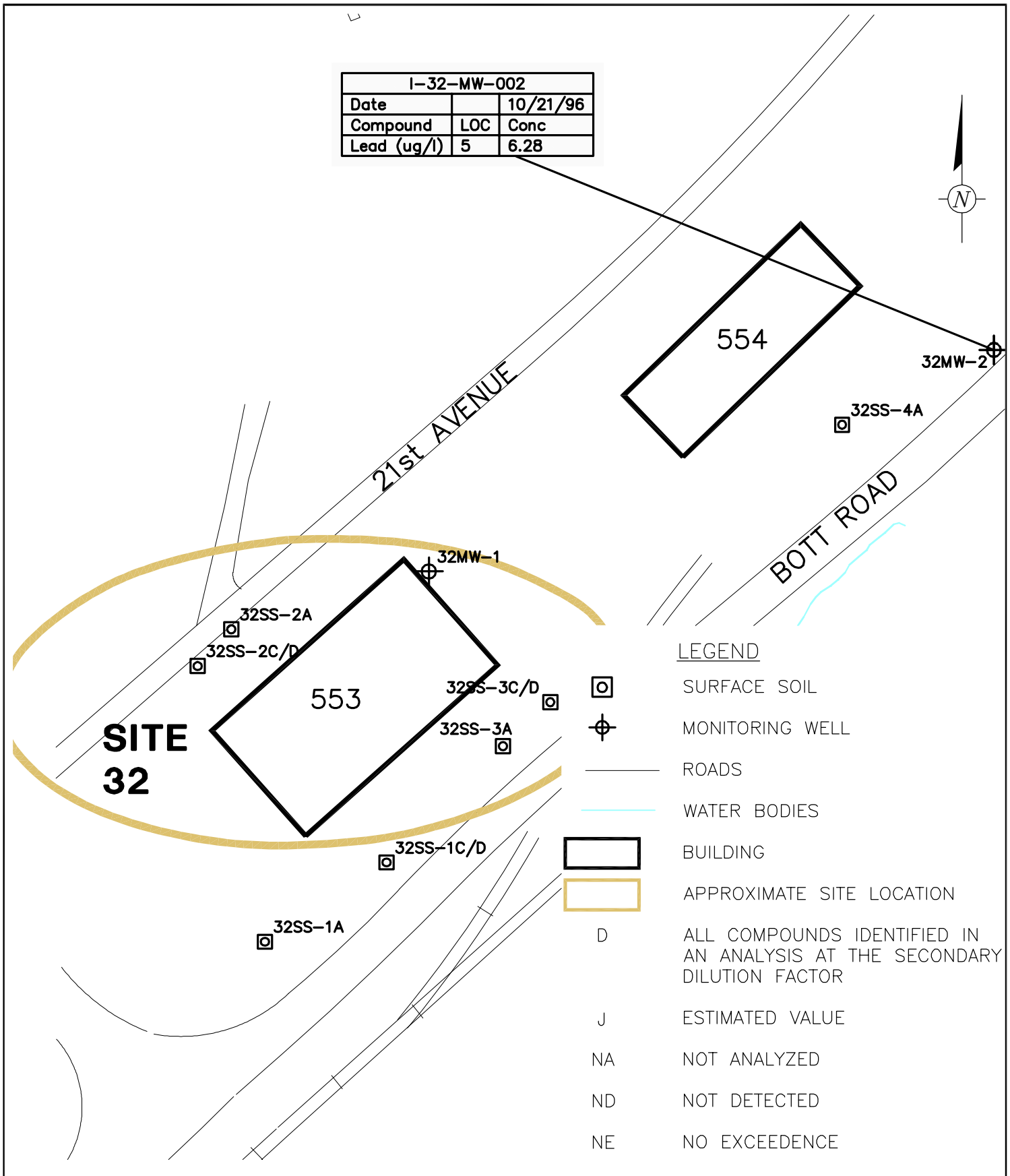

0 50
SCALE IN FEET

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
HISTORICAL DATA EXCEEDING LOCs DATA AT RI SITE 32/PICA 073 STORAGE TANKS (BUILDING 553)		EA001	A. FOX
		PROJECT NUMBER	DRAWING NUMBER
		GP06PICA.P001	5

PICATINNY LAKE

I-33-SD-003		
Depth (ft)		0 – 1
Compound	LOC	Conc
Anthracene (mg/kg)	0.03162	0.06
Copper (mg/kg)	28	38.1
Fluoranthene (mg/kg)	0.06423	0.39
Lead (mg/kg)	38.8	199
Mercury (mg/kg)	0.249	0.37
Phenanthrene (mg/kg)	0.0419	0.11
Pyrene (mg/kg)	0.0530	0.29
Zinc (mg/kg)	171	288

I-33-SD-001		
Depth (ft)		0 – 1
Compound	LOC	Conc
Copper (mg/kg)	28	51
Lead (mg/kg)	38.8	145
Mercury (mg/kg)	0.249	0.44
Pyrene (mg/kg)	0.0530	0.09
Silver (mg/kg)	1.0	1.69

33SW-3
33SD-3
33SW-1
33SD-1

I-33-SB-004					
Depth (ft)		0 – 1	6 – 6.5	6 – 6.5 (dup)	10 – 10.5
Compound	LOC	Conc	Conc	Conc	Conc
Arsenic (mg/kg)	19	56.7	NE	NE	NE

33SD-2
33SW-2

527A

I-33-SS-001				
Depth (ft)		0.5	0 – 1	2 – 3
Compound	LOC	Conc	Conc	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	15.9	ND	ND

33SS-2
33SS-1
33SS-5
33MW-1

I-33-MW-001			
Depth (ft)		0 – 2	5 – 7
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	84	43
Benzo(a)pyrene (mg/kg)	0.2	0.5 J	ND

33SB-1
33SB-4
33SB-2
33SB-3

I-33-MW-001.			
Date		10/23/96	10/23/96 (dup)
Compound	LOC	Conc	Conc
bis(2-Ethylhexyl)phthalate (ug/l)	3	6.3	ND
Methylene chloride (ug/l)	3	6.9	3.9

33SS-4
33SS-3

SITE 33

I-33-SD-002		
Depth (ft)		0 – 1
Compound	LOC	Conc
Acenaphthylene (mg/kg)	0.00587	0.09
Acetone (mg/kg)	0.0087	0.12
Anthracene (mg/kg)	0.03162	0.17
Benz(a)anthracene (mg/kg)	0.0317	0.85
Benzo(a)pyrene (mg/kg)	0.0319	0.94
Benzo(b)fluoranthene (mg/kg)	0.0272	1.1
Benzo(k)fluoranthene (mg/kg)	0.0272	0.3
Chrysene (mg/kg)	0.0571	1.2
Copper (mg/kg)	28	43.3
Fluoranthene (mg/kg)	0.06423	1.6
Fluorene (mg/kg)	0.0212	0.11
Lead (mg/kg)	38.8	136
Mercury (mg/kg)	0.249	5.2
Naphthalene (mg/kg)	0.03275	0.13
Phenanthrene (mg/kg)	0.0419	0.76
Pyrene (mg/kg)	0.0530	1.9

33SS-6

527

I-33-SS-003		
Depth (ft)		0.5
Compound	LOC	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	57

I-33-SB-003				
Depth (ft)		0 – 1	6 – 6.5	10 – 10.5
Compound	LOC	Conc	Conc	Conc
Arsenic (mg/kg)	19	34.3	NE	NE

BABBITT ROAD

I-33-SB-002				
Depth (ft)		0 – 1	6 – 6.5	10 – 10.5
Compound	LOC	Conc	Conc	Conc
Arsenic (mg/kg)	19	72	NE	NE

I-33-SS-006		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	23.5 J

I-33-SB-001				
Depth (ft)		0 – 1	6 – 6.5	10.7 – 11.2
Compound	LOC	Conc	Conc	Conc
Arsenic (mg/kg)	19	32 J /36.2	NE	NE

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- SOIL BORING
- MONITORING WELL
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 20
SCALE IN FEET

ARCADIS
1114 Benfield Blvd. Suite A
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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 33/PICA 074 STORAGE TANKS (BUILDING 527A)

TASK/PHASE NUMBER	DRAWN BY
EA001	A. SANTINI
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	6

Acad Version : R18.0s (LMS Tech)
User Name : AFOX

Date\Time : Wed, 28 Jul 2010 - 9:47am
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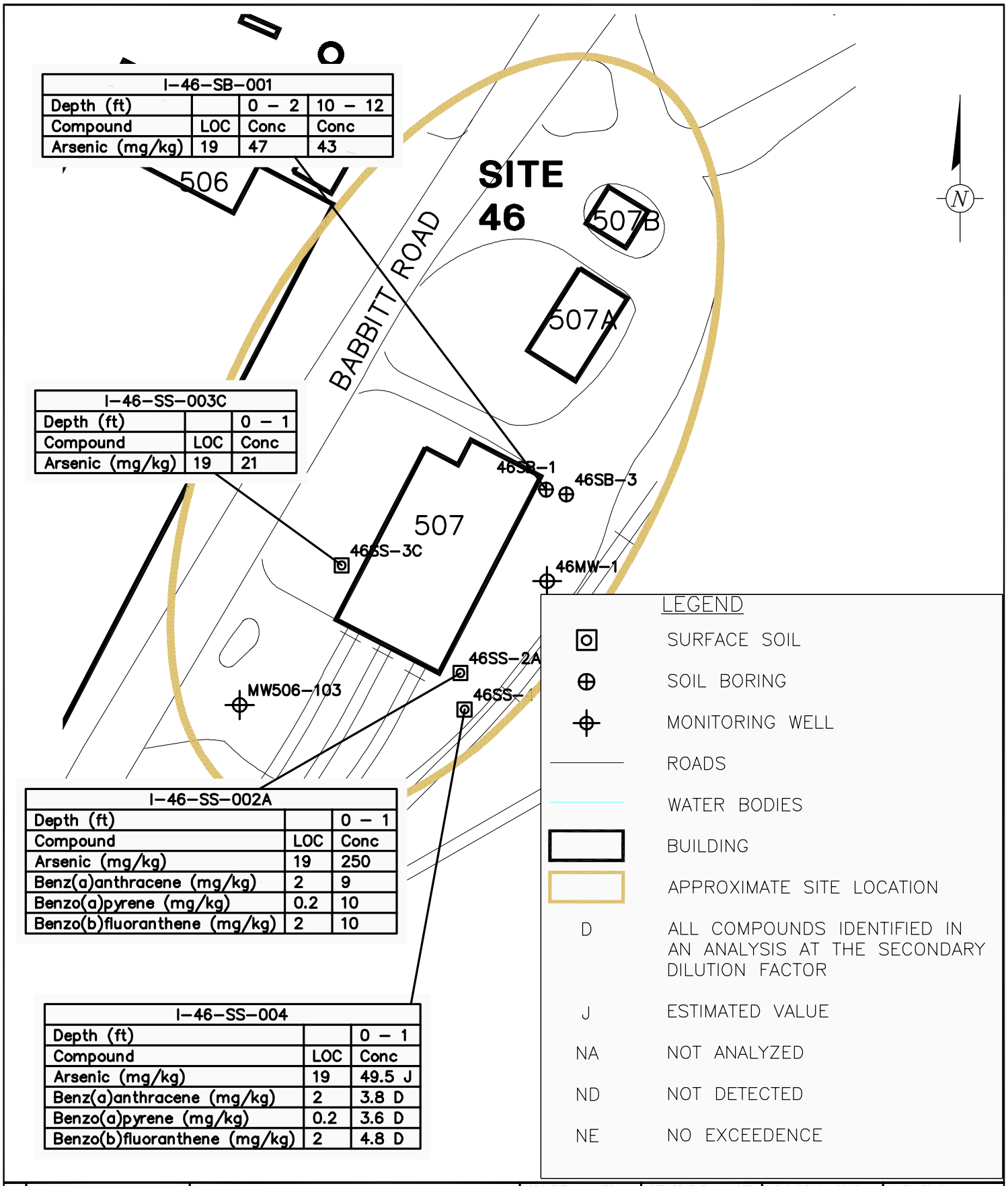

I-46-SB-001			
Depth (ft)		0 - 2	10 - 12
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	47	43

I-46-SS-003C		
Depth (ft)		0 - 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	21

I-46-SS-002A		
Depth (ft)		0 - 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	250
Benz(a)anthracene (mg/kg)	2	9
Benzo(a)pyrene (mg/kg)	0.2	10
Benzo(b)fluoranthene (mg/kg)	2	10

I-46-SS-004		
Depth (ft)		0 - 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	49.5 J
Benz(a)anthracene (mg/kg)	2	3.8 D
Benzo(a)pyrene (mg/kg)	0.2	3.6 D
Benzo(b)fluoranthene (mg/kg)	2	4.8 D

LEGEND

	SURFACE SOIL
	SOIL BORING
	MONITORING WELL
	ROADS
	WATER BODIES
	BUILDING
	APPROXIMATE SITE LOCATION
D	ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
J	ESTIMATED VALUE
NA	NOT ANALYZED
ND	NOT DETECTED
NE	NO EXCEEDENCE

0 50
SCALE IN FEET

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN
SHEET TITLE: HISTORICAL DATA EXCEEDING LOCs AT RI SITE 46/PICA 085 90-DAY WASTE ACCUMULATION (BUILDING 507)		TASK/PHASE NUMBER: EA001	DRAWN BY: A. FOX
		PROJECT NUMBER: GP06PICA.P001	DRAWING NUMBER: 7

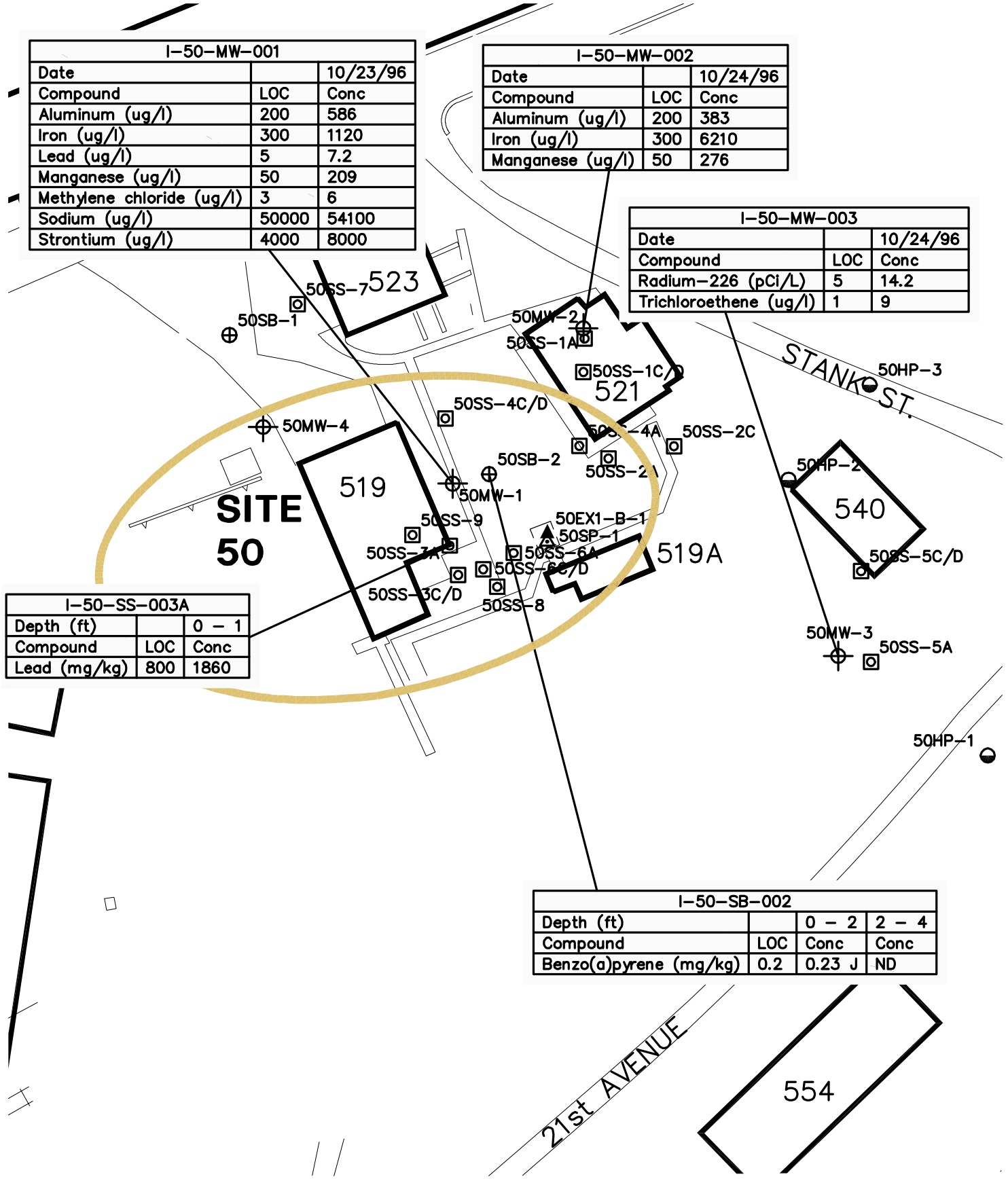
I-50-MW-001		
Date		10/23/96
Compound	LOC	Conc
Aluminum (ug/l)	200	586
Iron (ug/l)	300	1120
Lead (ug/l)	5	7.2
Manganese (ug/l)	50	209
Methylene chloride (ug/l)	3	6
Sodium (ug/l)	50000	54100
Strontium (ug/l)	4000	8000

