

**CUMMINGS
PRITER
CONSULTANTS, INC.**

**Project No. 93-132.40/14
December 30, 1996**

**ADDENDUM
DATA SUMMARY REPORT - PHASE II INVESTIGATION**

**WESTINGHOUSE ELECTRIC CORPORATION
SPECIALTY METALS PLANT
BLAIRSVILLE, PENNSYLVANIA**

Prepared for:

**Westinghouse Electric Corporation
Westinghouse Building
11 Stanwix Street
Pittsburgh, Pennsylvania 15222**

December 30, 1996
Project No. 93132.40/14

Mr. Fred Baldassare
Pennsylvania Department of
Environmental Protection
400 Waterfront Drive
Pittsburgh, PA 15222-4745

**RE: TRANSMITTAL - ADDENDUM - DATA SUMMARY REPORT
PHASE II INVESTIGATION - SPECIALTY METALS PLANT
BLAIRSVILLE, PENNSYLVANIA**

Dear Mr. Baldassare:

Cummings/Riter Consultants, Inc., on behalf of Westinghouse Electric Corporation hereby transmits three copies of this Addendum to the Data Summary Report for the Phase II Investigation conducted by Cummings/Riter at the above-referenced facility. Following your review of this Addendum, we are requesting a meeting between representatives of Westinghouse, Cummings/Riter, and the Pennsylvania Department of Environmental Protection to discuss the results.

If you have any questions regarding this submittal, please contact me at (412) 373-5240.

Respectfully submitted,
Cummings/Riter Consultants, Inc.


William A. Baughman, P.G.
Project Manager

pc: Mr. Jeffrey Berta - Westinghouse (two copies)
Mr. Joseph Nardi - Westinghouse (five copies)
Mr. Wayne George - Westinghouse (one copy)



**Westinghouse
Electric Corporation**

Energy Systems

Box 355
Pittsburgh Pennsylvania 15230-0355

January 9, 1997

RA-97-002 AJN

U. S. Nuclear Regulatory Commission, Region I
475 Allendale Rd.
King of Prussia, PA 19406-1415

Attention: Mr. Mark C. Roberts

Subject: Third Transmittal of Site Survey Information for the Westinghouse
Blairsville Site (Former USAEC License Number SNM-47)

- Reference:
1. Westinghouse letter dated June 12, 1995 (Letter # RA 95-017 AJN) from A. J. Nardi to Mark C. Roberts (USNRC).
 2. Westinghouse letter dated December 19, 1995 (Letter # RA 95-041 AJN) from A. J. Nardi to Mark C. Roberts (USNRC).

Dear Mr. Roberts:

As you are aware, Westinghouse has had underway a program to perform a detailed radiological survey of the Blairsville site. This site was formerly operated under both USAEC contract and USAEC License No. SNM-47 for the fabrication of uranium bearing fuels. Attached for your information is a third report which provides the results of the site investigation conducted during 1996. The study is limited to the site areas external to the buildings and includes an investigation for both radiological and chemical species. Therefore, in addition to this letter, a separate transmittal is being made to the Pennsylvania Department of Environmental Protection. The previous reports for this site were transmitted by the letters referenced above.

January 9, 1997

If you have any questions concerning the attached report or the project, please contact me at 412-374-4652.

Sincerely,

WESTINGHOUSE ELECTRIC CORPORATION\

A handwritten signature in cursive script that reads "A. J. Nardi".

A. J. Nardi, Supervisory Engineer
Regulatory Affairs

/ts

Attachment

cc: Mr. James G. Yusko, CHP
Department of Environmental Protection

ADDENDUM
DATA SUMMARY REPORT - PHASE II INVESTIGATION
WESTINGHOUSE ELECTRIC CORPORATION
SPECIALTY METALS PLANT
BLAIRSVILLE, PENNSYLVANIA

PREPARED FOR:
WESTINGHOUSE ELECTRIC CORPORATION
WESTINGHOUSE BUILDING
11 STANWIX STREET
PITTSBURGH, PA 15222

PROJECT NO. 93132.40/14
DECEMBER 30, 1996

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ADDENDUM
DATA SUMMARY REPORT - PHASE II INVESTIGATION
WESTINGHOUSE ELECTRIC CORPORATION
SPECIALTY METALS PLANT
BLAIRSVILLE, PENNSYLVANIA

1.0 INTRODUCTION

Cummings/Riter Consultants, Inc. (Cummings/Riter) was retained by Westinghouse Electric Corporation (Westinghouse) to perform a Phase II groundwater assessment and an assessment of a former lagoon area at the Westinghouse Specialty Metals Plant located in Derry Township, Westmoreland County, Pennsylvania (Figure 1). The groundwater assessment scope of work is outlined in the Phase II Field Sampling Plan (FSP) Addendum (Revision 2.0) (Cummings/Riter, 1996b). The scope of the Phase II assessment was modified to address comments by representatives of the Pennsylvania Department of Environmental Protection (PADEP) in a letter dated April 15, 1996, and in response to observations made during a site visit attended by PADEP, Westinghouse, and Cummings/Riter representatives on June 6, 1996. The Phase II FSP Addendum (Revision 2.0) was approved by PADEP in a letter dated June 20, 1996. Specifically, the Phase II groundwater investigation involved geoprobe sampling of soil and hydropunch sampling of groundwater with on-site laboratory analysis, drilling, borehole geophysical logging, monitoring well installation, groundwater/seep sampling and analysis, and passive soil gas sampling and analysis.

The former lagoon area assessment scope of work is outlined in the Work Plan, Former Lagoon Area Assessment (Work Plan), (Cummings/Riter, 1996a). The former lagoon area assessment involved a surface geophysical survey and exploratory trenching.

This report documents and summarizes the results of the Phase II groundwater assessment and the former lagoon area assessment performed at the Specialty Metals Plant.

The balance of Section 1.0 provides objectives and the overall approach for the Phase II groundwater and the former lagoon area investigations, and a description of the site setting. Section 2.0 presents the field investigation procedures. Sections 3.0 and 4.0 present a discussion of the site-specific geologic and hydrogeologic setting, respectively. The analytical results for soil, groundwater and passive soil gas samples collected during this investigation are provided in Section 5.0, along with the analytical results and findings from the former lagoon area assessment. The summary of findings are included as Section 6.0.

1.1 OBJECTIVES AND INVESTIGATIVE APPROACH

The objectives of the Phase II groundwater assessment were to 1) identify the source area for volatile organic compounds (VOCs) identified in groundwater in the vicinity of the Industrial Waste Treatment Plant (Figure 2) and 2) further assess the extent of VOCs in the groundwater in the downgradient (east) direction. The investigative approach performed or directed by Cummings/Riter to accomplish these objectives involved the following methods:

- Geoprobe and hydropunch sampling with on-site laboratory analysis,
- Borehole geophysical logging,
- Monitoring well installation,
- Groundwater/seep sampling and analysis, and
- Passive soil gas sampling and analysis.

The former lagoon area assessment was performed prior to the submittal of the Phase II FSP Addendum (Revision 2.0) and is discussed in this report as is relevant to the objectives of the Phase II investigation. The objectives of that assessment were to gather information to possibly identify the areal limits of a former lagoon identified on historical aerial photographs and to evaluate the nature of material contained within the former lagoon. The investigative tasks performed or directed by Cummings/Riter to accomplish these objectives involved the following methods:

- Surface geophysical surveying, and
- Exploratory trenching.

1.2 SITE DESCRIPTION

The Westinghouse Specialty Metals Plant is located on approximately 485 acres of land along Township Road 966 approximately two miles northwest of the town of Blairsville, Pennsylvania (Figure 1). The facility is located south and west of the Conemaugh River, immediately upstream of the confluence of Blacklick Creek and the Conemaugh River. The Westro Building, Zircaloy Building, Main Building Shop, Industrial Waste Treatment Plant, Maintenance Shop and Machine and Die Shop comprise the major buildings at the facility (Figure 2). Additional site features include the sludge drying beds, septic leach beds, sand filters, a 250,000-gallon water tank, an aeration pond, a man-made pond used for plant process water and paved parking/access areas.

2.0 FIELD INVESTIGATION

2.1 GEOPROBE AND HYDROPUNCH SAMPLING WITH ON-SITE LABORATORY ANALYSIS

Seventeen sample locations were selected in areas near the Industrial Waste Treatment Plant (Figure 3) to qualitatively characterize shallow groundwater for VOCs prior to the installation of two additional shallow groundwater monitoring wells. Microseeps Environmental Services provided the sampling and analysis services on September 4 and 5, 1996. Groundwater samples were collected by utilizing direct-push hydropunch sampling techniques. This process consists of hydraulically pushing geoprobe drive rods through the subsurface to the desired depth. The bottoms of the geoprobe rods are comprised of a slotted screen. Upon achieving the desired depth, the rods are pulled up approximately 18 inches to expose the screen and allow the inflow of groundwater into the rods. The water sample was obtained using a peristaltic pump. If unsaturated conditions were encountered above bedrock at a sample location, a soil sample was obtained from the bottom of the borehole just above the depth where sample refusal (bedrock) was encountered. Samples HP-1 through HP-4 represent water samples and Samples HP-5 through HP-17 represent soil samples. The analytical results for the samples are presented on Figure 4.

The geoprobe boreholes ranged in total depth from 3.5 to 8.0 feet below ground surface (bgs). The boring logs are included as Appendix A to this report. The on-site laboratory was equipped with a gas chromatograph system to analyze the groundwater and soil samples collected for selected VOCs. Based on the analytical results for the groundwater and soil samples, locations were selected for the installation of two additional shallow groundwater monitoring wells (MW-18A and MW-19A), as discussed in Section 2.2.

2.2 MONITORING WELL INSTALLATION

Five additional groundwater monitoring wells were drilled and installed at the Specialty Metals Plant from September 16 through 27, 1996 by Eichelbergers, Inc., under the technical direction of Cummings/Riter personnel.

Two shallow bedrock monitoring wells (MW-18A and MW-19A) were installed south of the Industrial Waste Treatment Plant. The locations for Monitoring Wells MW-18A and MW-19A were selected based on groundwater and soil sample analyses, as previously discussed in Section 2.1. The locations were approved in the field by a PADEP representative on September 16, 1996. These two locations represent the highest concentration of VOCs in groundwater and/or soil in the area assessed by the geoprobe and hydropunch samples.

Three bedrock monitoring wells (MW-20 through MW-22) were installed east of the Specialty Metals Plant to evaluate the extent of VOCs in the groundwater. Monitoring Wells MW-20 and MW-21 were installed downgradient from existing Well MW-9A and east of Township Road 966. The objective for the two wells was to further evaluate the horizontal extent of groundwater impacted with VOCs previously detected at Monitoring Wells MW-2 and MW-9A. Monitoring Well MW-22 was installed between existing Wells MW-9A and MW-15 to evaluate whether VOC impacts previously reported at these two locations are hydraulically connected or if separate sources may be present. The monitoring well locations were mutually agreed to in the field on June 3, 1996, with a representative of the PADEP. The surveyed monitoring well locations are provided on Figure 3.

Borings for monitoring well installation were advanced using air-rotary techniques employing a combination of six-inch and eight-inch diameter downhole hammer bits. The borehole was monitored for organic vapors during drilling using a photoionization detector (PID). The total depth for the monitoring well borings was based on observations by the site geologist regarding inflow to the boring as the boring was advanced. The monitoring wells were designed to monitor the uppermost groundwater-bearing unit associated with bedrock. The total depths for the monitoring well borings ranged from 20 to 70 feet bgs. A copy of the boring logs is included as Appendix A to this report.

Upon completion of drilling, but prior to well installation, borehole geophysical logging was conducted by Appalachian Geophysical Surveys in Borings MW-20 through MW-22. The following geophysical suite was included:

- Fluid temperature,
- Single point resistance,
- Spontaneous potential,
- Natural gamma,
- Fluid resistivity,
- Caliper, and
- Full-wave sonic.

The geophysical logs assisted the Cummings/Riter geologist in correlation of stratigraphy between borings, and provided additional hydrogeologic information regarding selection of the well screen interval. The actual monitoring well screen interval was determined by observations made during borehole drilling by the geologist and by the results of the borehole geophysics. The uppermost groundwater-bearing unit in each boring was screened. The geophysical logs are included as Appendix B.

The monitoring wells were constructed using threaded, flush joint, two-inch inside diameter (I.D.), Schedule 40 polyvinyl chloride screen (0.01-inch slots) and casing. The monitoring wells were constructed with a maximum screen interval of ten feet. The annular space was backfilled using an appropriately sized sand adjacent to the screen to a depth approximately two to five feet above the top of the screen. A minimum three-foot sodium bentonite pellet seal was placed above the sand pack to inhibit vertical migration along the borehole. The remaining annular space was backfilled with cement-bentonite grout using the tremie method. A locking steel protective casing set in a concrete pad was installed to protect the wells from damage and surface water infiltration. Monitoring well installation details are included with the appropriate boring log in Appendix A.

Each monitoring well was developed using alternating surge and pump techniques. A minimum of five well casing volumes were removed from each well during well development. Monitoring Wells MW-18A and MW-19A were developed on September 18, 1996 and Monitoring Wells MW-20 through MW-22 were developed on September 26, 1996. The pH, specific conductance and temperature of groundwater recovered were recorded by Cummings/Riter to verify adequate well development. The well development forms are included as Appendix C. Well development equipment was

decontaminated by steam cleaning between wells. Development water was contained in a 1,500-gallon tank located on the Westinghouse property for characterization and disposal by Allegheny Liquid Systems.

2.3 GROUNDWATER SAMPLING AND ANALYSIS

Following completion of monitoring well installation, groundwater samples were collected from the five new monitoring wells (MW-18A, MW-19A, MW-20, MW-21 and MW-22) and existing Monitoring Wells MW-2, MW-9A, MW-12A and MW-15 (Figure 3). Field reconnaissance conducted by Cummings/Riter, Westinghouse, and PADEP representatives identified four groundwater seeps located east of Township Road 966 (Seep Nos. SP-1, SP-2, SP-3 and SP-4). Seep Nos. SP-1 through SP-3 were sampled on August 28, 1996. Seep No. SP-4 was dry at the time of seep sampling on August 28, 1996, during an additional site visit on September 25, 1996, and during monitoring well sampling on October 15, 1996.

The locations of the groundwater seeps and monitoring wells are presented on Figure 3. Seep Nos. SP-1, SP-2, and SP-3 represent the surface expression of groundwater associated with the Saltsburg Sandstone in the vicinity of the Northeast Fill area. Seep No. SP-4 represents a man-made stone-lined structure which appears to be the remnants of a former springhouse.

As provided for by the approved Work Plan, the groundwater samples were analyzed by Ceimic Corporation of Naragansett, Rhode Island for Target Compound List (TCL) VOCs using U.S. Environmental Protection Agency (USEPA) Method 8260, Target Analyte List (TAL) metals, alkalinity (USEPA Method 310.1), chlorides (USEPA Method 9252), sulfates (USEPA Method 9038), total dissolved solids (USEPA Method 160.1), gross alpha (USEPA Method 900.0), gross beta (USEPA Method 900.0), total uranium (ASTM Method D2907), uranium isotopes (USEPA Method 908.0), and total radium (USEPA Method 903.0). Under USEPA Method 8260, cis-1,2-dichloroethene and trans-1,2-dichloroethene were also quantified and reported for all analytical results.

Groundwater sampling was conducted approximately three weeks after the new monitoring wells had been properly developed, allowing the wells to stabilize to static

conditions before sampling. Prior to purging and sampling, the groundwater level and well depth were measured from a fixed point on the well casing. This point was used as the reference mark during the surveying of well head elevations and locations. The water level and well depth were obtained using an electronic water level indicator. This instrument consists of a spool of dual conductor wire, a probe attached to the end and an indicator. When the probe contacts the water surface, the circuit is closed and a meter light and/or buzzer attached to the spool will signal the contact. The bottom of the well was determined by resting the water level indicator on the well bottom. Measurements were made and recorded to the nearest 0.01 foot for the water level and the nearest 0.1 foot for the well depth. Water level measurements are included with historical levels in Table 1.

After water level measurements were completed, each well was purged of a minimum of three well casing volumes using a new dedicated Teflon[®] bailer attached to new dedicated polypropylene rope. For two-inch diameter wells, the well casing volume is determined by the following formula:

$$V = \frac{7.481}{144} \pi r^2 h = 0.163 \frac{\text{gal}}{\text{ft}}$$

For four-inch diameter wells, the well casing volume is determined by the following formula:

$$V = \frac{7.481}{144} \pi r^2 h = 0.653 \frac{\text{gal}}{\text{ft}}$$

where: V = Volume (gallons)
 r = Riser pipe radius (inches)
 h = Standing water height as determined from water level measurements deducted from the well depth (feet)

A well stabilization test was performed during well purging. Temperature, pH and specific conductance were measured following removal of each well volume. If the last two sets of readings were approximately constant, the purging was considered to be complete. Well purging records are included in Appendix C.

In addition to the twelve groundwater samples (nine monitoring wells and three seep samples), two replicate samples, one rinsate (equipment) sample and aqueous trip blank samples (one per sample shipment) were submitted to the laboratory. The rinsate (equipment) sample was collected by pouring laboratory supplied distilled water into a new Teflon[®] bailer. The distilled water was then transferred from the bailer to the appropriate laboratory supplied bottles, labeled (EB-1), and placed in a cooler containing ice. Triple volumes of groundwater from Well MW-18A were collected to allow the laboratory to prepare a matrix spike and a matrix spike duplicate for analysis.