I-50-MW-002		
Date		10/24/96
Compound	LOC	Conc
Aluminum (ug/l)	200	383
Iron (ug/l)	300	6210
Manganese (ug/l)	50	276

I-50-MW-003		
Date		10/24/96
Compound	LOC	Conc
Radium-226 (pCi/L)	5	14.2
Trichloroethene (ug/l)	1	9

I-50-SS-003A		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1860

I-50-SB-002			
Depth (ft)		0 - 2	2 - 4
Compound	LOC	Conc	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.23 J	ND



N

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- SOIL BORING
- MONITORING WELL
- HYDROPUNCH
- POST-EXCAVATION SOIL SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 50
SCALE IN FEET

PLOT SCALE 11x17

REV. ISSUED DATE DESCRIPTION

KEYPLAN

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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	K. TIPTON
SHEET TITLE: HISTORICAL DATA EXCEEDING LOCs AT RI SITE 50/PICA 022 STILL HOUSE AND HAZARDOUS WASTE STORAGE TANK		TASK/PHASE NUMBER: EA001	DRAWN BY: A. FOX
		PROJECT NUMBER: GP06PICA.P001	DRAWING NUMBER: 8

I-65-SD-003		
Depth (ft)		0 – 1
Compound	LOC	Conc
2-Methylnaphthalene (mg/kg)	0.0202	1
Acenaphthene (mg/kg)	0.00671	2
Anthracene (mg/kg)	0.03162	1
Benz(a)anthracene (mg/kg)	0.0317	3
Benzo(a)pyrene (mg/kg)	0.0319	3
Benzo(b)fluoranthene (mg/kg)	0.0272	5
Benzo(k)fluoranthene (mg/kg)	0.0272	1
Chrysene (mg/kg)	0.0571	4
Copper (mg/kg)	28	71
Dibenzofuran (mg/kg)	0.42	0.8
Fluoranthene (mg/kg)	0.06423	9
Fluorene (mg/kg)	0.0212	1
Lead (mg/kg)	38.8	71.3
Naphthalene (mg/kg)	0.03275	2
Phenanthrene (mg/kg)	0.0419	9
Pyrene (mg/kg)	0.0530	7
Strontium (mg/kg)	16	47 J

I-65-SD-002				
Depth (ft)		0 – 1	1 – 2	1 – 2 (dup)
Compound	LOC	Conc	Conc	Conc
1,2-Dichlorobenzene (mg/kg)	0.12	5.2	NA	NA
1,3-Dichlorobenzene (mg/kg)	0.12	0.78	NA	NA
1,4-Dichlorobenzene (mg/kg)	0.12	1.3	NA	NA
2-Methylnaphthalene (mg/kg)	0.0202	0.36	NA	NA
Acenaphthene (mg/kg)	0.00671	0.1	ND	ND
Acetone (mg/kg)	0.0087	0.13	NA	NA
Anthracene (mg/kg)	0.03162	0.31	0.12 J	0.15 J
Aroclor 1260 (mg/kg)	0.0341	0.14	ND	ND
Arsenic (mg/kg)	16.0	26.4	34.8 J	21.3 J
Benz(a)anthracene (mg/kg)	0.0317	1.1	1.1	1.9
Benzo(a)pyrene (mg/kg)	0.0319	1.3	1	1.9
Benzo(b)fluoranthene (mg/kg)	0.0272	1.8	1.2	2
Benzo(g,h,i)perylene (mg/kg)	0.29	0.54	0.4 J	0.86
Benzo(k)fluoranthene (mg/kg)	0.0272	0.43	0.69	1.6
Chrysene (mg/kg)	0.0571	1.4	1.2	2
Copper (mg/kg)	28	181	228 J	150 J
Dibenz(a,h)anthracene (mg/kg)	0.00622	ND	0.14 J	0.32 J
Fluoranthene (mg/kg)	0.06423	2.1	1.6	2.7
Fluorene (mg/kg)	0.0212	0.16	ND	ND
Indeno(1,2,3-c,d)pyrene (mg/kg)	0.078	0.67	0.41 J	0.92
Lead (mg/kg)	38.8	212	199 J	122 J
Mercury (mg/kg)	0.249	10	11.2 JD	5.3 JD
Naphthalene (mg/kg)	0.03275	0.29	ND	ND
Phenanthrene (mg/kg)	0.0419	1	0.39 J	0.38 J
Pyrene (mg/kg)	0.0530	2	1.4	1.9
Strontium (mg/kg)	16	84 J	NA	NA
Zinc (mg/kg)	171	253	268 J	233 J

I-65-SD-001		
Depth (ft)		0 – 1
Compound	LOC	Conc
2-Methylnaphthalene (mg/kg)	0.0202	0.5
Anthracene (mg/kg)	0.03162	0.3
Chrysene (mg/kg)	0.0571	2
Copper (mg/kg)	28	157
Fluoranthene (mg/kg)	0.06423	2
Fluorene (mg/kg)	0.0212	0.5
Lead (mg/kg)	38.8	189
Mercury (mg/kg)	0.249	2.2
Phenanthrene (mg/kg)	0.0419	2
Pyrene (mg/kg)	0.0530	1
Strontium (mg/kg)	16	27.7 J
Zinc (mg/kg)	171	181

I-65-SW-001		
Date		07/11/96
Compound	LOC	Conc
Mercury (ug/l)	.05	0.38

I-65-SS-023		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	22.4 J

I-65-SS-016		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	55 J
Benz(a)anthracene (mg/kg)	2	4.2 D
Benzo(a)pyrene (mg/kg)	0.2	5.7 D
Benzo(b)fluoranthene (mg/kg)	2	9.8 D
Dibenz(a,h)anthracene (mg/kg)	0.2	1 JD
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	2.7 D

I-65-SS-015			
Depth (ft)		0 – 1	0 – 1 (dup)
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	55.4 J	49.7 J
Benzo(a)pyrene (mg/kg)	0.2	0.48 J	0.29 J

I-65-MW-002			
Depth (ft)		0 – 2	10 – 12
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	79	NE
Benz(a)anthracene (mg/kg)	2	20	ND
Benzo(a)pyrene (mg/kg)	0.2	30	ND
Benzo(b)fluoranthene (mg/kg)	2	50	ND
Dibenz(a,h)anthracene (mg/kg)	0.2	2.6	ND
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	10	ND

I-65-MW-002.		
Date		10/14/96
Compound	LOC	Conc
Manganese (ug/l)	50	164
Sodium (ug/l)	50000	439000

I-65-SS-012		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	54.3 J
Benzo(a)pyrene (mg/kg)	0.2	1.5
Benzo(b)fluoranthene (mg/kg)	2	2.6
Dibenz(a,h)anthracene (mg/kg)	0.2	0.24 J

I-65-SS-013		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	22.5 J

I-65-SS-024		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	24.8 J

I-65-SS-003C		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.4

I-65-SD-004		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	38.8	51.9
Mercury (mg/kg)	0.249	0.31
Phenanthrene (mg/kg)	0.0419	0.7
Pyrene (mg/kg)	0.0530	0.7

I-65-SS-005C		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.57

I-65-MW-003		
Date		10/24/96
Compound	LOC	Conc
Manganese (ug/l)	50	59.7

I-65-SS-022		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	28 J

I-65-SS-004A		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	940

I-65-SB-004			
Depth (ft)		3 – 3.5	6.2 – 6.7
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	179 J	75.6 J

I-MW506-103			
Date		10/11/96	01/17/03
Compound	LOC	Conc	Conc
Aluminum (ug/l)	200	290	NA
Benzene (ug/l)	1	1.8	ND
Iron (ug/l)	300	13200	NA
Lead (ug/l)	5	5.18	NA
Manganese (ug/l)	50	832	NA
Nitroglycerin (ug/l)	3.7	14	NA

I-65-SS-017		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	29.6 J

I-65-MW-005		
Date		10/28/96
Compound	LOC	Conc
Manganese (ug/l)	50	106

I-65-SB-002		
Depth (ft)		0 – 2
Compound	LOC	Conc
Arsenic (mg/kg)	19	80

I-65-SS-018		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	20 J

I-65-SS-021		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	33.3 J

I-65-MW-001		
Depth (ft)		0 – 2
Compound	LOC	Conc
Arsenic (mg/kg)	19	110

I-65-SS-020		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	19.1 J

I-65-SB-001		
Depth (ft)		0 – 2
Compound	LOC	Conc
Arsenic (mg/kg)	19	23

I-65-MW-004		
Date		10/28/96
Compound	LOC	Conc
Sodium (ug/l)	50000	151000

I-MW506-104		
Date		10/11/96
Compound	LOC	Conc
Aluminum (ug/l)	200	11100
Iron (ug/l)	300	44200
Lead (ug/l)	5	36.4
Manganese (ug/l)	50	396

PICATINNY LAKE

SITE 63/65

506

506A

506N

501

507

507A

507B

BABBITT ROAD

WATER ROAD

WHITMORE AVENUE

I-65-SD-001
I-65-SW-001
I-65-SW-002
I-65-SD-002
65SS-23
65SS-16
65SS-15
65MW-2
65SS-12
65SS-13
65SS-4A
65SS-14
65SS-3C
65SS-10C
65MW-4A
I-65-SW-003
I-65-SD-003
I-65-SW-004
I-65-SD-004
65SS-5C
65MW-3
65MW-4
65SB-1
65SS-11A
65MW-1A
65SS-19
65SS-20
65MW-1
65SS-21
65SS-22
65SS-1A
65MW-6R
65MW-6
MW506-103
MW506-104R
MW506-104
65SS-9A
65SS-8A
65SS-2C
65SS-7A
65SS-17
65MW-5
65SB-2
65SS-18
65SS-6C
65SS-2A

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- MONITORING WELL
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

N

Date\Time : Wed, 29 Jul 2010 – 2:43pm
Path\Name : G:\ENVICAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 63-65\DWG\SITE-63-65.dwg – Layout Tab : LAYOUT1

Acad Version : R18.0s (LMS Tech)
User Name : AFOX

0 50
SCALE IN FEET

PLOT SIZE: 22x34

REV. ISSUED DATE DESCRIPTION

KEYPLAN

SEAL

ARCADIS
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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 63/65 /PICA 047 STEAM AND POWER PLANT (BUILDING 506)

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX

PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	9

Acad Version : R18.0s (LMS Tech)
User Name : AFOX

Date\Time : Wed, 28 Jul 2010 - 10:06am
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 97\DWG\SITE-97.dwg - Layout Tab : DWG #

PICATINNY LAKE

I-97-SB-003				
Depth (ft)		0 - 1	5 - 7	10 - 12
Compound	LOC	Conc	Conc	Conc
Benz(a)anthracene (mg/kg)	2	9.9 D	NE	NE
Benzo(a)pyrene (mg/kg)	0.2	12 D	NE	1.4
Benzo(b)fluoranthene (mg/kg)	2	15 D	NE	NE
Dibenz(a,h)anthracene (mg/kg)	0.2	2.1 JD	ND	0.22 J
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	7.7 D	NE	NE

I-97-SS-001		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.28 J

SITE 97

97SS-1
97SB-1
97SB-2
97SB-3
97SS-2
501

I-97-SB-001			
Depth (ft)		0 - 2	15 - 17
Compound	LOC	Conc	Conc
Benz(a)anthracene (mg/kg)	2	30	NE
Benzo(a)pyrene (mg/kg)	0.2	30	0.93
Benzo(b)fluoranthene (mg/kg)	2	30	NE
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	20	NE

I-97-SS-002		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	10 D
Benzo(a)pyrene (mg/kg)	0.2	12 D
Benzo(b)fluoranthene (mg/kg)	2	15 D
Dibenz(a,h)anthracene (mg/kg)	0.2	2.3 JD
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	8 D

LEGEND

⊡	SURFACE SOIL
⊕	SOIL BORING
———	ROADS
———	WATER BODIES
▭	BUILDING
▭	APPROXIMATE SITE LOCATION
D	ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
J	ESTIMATED VALUE
NA	NOT ANALYZED
ND	NOT DETECTED
NE	NO EXCEEDENCE

0 40
SCALE IN FEET

ARCADIS
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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN
SHEET TITLE: HISTORICAL DATA EXCEEDING LOCs AT RI SITE 97/PICA 140 POST ENGINEERING MAINTENANCE SHOP		TASK/PHASE NUMBER: EA001	DRAWN BY: A. FOX
		PROJECT NUMBER: GP06PICA.P001	DRAWING NUMBER: 10

I-105-SD-001		
Depth (ft)		0 - 1
Compound	LOC	Conc
Copper (mg/kg)	28	42.8
Lead (mg/kg)	38.8	268
Mercury (mg/kg)	0.249	0.26
Silver (mg/kg)	1.0	2.2
Strontium (mg/kg)	16	35.9
Zinc (mg/kg)	171	239

I-511-EX1-B1-1		
Depth (ft)		4 - 4
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.27 J

I-105-SS-002A		
Depth (ft)		0 - 1
Compound	LOC	Conc
Aroclor 1260 (mg/kg)	1	1.2 J
Benz(a)anthracene (mg/kg)	2	4
Benzo(a)pyrene (mg/kg)	0.2	5
Benzo(b)fluoranthene (mg/kg)	2	4

I-105-SS-009		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.27 J

I-105-SS-011		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	3.9 D
Benzo(a)pyrene (mg/kg)	0.2	3.9 D
Benzo(b)fluoranthene (mg/kg)	2	4.7 D

I-105-SS-001C		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	4680

105SD-1
105SW-1
S11-EX1-SWN-1
S11EX1-BDX-1
S11EX1-B1-1
S11EX1-B2-1
S11-EX1-SWE-1
S11EX1-SWS-1
S11EX2-BW-1
S11EX2-BN-1
S11EX2-BS-1
105SB-1
105SS-3C
105SS-9
105SS-2A
105SS-11
105SS-12
105SS-6
105SS-10
105SS-5
105SS-8
105SS-7
105SS-4
SITE 105
510
511
BOTT ROAD

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- SOIL BORING
- POST-EXCAVATION SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 30
SCALE IN FEET