Groundwater samples were collected with new dedicated Teflon[®] bailers attached to new dedicated polypropylene rope. Samples were poured slowly and at an even rate, to minimize aeration, into clean containers supplied by the laboratory. Samples were placed in a container with ice immediately upon collection.

Seep samples were collected by digging a hole at the surface expression of the representative seep with a precleaned stainless-steel trowel, gently submerging a precleaned laboratory supplied container beneath the water surface, and filling the appropriate sample bottles. The sample containers were filled approximately five minutes after the collection hole was prepared and the seep discharge was visually clear in order to minimize sediment disturbance. Samples were placed in a cooler with ice upon collection.

Groundwater sampling equipment was dedicated to each monitoring well. Water level indicator probes were decontaminated using a methanol spray followed by a distilled water rinse before initial use and between wells.

Following completion of sampling activities, bailers were air dried, wrapped in a plastic bag, labeled with the appropriate well identification number, and stored in a secure building for future use.

To identify and track each sample through shipping and laboratory analysis, the following documents were prepared:

- Sample labels,
- Chain-of-custody forms, and
- Sample collection forms.

The labels included the project number, project name, sampler's name, sample medium, sample preservative, type of sample (grab or composite), sample number, location, date and time.

Sample collection forms were used to make entries at each sampling station and consisted of information recorded on sample labels, field measurements and observations, including sample color and odor, and are contained in Appendix C.

Custody procedures were followed to maintain a record of sample possession. Chain-of-custody forms are included with the laboratory analytical data as Appendix D. The samplers were personally responsible for the care and custody of the samples collected until they were properly transferred or dispatched. Sample labels were completed using waterproof ink.

The water generated during the Phase II supplemental groundwater assessment was contained on site for characterization and disposal by Allegheny Liquid Systems.

2.4 SOIL GAS SAMPLING AND ANALYSIS

A passive soil gas survey was performed in the vicinity of a fill area located northeast of the Specialty Metals Plant (Northeast Fill area). The soil gas survey was performed to further evaluate the potential occurrence of VOCs in groundwater as previously detected in a groundwater sample collected and analyzed from Monitoring Well MW-15.

The soil gas survey was performed using the GORE-SORBER[®] passive sampling technique. Developed by W.L. Gore and Associates (Gore), the GORE-SORBER[®] Screening Module employs passive soil vapor sampling techniques which permit samples to be collected from undisturbed soils and groundwater.

A typical GORE-SORBER[®] Screening Module consists of several separate GORE-SORBER[®] Passive Sorbent Collection Devices (sorbent). A typical sorber includes a 3 millimeters (mm) identification tag, is 15 to 25 mm long, and contains 40 milligrams (mg) of a suitable granular adsorbent material depending on the specific compounds to be detected. Typically, polymeric and carbonaceous resins are used for their affinity for a broad range of VOCs and semivolatile organic compounds (SVOCs). The sorbers are sheathed in the bottom of a four-foot length of vapor-permeable insertion and retrieval cord. This construction is termed a GORE-SORBER[®] module. Both the retrieval cord and sorbent container are constructed solely of inert, hydrophobic, microporous GORE-TEX[®] expanded polytetrafluoroethylene.

Sample holes were advanced by Cummings/Riter personnel to a depth of approximately two feet by driving one-inch outside diameter (O.D.) pilot holes using a precleaned stainless-steel rod. Fourteen passive collectors provided by Gore were activated in the field by inserting the modules into the completed sample holes and sealing the top of the sample hole with a cork which is fastened to the module. The sample holes were marked with pin flags and labeled with the module identification number. The passive soil gas sample locations are provided on Figure 3. The collectors were retrieved from the field approximately two weeks after installation, placed in a cooler with ice and returned to Gore's laboratory for analysis by gas chromatograph and mass selective detectors, as well as an automated thermal desorption unit.

2.5 FORMER LAGOON AREA ASSESSMENT

2.5.1 Surface Geophysical Survey

On April 3, 1996, Cummings/Riter performed a surface geophysical survey in the form of a bulk conductivity survey using a Geonics[®] Limited Model EM-31 (EM-31) in the vicinity of a former lagoon. The area surveyed was the same area as the previous magnetometer survey performed by Cummings/Riter in December 1995 (Cummings/Riter, 1995).

The geophysical survey was performed using an EM-31, non-contacting, terrain conductivity meter and data logger. The EM-31 measures the average bulk conductivity of subsurface material in the vicinity of the instrument.

The EM-31 has three settings at which measurements can be obtained. The quad-phase vertical position readings provide average subsurface conductivity values to a depth of approximately 20 feet. The quad-phase horizontal position readings provide average subsurface conductivity values to a depth of approximately 10 feet. The in-phase position readings are used to identify buried ferrous metal and assist in distinguishing variations in ground conductivity from buried ferrous metals. Three measurements were obtained at each grid station using the EM-31. The survey was conducted by recording these conductivity measurements (i.e., quad-phase vertical, quad-phase horizontal, and in-phase) on a five-meter grid pattern.

The discussion of the findings of the conductivity survey is focused on the former lagoon area. Data from this conductivity survey were plotted and contoured to establish patterns that might relate to the former lagoon area. Measurements from the EM-31 survey for quad-phase vertical, quad-phase horizontal, and the in-phase modes are presented on Figures 5, 6, and 7, respectively. The results for the conductivity survey are presented in Section 5.4.

2.5.2 Exploratory Trenching

The approximate location of a former lagoon was extrapolated from available historical aerial photographs and the findings of the magnetometer and conductivity surveys onto a plan map (Figure 8). The approximate location of the former lagoon area was marked in the field using the existing magnetometer/conductivity survey grid. The projected field location for the former lagoon was reviewed with Westinghouse personnel prior to the initiation of exploratory trenching. Three exploratory trenches were excavated in the vicinity of the former lagoon on April 10 and 11, 1996 by Carlucci Construction of Cheswick, Pennsylvania.

The trenches were excavated using a rubber-tired backhoe and excavation activities were supervised by a geologist. The backhoe operator, spotter, and Cummings/Riter geologist donned Level B personal protective equipment during active excavation. The exploratory trenches proceeded from outside the area of the former lagoon toward the interior former lagoon area. The locations of the trenches are shown on Figure 8.

In accordance with the Work Plan (Cummings/Riter, 1996a), trenches were to be continued until “waste-like” material was encountered or the trench was outside the projected former lagoon area. “Waste-like” material was defined as sludges and lagoon sediments which may have been related to a former plant process. Surficial soil (zero to one foot) was stockpiled separately from deeper material. The trenches were profiled for depth, soil type, grain size and distribution, color (matrix and mottles), rock fragment content, moisture, and the presence of groundwater inflow. In addition, photographic documentation was collected for each trench. The soils removed from the trenches were monitored for organic vapors using a PID with a 10.2 eV lamp and an alpha and beta-gamma radioactivity meter. There were no PID readings above background levels throughout trenching activities. In general, radioactivity readings indicated background levels; however, select material did exhibit above background radiation levels and these findings are discussed in Section 5.4. The trenches were backfilled with the excavated trench materials.

3.0 GEOLOGIC SETTING

A general description of the regional geologic setting for the Specialty Metals Plant area is included in the Data Summary Report (Cummings/Riter, 1995), and is not repeated in this Addendum.

Information from previous site investigations and observations during this site investigation, along with the published geologic reference material for the site area, were utilized to provide an understanding of the site geologic setting, as discussed in the following sections.

3.1 GENERAL SITE GEOLOGY

The Specialty Metals Plant is located in the unglaciated Allegheny Plateau section of the Appalachian Plateau Physiographic Province on a broad, gently sloping ridge with steep slopes north and east of the facility adjacent to the Conemaugh River (Figure 1). Surface water drainage is generally from west to east across the site via three shallow drainage channels which have been modified by the plant construction, the adjacent railroad bed and the formation of a large man-made pond at the southern limits of the site. Each of these drainage channels ultimately flows to the Conemaugh River. Surface elevations at the facility range from approximately 980 to 1,020 feet above mean sea level (MSL), as compared to the approximate local Conemaugh River elevation of 905 feet MSL.

Review of existing site boring logs and published geologic reports covering the subject site area indicates the Specialty Metals Plant is underlain by fill material placed during plant construction, terrace deposits belonging to the Carmichaels Formation (Quaternary), residual soils formed from in-place weathering of bedrock, and bedrock belonging to the Glenshaw Formation of the Pennsylvania Age Conemaugh Group. Each of these units is discussed further in the following subsections.

3.2 UNCONSOLIDATED DEPOSITS

Boring logs completed for the Phase II supplemental groundwater assessment for monitoring well installation and geoprobe sampling indicate that the unconsolidated

deposits immediately underlying the Specialty Metals Plant are variable in composition and thickness and generally consist of brown, orange and gray clayey silt, silt, fine to medium-grained sand, and clayey sand with variable amounts of rock fragments and cobbles. The unconsolidated deposits encountered during this investigation ranged in thickness from approximately 5.0 feet (MW-19A) to 9.5 feet (MW-22). The unconsolidated deposits encountered were predominately unsaturated during borehole drilling for monitoring well installation in the area south of the Industrial Waste Treatment Plant and east of Township Road 966 and are discussed further in Section 4.1.1. Hydrostratigraphic cross-sections depicting the unconsolidated deposits are provided as Figures 9 through 11.

3.3 BEDROCK

The bedrock encountered beneath the unconsolidated deposits at the Specialty Metals Plant consists predominately of tan, gray and brown fine to medium-grained sandstone interbedded at depths with gray and purple shale, argillaceous sandstone and thin coal seams. The uppermost sandstone unit corresponds to the Saltsburg Sandstone member of the Glenshaw Formation, Conemaugh Group (Pennsylvania) based on the reported elevation of the Upper Freeport Coal Seam beneath the Specialty Metals Plant which was discussed in the Data Summary Report (Cummings/Riter, 1995). This correlation is further supported by observation of drill cuttings and geophysical logging. The base of the Saltsburg Sandstone unit is shown on Figure 12 and the hydrostratigraphic cross sections (Figures 9 through 11).

During the Phase II supplemental groundwater investigation, the top of bedrock was encountered in borings for monitoring well installation at depths ranging from 5.0 feet bgs (MW-19A) to 9.5 feet bgs (MW-22). The bedrock surface underlying the Specialty Metals Plant is somewhat variable with a general slope to the north and east in the areas investigated.

Based on the results for the deep borings advanced during the Phase II site investigation and supplemental groundwater assessment for monitoring well installation, the Saltsburg Sandstone member underlying the Specialty Metals Plant ranged in thickness from not present (MW-20) to 55.5 feet (MW-7B) with thickness increasing generally from south to

north across the site. The base elevation of the Saltsburg Sandstone member encountered in site borings is depicted on Figure 12 and in the hydrostratigraphic cross-sections (Figure 9 through 11).

The Saltsburg Sandstone member was absent at the MW-20 borehole location. Well MW-20 appears to be located south of the area where the Saltsburg Sandstone subcrops. A fine-grained argillaceous sandstone was encountered at a depth of approximately 60 feet bgs in the boring for Well MW-20. This sandstone unit is interpreted to represent the Buffalo Sandstone member of the Glenshaw Formation, Conemaugh Group (Pennsylvanian), based on lithology and depth encountered below the Lower Bakerstown coal unit. This interpretation is supported by natural gamma geophysical logs and lithologic interpretation as shown in cross-section on Figure 9.

The attitude of the bedrock units underlying the Specialty Metals Plant strikes north 45° east and dips to the northwest at an approximate rate of 2.8°. This is calculated from a three point problem using a correlated unit identified on natural gamma geophysical logs for borings advanced for the installation of Monitoring Wells MW-6B, MW-7B and MW-8B during the Phase II site investigation (Cummings/Riter, 1995). The bedrock attitude, as estimated by the three point problem using site data, corresponds with the structure contours drawn on the Pittsburgh Coal Seam (Wagner, 1975) which indicates the rocks underlying the Specialty Metals Plant dip northwest at an approximate rate of 160 feet per mile.

4.0 HYDROGEOLOGIC CONDITIONS

A general description of the regional hydrogeologic conditions for the Specialty Metals Plant area is included in the Data Summary Report (Cummings/Riter, 1995) and is not repeated in this Addendum.

This study primarily focused on the groundwater-bearing unit encountered in bedrock associated with the Saltsburg Sandstone member and, to a lesser extent, the unit associated with the unconsolidated deposits/weathered bedrock at the eastern limits of the Specialty Metals Plant. The hydrogeologic properties of the groundwater-bearing units associated with unconsolidated deposits and the underlying bedrock were evaluated during Phase II by shallow groundwater pump testing and surface/groundwater level measurements (Cummings/Riter, 1995). Each of the groundwater-bearing units is discussed separately below.

4.1 UNCONSOLIDATED DEPOSITS

The uppermost groundwater-bearing unit is unconfined and associated with the unconsolidated deposits and underlying weathered bedrock at the Specialty Metals Plant. The unconsolidated deposits are predominately saturated throughout most of the site area, with unsaturated conditions occurring near the eastern limits of the Specialty Metals Plant near Township Road 966. This condition may possibly be due to increased stress relief fractures along the steep valley walls adjacent to the Conemaugh River, which may allow drainage of the shallow groundwater into the more competent portion of the bedrock formation. According to Piper (1933), areas where unconsolidated terrace deposits (Carmichaels Formation) are located on exposed terraces are likely to be completely drained.

Groundwater levels were measured on September 27, 1996 in the monitoring wells that are in hydrologic communication with the unconsolidated/weathered bedrock unit. The groundwater levels were converted to elevations in feet above MSL (Table 1) and contoured as shown on Figure 13. The resulting piezometric surface map indicates that shallow groundwater flow tends to mimic surface topography, with flow generally from

west to east across the site. The horizontal hydraulic gradient varies from upgradient (west) to downgradient (east) locations, with the gradient becoming steeper towards Township Road 966. Based on September 27, 1996 water level data for Monitoring Wells MW-11A (996.27 feet MSL) and MW-2 (981.65 feet MSL) the average horizontal hydraulic gradient is approximately 0.01 foot per foot (ft/ft). The groundwater levels measured on September 27, 1996 are shown in hydrostratigraphic cross-section for selected wells on Figures 9 through 11.

4.2 BEDROCK

Based on the borings advanced for monitoring well installation, groundwater occurs within the sandstone units (Saltsburg Sandstone and Buffalo Sandstone members) underlying the unconsolidated deposits at the Specialty Metals Plant. Groundwater circulation is predominately through secondary porosity in the form of fractures and bedding plane partings in the sandstone. Groundwater seeps identified east of Township Road 966 represent the surface expression of groundwater associated with the Saltsburg Sandstone.

Groundwater levels were measured in the bedrock monitoring wells on September 27, 1996. The groundwater levels were converted to elevations in feet above MSL and are presented in Table 1. The groundwater levels were contoured as shown on Figure 14. The groundwater level for Monitoring Well MW-20 was not used in construction of this figure, as the uppermost water-bearing unit at Well MW-20 was not encountered in the Saltsburg Sandstone. The uppermost water-bearing unit was encountered in a fine-grained, argillaceous sandstone interpreted to represent the Buffalo Sandstone member, as previously discussed in Section 3.1.3. The resulting piezometric surface map indicates that groundwater associated with the Saltsburg Sandstone member tends to flow northeast toward the Conemaugh River (Figure 14). The horizontal hydraulic gradient varies from upgradient (southwest) to downgradient (northeast). Based on September 27, 1996 water level data for Monitoring Wells MW-8B (991.23 feet MSL) and MW-22 (957.41 feet MSL), the average horizontal hydraulic gradient is approximately 0.03 ft/ft. The groundwater levels measured on September 27, 1996 are shown in hydrostratigraphic cross-section for selected wells on Figures 9 through 11.

Based on water level data in the shallow and deep well pairs, a slight downward vertical hydraulic gradient (decreasing head with depth) exists to the south (MW-8A/MW-8B) and to the southwest (MW-6A/MW-6B) of the site, and the downward hydraulic vertical gradient increases to the north (MW-7A/MW-7B). The observed downward vertical hydraulic gradient indicates that the shallow groundwater-bearing unit associated with the unconsolidated deposits provides recharge to the underlying bedrock aquifer.

5.0 INVESTIGATION RESULTS

5.1 GEOPROBE AND HYDROPUNCH SAMPLING AND ANALYSIS

Fifteen soil samples and four groundwater samples were collected for on-site laboratory analysis of select VOCs. The sampling locations and analytical results are provided on Figure 4, and the on-site laboratory analytical results are included in Appendix D. The analytical results from these samples were utilized to locate areas for the installation of Monitoring Wells MW-18A and MW-19A.

VOC concentrations reported for geoprobe soil Samples HP-5, HP-10, HP-11, HP-12, HP-13, HP-15 and HP-17, collected immediately above the bedrock surface in areas where the unconsolidated deposits were unsaturated, were below the method detection limits for all compounds (Figure 3). The other samples analyzed had detectable levels of VOCs. The highest VOC concentrations reported for groundwater samples collected with the hydropunch system for trichloroethene (TCE) at Samples HP-3 (49.1 micrograms per liter [$\mu\text{g/l}$]) and HP-4 (240.9 $\mu\text{g/l}$). The highest VOC concentrations reported for soil samples collected using the geoprobe were also for TCE at Samples HP-8 (48 $\mu\text{g/l}$) and HP-9 (140 $\mu\text{g/l}$).

These results were utilized to locate proposed Monitoring Wells MW-18A (at location HP-4) and MW-19A (at location HP-9).

5.2 GROUNDWATER

As previously discussed, groundwater from nine monitoring wells and three seeps was sampled and analyzed as part of this investigation. The groundwater samples were analyzed for the parameters identified in Section 2.3. The surveyed locations for the monitoring wells and seeps which were sampled during this investigation are provided on Figure 3.

The groundwater analytical results were evaluated by comparing the concentrations reported by the laboratory with the PADEP proposed human health standards for non-residential groundwater (PADEP standards) (PADEP, 1996). Groundwater analytical results are presented along with the PADEP proposed standards for groundwater in Table 2. The results for TCL VOC analysis for groundwater are provided as Figure 15.

VOCs were not reported above method detection limits in groundwater samples collected from Monitoring Wells MW-2, MW-20, and MW-22. Seven VOCs were reported above method detection limits in six of the nine monitoring wells sampled (MW-9A, MW-12A, MW-15, MW-18A, MW-19A and MW-21).

1,1-Dichloroethane was not reported above PADEP standards in any of the groundwater samples collected from the monitoring wells. Groundwater samples with VOCs reported above PADEP standards are discussed below:

- Methylene chloride was reported in the samples from Wells MW-9A (150 µg/l) and MW-19A (2,200 µg/l) (duplicate 1,900 µg/l), and Seep Nos. SP-1 (26 µg/l), SP-2 (27 µg/l), and SP-3 (24 µg/l) (duplicate 27 µg/l).
- cis-1,2-Dichloroethene was reported in one groundwater sample from Monitoring Well MW-9A at a concentration of 460 µg/l.
- 1,1,1-Trichloroethane, 1,1-dichloroethene, and carbon tetrachloride were reported in one groundwater sample collected from Monitoring Well MW-12A at a concentration of 2,000 µg/l, 36 µg/l, and 500 µg/l, respectively.
- Trichloroethene was reported in groundwater samples collected from Wells MW-9A, MW-12A, MW-15, MW-18A, MW-19A, MW-21 and Seep Nos. SP-1 and SP-2 at concentrations ranging from 9 to 400,000 µg/l.

The groundwater samples collected from the monitoring wells and the seeps were also analyzed for TAL metals. Antimony, beryllium, selenium and silver were not reported in any of the groundwater samples above method detection limits. Barium, calcium, cobalt,

copper, magnesium, mercury, potassium, sodium, and zinc were not reported above the PADEP standards in any of the groundwater samples. Groundwater samples with TAL metal concentrations reported above PADEP standards are discussed as follows:

- Aluminum was reported for each groundwater sample collected. Aluminum concentrations ranged from 0.3 milligrams per liter (mg/l) (Seep No. SP-1) to 43.5 mg/l (Well MW-9A).
- Except for Well MW-20, manganese concentrations in groundwater samples ranged from 0.15 mg/l to 16.7 mg/l.
- Arsenic (0.07 mg/l), chromium (0.16 mg/l) and nickel (0.12 mg/l) were reported in the groundwater sample collected from Monitoring Well MW-9A. Nickel was reported in the duplicate groundwater sample collected from Seep No. SP-3 at 0.16 mg/l. Nickel was not detected above PADEP standards in the sample from Seep No. SP-3.
- Cadmium was reported at a concentration of 0.01 mg/l at sample locations MW-9A and MW-18A.
- Iron was reported in groundwater samples collected from Wells MW-9A (146 mg/l), MW-18A (139 mg/l), MW-19A (35.1 mg/l), MW-19A duplicate (62.3 mg/l), and Seep No. SP-3 duplicate (49.2 mg/l). Iron was not detected above PADEP standards in the sample from Seep No. SP-3.
- Lead was reported in groundwater samples collected from Wells MW-18A (0.05 mg/l), MW-19A (0.036 mg/l), MW-19A duplicate (0.070 mg/l), MW-21 (0.01 mg/l), MW-22 (0.011 mg/l), and Seep No. SP-2 (0.012 mg/l).
- Thallium and vanadium were reported for the groundwater samples collected from Monitoring Wells MW-9A (0.01 mg/l and 0.10 mg/l, respectively) and MW-18A (0.02 mg/l and 0.10 mg/l, respectively).

The TAL metal concentrations reported above are generally consistent with upgradient groundwater concentrations previously reported (Cummings/Riter, 1995). The groundwater samples collected from the monitoring wells and seeps were also analyzed for alkalinity, chlorides, sulfates, total dissolved solids, pH, and total cyanide. The analytical results for these parameters are discussed below:

- Alkalinity was reported in the groundwater samples at concentrations ranging from 55.6 to 652 mg/l.
- Chlorides were reported in the groundwater samples at concentrations ranging from 3.0 to 104 mg/l.
- With the exception of groundwater sampled from Monitoring Well MW-20 (<5.0 mg/l), sulfates were reported above PADEP standards in the groundwater samples at concentrations ranging from 9.9 to 222 mg/l.
- pH values for the groundwater samples ranged from 6.21 to 7.91.
- Total dissolved solids for the groundwater samples collected from the monitoring wells ranged from 199 mg/l to 922 mg/l.
- Cyanide was reported at a concentration of 0.04 mg/l in one groundwater sample collected from Monitoring Well MW-2.

The pH values reported above are consistent with previous pH values for upgradient groundwater (Cummings/Riter, 1995). The other general chemistry parameters listed above were not previously analyzed in upgradient monitoring wells.

Results of the groundwater radiological analyses are presented in Table 2. These samples were analyzed for gross alpha, gross beta, uranium isotopic, total uranium, and total radium. Most of the results are consistent with what would be expected for the presence of naturally occurring radionuclides in groundwater. Select results appear to be somewhat anomalous and deserve further discussion:

- Well MW-2 - The uranium isotopic analysis results are not consistent with naturally occurring uranium since the U-234 result is nearly eight times as high as the U-238 value. Normal values for U-234 and U-238 are typically equal. Previous sample results in 1994 and 1995 were consistent with the expected results for natural uranium and thus are not consistent with the results for this sampling period. This may be attributed to sample collection and the variability in radiochemical methods.

- Well MW-15 - The gross alpha results for this sample do not seem high enough to be consistent with the uranium isotopic and the total uranium results. Overall, the uranium isotope and total uranium results are higher than expected since the description of the sample did not classify the water sample as turbid. The isotopic composition is consistent with natural uranium. Overall, the radiological results for groundwater collected at Well MW-15 are generally consistent with the previous groundwater sample collected for this well in 1995 (Cummings/Riter, 1995).
- Seep SP-3 - The gross beta result for this sample is above background and not consistent with the results for the uranium and radium. To further investigate this sample, a gamma spectrum analysis was performed to determine if there are any other beta emitting isotopes contributing to this result. These specific results are presented in Appendix D. These results identify several isotopes (Co-60, Co-57, Cs-134 and Cs-137) which indicate that this seep may be impacted by materials present at the base of the fill area. This area is currently under active remediation.

5.3 SOIL GAS SURVEY

Fourteen GORE-SORBER[®] screening modules were analyzed by Gore for the following VOCs:

- Trichloroethene,
- Tetrachloroethene,
- 1,1,1-Trichloroethane,
- 1,2-Dichloroethane,
- 1,1-Dichloroethane,
- trans-1,2-Dichloroethene,
- cis-1,2-Dichloroethene, and
- Chloroform.

The results reported by Gore indicate an area of VOC concentrations in soil gas located east (downslope) of the Northeast Fill area and west of Seep No. SP-1 (Sample Nos. 127-855, 127-856, 127-857, 127-858, 127-859, and 127-860). The primary VOCs reported for soil gas samples include trichloroethene, 1,1,1-trichloroethane, cis-1,2-dichloroethene, and trans-1,2-dichloroethene.

The analytical results are summarized in Table 3 and the sample locations are shown on Figure 3. The GORE-SORBER® Screening Survey Final Report, including the soil gas analytical data package, is included as Appendix D.

5.4 FORMER LAGOON AREA ASSESSMENT

The former lagoon area plan location was estimated from historical site aerial photographs and survey data and transferred onto the site plan map. The approximate location of the former lagoon area was located in the field using the existing survey grid.

Bulk conductivity surveying was performed in the area of a former lagoon. The survey results indicated the presence of conductivity anomalies approximately centered at Grid Stations N45/E95 and N50/E100, as shown on Figures 5, 6, and 7. Based on this information, three exploratory trenches were excavated in the vicinity of the former lagoon area (Figure 8). Two of the trenches bisect the estimated limits of the former lagoon area, and the third trench was excavated to the west. There were no visible indications of “waste-like” materials encountered in the trenches, but debris consisting of metal and plastic pipe, sheet metal, metal wire, wood scraps, wire, concrete slabs, and rebar was observed. “Waste-like” materials were defined as sludges and lagoon sediments which may have been related to a former plant process. The metallic debris is interpreted as the source of the conductivity anomalies. The excavation activities were continually monitored using a PID and radioactivity meters. There were no PID readings above background during the course of operation. Radioactivity measurements four times background were observed in a portion of Trenches 1 and 2. The findings for each trench are discussed below.

5.4.1 Trench 1

The initial excavation, identified on Figure 8 as Trench 1, was started outside the estimated eastern limit of the former lagoon area. Trench 1 was started approximately at Grid Station N52/E110. Trench 1 proceeded approximately 76 feet in a westerly direction and terminated approximately on Grid Station N50/E84. Trench 1 was excavated to bedrock which ranged from four to six feet bgs. Debris encountered was

present at depths of one to two feet bgs and consisted of metal pipe, sheet metal, wood scraps, wire, and concrete slabs located between 31 to 65-foot intervals along Trench 1 (Figure 16).

The location of the debris was consistent with anomalies identified in both the magnetometer survey (Cummings/Riter, 1995) and the recent conductivity survey. Although debris was observed, no “waste-like” material was observed. Because no “waste-like” material was observed and PID readings were at background levels, the trench was continued through the expected former lagoon area. This approach was modified from the Work Plan to reflect field conditions and to more adequately assess the former lagoon.

A limited amount of perched water was encountered at approximately 38 to 42 feet along Trench 1. A sample of this water was placed in a jar and covered with foil for approximately ten minutes. The headspace of the water sample contained in the jar was obtained by puncturing the foil with the PID probe tip. The PID headspace measurement readings were at background levels. In addition, Nuclear Support Services, Inc. (NSSI) personnel (Westinghouse Health Physics Consultant) collected a sample of the water for on-site radiological analysis. According to the on-site NSSI representative, the radiological analysis of the water was consistent with normal background levels.

A composite soil sample (S-2) was collected by removing the soil from the metal debris encountered. The sample was analyzed for TAL metals, TCL VOCs, gross alpha, and gamma spectrum. The analytical results indicate that TCL VOCs were not reported in the samples above quantitation limits (Table 4). Various TAL metals were reported above quantitation limits and are summarized in Table 5. The analytical results for metals do not indicate that the material sampled is a material. The metals reported do not exceed PADEP proposed human health standards for non-residential subsurface soils. The results for the gross alpha and gamma spectrometry (Table 6) indicate the presence of uranium that is consistent with the uranium used in the plant process. The sample taken in the trench was material directly associated with other debris and was located based on field meter readings

using a beta-gamma survey meter. The concentrations given in Table 6 are therefore not representative of the average concentrations present. In general, the radiation readings observed during the trenching operation were consistent with normal background levels. A summary of the analytical results is presented in Tables 4, 5, and 6.

5.4.2 Trench 2

Trench 2 was initiated immediately south of Grid Station N36/E97 and proceeded in a general southerly direction ending at Grid Station N55/E94 for an approximate length of 58 feet. A concrete slab approximately centered at Grid Station N45/E96 was encountered and could not be removed with the backhoe. Excavation of Trench 2 continued on the west side of the concrete slab. Once the trench extended beyond the concrete slab, the excavation was returned to the original trench alignment. The location of Trench 2 is presented on Figure 8.

Fill was encountered in Trench 2 to a maximum depth of approximately three feet bgs (Figure 17). The fill was present from approximately 3 to 37 feet along Trench 2 (there were no indications of the presence of fill in the last 21 feet of the excavation). A limited amount of perched water was encountered in Trench 2 between approximately 6 to 16 feet along the trench. No perched water was encountered in the remaining portion of the excavation for Trench 2. The base of Trench 2 was completed in bedrock.

Debris consisting of wood scraps, concrete slabs, metal conduit, metal wire, and rebar was encountered in the fill between 0 to 37 feet along Trench 2. The debris encountered was present at depths from one to three feet bgs. This debris was consistent with material observed in Trench 1, and anomalies identified in both the magnetometer and conductivity surveys. No “waste-like” material was encountered.

A soil sample (S-3) was collected from soil surrounding a bundle of wire removed from Trench 2. NSSI personnel collected a split sample at this location. The bundle of wire exhibited a radioactivity reading of 200 counts per minute (cpm) using a beta-gamma survey instrument, which was approximately four times background levels. The soil sample was sent for laboratory analysis of TAL metals, TCL VOCs, gross alpha, and gamma spectrum. The analytical results indicate that TCL VOCs were not reported in the soil samples above quantitation limits (Table 4). Various TAL metals were reported

above quantitation limits (Table 5), although not above PADEP proposed human health standards for non-residential subsurface soils. The results of the gross alpha and gamma spectrometry (Table 6) are consistent with those discussed in the previous section for Sample S-2 collected from Trench 1. A summary of the analytical results is presented in Tables 4, 5, and 6.

5.4.3 Trench 3

A third trench (Trench 3) was excavated in the area west of the former lagoon area at a location selected by Westinghouse (Figure 8). The trench was initiated approximately at Grid Station N46/E82. Trench 3 was excavated in a general southerly direction and was terminated approximately at Grid Station N59/E84 for an approximate length of 40 feet. Trench 3 was excavated to bedrock along the entire length of the trench (Figure 18). Two, two-inch diameter black polyethylene pipes aligned in an east-west direction were encountered approximately where Trench 3 intersects Grid Station N50/E82. A limited amount of fill, including trace amounts of slag, was encountered in Trench 3. Precise limits of the fill were not discernible from the indigenous soils. Soil samples were not collected for laboratory analysis from Trench 3 because PID and gross beta-gamma measurements were background.

Based on the findings of 1) the previous magnetometer survey (Cummings/Riter, 1995), 2) the conductivity survey, 3) the exploratory trenches and 4) the soil sample analytical results, the former lagoon area does not contain “waste-like” (i.e., sludge) materials, but does contain debris.

6.0 SUMMARY OF FINDINGS

The objectives of the Phase II groundwater assessment were to identify the source area for VOCs identified in groundwater in the vicinity of the Industrial Waste Treatment Plant, and to further assess the extent of VOCs in groundwater in the downgradient (east) direction. In addition, an evaluation of a former lagoon area was completed.

The findings of this assessment are summarized as follows:

- Unconsolidated deposits consisting of fill material, terrace deposits and residual soil are present immediately beneath the Specialty Metals Plant. The bedrock underlying the unconsolidated deposits at the Specialty Metals Plant consists predominately of tan, gray and brown, fine to medium-grained sandstone interbedded at depths with shale, argillaceous sandstone, and coal seams. The uppermost unit corresponds to the Saltsburg Sandstone Member of the Conemaugh Group.
- Groundwater flow within the uppermost unconsolidated deposits tends to mimic surface topography, with flow from west to east across the site. The average horizontal hydraulic gradient on September 27, 1996 was 0.01 ft/ft. This groundwater-bearing unit is unsaturated along the eastern limits of the Specialty Metals Plant.
- Groundwater flow within the Saltsburg Sandstone unit tends to flow northeast towards the Conemaugh River. The average horizontal hydraulic gradient on September 27, 1996 was 0.03 ft/ft. The bedrock aquifer is recharged by groundwater associated with the overlying unconsolidated deposits, where saturated.
- The results for groundwater sampling and analysis identify areas where VOC and inorganic concentrations exceed PADEP proposed human health standards for non-residential groundwater. The extent of VOCs in groundwater east of the Specialty Metals Plant has been further defined by the analytical results for groundwater samples collected from Wells MW-20, MW-21, MW-22 and the seep locations (Seep Nos. SP-1, SP-2, and SP-3).

- The TAL metal results for groundwater samples collected during this investigation and the previous Phase II upgradient groundwater monitoring results (Cummings/Riter, 1995) indicate that TAL metal concentrations above PADEP proposed standards represent background groundwater quality.
- The results for this groundwater investigation, combined with the previous Phase II investigation results identify the presence of three separate source areas for VOCs in groundwater at the Specialty Metals Plant, identified as follows:
 - South of the Westro Building at Monitoring Well MW-12A;
 - South of the Industrial Waste Treatment Plant at Monitoring Well MW-19A; and
 - The Northeast Fill area at Monitoring Well MW-15.
- The VOC results for monitoring wells previously sampled (MW-2, MW-9A, MW-12A and MW-15) were consistently lower for this event than the VOC concentrations reported in September 1995 (Cummings/Riter, 1995).
- Residual soil concentrations at the Industrial Waste Treatment Plant area and the Northeast Fill area were not found to be elevated, and do not represent a substantial source of VOCs. One soil sample from the area south of the Westro Building located in the vicinity of the former 15,000 gallon above ground TCE/1,1,1-TCA storage tank exceeded the PADEP proposed cleanup standards for TCE.
- Passive soil gas samples collected east of the Northeast Fill area reported VOC concentrations (trichloroethene, 1,1,1-trichloroethane, cis-1,2-dichloroethene and trans-1,2-dichloroethene) above the method detection limit in an area between the Northeast Fill area and Seep No. SP-1.
- The former lagoon area does not contain “waste-like” materials (i.e. sludge), but does contain debris (i.e., metal, wire, and concrete slabs).
- Small quantities of processed uranium were identified directly associated with the surface of a small percentage of the debris encountered in the former lagoon area. These specific results, however, are not representative of the average concentrations present.