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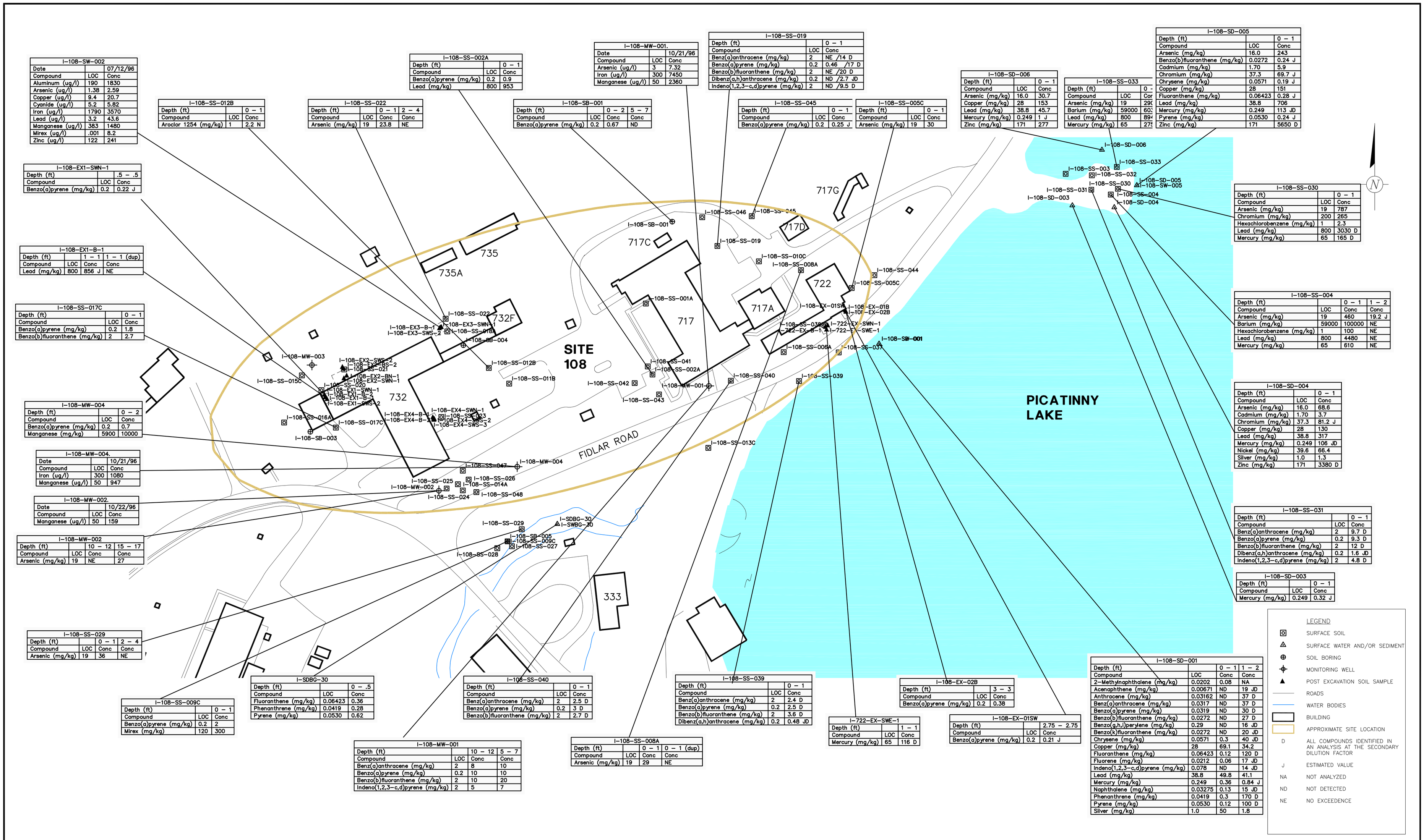
PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 105/PICA 142 PROPELLANT PLANT

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	11



I-108-SW-002

Date		07/12/96
Compound	LOC	Conc
Aluminum (ug/l)	190	1830
Arsenic (ug/l)	1.38	2.59
Copper (ug/l)	9.4	20.7
Cyanide (ug/l)	5.2	5.82
Iron (ug/l)	1790	3570
Lead (ug/l)	3.2	43.6
Manganese (ug/l)	383	1480
Mirex (ug/l)	.001	8.2
Zinc (ug/l)	122	241

I-108-SS-012B

Depth (ft)		0 – 1
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	2.2 N

I-108-SS-022

Depth (ft)		0 – 1	2 – 4
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	23.8	NE

I-108-SS-002A

Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.9
Lead (mg/kg)	800	953

I-108-MW-001.

Date		10/21/96
Compound	LOC	Conc
Arsenic (ug/l)	3	7.32
Iron (ug/l)	300	7450
Manganese (ug/l)	50	2360

I-108-SS-019

Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	NE /14 D
Benzo(a)pyrene (mg/kg)	0.2	0.46 /17 D
Benzo(b)fluoranthene (mg/kg)	2	NE /20 D
Dibenz(a,h)anthracene (mg/kg)	0.2	ND /2.7 JD
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	ND /9.5 D

I-108-SB-001

Depth (ft)		0 – 2	5 – 7
Compound	LOC	Conc	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.67	ND

I-108-SS-045

Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.25 J

I-108-SS-005C

Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	30

I-108-SD-006

Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	16.0	30.7
Copper (mg/kg)	28	153
Lead (mg/kg)	38.8	45.7
Mercury (mg/kg)	0.249	1 J
Zinc (mg/kg)	171	277

I-108-SS-033

Depth (ft)		0 –
Compound	LOC	Cor
Arsenic (mg/kg)	19	29(
Barium (mg/kg)	59000	60(
Lead (mg/kg)	800	89(
Mercury (mg/kg)	65	27(

I-108-SD-005

Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	16.0	243
Benzo(b)fluoranthene (mg/kg)	0.0272	0.24 J
Cadmium (mg/kg)	1.70	5.9
Chromium (mg/kg)	37.3	69.7 J
Chrysene (mg/kg)	0.0571	0.19 J
Copper (mg/kg)	28	151
Fluoranthene (mg/kg)	0.06423	0.28 J
Lead (mg/kg)	38.8	706
Mercury (mg/kg)	0.249	113 JD
Pyrene (mg/kg)	0.0530	0.24 J
Zinc (mg/kg)	171	5650 D

I-108-EX1-SWN-1

Depth (ft)		.5 – .5
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.22 J

I-108-EX1-B-1

Depth (ft)		1 – 1	1 – 1 (dup)
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	856 J	NE

I-108-SS-017C

Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	1.8
Benzo(b)fluoranthene (mg/kg)	2	2.7

I-108-MW-004

Depth (ft)		0 – 2
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.7
Manganese (mg/kg)	5900	10000

I-108-MW-004.

Date		10/21/96
Compound	LOC	Conc
Iron (ug/l)	300	1080
Manganese (ug/l)	50	947

I-108-MW-002.

Date		10/22/96
Compound	LOC	Conc
Manganese (ug/l)	50	159

I-108-MW-002

Depth (ft)		10 – 12	15 – 17
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	NE	27

I-108-SS-029

Depth (ft)		0 – 1	2 – 4
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	36	NE

I-SDBG-30

Depth (ft)		0 – .5
Compound	LOC	Conc
Fluoranthene (mg/kg)	0.06423	0.36
Phenanthrene (mg/kg)	0.0419	0.28
Pyrene (mg/kg)	0.0530	0.62

I-108-SS-009C

Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	2
Mirex (mg/kg)	120	300

I-108-SS-040

Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	2.5 D
Benzo(a)pyrene (mg/kg)	0.2	3 D
Benzo(b)fluoranthene (mg/kg)	2	2.7 D

I-108-MW-001

Depth (ft)		10 – 12	5 – 7
Compound	LOC	Conc	Conc
Benz(a)anthracene (mg/kg)	2	8	10
Benzo(a)pyrene (mg/kg)	0.2	10	10
Benzo(b)fluoranthene (mg/kg)	2	10	20
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	5	7

I-108-SS-008A

Depth (ft)		0 – 1	0 – 1 (dup)
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	29	NE

I-108-SS-039

Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	2.4 D
Benzo(a)pyrene (mg/kg)	0.2	2.5 D
Benzo(b)fluoranthene (mg/kg)	2	3.6 D
Dibenz(a,h)anthracene (mg/kg)	0.2	0.48 JD

I-722-EX-SWE-1

Depth (ft)		1 – 1
Compound	LOC	Conc
Mercury (mg/kg)	65	116 D

I-108-EX-02B

Depth (ft)		3 – 3
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.38

I-108-EX-01SW

Depth (ft)		2.75 – 2.75
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.21 J

I-108-SD-001

Depth (ft)		0 – 1	1 – 2
Compound	LOC	Conc	Conc
2-Methylnaphthalene (mg/kg)	0.0202	0.08	NA
Acenaphthene (mg/kg)	0.00671	ND	19 JD
Anthracene (mg/kg)	0.03162	ND	37 D
Benz(a)anthracene (mg/kg)	0.0317	ND	37 D
Benzo(a)pyrene (mg/kg)	0.0319	ND	30 D
Benzo(b)fluoranthene (mg/kg)	0.0272	ND	27 D
Benzo(g,h,i)perylene (mg/kg)	0.29	ND	16 JD
Benzo(k)fluoranthene (mg/kg)	0.0272	ND	20 JD
Chrysene (mg/kg)	0.0571	0.3	40 JD
Copper (mg/kg)	28	69.1	34.2
Fluoranthene (mg/kg)	0.06423	0.12	120 D
Fluorene (mg/kg)	0.0212	0.06	17 JD
Indeno(1,2,3-c,d)pyrene (mg/kg)	0.078	ND	14 JD
Lead (mg/kg)	38.8	49.8	41.1
Mercury (mg/kg)	0.249	0.36	0.84 J
Naphthalene (mg/kg)	0.03275	0.13	15 JD
Phenanthrene (mg/kg)	0.0419	0.3	170 D
Pyrene (mg/kg)	0.0530	0.12	100 D
Silver (mg/kg)	1.0	50	1.8

I-108-SS-030

Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	787
Chromium (mg/kg)	200	265
Hexachlorobenzene (mg/kg)	1	2.3
Lead (mg/kg)	800	3030 D
Mercury (mg/kg)	65	165 D

I-108-SS-004

Depth (ft)		0 – 1	1 – 2
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	460	19.2 J
Barium (mg/kg)	59000	100000	NE
Hexachlorobenzene (mg/kg)	1	100	NE
Lead (mg/kg)	800	4480	NE
Mercury (mg/kg)	65	610	NE

I-108-SD-004

Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	16.0	68.6
Cadmium (mg/kg)	1.70	3.7
Chromium (mg/kg)	37.3	81.2 J
Copper (mg/kg)	28	130
Lead (mg/kg)	38.8	317
Mercury (mg/kg)	0.249	106 JD
Nickel (mg/kg)	39.6	66.4
Silver (mg/kg)	1.0	1.3
Zinc (mg/kg)	171	3380 D

I-108-SS-031

Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	9.7 D
Benzo(a)pyrene (mg/kg)	0.2	9.3 D
Benzo(b)fluoranthene (mg/kg)	2	12 D
Dibenz(a,h)anthracene (mg/kg)	0.2	1.6 JD
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	4.8 D

I-108-SD-003

Depth (ft)		0 – 1
Compound	LOC	Conc
Mercury (mg/kg)	0.249	0.32 J

Date\Time : Fri, 30 Jul 2010 – 11:19am
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Acad Version : R18.0s (LMS Tech)
User Name : AFOX

0 60 SCALE IN FEET

PLOT SIZE: 22x34

REV. ISSUED DATE DESCRIPTION

KEYPLAN

SEAL

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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 108/PICA 143 ORDNANCE FACILITIES AND FLARE TESTING LABORATORY

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	12

Acad Version : R18.0s (LMS Tech)
User Name : AFOX

Date\Time : Wed, 28 Jul 2010 - 10:44am
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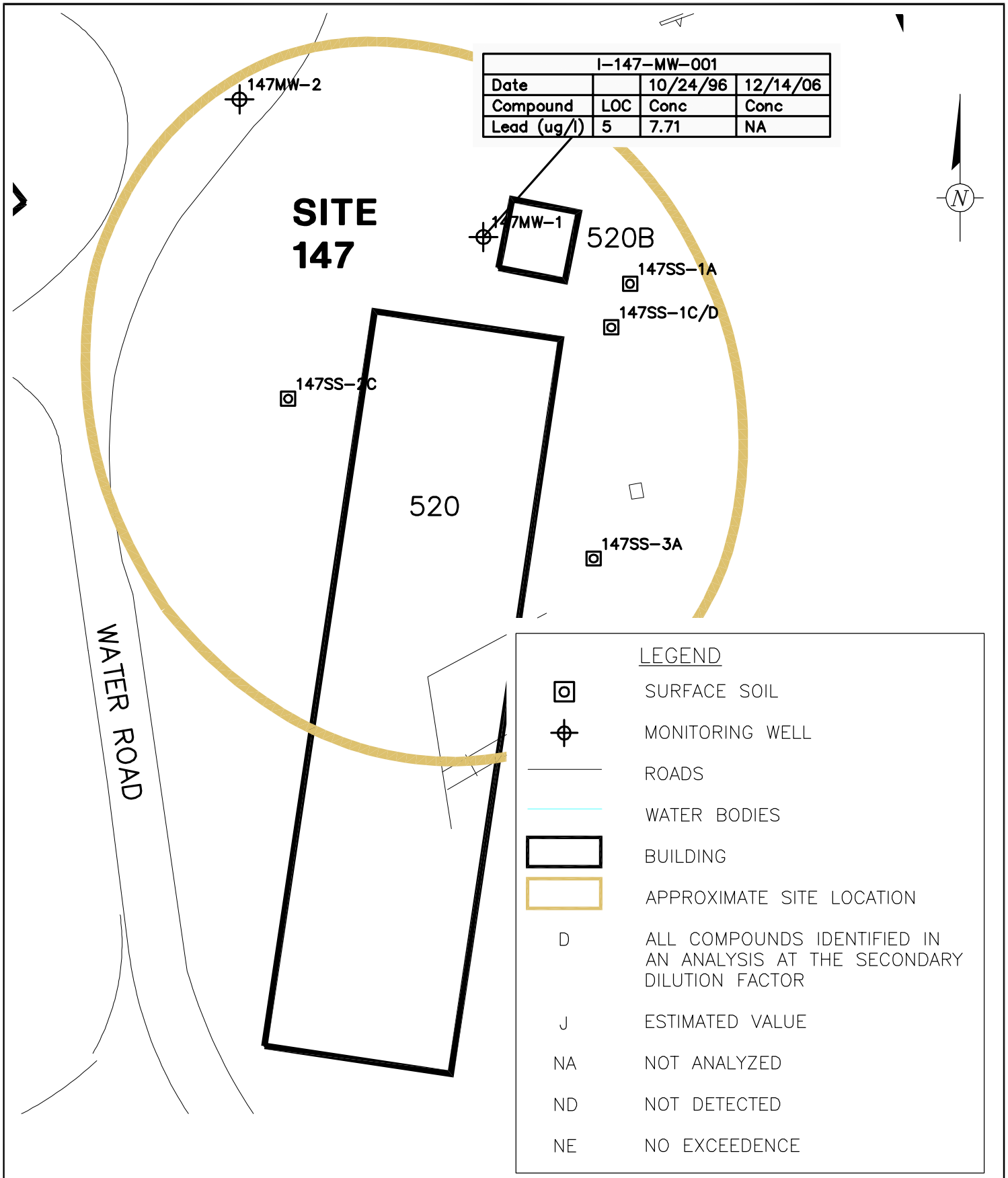