In general, the radiation levels observed were consistent with normal background levels. No further investigation of the former lagoon area is warranted.

- The groundwater radiological analyses are generally consistent with what would be expected for naturally occurring uranium and radium. A few specific analysis results are not consistent either with prior analysis or with other radiological results for the same sample.
- The gamma spectrum results for the groundwater seep sample collected at Location SP-3 indicates that this area is being influenced by the presence of other materials present at the base of the fill area. Since this area is currently under remediation, further samples should be collected for radiological analysis from this location after completion of the remediation.

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TABLES

**TABLE 1
WATER LEVEL MEASUREMENTS**

Monitoring Point	Reference Elevation Top of PVC Casing (feet MSL ^(a))	Water Level 9/11/95 (feet MSL)	Water Level 9/18/95 (feet MSL)	Water Level 9/29/95 (feet MSL)	Water Level 10/9/95 (feet MSL)	Water Level 10/23/95 (feet MSL)	Water Level 11/10/95 (feet MSL)	Water Level 9/27/96 (feet MSL)
MW-2	987.86	978.73	978.61	978.56	979.19	979.46	981.20	981.65
MW-3	1003.08	994.00	994.00	993.73	993.67	993.54	993.43	996.31
MW-6A	1006.58	994.72	994.60	994.37	994.25	994.04	993.98	997.33
MW-6B	1006.14	993.84	993.85	993.52	993.42	993.29	993.17	996.15
MW-7A	993.92	982.42	982.72	984.47	984.62	984.74	984.91	986.93
MW-7B	991.22	943.53	943.42	942.86	942.51	942.40	942.25	945.02
MW-8A	1003.57	990.84	990.79	990.41	990.29	990.22	990.20	993.22
MW-8B	1003.69	989.97	989.89	989.49	989.35	989.17	988.99	991.23
MW-9A	980.82	961.29	961.30	961.10	961.21	961.44	961.52	963.86
MW-10A	1017.03	997.62	997.48	997.13	996.84	996.53	996.10	1001.55
MW-10B	1016.23	991.06	991.15	990.66	990.36	990.18	989.87	992.20
MW-11A	1004.29	993.99	994.02	993.72	993.67	993.53	993.42	996.27
MW-12A	1001.30	994.40	994.07	993.75	993.75	993.65	993.50	996.25
MW-13A	1003.60	993.67	993.70	993.43	993.38	993.26	993.24	995.77
MW-15	982.17	941.72	942.20	942.18	942.92	944.44	943.64	946.91
MW-16A	989.22	983.92	983.92	983.86	983.83	983.76	983.97	985.31
MW-17A	1003.09	990.99	990.91	990.68	990.59	990.41	990.42	992.39
MW-18A	992.00	NA ^(b)	NA	NA	NA	NA	NA	984.50
MW-19A	983.46	NA	NA	NA	NA	NA	NA	967.26
MW-20	964.73	NA	NA	NA	NA	NA	NA	931.43
MW-21	972.64	NA	NA	NA	NA	NA	NA	953.65
MW-22	989.44	NA	NA	NA	NA	NA	NA	957.41
Surface Pond ^(c)	999.32	997.32	997.22	996.82	996.67	996.62	995.87	998.82

a. Elevation is in feet above mean sea level.

b. NA-not available.

c. Reference point for surface pond is benchmark on catwalk.

T LE 2
GROUNDWATER ANALYTICAL RESULTS

Parameter	PADEP Statewide Human Health Standards for Groundwater ^(a)		MW-2 10/14/96	MW-9A 10/14/96	MW-12A 10/14/96	MW-15 10/15/96	MW-18A 10/14/96	MW-19A 10/14/96
	Non-Residential (TDS<2,500mg/l)							
	MSC ^(b)	Basis for MSC ^(c)						
<i>Volatile Organics (ug/l)</i> ^(d)								
Chloromethane	3	HAL	<5	<100	<5	<50	<5	<1300 / <1300 ^(f)
Bromomethane	10	HAL	<5	<100	<5	<50	<5	<1300 / <1300
Vinyl chloride	2	MCL	<5	<100	<5	<50	<5	<1300 / <1300
Chloroethane	58,000	inhalation	<5	<100	<5	<50	<5	<1300 / <1300
Methylene chloride	5	MCL	<5	150^(e)	5	<50	<5	2,200 / 1,900
Acetone	10,000	ingestion	<10	<200	<10	<100	<10	<2500 / <2500
Carbon disulfide	4,100	inhalation	<5	<100	<5	<50	<5	<1300 / <1300
1,1-Dichloroethene	7	MCL	<5	<100	36	<50	<5	<1300 / <1300
1,1-Dichloroethane	110	inhalation	<5	<100	77	<50	<5	<1300 / <1300
cis-1,2-Dichloroethene	70	MCL	<5	460	69	<50	<5	2,900 / 2,900
trans-1,2-Dichloroethene	100	MCL	<5	<100	<5	<50	<5	<1300 / <1300
Chloroform	100	MCL	<5	<100	<5	<50	<5	<1300 / <1300
1,2-Dichloroethane	5	MCL	<5	<100	<5	<50	<5	<1300 / <1300
2-Butanone	5,800	inhalation	<10	<200	<10	<100	<10	<2500 / <2500
1,1,1-Trichloroethane	200	MCL	<5	<100	2,000D^(g)	<50	<5	<1300 / <1300
Carbon tetrachloride	5	MCL	<5	<100	500	<50	<5	<1300 / <1300
Bromodichloromethane	100	MCL	<5	<100	<5	<50	<5	<1300 / <1300
1,2-Dichloropropane	5	MCL	<5	<100	<5	<50	<5	<1300 / <1300
trans-1,3-Dichloropropene	4.9 (total)	inhalation	<5	<100	<5	<50	<5	<1300 / <1300
Trichloroethene	5	MCL	<5	6,600D	850D	710	200D	400,000D / 370,000D
Dibromochloromethane	100	MCL	<5	<100	<5	<50	<5	<1300 / <1300
1,1,2-Trichloroethane	5	MCL	<5	<100	<5	<50	<5	<1300 / <1300
Benzene	5	MCL	<5	<100	<5	<50	<5	<1300 / <1300
cis-1,3-Dichloropropene	4.9 (total)	inhalation	<5	<100	<5	<50	<5	<1300 / <1300

**TABLE 2
GROUNDWATER ANALYTICAL RESULTS**

Parameter	PADEP Statewide Human Health Standards for Groundwater ^(a)		MW-2 10/14/96	MW-9A 10/14/96	MW-12A 10/14/96	MW-15 10/15/96	MW-18A 10/14/96	MW-19A 10/14/96
	Non-Residential (TDS<2,500mg/l)							
	MSC ^(b)	Basis for MSC ^(c)						
<i>Volatile Organics (ug/l)</i>^(d)								
Bromoform	100	MCL	<5	<100	<5	<50	<5	<1300 / <1300
2-Hexanone	5	TR	<10	<200	<10	<100	<10	<2500 / <2500
4-Methyl-2-pentanone	470	inhalation	<10	<200	<10	<100	<10	<2500 / <2500
Tetrachloroethene	5	MCL	<5	<100	<5	<50	<5	<1300 / <1300
1,1,2,2-Tetrachloroethane	3.1	inhalation	<5	<100	<5	<50	<5	<1300 / <1300
Toluene	1,000	MCL	<5	<100	<5	<50	<5	<1300 / <1300
Chlorobenzene	100	MCL	<5	<100	<5	<50	<5	<1300 / <1300
Ethylbenzene	700	MCL	<5	<100	<5	<50	<5	<1300 / <1300
Styrene	100	MCL	<5	<100	<5	<50	<5	<1300 / <1300
Xylenes (total)	10,000	MCL	<5	<100	<5	<50	<5	<1300 / <1300
<i>Inorganics (mg/l)</i>^(h)								
Aluminum	0.2	MCL	2.0	43.5	0.8	0.5	41.5	10.1 / 14.6
Antimony	0.006	MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2 / <0.2
Arsenic	0.05	MCL	<0.01	0.07	<0.01	<0.01	0.05	0.02 / 0.04
Barium	2	MCL	0.09	0.20	0.05	0.18	0.59	0.11 / 0.17
Beryllium	0.004	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01 / <0.01
Cadmium	0.005	MCL	<0.01	0.01	<0.01	<0.01	0.01	<0.01 / <0.01
Calcium	--	--	134	29.5	97.6	43.9	24.8	37.6 / 39.4
Chromium	0.1	MCL	<0.02	0.16	<0.02	<0.02	0.06	<0.02 / 0.04
Cobalt	6.1	ingestion	<0.02	0.08	<0.02	<0.02	0.04	0.02 / 0.05
Copper	1	MCL	<0.02	0.05	<0.02	<0.02	0.11	<0.02 / 0.02
Iron	31	ingestion	2.9	146	13.3	2.2	139	35.1 / 62.3
Lead	0.005	MCL	<0.005	0.053	<0.005	<0.005	0.05	0.036 / 0.070
Magnesium	--	--	9.8	17.9	9.5	26.8	9.2	8.8 / 10.1
Manganese	0.05	MCL	1.02	16.7	0.52	0.50	1.35	7.70 / 8.81

TABLE 2
GROUNDWATER ANALYTICAL RESULTS

Parameter	PADEP Statewide Human Health Standards for Groundwater ^(a)		MW-2 10/14/96	MW-9A 10/14/96	MW-12A 10/14/96	MW-15 10/15/96	MW-18A 10/14/96	MW-19A 10/14/96
	Non-Residential (TDS<2,500mg/l)							
	MSC ^(b)	Basis for MSC ^(c)						
<i>Inorganics (mg/l)</i> ^(h)								
Mercury	0.002	MCL	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003 / 0.0002
Nickel	0.1	MCL	<0.04	0.12	<0.04	<0.04	0.08	<0.04 / 0.04
Potassium	--	--	2.0	3.9	5.9	2.6	4.7	2.3 / 3.0
Selenium	0.05	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01 / <0.01
Silver	0.1	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01 / <0.01
Sodium	--	--	91.1	29.4	28.9	27.1	7.0	21.2 / 22.2
Thallium	0.002	MCL	<0.01	0.01	<0.01	<0.01	0.02	<0.01 / <0.01
Vanadium	0.0058	ingestion	<0.05	0.10	<0.05	<0.05	0.10	<0.05 / <0.05
Zinc	5	MCL	0.07	0.21	0.03	<0.02	0.22	0.07 / 0.10
<i>Miscellaneous Inorganics</i>								
Alkalinity (mg/l)	--	--	95.1	55.6	120	196	63.8	84.5 / 78.5
Chloride (mg/l)	--	--	84.6	73.1	22.6	82.7	4.2	50.9 / 50.8
Sulfate (mg/l)	0.73	ingestion	91.7	56.6	222	47.4	26.6	47.8 / 46.8
pH (Standard Units)	--	--	7.38	6.30	6.47	6.94	6.50	6.21 / 6.21
Total dissolved solids (mg/l)	--	--	922	296	560	390	249	285 / 340
Total cyanide (mg/l)	--	--	0.04	<0.01	<0.01	<0.01	<0.01	<0.01 / <0.01
<i>Radiological (pCi/l)</i> ⁽ⁱ⁾								
Gross Alpha	--	--	0.66+/-0.66	6.51+/-1.25	0.37+/-0.37	15.42+/-1.23	1.59+/-0.31	0.62+/-0.35 / 1.08+/-0.49
Gross Beta	--	--	4.74+/-2.12	7.21+/-1.21	7.58+/-1.24	5.60+/-0.94	2.38+/-0.26	1.39+/-0.47 / 1.81+/-0.43
Uranium Isotope (U-234)	--	--	2.45+/-0.22	0.00+/-0.00	0.05+/-0.02	12.73+/-0.79	0.00+/-0.00	0.00+/-0.00 / 0.23+/-0.05
Uranium Isotope (U-235)	--	--	0.00+/-0.00	0.00+/-0.00	0.00+/-0.00	0.00+/-0.00	0.00+/-0.00	0.00+/-0.00 / 0.00+/-0.00
Uranium Isotope (U-238)	--	--	0.32+/-0.07	0.00+/-0.00	0.05+/-0.02	12.73+/-0.79	0.00+/-0.00	0.00+/-0.00 / 0.13+/-0.04
Total Uranium (ug/l)	--	--	0.956	0.0	0.149	38.0	0.0	0.0 / 0.388
Total Radium	--	--	0.15+/-0.21	1.72+/-0.29	0.50+/-0.17	0.39+/-0.14	1.40+/-0.26	1.24+/-0.28 / 1.08+/-0.22

T. LE 2
GROUNDWATER ANALYTICAL RESULTS

Parameter	PADEP Statewide Human Health Standards for Groundwater ^(a)		MW-20 10/14/96	MW-21 10/14/96	MW-22 10/15/96	SP-1 8/28/96	SP-2 8/28/96	SP-3 8/28/96
	Non-Residential (TDS<2,500mg/l)							
	MSC ^(b)	Basis for MSC ^(c)						
<i>Volatile Organics (ug/l)</i> ^(d)								
Chloromethane	3	HAL	<5	<5	<5	<5	<5	<5/<5
Bromomethane	10	HAL	<5	<5	<5	<5	<5	<5/<5
Vinyl chloride	2	MCL	<5	<5	<5	<5	<5	<5/<5
Chloroethane	58,000	inhalation	<5	<5	<5	<5	<5	<5/<5
Methylene chloride	5	MCL	<5	<5	<5	26	27	24/27
Acetone	10,000	ingestion	<10	<10	<10	<10	<10	31/39
Carbon disulfide	4,100	inhalation	<5	<5	<5	<5	<5	<5/<5
1,1-Dichloroethene	7	MCL	<5	<5	<5	<5	<5	<5/<5
1,1-Dichloroethane	110	inhalation	<5	<5	<5	<5	<5	<5/<5
cis-1,2-Dichloroethene	70	MCL	<5	<5	<5	58	<5	<5/<5
trans-1,2-Dichloroethene	100	MCL	<5	<5	<5	<5	<5	<5/<5
Chloroform	100	MCL	<5	<5	<5	<5	<5	<5/<5
1,2-Dichloroethane	5	MCL	<5	<5	<5	<5	<5	<5/<5
2-Butanone	5,800	inhalation	<10	<10	<10	<10	<10	<10/10
1,1,1-Trichloroethane	200	MCL	<5	7	<5	<5	<5	<5/<5
Carbon tetrachloride	5	MCL	<5	<5	<5	<5	<5	<5/<5
Bromodichloromethane	100	MCL	<5	<5	<5	<5	<5	<5/<5
1,2-Dichloropropane	5	MCL	<5	<5	<5	<5	<5	<5/<5
trans-1,3-Dichloropropene	4.9 (total)	inhalation	<5	<5	<5	<5	<5	<5/<5
Trichloroethene	5	MCL	<5	9	<5	200	14	<5/<5
Dibromochloromethane	100	MCL	<5	<5	<5	<5	<5	<5/<5
1,1,2-Trichloroethane	5	MCL	<5	<5	<5	<5	<5	<5/<5
Benzene	5	MCL	<5	<5	<5	<5	<5	<5/<5
cis-1,3-Dichloropropene	4.9 (total)	inhalation	<5	<5	<5	<5	<5	<5/<5

T LE 2
GROUNDWATER ANALYTICAL RESULTS

Parameter	PADEP Statewide Human Health Standards for Groundwater ^(a)		MW-20 10/14/96	MW-21 10/14/96	MW-22 10/15/96	SP-1 8/28/96	SP-2 8/28/96	SP-3 8/28/96
	Non-Residential (TDS<2,500mg/l)							
	MSC ^(b)	Basis for MSC ^(c)						
<i>Volatile Organics (ug/l)</i>^(d)								
Bromoform	100	MCL	<5	<5	<5	<5	<5	<5/<5
2-Hexanone	5	TR	<10	<10	<10	<10	<10	<10/10
4-Methyl-2-pentanone	470	inhalation	<10	<10	<10	<10	<10	<10/10
Tetrachloroethene	5	MCL	<5	<5	<5	<5	<5	<5/<5
1,1,2,2-Tetrachloroethane	3.1	inhalation	<5	<5	<5	<5	<5	<5/<5
Toluene	1,000	MCL	<5	<5	<5	<5	<5	<5/<5
Chlorobenzene	100	MCL	<5	<5	<5	<5	<5	<5/<5
Ethylbenzene	700	MCL	<5	<5	<5	<5	<5	<5/<5
Styrene	100	MCL	<5	<5	<5	<5	<5	<5/<5
Xylenes (total)	10,000	MCL	<5	<5	<5	<5	<5	<5/<5
<i>Inorganics (mg/l)</i>^(h)								
Aluminum	0.2	MCL	0.7	5.4	8.7	0.3	1.1	1.1/2.3
Antimony	0.006	MCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2/<0.2
Arsenic	0.05	MCL	<0.01	0.01	0.01	<0.01	<0.01	<0.01/<0.01
Barium	2	MCL	0.78	0.18	0.26	0.07	0.07	0.1/0.11
Beryllium	0.004	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01/<0.01
Cadmium	0.005	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01/<0.01
Calcium	--	--	24.2	48.7	28.1	159	37.7	40.6/150
Chromium	0.1	MCL	<0.02	<0.02	<0.02	<0.02	0.02	0.03/0.10
Cobalt	6.1	ingestion	<0.02	<0.02	<0.02	0.04	<0.02	<0.02/0.08
Copper	1	MCL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02/<0.02
Iron	31	ingestion	1.4	20.3	16.0	15.8	3.6	3.3/49.2
Lead	0.005	MCL	<0.005	0.01	0.011	<0.005	0.012	<0.005/0.005
Magnesium	--	--	4.2	8.4	7.9	110	28.5	53.4/98.7
Manganese	0.05	MCL	0.04	2.73	0.66	2.03	0.15	0.3/2.14