0 40
SCALE IN FEET

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 147/PICA 064 POACH HOUSE

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	13

I-148-SS-005C		
Depth (ft)		0 – 1
Compound	LOC	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	5.59
Arsenic (mg/kg)	19	71

I-148-SS-010A		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	126 J

I-148-SS-019		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	60.2 J

I-148-SD-003		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(b)fluoranthene (mg/kg)	0.0272	0.03 J
Lead (mg/kg)	38.8	67

I-148-SD-001		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	0.0317	0.04 J
Benzo(b)fluoranthene (mg/kg)	0.0272	0.04 J
Pyrene (mg/kg)	0.0530	0.06 J

I-148-SD-002		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	38.8	58

I-148-SS-013		
Depth (ft)		2 – 3
Compound	LOC	Conc
Arsenic (mg/kg)	19	64.2 J

I-148-MW-001.		
Date		10/24/96
Compound	LOC	Conc
Aluminum (ug/l)	200	1450
Iron (ug/l)	300	615
Manganese (ug/l)	50	83.3

I-148-MW-001			
Depth (ft)		5 – 7	10 – 12
Compound	LOC	Conc	Conc
Arsenic (mg/kg)	19	47	NE
Benzo(a)pyrene (mg/kg)	0.2	1	ND

I-148-SS-017		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	35.6 J

I-148-SS-011		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	250 J

I-148-SS-022		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.55 JD

I-148-MW-003			
Depth (ft)		0 – 2	5 – 7
Compound	LOC	Conc	Conc
Benzo(a)pyrene (mg/kg)	0.2	1	0.4

I-148-SS-004A		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	19.6

I-148-MW-002		
Date		10/24/96
Compound	LOC	Conc
Iron (ug/l)	300	4020
Manganese (ug/l)	50	624

I-148-SS-012		
Depth (ft)		2 – 3
Compound	LOC	Conc
Arsenic (mg/kg)	19	42.8 JD

I-148-SS-009		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.44

I-148-SB-001			
Depth (ft)		0 – 2	5 – 7
Compound	LOC	Conc	Conc
Benz(a)anthracene (mg/kg)	2	30	NE
Benzo(a)pyrene (mg/kg)	0.2	40	2
Benzo(b)fluoranthene (mg/kg)	2	30	NE
Dibenz(a,h)anthracene (mg/kg)	0.2	5	ND
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	20	NE

I-148-SS-002C		
Depth (ft)		0 – 1
Compound	LOC	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	4.23
Manganese (mg/kg)	5900	60000

I-148-SS-006A		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	42
Benzo(a)pyrene (mg/kg)	0.2	0.55

PICATINNY LAKE

SITE 148

I-148-SS-017
I-148-SS-011
I-148-SS-022
I-148-MW-001
I-148-MW-003
I-148-SS-006A
I-148-SS-012
I-148-TP-001
I-148-SS-019
I-148-SS-010A
I-148-SS-005C
I-148-SS-013
I-148-SD-003
I-148-SS-021
I-148-SS-003A
I-148-SD-001
I-148-SS-020
I-148-SS-004A
I-148-MW-002
I-148-SS-014
I-148-SS-015
I-148-SS-002C
I-148-SS-016
I-148-SD-002
I-148-SS-001A
I-148-SS-007
I-148-SS-008
I-148-SB-001
I-148-SS-009

534
527A
527
525
523
521
519

BABBITT ROAD
STANK RD.

N

LEGEND

- SURFACE SOIL
- MONITORING WELL
- SURFACE WATER AND/OR SEDIMENT
- SOIL BORING
- TEST PIT
- ROADS
- WATER BODIES
- BUILDING
- FORMER BUILDING
- APPROXIMATE SITE LOCATION

D ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR

J ESTIMATED VALUE

NA NOT ANALYZED

ND NOT DETECTED

NE NO EXCEEDENCE

Date\Time : Fri, 30 Jul 2010 - 12:02pm
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 148\DWG\SITE-148.dwg - Layout Tab : LAYOUT1
Acad Version : R18.0s (LMS Tech)
User Name : AFOX

0 40
SCALE IN FEET

PLOT SIZE: 17x22

REV. ISSUED DATE DESCRIPTION

SEAL

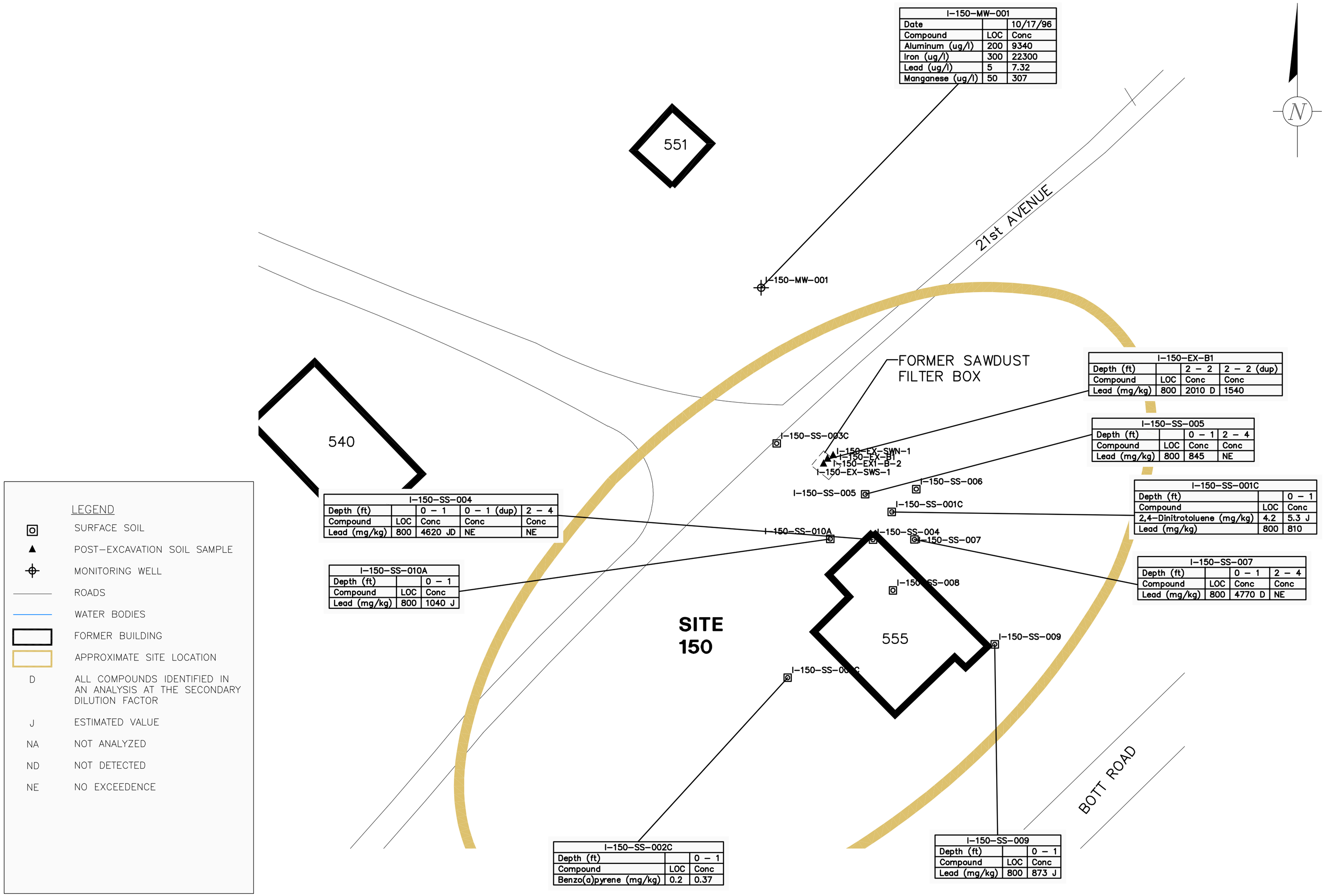
ARCADIS
1114 Benfield Blvd.
Suite A
Millersville, MD 21108
Tel: 410-987-4392 Fax: 410-987-0032
www.arcadis-us.com

PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER: T. LLEWELLYN
DEPARTMENT MANAGER: M. MOHIUDDIN
LEAD DESIGN PROF.: K. PANHORST
CHECKED BY: T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA
EXCEEDING LOCs AT
RI SITE 148/PICA 148
NITROCELLULOSE PRODUCTION FACILITY

TASK/PHASE NUMBER: EA002
DRAWN BY: A. FOX
PROJECT NUMBER: GP06PICA.P001
DRAWING NUMBER: 14



LEGEND

- SURFACE SOIL
- POST-EXCAVATION SOIL SAMPLE
- MONITORING WELL
- ROADS
- WATER BODIES
- FORMER BUILDING
- APPROXIMATE SITE LOCATION

D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR

J — ESTIMATED VALUE

NA — NOT ANALYZED

ND — NOT DETECTED

NE — NO EXCEEDENCE

Date\Time : Fri, 30 Jul 2010 - 11:36am
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\site 150\DWG\SITE-150.dwg - Layout Tab : LAYOUT1
Acad Version : R18.0s (LMS Tech)
User Name : AFOX

0 20
SCALE IN FEET

PLOT SIZE: 17x22

REV.	ISSUED DATE	DESCRIPTION

SEAL

ARCADIS
1114 Benfield Blvd.
Suite A
Millersville, MD 21108
Tel: 410-987-4392 Fax: 410-987-0032
www.arcadis-us.com

PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 150/PICA 150 PROPELLANT PLANT

TASK/PHASE NUMBER	DRAWN BY
EA002	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	15

Acad Version : R18.0s (LMS Tech)
User Name : AFOX

Date\Time : Fri, 30 Jul 2010 - 11:38am
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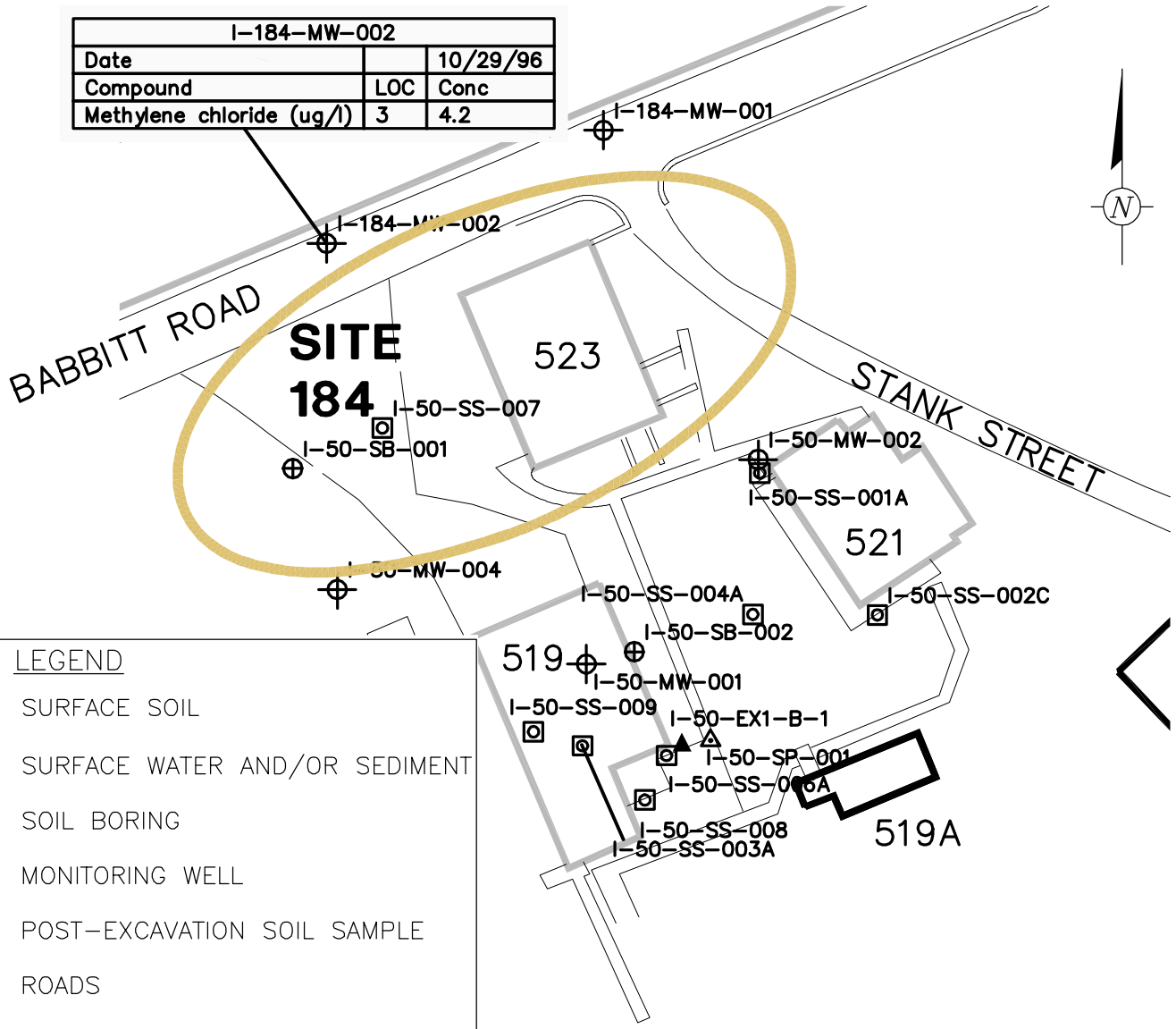

LEGEND

▣	SURFACE SOIL
△	SURFACE WATER AND/OR SEDIMENT
⊕	SOIL BORING
⌖	MONITORING WELL
▲	POST-EXCAVATION SOIL SAMPLE
———	ROADS
———	WATER BODIES
▭	FORMER BUILDING
▭	APPROXIMATE SITE LOCATION
D	ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
J	ESTIMATED VALUE
NA	NOT ANALYZED
ND	NOT DETECTED
NE	NO EXCEEDENCE

0 50
SCALE IN FEET

ARCADIS
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PROJECT MANAGER T. LLEWELLYN	DEPARTMENT MANAGER M. MOHIUDDIN	LEAD DESIGN PROF. K. PANHORST	CHECKED BY T. LLEWELLYN
SHEET TITLE HISTORICAL DATA EXCEEDING LOCs AT RI SITE 184/PICA 056 REFRIGERATION AND INERT GAS PLANT		TASK/PHASE NUMBER EA001	DRAWN BY A. FOX
		PROJECT NUMBER GP06PICA.P001	DRAWING NUMBER 16

K-199-MW-003		
Date		05/23/00
Compound	LOC	Conc
Aluminum (ug/l)	200	24300
Arsenic (ug/l)	3	4.8
Chromium (ug/l)	70	95
Iron (ug/l)	300	37800
Manganese (ug/l)	50	470
Thallium (ug/l)	.5	1.3 J

K-199-SB-M9				
Depth (ft)		2 – 3	5 – 7	10 – 12
Compound	LOC	Conc	Conc	Conc
Benz(a)anthracene (mg/kg)	2	4 D	NE	NE
Benzo(a)pyrene (mg/kg)	0.2	3.7 D	0.98	NE
Benzo(b)fluoranthene (mg/kg)	2	4.4 D	NE	NE
Dibenz(a,h)anthracene (mg/kg)	0.2	0.52 JD	NE	ND
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	2.6 D	NE	NE
Lead (mg/kg)	800	1200 JD	NE	NE

K-199-GR-M9		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	23.8 D
Benz(a)anthracene (mg/kg)	2	25 D
Benzo(a)pyrene (mg/kg)	0.2	24 D
Benzo(b)fluoranthene (mg/kg)	2	30 D
Dibenz(a,h)anthracene (mg/kg)	0.2	2.5 JD
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	14 D
Lead (mg/kg)	800	7400 JD

K-199-GR-J8		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	5040 JD

K-199-GR-L8		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	2620 JD

K-199-MW-002		
Date		05/23/00
Compound	LOC	Conc
Aluminum (ug/l)	200	19200
Arsenic (ug/l)	3	3.8
Iron (ug/l)	300	24400
Manganese (ug/l)	50	280
Thallium (ug/l)	.5	1.1 J

K-199-GR-N10		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	54 D
Benzo(a)pyrene (mg/kg)	0.2	42 D
Benzo(b)fluoranthene (mg/kg)	2	52 D
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	24 JD
Lead (mg/kg)	800	1210 J

K-199-GR-I7		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1370 J

K-199-MW-001		
Date		05/24/00
Compound	LOC	Conc
Aluminum (ug/l)	200	450
Iron (ug/l)	300	620

K-199-GR-I8		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	5110 JD

K-199-GR-M10		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	2.2
Benzo(a)pyrene (mg/kg)	0.2	2.3
Benzo(b)fluoranthene (mg/kg)	2	3
Dibenz(a,h)anthracene (mg/kg)	0.2	0.36 J
Lead (mg/kg)	800	2230 JD

K-199-GR-I9		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1050 JD

K-199-SB-I9					
Depth (ft)		2 – 3	5 – 7	10 – 12	15 – 17
Compound	LOC	Conc	Conc	Conc	Conc
Lead (mg/kg)	800	4620 JD	NE	NE	NE

K-199-SB-L10					
Depth (ft)		2 – 3	5 – 7	10 – 12	15 – 17
Compound	LOC	Conc	Conc	Conc	Conc
Arsenic (mg/kg)	19	19.9	NA	NA	NA
Lead (mg/kg)	800	4700 JD	NE	NE	NE

K-199-GR-G10		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1190 J

K-199-SB-G10				
Depth (ft)		2 – 3	5 – 7	8 – 10
Compound	LOC	Conc	Conc	Conc
Lead (mg/kg)	800	2840 JD	NE	NE

K-199-GR-K8		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	2330 JD

K-199-GR-I10		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1030 J

K-199-GR-L10		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	50.4
Benzo(a)pyrene (mg/kg)	0.2	0.28 J
Lead (mg/kg)	800	16000 JD

SITE 199

K-199-MW-003
K-199-MW-002
K-199-TP-001
K-199-TP-002
K-199-TP-003
K-199-MW-004
K-199-MW-001
K-199-GR-J3
K-199-GR-J4
K-199-GR-I3
K-199-GR-I4
K-199-GR-J6
K-199-GR-I5
K-199-GR-I6
K-199-GR-H5
K-199-GR-H6
K-199-GR-I7
K-199-GR-J8
K-199-SB-I8
K-199-GR-I8
K-199-GR-J9
K-199-GR-J10
K-199-SB-I9
K-199-GR-I9
K-199-GR-H8
K-199-GR-H9
K-199-GR-G8
K-199-SB-I10
K-199-GR-I10
K-199-GR-I11
K-199-GR-H10
K-199-GR-I12
K-199-GR-G9
K-199-GR-F8
K-199-GR-H11
K-199-GR-G10
K-199-SB-G10
K-199-GR-F9
K-199-GR-H12
K-199-GR-G11
K-199-GR-F10
K-199-GR-G12
K-199-GR-F11
K-199-GR-F12
K-199-GR-K6
K-199-GR-K7
K-199-GR-J7
K-199-GR-K8
K-199-GR-K9
K-199-GR-J8
K-199-GR-K10
K-199-GR-J9
K-199-GR-K11
K-199-GR-J10
K-199-GR-K12
K-199-GR-J11
K-199-GR-K13
K-199-GR-L7
K-199-SB-M9
K-199-GR-M9
K-199-GR-L8
K-199-GR-M8
K-199-GR-L9
K-199-GR-M10
K-199-GR-L10
K-199-SB-L10
K-199-GR-M11
K-199-GR-L11
K-199-GR-M12
K-199-GR-L12
K-199-GR-M13
K-199-GR-L13
K-199-GR-N9
K-199-GR-O10
K-199-GR-N10
K-199-GR-O11
K-199-GR-N11
3058
3054
3349
BELT ROAD
N

LEGEND

- SURFACE SOIL
- SOIL BORING
- MONITORING WELL
- TEST PIT
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

Acad Version : R18.0s (LMS Tech)
User Name : AFOX
Date\Time : Wed, 28 Jul 2010 - 1:15pm
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 199\DWG\SITE-199.dwg - Layout Tab : LAYOUT1

0 50
SCALE IN FEET

PLOT SIZE: 17x22

REV. ISSUED DATE DESCRIPTION

SEAL

ARCADIS
1114 Benfield Blvd.
Suite A
Millersville, MD 21108
Tel: 410-987-4392 Fax: 410-987-0032
www.arcadis-us.com

PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER: T. LLEWELLYN
DEPARTMENT MANAGER: M. MOHIUDDIN
LEAD DESIGN PROF.: K. PANHORST
CHECKED BY: T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA
EXCEEDING LOCs AT
RI SITE 199/PICA 199
ABANDONED PISTOL RANGE

TASK/PHASE NUMBER: EA001
DRAWN BY: A. FOX
PROJECT NUMBER: GP06PICA.P001
DRAWING NUMBER: 17

L-DM17-2					
Date		03/09/99	11/20/03	09/29/08	09/29/08 (dup)
Compound	LOC	Conc	Conc	Conc	Conc
bis(2-Ethylhexyl)phthalate (ug/l)	3	6.09 J	NA	NA	NA
Manganese (ug/l)	50	110	NA	NA	NA
Trichloroethene (ug/l)	1	8.39	9.2	2.95	3.08

L-DM17-3							
Date		03/09/99	02/18/02	11/11/03	02/07/08	09/29/08	10/01/08
Compound	LOC	Conc	Conc	Conc	Conc	Conc	Conc
RDX (ug/l)	2	14	3.6	11 D	5.02	NA	NE
Trichloroethene (ug/l)	1	9.89	9.9	12	NA	2.15	NA

L-17-SB-021			
Depth (ft)		0 - 1	2 - 3
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	3170	NE

L-17-SS-034		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1520

L-17-MW-002				
Date		03/05/99	11/18/03	09/29/08
Compound	LOC	Conc	Conc	Conc
Trichloroethene (ug/l)	1	9	5	2.66

L-17-SS-028		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1300

L-DM17-1				
Date		03/23/99	11/19/03	09/29/08
Compound	LOC	Conc	Conc	Conc
Aluminum (ug/l)	200	2400	NA	NA
Iron (ug/l)	300	3800	NA	NA
Lead (ug/l)	5	46	NA	NA
Manganese (ug/l)	50	260	NA	NA
Trichloroethene (ug/l)	1	8	1.9	NE

L-17-SS-031		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	909

L-17-SS-032		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1230

L-17-SS-044		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1670 D

L-17-SS-030		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	2370

L-17-SS-029		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1220

L-17-SS-023		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1150 J

L-17-SS-040		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	1790

L-17-SS-008		
Depth (ft)		0 - 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	24.4

L-17-MW-001					
Date		03/05/99	11/19/03	09/29/08	09/30/08
Compound	LOC	Conc	Conc	Conc	Conc
bis(2-Ethylhexyl)phthalate (ug/l)	3	3.09 J	NA	NA	NA
RDX (ug/l)	2	NE	2.3	NA	NE
Trichloroethene (ug/l)	1	4.8	1.7	2.19	NA

L-17-SD-001		
Depth (ft)		0 - 1
Compound	LOC	Conc
Anthracene (mg/kg)	0.03162	0.05 J
Benz(a)anthracene (mg/kg)	0.0317	0.18
Benzo(a)pyrene (mg/kg)	0.0319	0.17 J
Benzo(b)fluoranthene (mg/kg)	0.0272	0.22
Benzo(k)fluoranthene (mg/kg)	0.0272	0.17
Chrysene (mg/kg)	0.0571	0.24
Fluoranthene (mg/kg)	0.06423	0.39
Phenanthrene (mg/kg)	0.0419	0.3
Pyrene (mg/kg)	0.0530	0.34

L-17-SB-008			
Depth (ft)		0 - 1	1 - 2
Compound	LOC	Conc	Conc
Benzo(a)pyrene (mg/kg)	0.2	1.76 J	1.52
Benzo(b)fluoranthene (mg/kg)	2	2.79 J	2.06 J
Dibenz(a,h)anthracene (mg/kg)	0.2	0.29 J	0.25 J
Lead (mg/kg)	800	1300 D	NE

L-17-SB-022			
Depth (ft)		0 - 1	2 - 3
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	6750	NE

L-17-MW-004						
Date		03/09/99	02/18/02	11/06/03	02/08/08	10/02/08
Compound	LOC	Conc	Conc	Conc	Conc	Conc
Manganese (ug/l)	50	78	NA	NA	NA	NA
RDX (ug/l)	2	71 D	70 D	39 D	12.2	11

L-17-MW-003		
Date		03/09/99
Compound	LOC	Conc
Aluminum (ug/l)	200	220
Beryllium (ug/l)	1	1.39 J
Iron (ug/l)	300	1300
Manganese (ug/l)	50	170

L-17-MW-005							
Date		07/20/99	02/20/02	11/06/03	06/09/04	02/06/08	10/01/08
Compound	LOC	Conc	Conc	Conc	Conc	Conc	Conc
Aluminum (ug/l)	200	3300	NA	NA	NA	NA	NA
Iron (ug/l)	300	2500	NA	NE	NA	NA	NA
Manganese (ug/l)	50	160	NA	NA	NA	NA	NA
RDX (ug/l)	2	190 D	62 D	69 D	55 D	80.4	87.1

L-17-MW-005B				
Date		06/08/04	02/06/08	10/01/08
Compound	LOC	Conc	Conc	Conc
RDX (ug/l)	2	30 D	13.5	6.83

L-17-SS-027		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	4160 D

L-17-SB-020			
Depth (ft)		0 - 1	2 - 3
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	3100	NE

L-17-SS-015		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.21 J

L-17-SB-023			
Depth (ft)		0 - 1	1 - 1.5
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	3970	NE

SITE 17

SEE DETAIL THIS SHEET

17th AVENUE

18th AVENUE

12th STREET

13th STREET

BOTT ROAD

1095 1053 1093 1094 1074

DM17-2 DM17-3 DM17-1

17MW-1 17MW-2 17MW-3 17MW-4 17MW-5 17MW-5B

17SS-1 17SS-2 17SS-3 17SS-4 17SS-5 17SS-6 17SS-7 17SS-8 17SS-9 17SS-10 17SS-11 17SS-12 17SS-13 17SS-14 17SS-15 17SS-16 17SS-17 17SS-18 17SS-19 17SS-20 17SS-21 17SS-22 17SS-23 17SS-24 17SS-25 17SS-26 17SS-27 17SS-28 17SS-29 17SS-30 17SS-31 17SS-32 17SS-33 17SS-34 17SS-35 17SS-36 17SS-37 17SS-38 17SS-39 17SS-40 17SS-41 17SS-42 17SS-43 17SS-44 17SS-45 17SS-46 17SS-47 17SS-48 17SS-49

17SB-1 17SB-2 17SB-3 17SB-4 17SB-5 17SB-6 17SB-7 17SB-8 17SB-9 17SB-10 17SB-11 17SB-12 17SB-13 17SB-14 17SB-15 17SB-16 17SB-17 17SB-18 17SB-19 17SB-20 17SB-21 17SB-22 17SB-23 17SB-24 17SB-25

17GR-M1 17GR-L1 17GR-M2 17GR-K1 17GR-J1 17GR-L3 17GR-KL4-2 17GR-J2 17GR-H1 17GR-K3 17GR-KL4-1 17GR-G1 17GR-H2 17GR-J3 17GR-D1 17GR-C1 17GR-C2 17GR-C3 17GR-E4 17GR-D4 17GR-C4 17GR-D7 17GR-E8 17GR-C8 17GR-B7 17GR-D9 17GR-A8 17GR-A9 17GR-B10 17GR-E1 17GR-F2 17GR-E2 17GR-E3 17GR-F1

17-P4-SW-W(A) 17-P4-SW-S(A) 17-P4-SW-N(A) 17-P4-SW-E(A) P4-B2 P3-SW-W P3-SW-N P3-B P3-SW-S P3-SW-E P2-SW-W P2-SW-N P2-B P2-SW-S P2-SW-E P1-SW-W P1-SW-N P1-B P1-SW-E P1-SW-S

17SD-1

N

LEGEND

- SURFACE SOIL
- SOIL BORING
- MONITORING WELL
- POST-EXCAVATION SOIL SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- LIMITS OF TETRYL-CONTAMINATED SOIL REMOVED AND TREATED
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 80 SCALE IN FEET

PLOT SIZE: 17x22

REV. ISSUED DATE DESCRIPTION

SEAL

ARCADIS
1114 Benfield Blvd.
Suite A
Millersville, MD 21108
Tel: 410-987-4392 Fax: 410-987-0032
www.arcadis-us.com

PROJECT TITLE

PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE

HISTORICAL DATA
EXCEEDING LOCs AT
RI SITE 17/PICA 001
NORTHERN TETRYL PITS

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	18

Acad Version : K18.0s (LMS Tech)
User Name : AFOX
Date\Time : Fri, 30 Jul 2010 - 11:42am
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 17\DWG\SITE-17.dwg - Layout Tab : LAYOUT1

L-18-SS-008		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	2.01 D
Benzo(a)pyrene (mg/kg)	0.2	1.65 D
Benzo(b)fluoranthene (mg/kg)	2	2.01 D
Dibenz(a,h)anthracene (mg/kg)	0.2	0.29 JD

L-18-SS-020		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	2 D
Benzo(b)fluoranthene (mg/kg)	2	2.6 D
Dibenz(a,h)anthracene (mg/kg)	0.2	0.3 JD

L-18-SS-017		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	1

L-18-SS-019		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	5.6 D
Benzo(a)pyrene (mg/kg)	0.2	5.5 D
Benzo(b)fluoranthene (mg/kg)	2	7 D
Dibenz(a,h)anthracene (mg/kg)	0.2	0.82 JD
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	3 D

L-18-SS-018		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	12 D
Benzo(a)pyrene (mg/kg)	0.2	11 D
Benzo(b)fluoranthene (mg/kg)	2	14 D
Dibenz(a,h)anthracene (mg/kg)	0.2	1.6 JD
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	6.1 D

L-18-SS-016		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.57

L-18-SS-010A		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	5.4 D
Benzo(a)pyrene (mg/kg)	0.2	4.4 D
Benzo(b)fluoranthene (mg/kg)	2	5.7 D
Dibenz(a,h)anthracene (mg/kg)	0.2	0.68 JD
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	2.7 JD

L-18-SS-011		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	19 D
Benzo(a)pyrene (mg/kg)	0.2	16 D
Benzo(b)fluoranthene (mg/kg)	2	20 D
Dibenz(a,h)anthracene (mg/kg)	0.2	2.5 JD
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	9.5 D

L-18-SS-014		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.73

L-18-SS-021		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	8.4 D
Benzo(a)pyrene (mg/kg)	0.2	7.7 D
Benzo(b)fluoranthene (mg/kg)	2	10 D
Dibenz(a,h)anthracene (mg/kg)	0.2	1.1 JD
Indeno(1,2,3–c,d)pyrene (mg/kg)	2	4.4 D

L-18-SS-002		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.48

L-18-SS-022		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.77

L-18-SS-009		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.78

L-18-SS-003		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.53

L-18-GR-E4			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
Benzo(a)pyrene (mg/kg)	0.2	1.71	ND
Benzo(b)fluoranthene (mg/kg)	2	3.37 J	ND
Dibenz(a,h)anthracene (mg/kg)	0.2	0.49	ND