TABLE 2
GROUNDWATER ANALYTICAL RESULTS

Parameter	PADEP Statewide Human Health Standards for Groundwater ^(a)		MW-20 10/14/96	MW-21 10/14/96	MW-22 10/15/96	SP-1 8/28/96	SP-2 8/28/96	SP-3 8/28/96
	Non-Residential (TDS<2,500mg/l)							
	MSC ^(b)	Basis for MSC ^(c)						
<i>Inorganics (mg/l)</i> ^(h)								
Mercury	0.002	MCL	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002/0.0003
Nickel	0.1	MCL	<0.04	<0.04	<0.04	0.07	<0.04	<0.04/0.16
Potassium	--	--	1.8	1.7	2.4	14.9	3.3	4.8/13.8
Selenium	0.05	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01/<0.01
Silver	0.1	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01/<0.01
Sodium	--	--	14.1	40.8	8.2	24.9	42.3	44.3/22.4
Thallium	0.002	MCL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01/<0.01
Vanadium	0.0058	ingestion	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05/<0.05
Zinc	5	MCL	<0.02	0.02	0.05	<0.02	0.02	0.02/0.04
<i>Miscellaneous Inorganics</i>								
Alkalinity (mg/l)	--	--	126	56.7	44.5	652	134	240/630
Chloride (mg/l)	--	--	3.0	51.7	35.9	35.4	96.8	104/34.2
Sulfate (mg/l)	0.73	ingestion	<5.0	48.0	26.9	16.2	9.9	64.2/13.7
pH (Standard Units)	--	--	7.35	6.31	6.38	6.99	7.91	7.43/6.93
Total dissolved solids (mg/l)	--	--	225	462	199	NA	NA	NA/NA
Total cyanide (mg/l)	--	--	<0.01	<0.01	<0.01	NA	NA	NA/NA
<i>Radiological (pCi/l)</i> ⁽ⁱ⁾								
Gross Alpha	--	--	1.23+/-0.40	2.19+/-0.81	2.30+/-0.37	25.83+/-3.07	14.48+/-2.19	4.00+/-3.00 / 4.27+/-2.85
Gross Beta	--	--	2.95+/-0.54	0.48+/-0.48	2.49+/-0.55	21.35+/-1.59	6.05+/-1.17	17.23+/-2.64 / 20.96+/-2.56
Uranium Isotope (U-234)	--	--	0.00+/-0.00	0.20+/-0.05	0.00+/-0.00	13.65+/-1.21	6.30+/-0.34	1.22+/-0.14 / 2.19+/-0.15
Uranium Isotope (U-235)	--	--	0.00+/-0.00	0.00+/-0.00	0.00+/-0.00	0.20+/-0.10	0.07+/-0.03	0.00+/-0.00 / 0.00+/-0.00
Uranium Isotope (U-238)	--	--	0.00+/-0.00	0.09+/-0.03	0.00+/-0.00	9.65+/-0.92	5.00+/-0.29	0.71+/-0.09 / 1.12+/-0.10
Total Uranium (ug/l)	--	--	0.0	0.269	0.0	28.8	14.92	2.11 / 3.34
Total Radium	--	--	0.55+/-0.16	1.22+/-0.24	1.75+/-0.28	0.40+/-0.18	0.32+/-0.15	0.22+/-0.16 / 0.16+/-0.12

T. LE 2
GROUNDWATER ANALYTICAL RESULTS

- (a) Pennsylvania Department of Environmental Protection proposed statewide health standards for groundwater; Title 25, Annex A - 6/13/96.
- (b) MSCs - Medium- Specific Concentrations ; the values used to determine the MSCs are the concentrations of regulated substances that must be met in order to demonstrate attainment of a statewide health standard.
- (c) Basis for MSC:
 - (1) MCL - Maximum Contaminant Level as established by the U.S. EPA, 1996
(Drinking Water Regulations and Health Advisories. Office of Water. EPA 822-R-96-001).
 - (2) HAL - Lifetime Health Advisory Level
 - (3) TR - Threshold of Regulation.
- (d) ug/l is micrograms per liter or parts per billion (ppb).
- (e) **Bold** indicates sample result exceeds the proposed PADEP Human Health Standard.
- (f) --/-- is a duplicate sample.
- (g) "D" indicates the result was obtained from a laboratory diluted sample.
- (h) mg/l is milligrams per liter or parts per million (ppm).
- (i) pCi/l is picoCuries per liter.

Je 3
Passive Soil Gas Sample
Analytical Results^(a)

Module I.D:	Method Detection Limit	#127-847	#127-848	#127-849	#127-850	#127-851	#127-852	#127-853	#127-854	#127-855	#127-856	#127-857	#127-858	#127-859	#127-860	TB-1/TB-2 ^(c)
<i>Volatile Organic Compounds (ug)</i> ^(b)																
Trichloroethene	0.01	0.09	5.58	1.29	0.02	0.03	0.08	0.41	0.00	191.62	135.21	131.95	4.30	82.93	11.63	0.06/0.02
Tetrachloroethene	0.03	0.00	0.26	0.11	0.00	0.00	0.01	0.02	0.00	0.62	0.19	0.17	0.01	0.12	0.04	0.00/0.01
1,1,1-Trichloroethane	0.08	0.00	0.94	0.15	0.30	0.06	0.02	0.03	0.00	4.08	4.44	4.31	0.28	1.87	0.44	0.00/0.03
1,2-Dichloroethane	0.02	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.21	0.20	0.01	0.09	0.03	0.00/0.00
1,1-Dichloroethane	0.05	0.00	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.10	0.62	0.78	0.00	0.11	0.09	0.00/0.00
trans-1,2-Dichloroethene	0.16	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.00	6.05	1.16	1.95	0.08	1.06	0.22	0.00/0.00
cis-1,2-Dichloroethene	0.03	0.00	0.51	0.51	0.00	0.00	0.00	0.00	0.00	32.64	27.11	49.40	0.31	8.05	2.07	0.00/0.00
1,2-Dichloroethene (total)	0.03	0.00	0.53	0.55	0.00	0.00	0.00	0.00	0.00	38.69	28.27	51.35	0.39	9.10	2.29	0.00/0.00
Chloroform	0.04	0.01	0.02	0.04	0.20	0.00	0.00	0.02	0.21	0.02	0.04	0.04	0.02	0.04	0.09	0.00/0.03

Notes:

(a) Gore Sorber Modules were installed in the field on October 15,1996 and removed on October 29,1996.

(b) ug is micrograms (per sorber).

(c) TB-1 (Module#127861) and TB-2 (Module#127862) are trip blanks.

TABLE 4
TARGET COMPOUND LIST VOLATILE ORGANIC COMPOUND RESULTS
FORMER LAGOON AREA SOIL SAMPLES

PARAMETER	UNITS	SAMPLE IDENTIFICATION	
		S-2 4/11/96	S-3 4/11/96
Acetone	ug/kg ⁽¹⁾	<100	<100
Benzene	ug/kg	<5.0	<5.0
Bromodichloromethane	ug/kg	<5.0	<5.0
Bromoform	ug/kg	<5.0	<5.0
Bromomethane	ug/kg	<10	<10
2-Butanone (MEK)	ug/kg	<10	<10
Carbon Disulfide	ug/kg	<5.0	<5.0
Carbon tetrachloride	ug/kg	<5.0	<5.0
Chlorobenzene	ug/kg	<5.0	<5.0
Chlorodibromomethane	ug/kg	<5.0	<5.0
Chloroethane	ug/kg	<10	<10
Chloromethane	ug/kg	<10	<10
Chloroform	ug/kg	<5.0	<5.0
1,1-Dichloroethane	ug/kg	<5.0	<5.0
1,2-Dichloroethane	ug/kg	<5.0	<5.0
1,1-Dichloroethene	ug/kg	<5.0	<5.0
cis-1,2-Dichloroethene	ug/kg	<5.0	<5.0
trans-1,2-Dichloroethene	ug/kg	<5.0	<5.0
1,2-Dichloropropane	ug/kg	<5.0	<5.0
cis-1,3-Dichloropropene	ug/kg	<5.0	<5.0
trans-1,3-Dichloropropene	ug/kg	<5.0	<5.0
Ethylbenzene	ug/kg	<5.0	<5.0
2-Hexanone	ug/kg	<50	<50
Methylene chloride	ug/kg	<5.0	<5.0
4-Methyl-2-pentanone (MIBK)	ug/kg	<50	<50
Styrene	ug/kg	<5.0	<5.0
1,1,2,2-Tetrachloroethane	ug/kg	<5.0	<5.0
Tetrachloroethene	ug/kg	<5.0	<5.0
Toluene	ug/kg	<5.0	<5.0
1,1,1-Trichloroethane	ug/kg	<5.0	<5.0
1,1,2-Trichloroethane	ug/kg	<5.0	<5.0
Trichloroethene	ug/kg	<5.0	<5.0
Vinyl chloride	ug/kg	<10	<10
Xylenes (Total)	ug/kg	<5.0	<5.0

1. ug/kg is micrograms per kilogram or parts per billion (ppb).

**TABLE 5
TARGET ANALYTE LIST METAL RESULTS
FORMER LAGOON AREA SOIL SAMPLES**

PARAMETER - Metals (Total)	UNITS	SAMPLE IDENTIFICATION		
		S-2 4/11/96	S-3 4/11/96	REGULATORY LEVEL ⁽¹⁾
Silver	mg/kg ⁽²⁾	<2.0	<2.0	-- ⁽³⁾
Aluminum	mg/kg	6,900	6,500	--
Arsenic	mg/kg	5.0	6.0	--
Barium	mg/kg	100	72	--
Beryllium	mg/kg	0.81	0.67	--
Calcium	mg/kg	3,500	2,600	--
Cadmium	mg/kg	6.8	12	--
Cobalt	mg/kg	98	70	--
Chromium	mg/kg	67	170	--
Copper	mg/kg	210	130	--
Iron	mg/kg	28,000	57,000	--
Mercury	mg/kg	<0.10	<0.10	--
Potassium	mg/kg	430	560	--
Magnesium	mg/kg	850	770	--
Manganese	mg/kg	870	610	--
Sodium	mg/kg	<200	<200	--
Nickel	mg/kg	340	1,100	--
Lead	mg/kg	<20	24	--
Antimony	mg/kg	<20	<20	--
Selenium	mg/kg	<0.20	<0.20	--
Thallium	mg/kg	<0.80	<0.80	--
Vanadium	mg/kg	<10	<10	--
Zinc	mg/kg	93	140	--

1. Pennsylvania Department of Environmental Protection proposed statewide human health standards for subsurface soils, non-residential, medium-specific concentrations; Title 25, Annex A (June 13, 1996).
2. mg/kg is milligrams per kilogram or parts per million (ppm).
3. "--" indicates that a standard is not presently established under the proposed standards for non-residential subsurface soils.

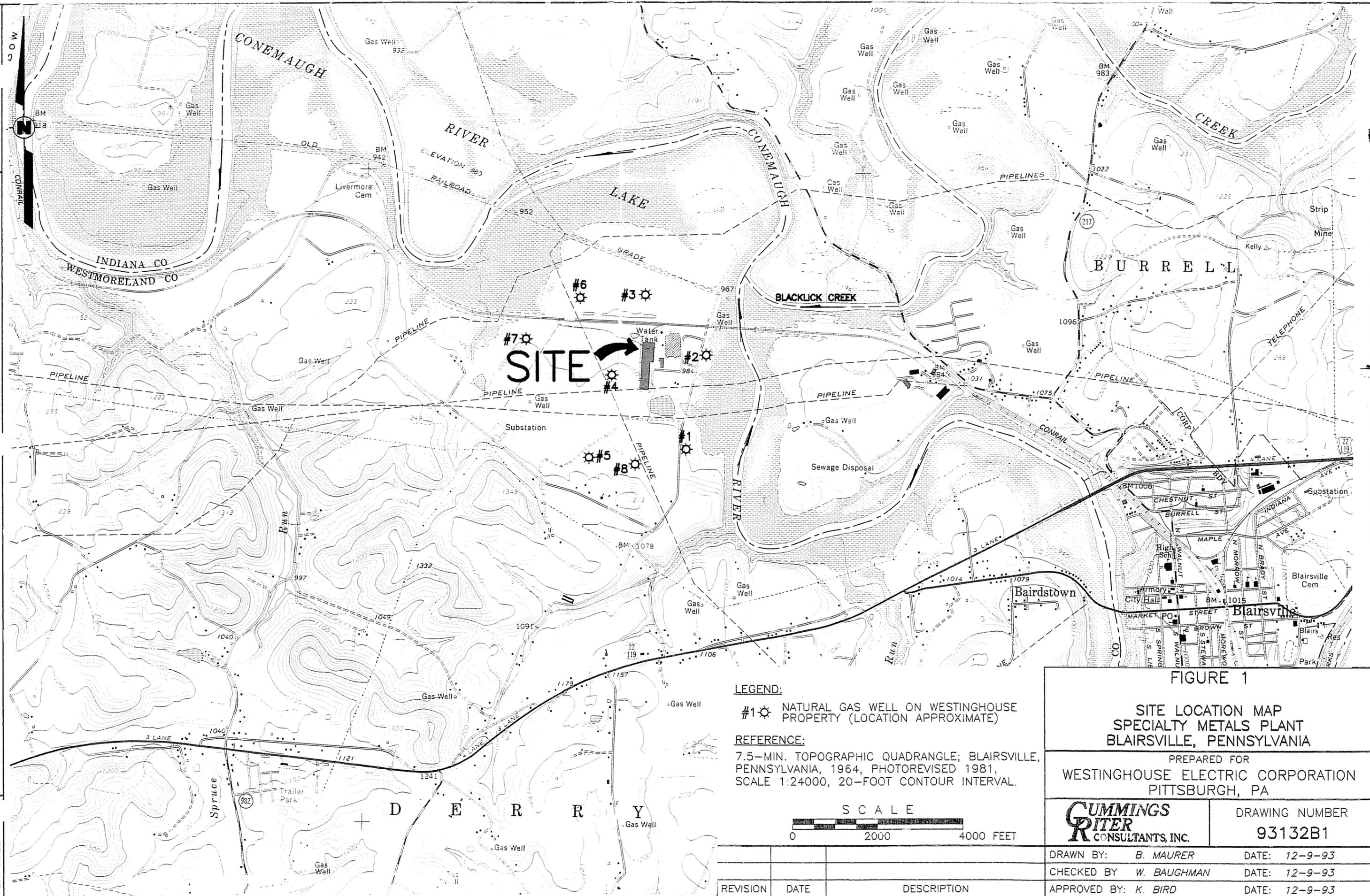
TABLE 6
RADIOLOGICAL RESULTS
FORMER LAGOON AREA SOIL SAMPLES

PARAMETER	DATE COLLECTED	UNITS	SAMPLE IDENTIFICATION	
			S-2	S-3
<i>Gross Alpha Analysis</i>	04/11/96	pCi/g ⁽¹⁾	137 ± 17	79.3 ± 9.8
<i>Gamma Spectrometry Results</i>				
Th-234	04/11/96	pCi/g	49.5 ± 3.63	11.9 ± 1.02
U-235	04/11/96	pCi/g	7.56 ± 0.644	4.21 ± 0.387
Pb-212	04/11/96	pCi/g	0.856 ± 0.122	0.821 ± 0.114
Pb-214	04/11/96	pCi/g	0.656 ± 0.127	0.631 ± 0.110
Ac-228	04/11/96	pCi/g	0.636 ± 0.191	<0.285
Tl-208	04/11/96	pCi/g	0.409 ± 0.079	0.271 ± 0.084
Bi-214	04/11/96	pCi/g	0.797 ± 0.166	0.615 ± 0.140
Pa-234	04/11/96	pCi/g	78.8 ± 14.5	<8.33
Bi-206	04/11/96	pCi/g	0.130 ± 0.138	<0.158
K-40	04/11/96	pCi/g	7.13 ± 1.19	6.82 ± 1.49
Pb-210	04/11/96	pCi/g	<5.62	<0.524
Th-227	04/11/96	pCi/g	<0.297	<0.235
Be-7	04/11/96	pCi/g	<0.501	<0.426
Bi-212	04/11/96	pCi/g	<0.515	0.453 ± 0.503

1. pCi/g is picoCuries per gram.

FIGURES

DRAWING NUMBER 93132B1



LEGEND:

#1 ☼ NATURAL GAS WELL ON WESTINGHOUSE PROPERTY (LOCATION APPROXIMATE)

REFERENCE:

7.5-MIN. TOPOGRAPHIC QUADRANGLE; BLAIRSVILLE, PENNSYLVANIA, 1964, PHOTOREVISED 1981, SCALE 1:24000, 20-FOOT CONTOUR INTERVAL.