L-18-SS-001		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.3 JD

L-18-GR-E3			
Depth (ft)		0 – 1	2 – 3
Compound	LOC	Conc	Conc
Benz(a)anthracene (mg/kg)	2	4.8 D	NE
Benzo(a)pyrene (mg/kg)	0.2	4.15	NE
Benzo(b)fluoranthene (mg/kg)	2	5.63 JD	NE
Dibenz(a,h)anthracene (mg/kg)	0.2	1.14	ND

L-18-SB-005				
Depth (ft)		0 – .5	1.5 – 2	2 – 5
Compound	LOC	Conc	Conc	Conc
Benzo(a)pyrene (mg/kg)	0.2	1.59	0.75	0.3
Benzo(b)fluoranthene (mg/kg)	2	2.2	NE	NE
Dibenz(a,h)anthracene (mg/kg)	0.2	0.25	ND	ND

L-18-GR-D5				
Depth (ft)		0 – 1	0 – 1 (dup)	2 – 3
Compound	LOC	Conc	Conc	Conc
Benzo(a)pyrene (mg/kg)	0.2	NA	0.25 J	ND
Benzo(a)pyrene, 8270 (mg/kg)	0.2	0.33	NA	NA
Benzo(a)pyrene, 8270C (mg/kg)	0.2	0.35 J	NA	NA

L-18-GR-D2				
Depth (ft)		0 – 1	2 – 3	
Compound	LOC	Conc	Conc	
Benzo(a)pyrene (mg/kg)	0.2	1.48 J	NA	
Benzo(a)pyrene, 8270 (mg/kg)	0.2	NA	0.67	
Benzo(a)pyrene, 8270C (mg/kg)	0.2	NA	1.51 J	
Benzo(b)fluoranthene (mg/kg)	2	NE	NA	
Benzo(b)fluoranthene, 8270 (mg/kg)	2	NA	NE	
Benzo(b)fluoranthene, 8270C (mg/kg)	2	NA	3.58 J	
Dibenz(a,h)anthracene (mg/kg)	0.2	0.24 J	NA	
Dibenz(a,h)anthracene, 8270 (mg/kg)	0.2	NA	ND	
Dibenz(a,h)anthracene, 8270C (mg/kg)	0.2	NA	0.23 J	

L-18-SB-002			
Depth (ft)		0 – 1	1 – 2
Compound	LOC	Conc	Conc
2,6-Dinitrotoluene (mg/kg)	4.2	6.41 J	60.72 J

L-18-SS-012		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	2.2 D
Benzo(a)pyrene (mg/kg)	0.2	1.9 D
Benzo(b)fluoranthene (mg/kg)	2	2.5 D
Dibenz(a,h)anthracene (mg/kg)	0.2	0.32 JD

L-18-SB-004				
Depth (ft)		2 – 4	6 – 8	10 – 12
Compound	LOC	Conc	Conc	Conc
Benz(a)anthracene (mg/kg)	2	3.75 D	NE	ND
Benzo(a)pyrene (mg/kg)	0.2	3.26 D	0.34	ND
Benzo(b)fluoranthene (mg/kg)	2	3.75 D	NE	ND

L-18-MW-002			
Date		03/05/99	11/19/03
Compound	LOC	Conc	Conc
Aluminum (ug/l)	200	220	NA
Iron (ug/l)	300	310	NA
Trichloroethene (ug/l)	1	2.29	NE

L-18-MW-001		
Date		03/05/99
Compound	LOC	Conc
Aluminum (ug/l)	200	590

1052 L-18-SS-006
1032
1087
1052A
L-18-SS-005
1050
1068
L-18-SS-017
L-18-SS-020
L-18-SS-018
L-18-SS-011
L-18-SS-021
L-18-SS-016
L-18-SS-022
L-18-SS-015
L-18-SS-019A
L-18-SS-023
L-18-SS-009
L-18-SS-014
L-18-SS-008
L-18-GR-E5
L-18-SS-013
L-18-SS-004
L-18-SS-012
L-18-GR-E3
L-18-GR-E4
L-18-SS-007
L-18-GR-D2
L-18-GR-D5
L-18-SB-008
L-18-SS-002
L-18-SS-003
L-18-SS-001
L-18-SS-004
L-18-SB-001
L-18-SB-003
L-18-MW-001
L-18-GR-C3
L-18-GR-C5
L-162-EX-SWE-1
L-162-EX-SWN-1
L-18-SB-005
L-162-EX-B-1
L-162-EX-SWE-2
L-162-EX-SWW-1
L-162-EX-SWW-2
L-18-GR-B4
L-18-MW-002
1029
1031
1033
19th AVENUE
BELT ROAD
13th STREET
SITE 18

N

LEGEND

- SURFACE SOIL
- SOIL BORING
- MONITORING WELL
- ROADS
- WATER BODIES
- BUILDING
- FORMER BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

Acad Version : R18.0s (LMS Tech)
User Name : AFOX
Date\Time : Fri, 30 Jul 2010 – 12:00pm
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 18\DWG\SITE-18-EA001.dwg – Layout Tab : LAYOUT1

0 60
SCALE IN FEET

PLOT SIZE: 17x22

REV. ISSUED DATE DESCRIPTION

SEAL

ARCADIS
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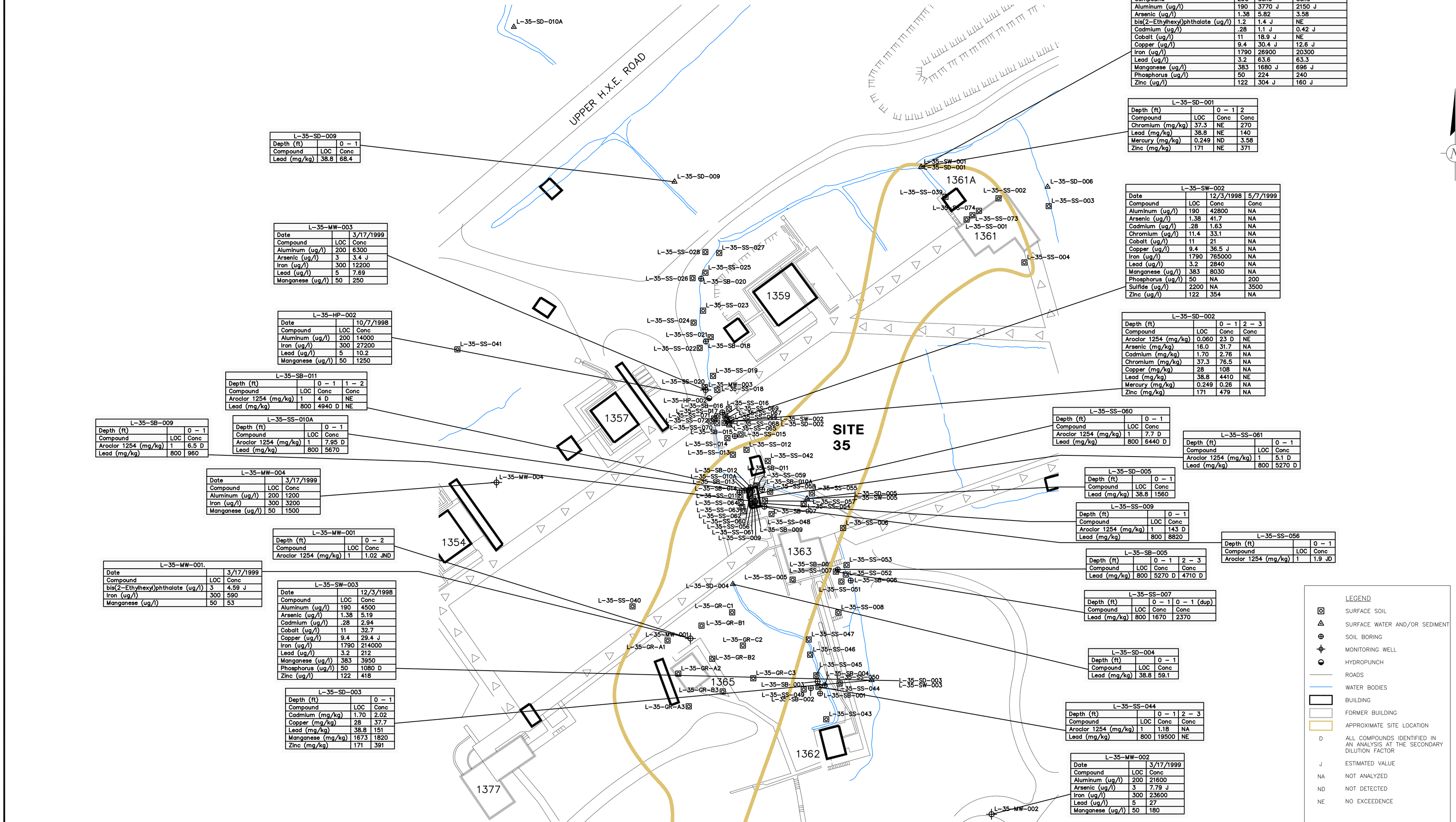
PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER: T. LLEWELLYN
DEPARTMENT MANAGER: M. MOHIUDDIN
LEAD DESIGN PROF.: K. PANHORST
CHECKED BY: T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 18/PICA 001 SOUTHERN TETRYL PITS

TASK/PHASE NUMBER: EA001
DRAWN BY: A. FOX
PROJECT NUMBER: GP06PICA.P001
DRAWING NUMBER: 19



L-35-SW-001			
Date		12/8/1998	12/08/98 (dup)
Compound	LOC	Conc	Conc
Aluminum (ug/l)	190	3770 J	2150 J
Arsenic (ug/l)	1.38	5.82	3.56
bis(2-Ethylhexyl)phthalate (ug/l)	1.2	1.4 J	NE
Cadmium (ug/l)	.28	1.1 J	0.42 J
Cobalt (ug/l)	11	18.9 J	NE
Copper (ug/l)	9.4	30.4 J	12.6 J
Iron (ug/l)	1790	26900	20300
Lead (ug/l)	3.2	63.6	63.3
Manganese (ug/l)	383	1680 J	696 J
Phosphorus (ug/l)	50	224	240
Zinc (ug/l)	122	304 J	160 J

L-35-SD-001			
Depth (ft)		0 - 1	2
Compound	LOC	Conc	Conc
Chromium (mg/kg)	37.3	NE	270
Lead (mg/kg)	38.8	NE	140
Mercury (mg/kg)	0.249	ND	3.58
Zinc (mg/kg)	171	NE	371

L-35-SW-002			
Date		12/3/1998	5/7/1999
Compound	LOC	Conc	Conc
Aluminum (ug/l)	190	42800	NA
Arsenic (ug/l)	1.38	41.7	NA
Cadmium (ug/l)	.28	1.63	NA
Chromium (ug/l)	11.4	33.1	NA
Cobalt (ug/l)	11	21	NA
Copper (ug/l)	9.4	36.5 J	NA
Iron (ug/l)	1790	765000	NA
Lead (ug/l)	3.2	2840	NA
Manganese (ug/l)	383	8030	NA
Phosphorus (ug/l)	50	NA	200
Sulfide (ug/l)	2200	NA	3500
Zinc (ug/l)	122	354	NA

L-35-SD-002			
Depth (ft)		0 - 1	2 - 3
Compound	LOC	Conc	Conc
Aroclor 1254 (mg/kg)	0.060	23 D	NE
Arsenic (mg/kg)	16.0	31.7	NA
Cadmium (mg/kg)	1.70	2.76	NA
Chromium (mg/kg)	37.3	76.5	NA
Copper (mg/kg)	28	108	NA
Lead (mg/kg)	38.8	4410	NE
Mercury (mg/kg)	0.249	0.26	NA
Zinc (mg/kg)	171	479	NA

L-35-SD-009			
Depth (ft)		0 - 1	
Compound	LOC	Conc	
Lead (mg/kg)	38.8	68.4	

L-35-MW-003		
Date		3/17/1999
Compound	LOC	Conc
Aluminum (ug/l)	200	6300
Arsenic (ug/l)	3	3.4 J
Iron (ug/l)	300	12200
Lead (ug/l)	5	7.69
Manganese (ug/l)	50	250

L-35-HP-002		
Date		10/7/1998
Compound	LOC	Conc
Aluminum (ug/l)	200	14000
Iron (ug/l)	300	27200
Lead (ug/l)	5	10.2
Manganese (ug/l)	50	1250

L-35-SB-011			
Depth (ft)		0 - 1	1 - 2
Compound	LOC	Conc	Conc
Aroclor 1254 (mg/kg)	1	4 D	NE
Lead (mg/kg)	800	4940 D	NE

L-35-SB-009		
Depth (ft)		0 - 1
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	6.5 D
Lead (mg/kg)	800	960

L-35-SS-010A		
Depth (ft)		0 - 1
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	7.95 D
Lead (mg/kg)	800	5670

L-35-MW-004		
Date		3/17/1999
Compound	LOC	Conc
Aluminum (ug/l)	200	1200
Iron (ug/l)	300	3200
Manganese (ug/l)	50	1500

L-35-MW-001		
Depth (ft)		0 - 2
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	1.02 JND

L-35-MW-001.		
Date		3/17/1999
Compound	LOC	Conc
bis(2-Ethylhexyl)phthalate (ug/l)	3	4.59 J
Iron (ug/l)	300	590
Manganese (ug/l)	50	53

L-35-SW-003		
Date		12/3/1998
Compound	LOC	Conc
Aluminum (ug/l)	190	4500
Arsenic (ug/l)	1.38	5.19
Cadmium (ug/l)	.28	2.94
Cobalt (ug/l)	11	32.7
Copper (ug/l)	9.4	29.4 J
Iron (ug/l)	1790	214000
Lead (ug/l)	3.2	212
Manganese (ug/l)	383	3950
Phosphorus (ug/l)	50	1080 D
Zinc (ug/l)	122	418

L-35-SD-003		
Depth (ft)		0 - 1
Compound	LOC	Conc
Cadmium (mg/kg)	1.70	2.02
Copper (mg/kg)	28	37.7
Lead (mg/kg)	38.8	151
Manganese (mg/kg)	1673	1820
Zinc (mg/kg)	171	391

L-35-SS-060		
Depth (ft)		0 - 1
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	7.7 D
Lead (mg/kg)	800	6440 D

L-35-SS-061		
Depth (ft)		0 - 1
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	5.1 D
Lead (mg/kg)	800	5270 D

L-35-SD-005		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	38.8	1560

L-35-SS-009		
Depth (ft)		0 - 1
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	143 D
Lead (mg/kg)	800	8820

L-35-SS-056		
Depth (ft)		0 - 1
Compound	LOC	Conc
Aroclor 1254 (mg/kg)	1	1.9 JD

L-35-SB-005			
Depth (ft)		0 - 1	2 - 3
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	5270 D	4710 D

L-35-SS-007			
Depth (ft)		0 - 1	0 - 1 (dup)
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	1670	2370

L-35-SD-004		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	38.8	59.1

L-35-SS-044			
Depth (ft)		0 - 1	2 - 3
Compound	LOC	Conc	Conc
Aroclor 1254 (mg/kg)	1	1.18	NA
Lead (mg/kg)	800	19500	NE

L-35-MW-002		
Date		3/17/1999
Compound	LOC	Conc
Aluminum (ug/l)	200	21600
Arsenic (ug/l)	3	7.79 J
Iron (ug/l)	300	23600
Lead (ug/l)	5	27
Manganese (ug/l)	50	180

Date\Time : Fri, 30 Jul 2010 - 12:39pm
Path Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 35\dwg\SITE-35.dwg - Layout Tab : LAYOUT1
Acad Version : R18.0s (LMS Tech)
User Name : AFOX