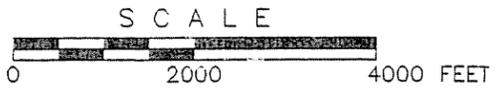


FIGURE 1

**SITE LOCATION MAP
SPECIALTY METALS PLANT
BLAIRSVILLE, PENNSYLVANIA**

PREPARED FOR
WESTINGHOUSE ELECTRIC CORPORATION
PITTSBURGH, PA

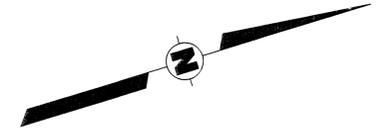
**CUMMINGS
RITER
CONSULTANTS, INC.**

DRAWING NUMBER
93132B1

DRAWN BY:	B. MAURER	DATE:	12-9-93
CHECKED BY:	W. BAUGHMAN	DATE:	12-9-93
APPROVED BY:	K. BIRD	DATE:	12-9-93

REVISION	DATE	DESCRIPTION

PLOT SCALE: 1" =

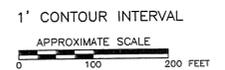


LEGEND:

- POND/STREAMS
- ||||| RAILROAD
- 980— SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)

NOTES:

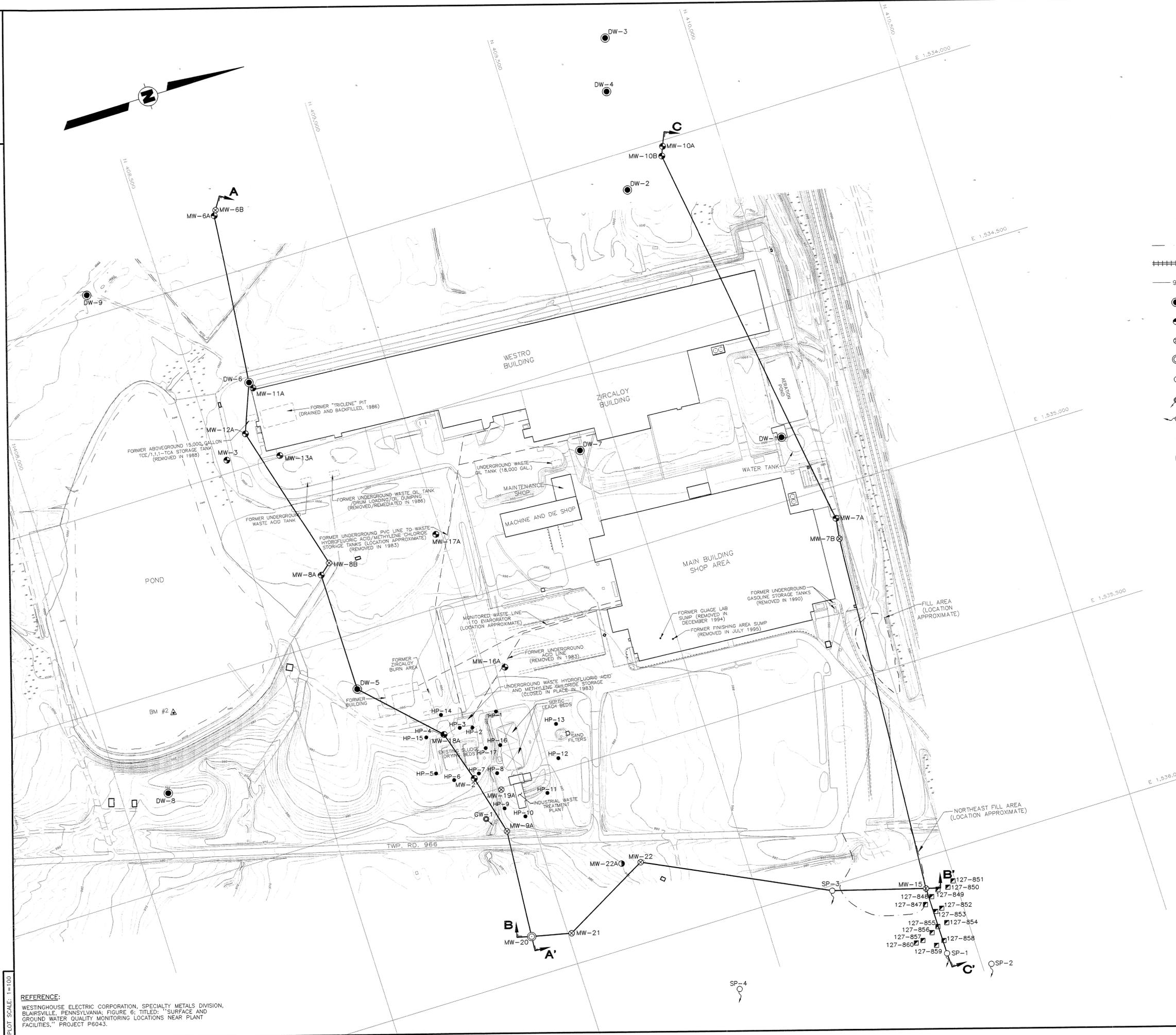
1. TOPOGRAPHIC CONTOURS AND PROPERTY FEATURES WERE PROVIDED BY OTHERS AND HAVE NOT BEEN VERIFIED BY CUMMINGS/RIEGER.



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RIEGER CONSULTANTS, INC. CORPORATE HEADQUARTERS 339 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146 (412) 373-5240 Fax: (412) 373-5242	FIGURE 2 SITE PLAN		
	SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA		
	PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA		
EASTERN REGIONAL HEADQUARTERS 256 Chapman Road Suite 202 Newark, DE 19702 (302) 731-9668 Fax: (302) 731-9609	DRAWING NUMBER: 93132F8	SCALE: 1"=100'	REV.
DRAWN BY: B. MAURER	DATE: 11-17-95	CHECKED BY: D. CUSICK	DATE: 11-17-95
APPROVED BY: W. BAUGHMAN	DATE: 11-17-95	CHECKED BY: D. CUSICK	DATE: 11-17-95

REFERENCE:
 WESTINGHOUSE ELECTRIC CORPORATION, SPECIALTY METALS DIVISION,
 BLAIRSVILLE, PENNSYLVANIA; FIGURE 6; TITLED: "SURFACE AND
 GROUND WATER QUALITY MONITORING LOCATIONS NEAR PLANT
 FACILITIES." PROJECT P6043.



LEGEND:

- POND/STREAMS
- ||||| RAILROAD
- 980 — SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
- DW-7 FORMER GROUNDWATER SUPPLY WELL
- MW-8A UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK MONITORING WELL
- ⊗ MW-8B SALTSBURG SANDSTONE MONITORING WELL
- ⊙ MW-20 BUFFALO SANDSTONE MONITORING WELL
- MW-22A BORING LOCATION
- GW-1 GROUNDWATER DISCHARGE (FRENCH DRAIN)
- SP-2 SEEP LOCATION
- HP-9 HYDROPUNCH/GEOPROBE SAMPLE
- 127-851 GORE SORBER® PASSIVE SOIL GAS SAMPLE LOCATION

NOTES:

1. TOPOGRAPHIC CONTOURS AND PROPERTY FEATURES WERE PROVIDED BY OTHERS AND HAVE NOT BEEN VERIFIED BY CUMMINGS/RIEGER.

1' CONTOUR INTERVAL
APPROXIMATE SCALE
0 100 200 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

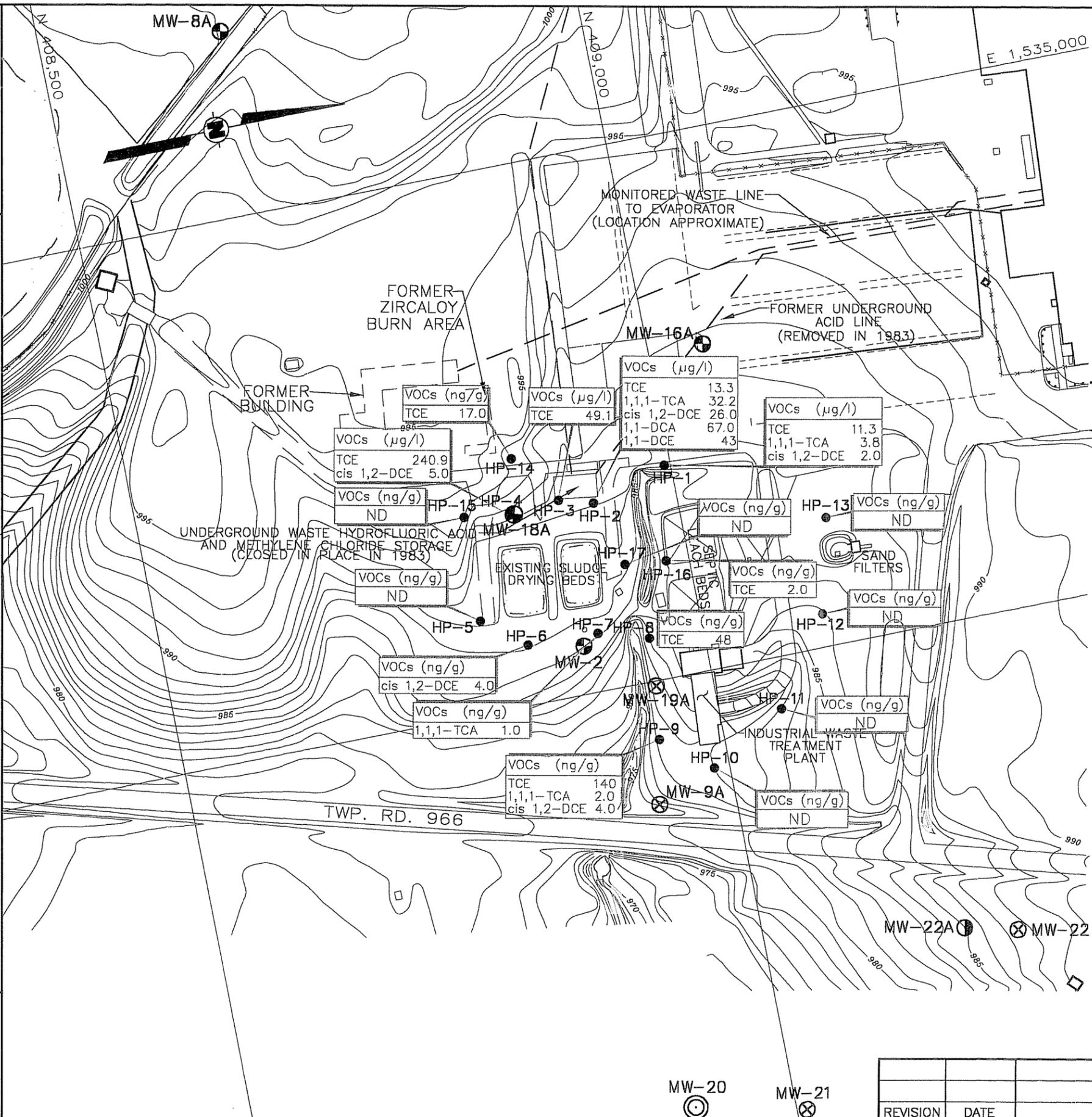
CUMMINGS RIEGER CONSULTANTS INC. CORPORATE HEADQUARTERS 339 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146 (412) 373-5240 Fax: (412) 373-5242	FIGURE 3 SAMPLE LOCATION PLAN		
	PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA		
EASTERN REGIONAL HEADQUARTERS 258 Chapman Road Suite 202 Newark, DE 19702 (302) 731-9668 Fax: (302) 731-9609	DRAWING NUMBER: 93132F9	DATE: 10-15-96 DATE: 12-30-96	SCALE: 1"=100' REV.
DRAWN BY: T. McKEE CHECKED BY: D.P. Cusack APPROVED BY: W.A. Baylman	DATE: 10-15-96 DATE: 12-30-96 DATE: 12-30-96	SCALE: 1"=100' REV.	DATE: 10-15-96 DATE: 12-30-96 DATE: 12-30-96

REFERENCE:
WESTINGHOUSE ELECTRIC CORPORATION, SPECIALTY METALS DIVISION,
BLAIRSVILLE, PENNSYLVANIA; FIGURE 6; TITLED: "SURFACE AND
GROUND WATER QUALITY MONITORING LOCATIONS NEAR PLANT
FACILITIES." PROJECT P6043.

PLOT SCALE: 1"=100'

DRAWING NUMBER
93132B7

PLOT SCALE: 1"=1'



LEGEND:

- MW-8A UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK MONITORING WELL
- MW-9A SALTSBURG SANDSTONE MONITORING WELL
- MW-20 BUFFALO SANDSTONE MONITORING WELL
- MW-22A BORING LOCATION
- HP-9 HYDROPUNCH/GEOPROBE SAMPLE
- HP-2

VOCs (µg/L)
TCE 49.1
- HP-6

VOCs (ng/g)
cis 1,2-DCE 4.0

NOTES:

1. TOPOGRAPHIC CONTOURS AND PROPERTY FEATURES WERE PROVIDED BY OTHERS AND HAVE NOT BEEN VERIFIED BY CUMMINGS/RITER.
2. SAMPLES COLLECTED ON SEPTEMBER 4 AND 5, 1996.
3. SOIL AND GROUNDWATER SAMPLES WERE ANALYZED FOR CARBON TETRACHLORIDE, CHLOROFORM, 1,1-DICHLOROETHANE, 1,1-DICHLOROETHENE, cis-1,2-DICHLOROETHENE, TRANS-1,2-DICHLOROETHENE, METHYLENE CHLORIDE, TETRACHLOROETHENE, 1,1,1-TRICHLOROETHANE, TRICHLOROETHENE, AND VINYLCHLORIDE USING A FIELD LABORATORY. ONLY COMPOUNDS ABOVE METHOD DETECTION LIMITS ARE PRESENTED ON THIS FIGURE.

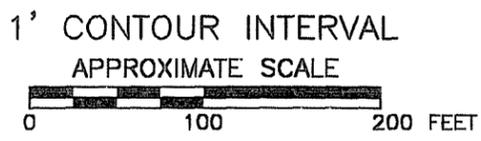


FIGURE 4	
HYDROPUNCH/GEOPROBE ANALYTICAL RESULTS	
SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA	
PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA	
	DRAWING NUMBER 93132B7
DRAWN BY: T. McKEE	DATE: 10-22-96
CHECKED BY: D.P. Cusick	DATE: 12-27-96
APPROVED BY: W.A. Baughman	DATE: 12-27-96

REVISION	DATE	DESCRIPTION

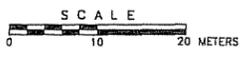
DRAWING NUMBER 93132E

PLOT SCALE: 1"=32.8'



LEGEND:
 ○ CONTOUR OF EQUAL CONDUCTIVITY, IN MILLIHOS PER METER

NOTE:
 1. CONDUCTIVITY VALUES WERE MEASURED ON A 5 METER GRID OVER THE AREA INDICATED.



REFERENCE:
 WESTINGHOUSE ELECTRIC CORPORATION, SPECIALTY METALS DIVISION,
 BLAIRSVILLE, PENNSYLVANIA; FIGURE 6; TITLED: "SURFACE AND
 GROUND WATER QUALITY MONITORING LOCATIONS NEAR PLANT
 FACILITIES," PROJECT P8043.

**CUMMINGS
 RITER**
 CONSULTANTS, INC.
 CORPORATE HEADQUARTERS
 339 Haymaker Road
 Parkway Building, Suite 201
 Monroeville, PA 15146
 (412) 373-8840
 Fax: (412) 373-8248

**EASTERN
 REGIONAL HEADQUARTERS**
 268 Chapman Road
 Suite 202
 Newark, DE 19702
 (302) 731-9888
 Fax: (302) 731-9888

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

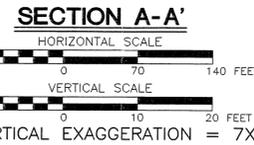
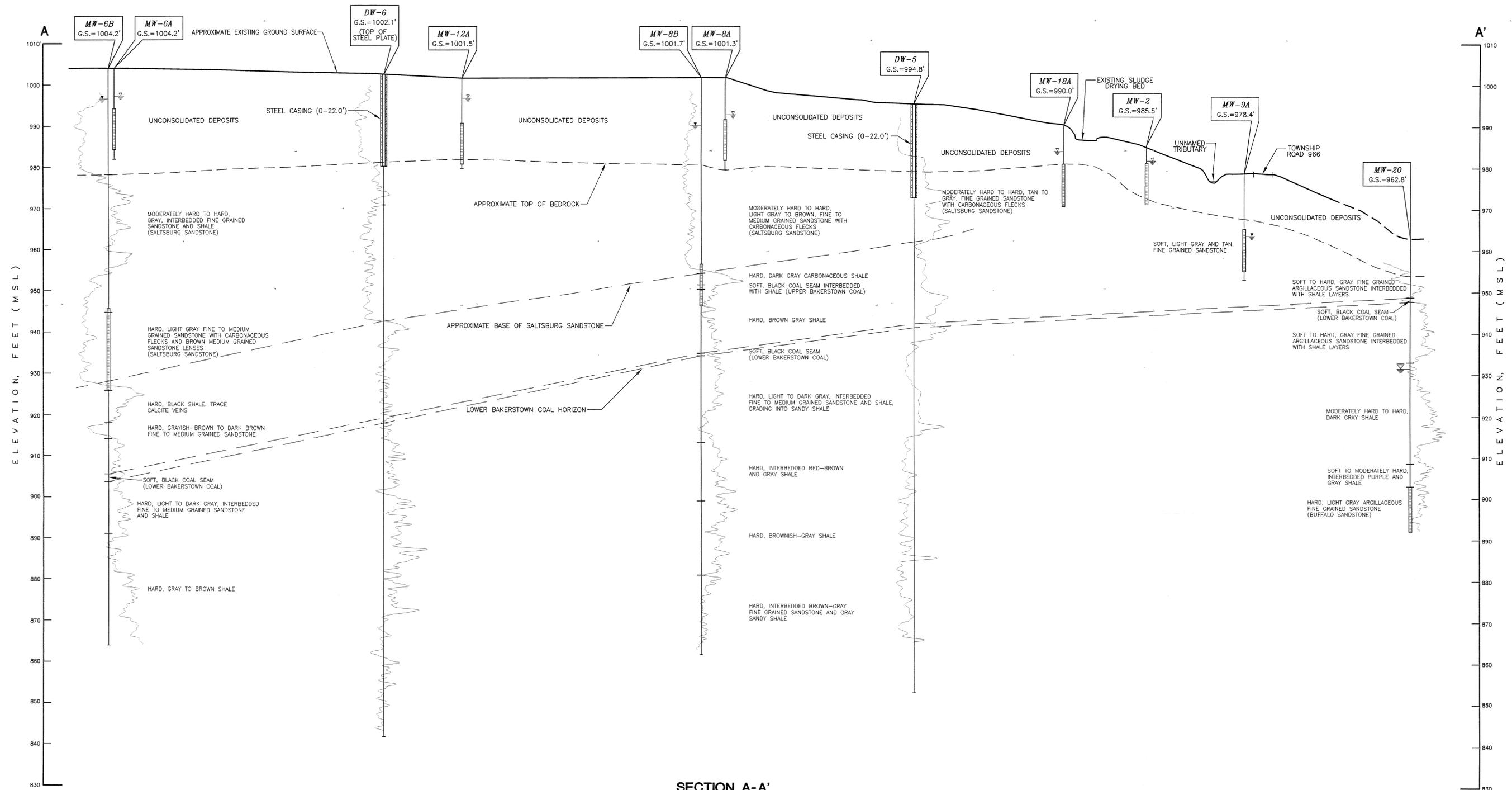
DRAWN BY: T. McKEE DATE: 10-31-96
 CHECKED BY: D.P. Cuneo DATE: 12-27-96
 APPROVED BY: A.A. Baughman DATE: 12-27-96

FIGURE 7
 EM-31 IN-PHASE SURVEY

SPECIALTY METALS PLANT
 BLAIRSVILLE, PENNSYLVANIA
 PREPARED FOR
 WESTINGHOUSE ELECTRIC CORPORATION
 PITTSBURGH, PENNSYLVANIA

SIZE: DRAWING NUMBER
 E 93132E26

SCALE: 1" = 10m SHEET 1 OF 1

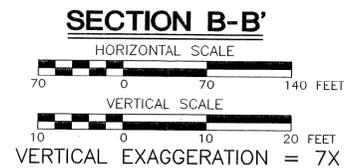
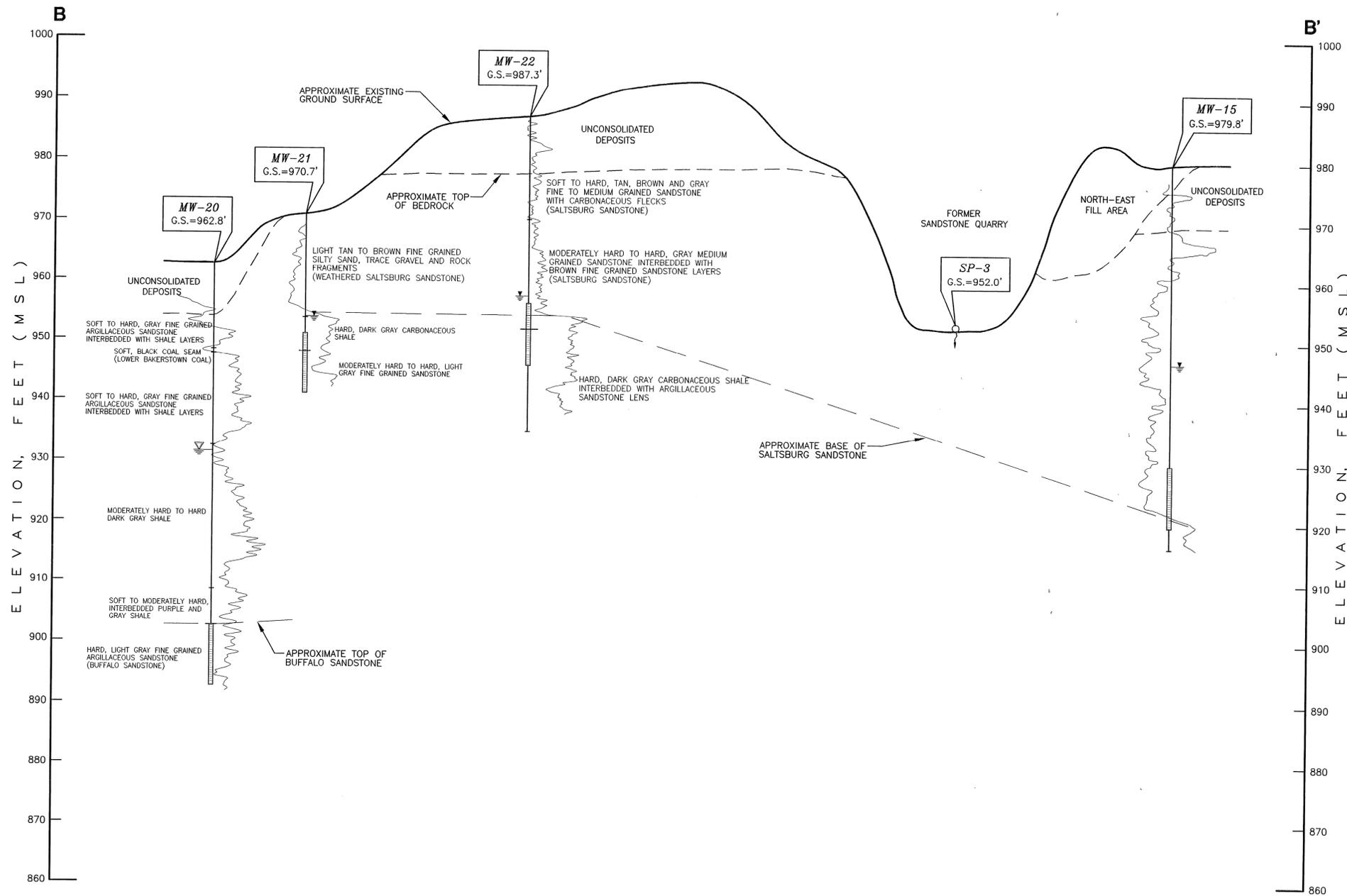


- LEGEND:**
- SALTSBURG SANDSTONE GROUNDWATER ELEVATION - 9/27/96
 - BUFFALO SANDSTONE GROUNDWATER ELEVATION - 9/27/96
 - UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK - 9/27/96
 - MONITORING WELL SCREEN INTERVAL
 - NATURAL GAMMA GEOPHYSICAL LOG
 - STEEL CASING IN FORMER PRODUCTION WELLS (DW) BASED ON GEOPHYSICS BEFORE WELL ABANDONMENT

- NOTES:**
1. ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.
 2. THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SOIL AND BEDROCK CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THESE BORING LOCATIONS. ALSO THE PASSAGE OF TIME MAY RESULT IN A CHANGE IN THE CONDITIONS AT THESE BORING LOCATIONS.
 3. THE DEPTH AND THICKNESS OF THE SUBSURFACE STRATA INDICATED ON THE SECTIONS WERE GENERALIZED FROM AND INTERPOLATED BETWEEN THE TEST BORINGS AND GEOPHYSICAL DATA. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE TEST BORINGS, AND IT IS POSSIBLE THAT SUBSURFACE CONDITIONS BETWEEN THE TEST BORINGS MAY VARY FROM THOSE INDICATED.
 4. CORRELATION OF THE LOWER BAKERSTOWN COAL SEAM IS BASED ON GEOPHYSICAL DATA AND VISUAL LITHOLOGIC DESCRIPTIONS FROM TEST BORINGS. DUE TO ITS DISCONTINUOUS NATURE, THE COAL SEAM MAY NOT BE PRESENT IN SELECT LOCATIONS.
 5. PRODUCTION WELLS DW-5 AND DW-6 WERE ABANDONED DURING THE PHASE II INVESTIGATION (1995).

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	ADDED MONITORING WELLS MW-18A AND MW-20 WITH STRATIGRAPHY AND CORRELATIONS. ALSO, UPDATED WATER LEVELS	11-4-96	

CUMMINGS CONSULTANTS, INC. CORPORATE HEADQUARTERS 309 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146 (412) 373-5240 Fax: (412) 373-5242	FIGURE 9 HYDROSTRATIGRAPHIC CROSS SECTION A-A' SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA				
	PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA				
EASTERN REGIONAL HEADQUARTERS 258 Chapman Road Suite 202 Newark, DE 19702 (302) 731-9669 Fax: (302) 731-9809	DRAWING NUMBER: 93132E15	DRAWN BY: T. MCKEE CHECKED BY: D. CUSICK APPROVED BY: W. BAUGHMAN	DATE: 10-18-96 DATE: 11-15-95 DATE: 11-15-95	SCALE: AS SHOWN	REV. 1



LEGEND:

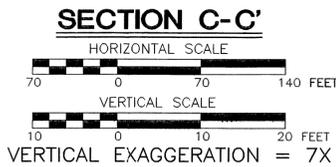
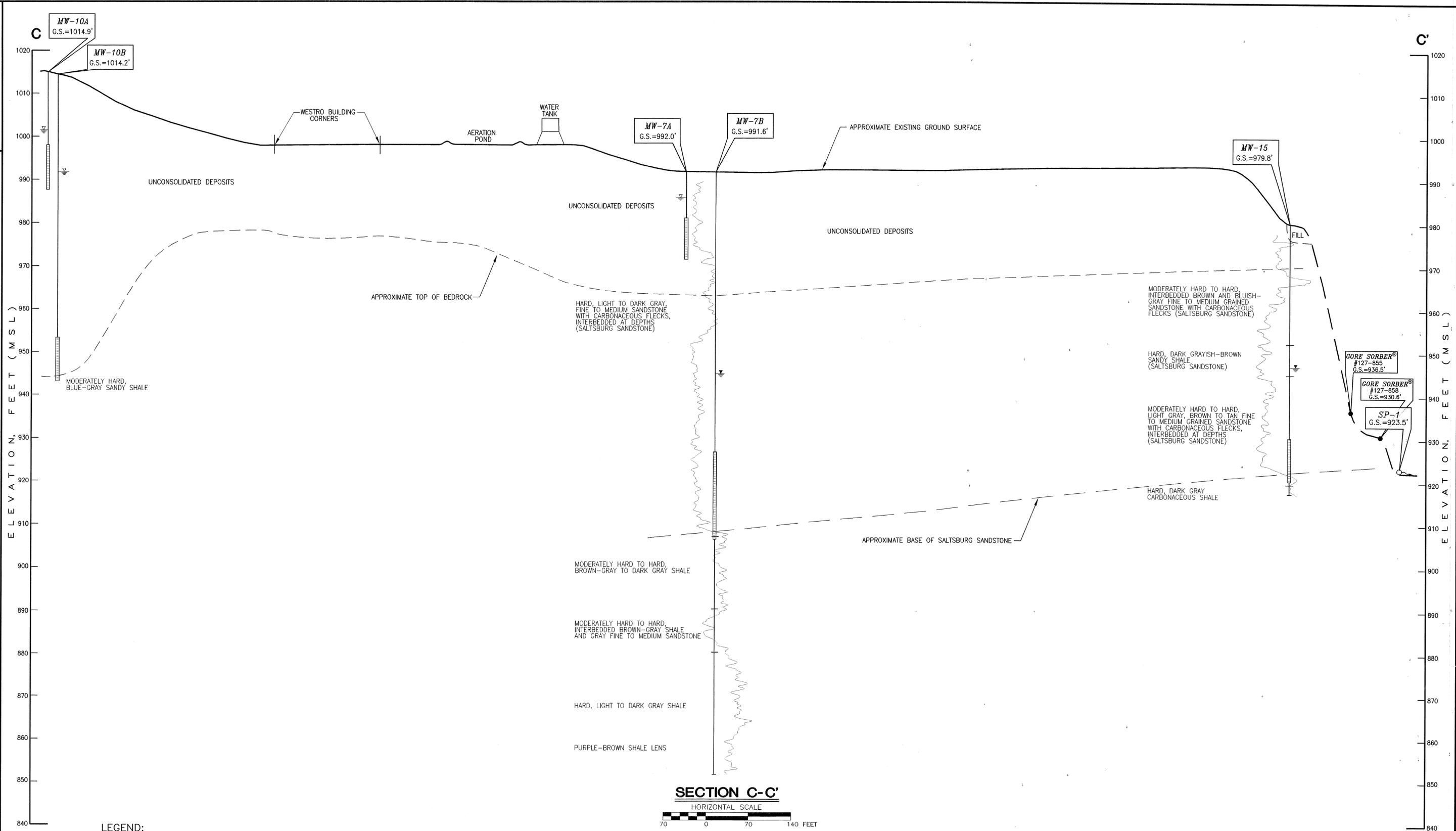
- SALTSBURG SANDSTONE GROUNDWATER ELEVATION - 9/27/96
- BUFFALO SANDSTONE GROUNDWATER ELEVATION - 9/27-96
- MONITORING WELL SCREEN INTERVAL
- NATURAL GAMMA GEOPHYSICAL LOG

NOTES:

1. ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.
2. THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SOIL AND BEDROCK CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THESE BORING LOCATIONS. ALSO THE PASSAGE OF TIME MAY RESULT IN A CHANGE IN THE CONDITIONS AT THESE BORING LOCATIONS.
3. THE DEPTH AND THICKNESS OF THE SUBSURFACE STRATA INDICATED ON THE SECTIONS WERE GENERALIZED FROM AND INTERPOLATED BETWEEN THE TEST BORINGS AND GEOPHYSICAL DATA. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE TEST BORINGS, AND IT IS POSSIBLE THAT SUBSURFACE CONDITIONS BETWEEN THE TEST BORINGS MAY VARY FROM THOSE INDICATED.
4. THE GROUND SURFACE IS APPROXIMATE AND IS CORRELATED BETWEEN SURVEY POINTS AND EXISTING KNOWN SITE FEATURES. THE APPROXIMATE NORTHEAST FILL THICKNESS WAS DETERMINED FROM BORING B-45 AND B-46 WHICH WERE PERFORMED IN AUGUST, 1995.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

GUMMINGS & RITER CONSULTANTS, INC. CORPORATE HEADQUARTERS 339 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146 (412) 373-5240 Fax: (412) 373-5242	FIGURE 10 HYDROSTRATIGRAPHIC CROSS SECTION B-B'		PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA
	EASTERN REGIONAL HEADQUARTERS 258 Chapman Road Suite 202 Newark, DE 19702 (302) 731-9668 Fax: (302) 731-9609		
DRAWN BY: T. MCKEE CHECKED BY: D. P. Cusick APPROVED BY: <i>[Signature]</i>	DATE: 10-30-96 DATE: 12-30-96 DATE: 12-30-96	SCALE: AS SHOWN	REV.



- LEGEND:**
- SALTSBURG SANDSTONE GROUNDWATER ELEVATION - 9/27/96
 - UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK GROUNDWATER ELEVATION - 9/27/96
 - MONITORING WELL SCREEN INTERVAL
 - NATURAL GAMMA GEOPHYSICAL LOG

- NOTES:**
- ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.
 - THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SOIL AND BEDROCK CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THESE BORING LOCATIONS. ALSO THE PASSAGE OF TIME MAY RESULT IN A CHANGE IN THE CONDITIONS AT THESE BORING LOCATIONS.
 - THE DEPTH AND THICKNESS OF THE SUBSURFACE STRATA INDICATED ON THE SECTIONS WERE GENERALIZED FROM AND INTERPOLATED BETWEEN THE TEST BORINGS AND GEOPHYSICAL DATA. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE TEST BORINGS, AND IT IS POSSIBLE THAT SUBSURFACE CONDITIONS BETWEEN THE TEST BORINGS MAY VARY FROM THOSE INDICATED.
 - TOP OF BEDROCK ELEVATION UNDERLYING THE WESTRO BUILDING WAS OBTAINED FROM FOUNDATION TEST BORINGS (EUGENE HANNIGAN CONSULTING ENGINEERS, 1974).