0 40
SCALE IN FEET

PLOT SIZE: 22x34

REV. ISSUED DATE DESCRIPTION

KEYPLAN

SEAL

ARCADIS
1114 Benfield Blvd.
Suite A
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Tel: 410-987-4392 Fax: 410-987-0032
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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER: T. LLEWELLYN
DEPARTMENT MANAGER: M. MOHIUDDIN
LEAD DESIGN PROF.: K. PANHORST
CHECKED BY: T. LLEWELLYN
SHEET TITLE: HISTORICAL DATA EXCEEDING LOCs AT RI SITE 35/PICA 021 NITROGLYCERINE PROCESSING AREA
TASK/PHASE NUMBER: EA001
DRAWN BY: A. FOX
PROJECT NUMBER: GP06PICA.P001
DRAWING NUMBER: 20

L-91-SW-002		
Date		12/07/98
Compound	LOC	Conc
Aluminum (ug/l)	190	1480
Arsenic (ug/l)	1.38	3.4
Cadmium (ug/l)	.28	0.38
Cobalt (ug/l)	11	27.5
Iron (ug/l)	1790	12100
Lead (ug/l)	3.2	15.2
Manganese (ug/l)	383	2210

L-91-SW-001		
Date		05/11/99
Compound	LOC	Conc
Phosphorus (ug/l)	50	60 J

L-91-SB-004		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	2500

L-91-SS-016		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1410

L-91-SS-008		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	55.4
Lead (mg/kg)	800	2090 J

L-91-SS-011		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.26

L-91-SS-005		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	22.7

L-91-SB-008			
Depth (ft)		0 – 1	1 – 1.5
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	943 D	NE

L-91-SB-002			
Depth (ft)		0 – 1	1 – 2
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	895	NE

L-91-SS-014		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1430

L-91-SB-001			
Depth (ft)		1 – 2	2 – 3
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	2130 D	920

L-91-SS-002		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1520 J

L-91-SS-003		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	830 J

L-91-SS-026		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	2200 JD

L-91-SUMPA-SWS-1		
Depth (ft)		3 – 4
Compound	LOC	Conc
Lead (mg/kg)	800	1280

L-91-SUMPA-B-1		
Depth (ft)		4 – 5
Compound	LOC	Conc
Lead (mg/kg)	800	1500

L-91-MW-002A		
Date		07/19/99
Compound	LOC	Conc
Aluminum (ug/l)	200	2100
Iron (ug/l)	300	2600

ROCKET PRODUCTION

DOUBLE BASE ROAD

UPPER DOUBLE BASE ROAD

1408B 1408 1408C 1410 1411 1301 1302 1303 1304 1305 1306 1307 1308

SITE 91

91SUMP"Y"-SWN-1D
91SUMP"Y"-SWW-1D
91SUMP"Y"-SWE-1D
91SUMP"Y"-B-1E
91SUMP"Y"-SWS-1D

TYPICAL SAMPLE LOCATIONS FOR TANK AND CATCH BASINS B, C, D, E, F, G, H, I, J, K, L, M, AND X

CATCH TANK B, C, D, E, F, G, H, I, J, K, L, M, X

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- SOIL BORING
- MONITORING WELL
- TEST PIT
- POST-EXCAVATION SOIL SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

N

Acad Version : R18.0s (LMS Tech)
User Name : AFOX

Date\Time : Wed, 28 Jul 2010 – 2:19pm
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 91\DWG\SITE-91.dwg – Layout Tab : LAYOUT1

0 100 SCALE IN FEET

PLOT SIZE: 22x34

REV. ISSUED DATE DESCRIPTION

KEYPLAN

SEAL

ARCADIS
1114 Benfield Blvd.
Suite A
Millersville, MD 21108
Tel: 410-987-4392 Fax: 410-987-0032
www.arcadis-us.com

PROJECT TITLE

PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE

HISTORICAL DATA EXCEEDING LOCs AT RI SITE 91/PICA 163 ROCKET MOTOR ASSEMBLY PLANT

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	21

L-161-GR-B-15-4A		
Depth (ft)		0 - 1
Compound	LOC	Conc
Lead (mg/kg)	800	981 D

L-161-EX1-SW-4A		
Depth (ft)		2.5 - 2.5
Compound	LOC	Conc
Lead (mg/kg)	800	1610 D

L-161-EX1-SW-1A		
Depth (ft)		2 - 2
Compound	LOC	Conc
Lead (mg/kg)	800	1460

L-161-EX1-SW-6A		
Depth (ft)		1.5 - 1.5
Compound	LOC	Conc
Lead (mg/kg)	800	817

L-161-EX1-B-7A			
Depth (ft)		3 - 3	3 - 3 (dup)
Compound	LOC	Conc	Conc
Lead (mg/kg)	800	927	NE

L-161-SW-001		
Date		12/02/98
Compound	LOC	Conc
Trichloroethene (ug/l)	1	1.6 J

L-161-SW-002		
Date		12/02/98
Compound	LOC	Conc
Trichloroethene (ug/l)	1	1.5 J

L-161-SW-003		
Date		12/01/98
Compound	LOC	Conc
Copper (ug/l)	9.4	12.8 J
Trichloroethene (ug/l)	1	1.4 J

L-161-SD-003		
Depth (ft)		0 - 1
Compound	LOC	Conc
Copper (mg/kg)	28	32.64
Lead (mg/kg)	38.8	270.72
Manganese (mg/kg)	1673	1852.33
Zinc (mg/kg)	171	449.48

L-161-MW-002						
Date		03/19/99	02/18/02	11/06/03	02/06/08	09/29/08
Compound	LOC	Conc	Conc	Conc	Conc	Conc
Trichloroethene (ug/l)	1	14	41 D	21	9.82	22.4

L-161-SW-007		
Date		11/14/03
Compound	LOC	Conc
Trichloroethene (ug/l)	1	5.6

L-161-SW-008		
Date		11/14/03
Compound	LOC	Conc
Trichloroethene (ug/l)	1	1.7

L-161-MW-001C			
Date		06/14/04	12/06/07
Compound	LOC	Conc	Conc
Trichloroethene (ug/l)	1	45 D	38.9

L-161-SW-009		
Date		11/14/03
Compound	LOC	Conc
Trichloroethene (ug/l)	1	2.1

L-161-GR-C3A, L-161-SS-045, L-161-SS-014, L-161-SS-001, L-161-SS-013, L-161-GR-C2A, L-161-GR-C4A, L-161-GR-019A, L-161-GR-018A, L-161-SS-012, L-161-SS-044, L-161-EX1-SW-5A, L-161-EX1-SW-4A, L-161-EX1-SW-4B, L-161-EX1-SW-3A, L-161-EX1-SW-2A, L-161-GR-B7A, L-161-GR-B6A, L-161-EX1-B-3A, L-161-EX1-B-1A, L-161-EX1-SW-1B, L-161-GR-016A, L-161-EX1-SW-6A, L-161-EX1-B-5B, L-161-EX1-B-2A, L-161-EX1-SW-13A, L-161-GR-A2A, L-161-SS-040, L-161-EX1-B-7B, L-161-EX1-B-4A, L-161-GR-A6A, L-161-SS-041, L-161-EX1-B-6A, L-161-EX1-SW-12A, L-161-GR-A8A, L-161-EX2-SWN-1, L-161-EX2-SWW-1, L-161-EX2-B-1, L-161-EX2-SWS-1, L-161-EX1-SW-7A, L-161-GR-A4A, L-161-GR-A5A, L-161-GR-017A, L-161-GR-A1A, L-161-EX1-B-8A, L-161-EX1-SW-11A, L-161-GR-A2.15A, L-161-EX1-SW-10A, L-161-EX1-SW-8A, L-161-GR-AA4A, L-161-GR-AA3A, L-161-GR-AA.15-8, L-161-EX3-SWN-1, L-161-EX3-SWW-1, L-161-EX3-B-1, L-161-EX3-SWE-1, L-161-SS-020, L-161-SS-035, L-161-SS-019, L-161-SS-018, L-161-EX3-SWS-1, L-161-SS-017, L-161-GR-BB8A, L-161-SS-038, L-161-SS-036, L-161-SS-039, L-161-SS-037, L-161-MW-002, L-161-SW-002, L-161-SD-002, L-161-SW-003, L-161-SD-003, L-161-SW-007, L-161-SW-001, L-161-SD-001, L-161-SW-011, L-161-SW-012, L-161-SW-010A, L-161-SW-009, L-161-SW-008, 1029, 1031, 1033, 1030, SITE 161, SEE DETAIL THIS SHEET, 19th AVENUE, 12th STREET, ROBINSON RUN, UPPER H.X.E. ROAD, N.G. ROAD, N

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- MONITORING WELL
- POST-EXCAVATION SOIL SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

Date\Time : Wed, 28 Jul 2010 - 2:49pm
Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\SITE 161\DWG\SITE-161.dwg - Layout Tab : LAYOUT1
Acad Version : R18.0s (LMS Tech)
User Name : AFOX

0 80 SCALE IN FEET

PLOT SIZE: 22x34

REV. ISSUED DATE DESCRIPTION

KEYPLAN

SEAL

ARCADIS
1114 Benfield Blvd.
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Tel: 410-987-4392 Fax: 410-987-0032
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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER: T. LLEWELLYN
DEPARTMENT MANAGER: M. MOHIUDDIN
LEAD DESIGN PROF.: K. PANHORST
CHECKED BY: T. LLEWELLYN
SHEET TITLE: HISTORICAL DATA EXCEEDING LOCs AT RI SITE 161/PICA 172 NITRATION BUILDING
TASK/PHASE NUMBER: EA001
DRAWN BY: A. FOX
PROJECT NUMBER: GP06PICA.P001
DRAWING NUMBER: 22

User Name : AFOX

Path\Name : G:\ENVCAD\BRIGHTON\ACT\PICATINNY\Pica 001\site 162\dwg\SITE-162.dwg - Layout Tab : LAYOUT1

L-162-SS-012		
Depth (ft)		0 - 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	22.7

L-162-SS-010A		
Depth (ft)		1 - 2
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.29 J

L-162-SS-008		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.27 J

L-162-SS-001		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.3 J

L-1070-SS-C		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.31 J

L-162-SS-006		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.39

L-1070-SS-B		
Depth (ft)		0 - 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.52

L-162-MW-001				
Date		11/11/03	06/08/04	09/29/08
Compound	LOC	Conc	Conc	Conc
2,4,6-Trinitrotoluene (ug/l)	2	NE	24 D	NA
Iron (ug/l)	300	3300	NA	NA
Trichloroethene (ug/l)	1	3.1	ND	ND

L-162-SB-008			
Depth (ft)		2.3 - 2.8	2.3 - 2.8 (dup)
Compound	LOC	Conc	Conc
RDX (mg/kg)	26	830 D	670 D

L-162-GR-F4		
Depth (ft)		0 - 1
Compound	LOC	Conc
RDX (mg/kg)	26	4800 JD

L-162-GR-E1		
Depth (ft)		0 - 1
Compound	LOC	Conc
RDX (mg/kg)	26	1300 JD

L-162-SB-007		
Depth (ft)		7 - 7.5
Compound	LOC	Conc
RDX (mg/kg)	26	210 D

L-162-SS-016		
Depth (ft)		0 - 1
Compound	LOC	Conc
Chromium (mg/kg)	200	251

18th AVENUE
19th AVENUE
13th STREET
12th STREET
ROBINSON RUN
FORMER LOCATION OF CATCH BASIN
SITE 162
1071B
1071C
1071E
1052
1033

LEGEND

- SURFACE SOIL
- POST-EXCAVATION SOIL SAMPLE
- SOIL BORING
- MONITORING WELL
- ROADS
- WATER BODIES
- BUILDING
- FORMER BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 120 SCALE IN FEET

ARCADIS
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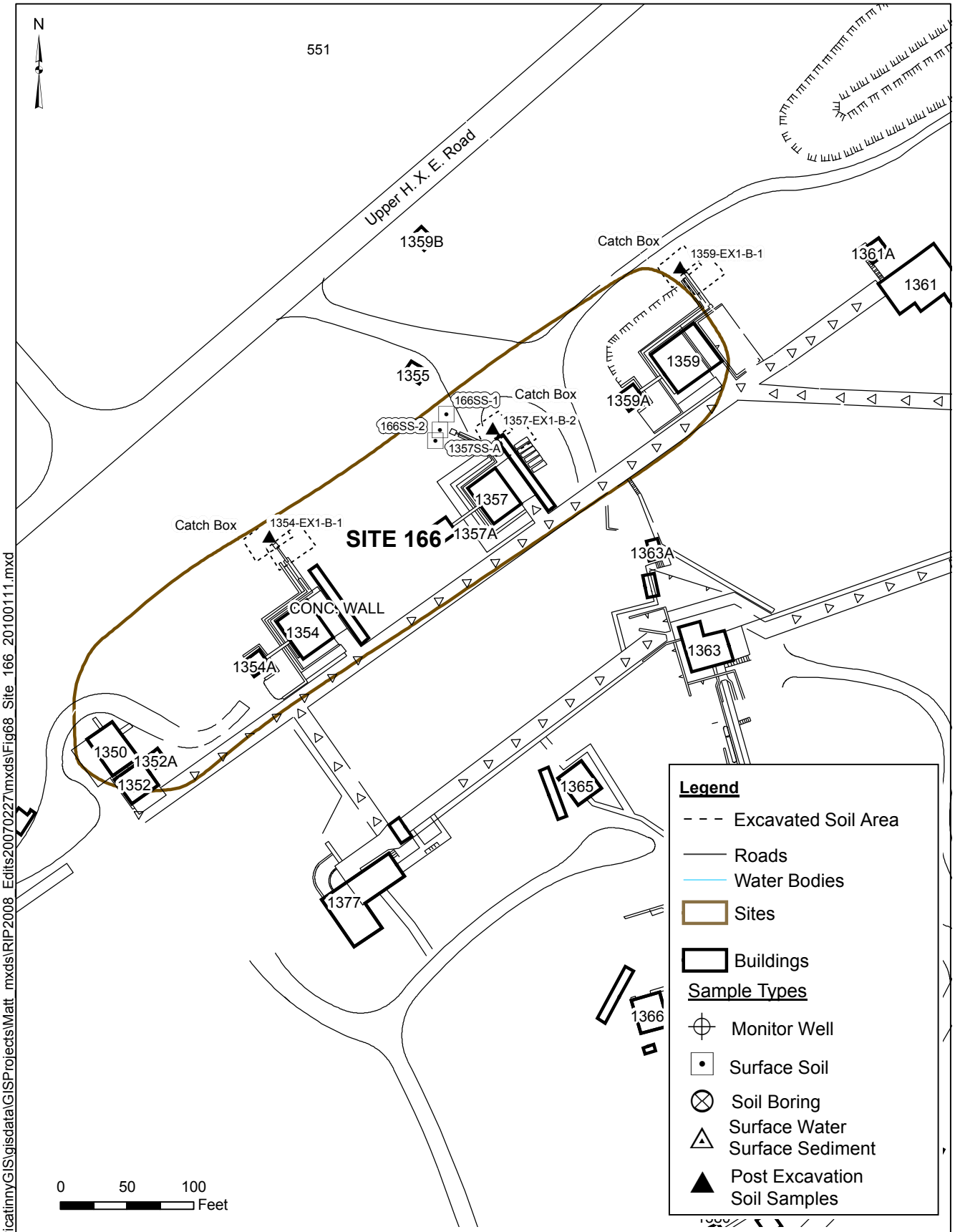
PROJECT TITLE

PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 162/PICA 173 BUILDINGS 1070, 1071, & 1071C

TASK/PHASE NUMBER	DRAWN BY
EA001	A. SANTINI
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	23



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ARCADIS
ARCADIS - Edison, NJ
101 Fieldcrest Avenue, Suite 5E
Edison, NJ 08817
Phone: (732) 225-5061
Fax: (732) 225-5067

HISTORICAL DATA EXCEEDING LOCs AT
RI SITE 166 \ PICA 174
STORAGE MAGAZINES
PICATINNY ARSENAL, NEW JERSEY

PROJECT MANAGER T. LLEWELLYN	DEPARTMENT MANAGER M. MOHIUDDIN
DRAWN M.GRESS	CHECKED K. TIPTON
PROJECT NUMBER GP06PICA.P001.NJ001	DRAWING NUMBER 24

L-1403-EX2-SWN-1		
Depth (ft)		3 – 3
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.29 J

L-168-SD-002		
Depth (ft)		0 – 1
Compound	LOC	Conc
Acenaphthene (mg/kg)	0.00671	1.18 JD
Anthracene (mg/kg)	0.03162	1.99 JD
Benz(a)anthracene (mg/kg)	0.0317	2.8 JD
Benzo(a)pyrene (mg/kg)	0.0319	2.43 JD
Benzo(b)fluoranthene (mg/kg)	0.0272	2.49 JD
Benzo(g,h,i)perylene (mg/kg)	0.29	0.92 JD
Benzo(k)fluoranthene (mg/kg)	0.0272	2.24 JD
Chrysene (mg/kg)	0.0571	2.74 JD
Copper (mg/kg)	28	29.1
Fluoranthene (mg/kg)	0.06423	6.84 JD
Fluorene (mg/kg)	0.0212	1.31 JD
Indeno(1,2,3-c,d)pyrene (mg/kg)	0.078	1.06 JD
Lead (mg/kg)	38.8	141 J
Phenanthrene (mg/kg)	0.0419	7.46 JD
Pyrene (mg/kg)	0.0530	4.79 JD

L-168-SW-001		
Date		05/11/99
Compound	LOC	Conc
Aluminum (ug/l)	190	4000
Arsenic (ug/l)	1.38	9.5 J
Chromium (ug/l)	10	16
Copper (ug/l)	9.4	170
Iron (ug/l)	1790	7100
Lead (ug/l)	3.2	65
Manganese (ug/l)	383	590
Mercury (ug/l)	0.05	0.41
Zinc (ug/l)	122	1200

L-168-SD-001		
Depth (ft)		0 – 1
Compound	LOC	Conc
Acenaphthene (mg/kg)	0.00671	0.33 JD
Acenaphthylene (mg/kg)	0.00587	0.2 JD
Anthracene (mg/kg)	0.03162	0.99 JD
Benz(a)anthracene (mg/kg)	0.0317	3.07 JD
Benzo(a)pyrene (mg/kg)	0.0319	3.07 JD
Benzo(b)fluoranthene (mg/kg)	0.0272	2.83 JD
Benzo(g,h,i)perylene (mg/kg)	0.29	1.63 JD
Benzo(k)fluoranthene (mg/kg)	0.0272	2.83 JD
Chrysene (mg/kg)	0.0571	3.07 JD
Dibenz(a,h)anthracene (mg/kg)	0.00622	0.63 JD
Fluoranthene (mg/kg)	0.06423	6.13 JD
Fluorene (mg/kg)	0.0212	0.35 JD
Indeno(1,2,3-c,d)pyrene (mg/kg)	0.078	1.58 JD
Naphthalene (mg/kg)	0.03275	0.09 JD
Phenanthrene (mg/kg)	0.0419	3.54 JD
Pyrene (mg/kg)	0.0530	5.42 JD

L-168-SS-032		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.38 J

L-168-SS-016		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benz(a)anthracene (mg/kg)	2	3.81 D
Benzo(a)pyrene (mg/kg)	0.2	3.81 D
Benzo(b)fluoranthene (mg/kg)	2	5.33 D
Dibenz(a,h)anthracene (mg/kg)	0.2	0.5 D
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	2.08 D

L-168-SS-034		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.25 J

L-168-SS-026		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	26.6

L-168-SS-028		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	20.5

L-168-SS-013		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	253

L-168-SS-030		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	24.5 J

L-168-SS-039		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	3900 JD

L-168-SS-025		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1350 JD

L-168-SS-024		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1210 JD

L-168-SS-005		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	1040 J

L-168-SS-006		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	60.6
Lead (mg/kg)	800	1470 J
Manganese (mg/kg)	5900	24400 D

L-168-SS-004		
Depth (ft)		0 – 1
Compound	LOC	Conc
2,4-Dinitrotoluene (mg/kg)	4.2	21.5

L-1403-EX3-SWN-1		
Depth (ft)		1 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.35 J

L-168-SS-015			
Depth (ft)		0 – 1	0 – 1 (dup)
Compound	LOC	Conc	Conc
Benz(a)anthracene (mg/kg)	2	4.88 JD	NE
Benzo(a)pyrene (mg/kg)	0.2	4.88 JD	1.06 J
Benzo(b)fluoranthene (mg/kg)	2	7.08 JD	NE
Dibenz(a,h)anthracene (mg/kg)	0.2	0.61 JD	NE
Indeno(1,2,3-c,d)pyrene (mg/kg)	2	2.69 JD	NE

L-168-SS-011		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	19	20.4

N. CAST PROPELLANT ROAD

FARLEY AVENUE

ROCKET PRODUCTION

SITE 168

1400 1401 1402 1402A 1403 1409

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- SOIL BORING
- MONITORING WELL
- POST-EXCAVATION SOIL SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 100 SCALE IN FEET

PLOT SIZE: 17x22

REV. ISSUED DATE DESCRIPTION

SEAL

ARCADIS
1114 Benfield Blvd.
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www.arcadis-us.com

PROJECT TITLE

PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	T. LLEWELLYN

SHEET TITLE

HISTORICAL DATA
EXCEEDING LOCs AT
RI SITE 168/PICA 168
BUILDINGS 1400 AND 1403

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	25

L-169-SD-003		
Depth (ft)		0 – 1
Compound	LOC	Conc
Cadmium (mg/kg)	1.70	2.8 J
Copper (mg/kg)	28	31 J
Lead (mg/kg)	38.8	65.4 J
Manganese (mg/kg)	1673	5110 J
Mercury (mg/kg)	0.249	0.69 J
Zinc (mg/kg)	171	269 J

L-169-SS-012		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.27 JD

L-169-MW-001			
Date		1/4/2001	2/10/2005
Compound	LOC	Conc	Conc
Aluminum (ug/l)	200	1900	NA
Iron (ug/l)	300	2400	NA
RDX (ug/l)	2	NE	2.7

L-169-SS-013		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	0.25 JD

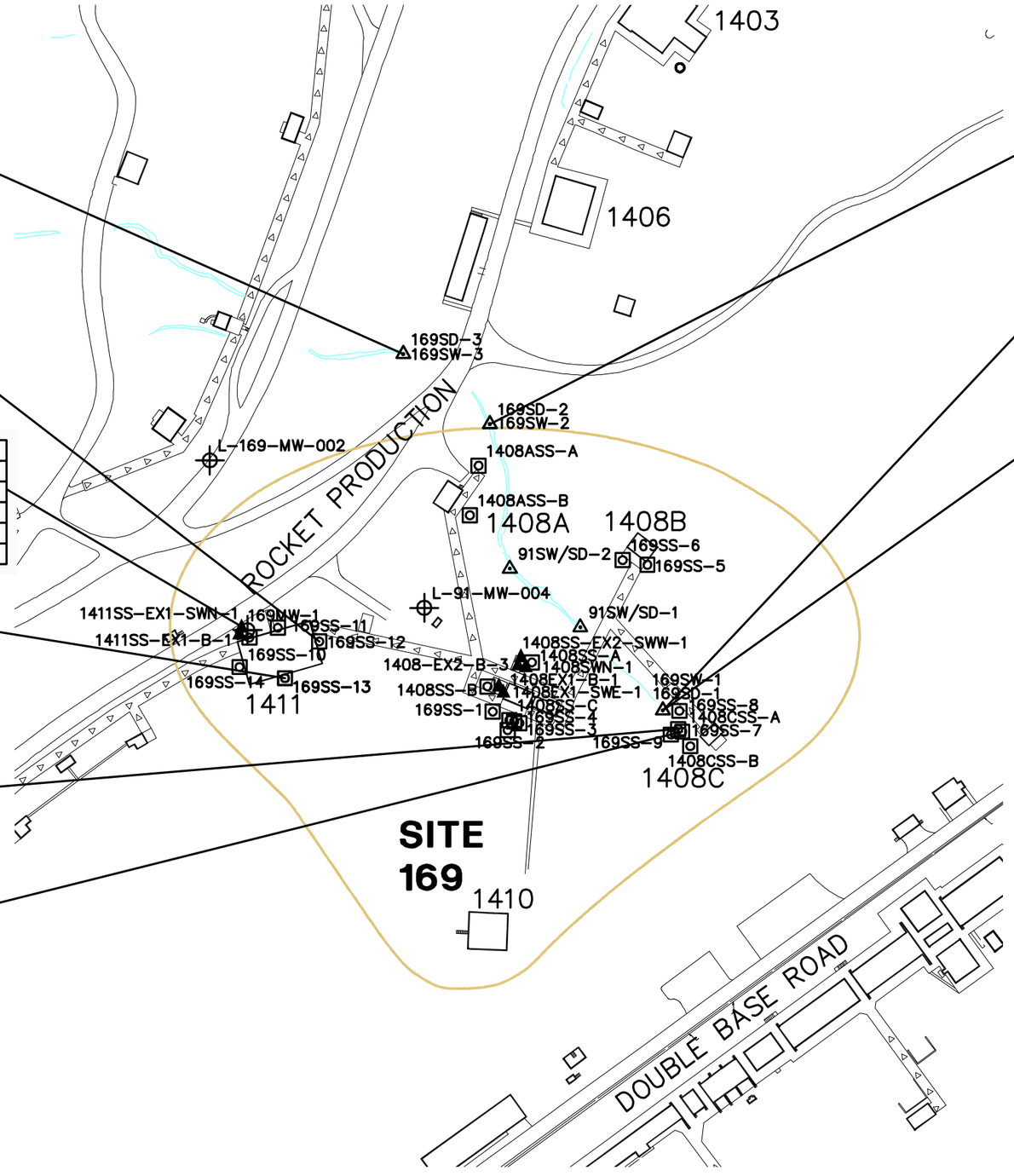
L-1408C-SS-A		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	2450

L-169-SS-007		
Depth (ft)		1 – 2
Compound	LOC	Conc
Lead (mg/kg)	800	904

L-169-SW-002		
Date		10/11/2000
Compound	LOC	Conc
Aluminum (ug/l)	190	1800
Cadmium (ug/l)	0.28	0.36 J
Iron (ug/l)	1790	2900
Lead (ug/l)	3.2	8.1
Zinc (ug/l)	122	160

L-169-SD-001		
Depth (ft)		0 – 1
Compound	LOC	Conc
Arsenic (mg/kg)	16.0	27 D
Chromium (mg/kg)	37.3	46.4 D
Copper (mg/kg)	28	387 J
Nickel (mg/kg)	39.6	149

L-169-SW-001		
Date		10/11/2000
Compound	LOC	Conc
Iron (ug/l)	1790	1800
Lead (ug/l)	3.2	10



LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- MONITORING WELL
- POST-EXCAVATION SOIL SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 50
SCALE IN FEET

PLOT SCALE 11x17

REV. ISSUED DATE DESCRIPTION

KEYPLAN

ARCADIS
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PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	K. TIPTON

SHEET TITLE
HISTORICAL DATA EXCEEDING LOCs AT RI SITE 169/PICA 169 PROPELLANT PLANTS

TASK/PHASE NUMBER	DRAWN BY
EA001	A. FOX
PROJECT NUMBER	DRAWING NUMBER
GP06PICA.P001	26

L-171-MW-001		
Date		01/04/01
Compound	LOC	Conc
Aluminum (ug/l)	200	210
Iron (ug/l)	300	420

L-171-SS-001		
Depth (ft)		0 – 1
Compound	LOC	Conc
Benzo(a)pyrene (mg/kg)	0.2	1.7
Benzo(b)fluoranthene (mg/kg)	2	2.4
Dibenz(a,h)anthracene (mg/kg)	0.2	0.24 J

L-171-SS-004		
Depth (ft)		0 – 1
Compound	LOC	Conc
Lead (mg/kg)	800	2470 D

L-171-SS-006		
Depth (ft)		0 – 1
Compound	LOC	Conc
Cadmium (mg/kg)	78	162 D
Lead (mg/kg)	800	3950 D
Zinc (mg/kg)	110000	134000 D

L-171-MW-002				
Date		01/04/01	11/14/03	09/30/08
Compound	LOC	Conc	Conc	Conc
Aluminum (ug/l)	200	370	NA	NA
Iron (ug/l)	300	730	NA	NA
Manganese (ug/l)	50	59	NA	NA
Trichloroethene (ug/l)	1	12	22	77.4

L-171-SW-002		
Date		05/05/04
Compound	LOC	Conc
Trichloroethene (ug/l)	1	1.7

L-171-SW-003		
Date		05/05/04
Compound	LOC	Conc
Trichloroethene (ug/l)	1	6

L-171-SS-008			
Depth (ft)		0 – 1	0 – 1 (dup)
Compound	LOC	Conc	Conc
Aroclor 1242 (mg/kg)	1	2.5 D /ND	ND

SITE 171

3106 3109 3116 3144 3145 1311

EAST TOWER ROAD

SOUTH WOODS ROAD

FORMER RAILROAD TRACK BED

BELT ROAD

13th STREET

N.G. ROAD

L-171-MW-001 L-171-MW-002 L-171-MW-003 L-171-MW-004

L-171-SS-001 L-171-SS-002 L-171-SS-003 L-171-SS-004 L-171-SS-005 L-171-SS-006 L-171-SS-007 L-171-SS-008 L-171-SS-009 L-171-SS-010A L-171-SS-011 L-171-SS-012 L-171-SS-013 L-171-SS-014 L-171-SS-015 L-171-SS-016 L-171-SS-017 L-171-SS-018 L-171-SS-019 L-171-SS-020 L-171-SS-021

L-171-SB-001 L-171-SB-002 L-171-SB-003 L-171-SB-004 L-171-SB-006

L-171-SW-001 L-171-SW-002 L-171-SW-003

L-171-EX1-B1 L-171-EX1-SWNE-1 L-171-EX1-SWNE-2 L-171-EX1-SWNW-1 L-171-EX1-SWSE-1 L-171-EX1-SWSW-1 L-171-EX1-SWSW-2

L-3106-SS-B L-3109-SS-B L-3109-SS-C

N

LEGEND

- SURFACE SOIL
- SURFACE WATER AND/OR SEDIMENT
- SOIL BORING
- MONITORING WELL
- POST-EXCAVATION SOIL SAMPLE
- ROADS
- WATER BODIES
- BUILDING
- APPROXIMATE SITE LOCATION
- REMOVAL AREA OF LEAD-CONTAMINATED SOIL
- D — ALL COMPOUNDS IDENTIFIED IN AN ANALYSIS AT THE SECONDARY DILUTION FACTOR
- J — ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NOT DETECTED
- NE — NO EXCEEDENCE

0 150
SCALE IN FEET

PLOT SCALE 11x17

REV. ISSUED DATE DESCRIPTION

KEYPLAN

ARCADIS
1114 Benfield Blvd. Suite A
Millersville, MD 21108
Tel: 410-987-4392 Fax: 410-987-0032
www.arcadis-us.com

PROJECT TITLE
PICATINNY ARSENAL
NEW JERSEY

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED
T. LLEWELLYN	M. MOHIUDDIN	K. PANHORST	K. TIPTON
SHEET TITLE: HISTORICAL DATA EXCEEDING LOCs AT RI SITE 171/PICA 171 ORDNANCE FACILITIES		TASK/PHASE NUMBER: EA001	DRAWN BY: A. FOX
		PROJECT NUMBER: GP06PICA.P001	DRAWING NUMBER: 27