CUMMINGS RITER CONSULTANTS, INC.
 CORPORATE HEADQUARTERS
 339 Haymaker Road
 Parkway Building, Suite 201
 Monroeville, PA 15146
 (412) 373-5240
 Fax: (412) 373-5242

EASTERN REGIONAL HEADQUARTERS
 256 Chapman Road
 Suite 202
 Newark, DE 19702
 (302) 731-9668
 Fax: (302) 731-9609

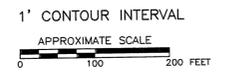
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	ADDED SEEP LOCATION (SP-1) AND UPDATED WATER LEVELS	11-9-96	
	DRAWN BY: J. BRADLEY	DATE: 9/29/95	
	CHECKED BY: D. CUSICK	DATE: 11/15/95	
	APPROVED BY: W. BAUGHMAN	DATE: 11/15/95	

FIGURE 11 HYDROSTRATIGRAPHIC CROSS SECTION C-C' SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA	
DRAWING NUMBER 93132E17	REV. 11
SCALE: AS SHOWN	SHEET 1 OF 1



- LEGEND:**
- POND/STREAMS
 - ||||| RAILROAD
 - 980 — SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
 - MW-8A UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK MONITORING WELL
 - MW-8B SALTSBURG SANDSTONE MONITORING WELL
 - MW-20 BUFFALO SANDSTONE MONITORING WELL
 - MW-22A BORING LOCATION
 - SP-2 SEEP LOCATION
 - (909') BASE OF SALTSBURG SANDSTONE UNIT ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
 - 920 — — — BASE OF SALTSBURG SANDSTONE STRUCTURE CONTOUR (FT. MSL)

- NOTES:**
1. TOPOGRAPHIC CONTOURS AND PROPERTY FEATURES WERE PROVIDED BY OTHERS AND HAVE NOT BEEN VERIFIED BY CUMMINGS/RIEGER.
 2. BASE OF SALTSBURG SANDSTONE UNIT ELEVATION DETERMINED FROM NATURAL GAMMA GEOPHYSICAL LOGGING AND/OR VISUAL CLASSIFICATION OF ROCK CUTTINGS DURING BOREHOLE DRILLING.



REFERENCE:
 WESTINGHOUSE ELECTRIC CORPORATION, SPECIALTY METALS DIVISION,
 BLAIRSVILLE, PENNSYLVANIA; FIGURE 6; TITLED: "SURFACE AND
 GROUND WATER QUALITY MONITORING LOCATIONS NEAR PLANT
 FACILITIES," PROJECT P6043.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

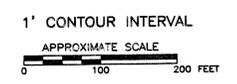
CUMMINGS RIEGER CONSULTANTS, INC. CORPORATE HEADQUARTERS 339 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146 (412) 373-5240 Fax: (412) 373-5242	FIGURE 12 STRUCTURE CONTOURS - BASE OF SALTSBURG SANDSTONE	
	SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA	
EASTERN REGIONAL HEADQUARTERS 258 Chapman Road Suite 202 Newark, DE 19702 (302) 731-9668 Fax: (302) 731-9609	PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA	
DRAWN BY: T. McKEE CHECKED BY: D. P. [Signature] APPROVED BY: W. A. [Signature]	DATE: 10-21-96 DATE: 12-30-96 DATE: 12-30-96	SCALE: 1"=100' DRAWING NUMBER: 93132F12

PLOT SCALE: 1"=100'



- LEGEND:**
- PONDS/STREAMS
 - ==== RAILROAD
 - 980 — SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
 - MW-8A UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK MONITORING WELL
 - ⊗ MW-8B SALTSBURG SANDSTONE MONITORING WELL
 - ⊙ MW-20 BUFFALO SANDSTONE MONITORING WELL
 - MW-22A BORING LOCATION
 - SP-2 SEEP LOCATION
 - (981.65) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL) SEPTEMBER 27, 1996
 - 980 — — GROUNDWATER EQUIPOTENTIAL LINE IN FEET ABOVE MEAN SEA LEVEL (MSL) SEPTEMBER 27, 1996
 - ➔ INFERRED GROUNDWATER FLOW DIRECTION BASED ON EQUIPOTENTIAL LINES

- NOTES:**
1. TOPOGRAPHIC CONTOURS AND PROPERTY FEATURES WERE PROVIDED BY OTHERS AND HAVE NOT BEEN VERIFIED BY CUMMINGS/RITER.
 2. THE MONITORING WELLS USED FOR INTERPRETATION OF THIS PIEZOMETRIC SURFACE MAP HAVE SCREENED INTERVALS IN HYDROLOGIC COMMUNICATION WITH THE UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK UNIT.
 3. THE GROUNDWATER BEARING UNIT ASSOCIATED WITH THE UNCONSOLIDATED DEPOSITS DOES NOT EXIST EAST OF TOWNSHIP ROAD 966 IN THE VICINITY OF THE SPECIALTY METALS PLANT.



REFERENCE:
 WESTINGHOUSE ELECTRIC CORPORATION, SPECIALTY METALS DIVISION,
 BLAIRSVILLE, PENNSYLVANIA; FIGURE 6; TITLED: "SURFACE AND
 GROUND WATER QUALITY MONITORING LOCATIONS NEAR PLANT
 FACILITIES," PROJECT P6043.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RITER CONSULTANTS, INC. CORPORATE HEADQUARTERS 359 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146 (412) 373-5240 Fax: (412) 373-5242	FIGURE 13 PIEZOMETRIC SURFACE MAP UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK SEPTEMBER 27, 1996 SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA	
	PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA	
EASTERN REGIONAL HEADQUARTERS 255 Chapman Road Suite 202 Newark, DE 19702 (302) 731-9658 Fax: (302) 731-9609	SIZE F	DRAWING NUMBER: 93132F10
DRAWN BY: T. McKEE CHECKED BY: D.P. Curick APPROVED BY: W.A. Bunker	DATE: 10-18-96 DATE: 12-20-96 DATE: 12-20-96	SCALE: 1"=100' REV.

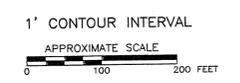


LEGEND:

- POND/STREAMS
- ||||| RAILROAD
- 980 — SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
- MW-8A UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK MONITORING WELL
- ⊗ MW-8B SALTSBURG SANDSTONE MONITORING WELL
- ⊙ MW-20 BUFFALO SANDSTONE MONITORING WELL
- MW-22A BORING LOCATION
- SP-2 SEEP LOCATION
- (981.65) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL), SEPTEMBER 27, 1996
- 980 — — GROUNDWATER EQUIPOTENTIAL LINE IN FEET ABOVE MEAN SEA LEVEL (MSL) SEPTEMBER 27, 1996
- ➔ INFERRED GROUNDWATER FLOW DIRECTION BASED ON EQUIPOTENTIAL LINES

NOTES:

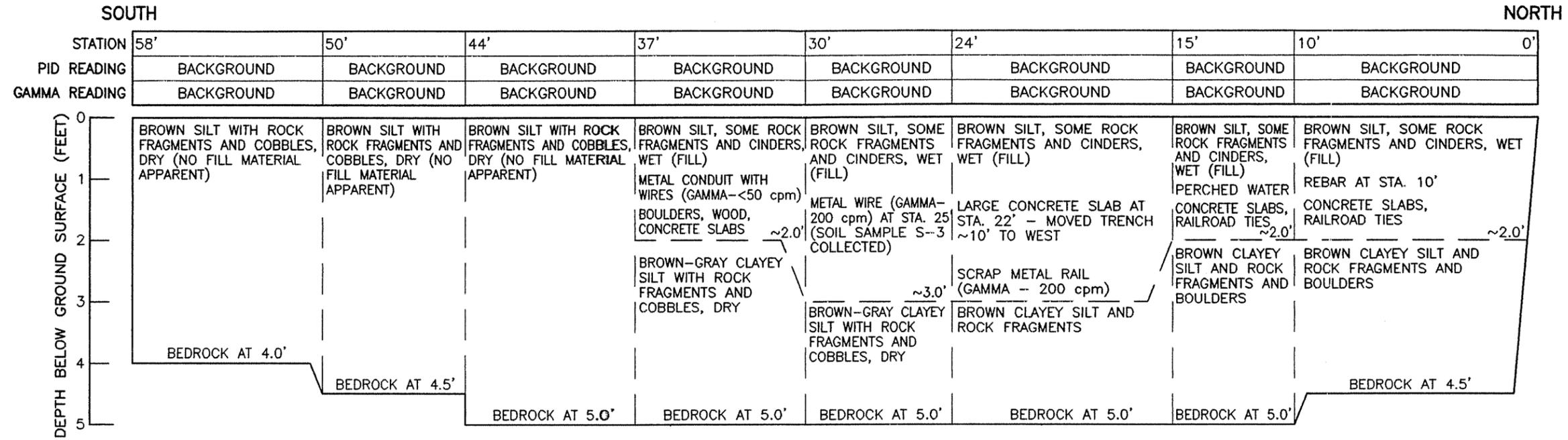
1. TOPOGRAPHIC CONTOURS AND PROPERTY FEATURES WERE PROVIDED BY OTHERS AND HAVE NOT BEEN VERIFIED BY CUMMINGS/RITER.
2. MONITORING WELL MW-10B IS SCREENED AT THE UNCONSOLIDATED DEPOSITS/WEATHERED BEDROCK INTERFACE. WATER LEVEL DATA FROM WELL MW-10B WAS NOT UTILIZED IN CONSTRUCTION OF THIS FIGURE.
3. THE WATER LEVEL DATA FROM MONITORING WELL MW-20 WAS NOT UTILIZED IN CONSTRUCTION OF THIS FIGURE BECAUSE THE UPPERMOST WATER BEARING UNIT WAS NOT ENCOUNTERED IN THE SALTSBURG SANDSTONE AT THIS LOCATION.



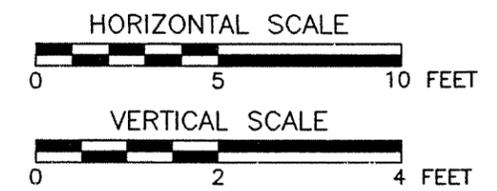
REFERENCE:
 WESTINGHOUSE ELECTRIC CORPORATION, SPECIALTY METALS DIVISION,
 BLAIRSVILLE, PENNSYLVANIA, FIGURE 6; TITLED: "SURFACE AND
 GROUND WATER QUALITY MONITORING LOCATIONS NEAR PLANT
 FACILITIES," PROJECT P6043.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RITER CONSULTANTS, INC. CORPORATE HEADQUARTERS 339 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146 (412) 373-5240 Fax: (412) 373-5242	FIGURE 14 PIEZOMETRIC SURFACE MAP SALTSBURG SANDSTONE SEPTEMBER 27, 1996		
	SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA		
EASTERN REGIONAL HEADQUARTERS 258 Chapman Road Suite 202 Newark, DE 19702 (302) 731-9668 Fax: (302) 731-9609	PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA	SIZE F	DRAWING NUMBER: 93132F11
DRAWN BY: T. McKEE CHECKED BY: D.P. ... APPROVED BY: W.A. ...	DATE: 10-21-96 DATE: 12-30-96 DATE: 12-30-96	SCALE: 1"=100'	REV.



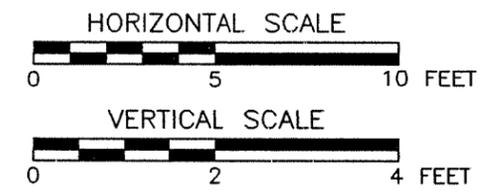
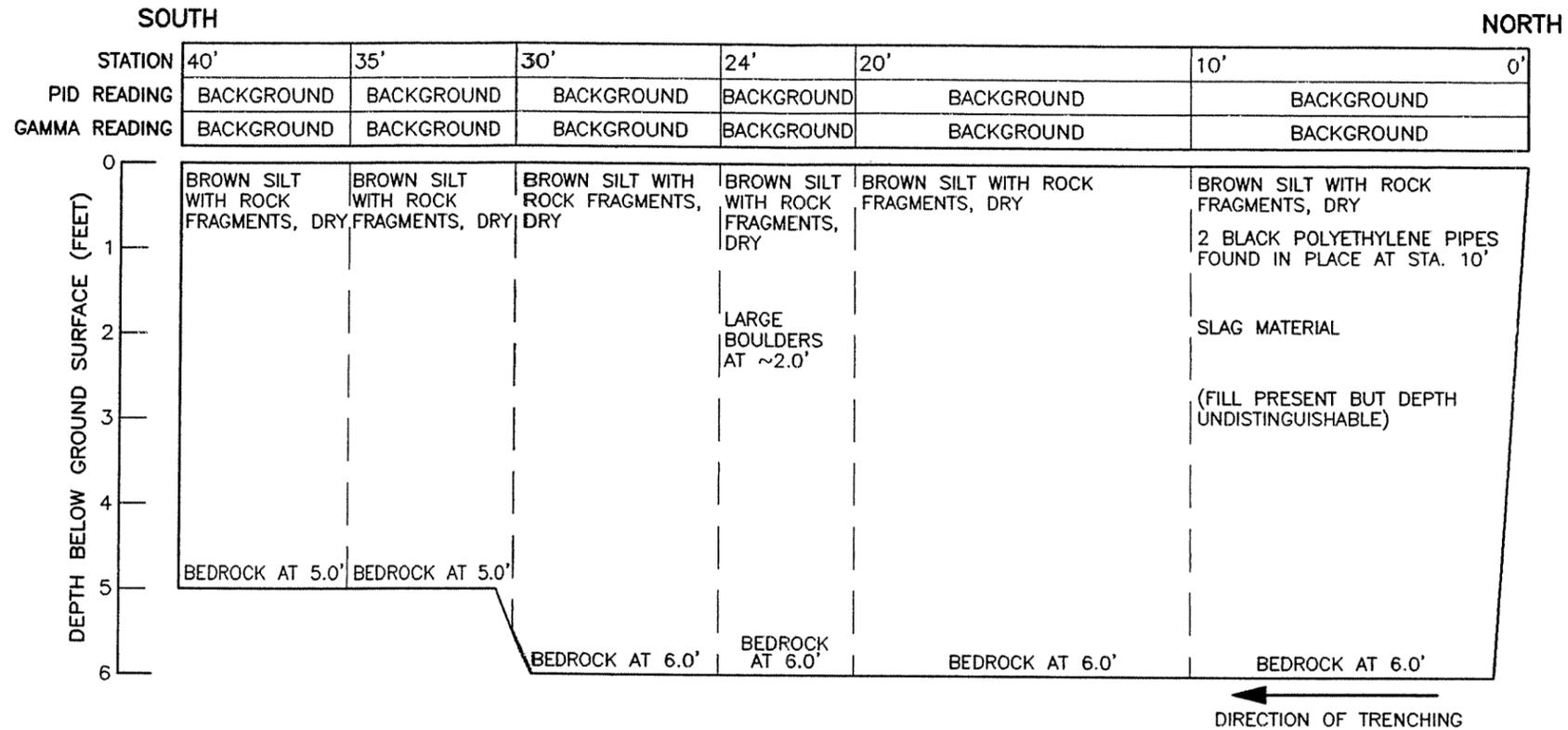
← DIRECTION OF TRENCHING



NOTES:

1. PHOTOIONIZATION DETECTOR (PID) READING OF BACKGROUND IS CONSIDERED TO BE <0.5 PARTS PER MILLION.
2. GAMMA READING OF BACKGROUND IS CONSIDERED TO BE <50 COUNTS PER MINUTE (cpm).
3. HEADER GAMMA READINGS ARE AVERAGE VALUES BETWEEN STATION INTERVALS. SPECIFIC READINGS ABOVE BACKGROUND, IF ENCOUNTERED, ARE PRESENTED IN THE TRENCH DESCRIPTION.

FIGURE 17 EXCAVATION LOG - TRENCH 2 FORMER LAGOON AREA ASSESSMENT SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA	
PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA	
CUMMINGS RITER CONSULTANTS, INC.	DRAWING NUMBER TRENCH2
DRAWN BY: B. MAURER	DATE: 4/23/96
CHECKED BY: D.P. Cusick	DATE: 12/30/96
APPROVED BY: W.A. Baughman	DATE: 12/30/96



NOTES:

1. PHOTOIONIZATION DETECTOR (PID) READING OF BACKGROUND IS CONSIDERED TO BE <0.5 PARTS PER MILLION.
2. GAMMA READING OF BACKGROUND IS CONSIDERED TO BE <50 COUNTS PER MINUTE (cpm).
3. HEADER GAMMA READINGS ARE AVERAGE VALUES BETWEEN STATION INTERVALS. SPECIFIC READINGS ARE PRESENTED IN THE TRENCH DESCRIPTION.

<p>FIGURE 18 EXCAVATION LOG – TRENCH 3 FORMER LAGOON AREA ASSESSMENT SPECIALTY METALS PLANT BLAIRSVILLE, PENNSYLVANIA</p>	
<p>PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION PITTSBURGH, PENNSYLVANIA</p>	
	<p>DRAWING NUMBER TRENCH3</p>
DRAWN BY: <i>B. MAURER</i>	DATE: <i>4/23/96</i>
CHECKED BY: <i>D.P. Curick</i>	DATE: <i>12/30/96</i>
APPROVED BY: <i>W.A. Bampf</i>	DATE: <i>12/30/96</i>

APPENDIX A

BORING LOGS



LOG OF BORING NO. MW-18A

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132
 Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA
 Date Started 9-17-96 Date Completed 9-17-96
 Field Geologist DPC Checked By WAB GWL: Depth 6.80'BGS Date/Time 9-17-96/08:00
 Driller EICHELBERGERS, INC. Date/Time --
 Drilling Method AIR ROTARY WITH 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	SAMPLE RECOVERY (IN.)	SPT BLOWS (6" OR ROD (%))	BOREHOLE (PPM)	PROFILE	Coordinates N 408,848.14 E 1,535,322.10		WELL CONSTRUCTION DETAIL	ELEVATION (FEET, MSL)
						Surface Elev. 990.0'			
DESCRIPTION									
0								LOCKING 6 5/8 IN. PROTECTIVE STEEL CASING CONCRETE PAD GROUT SLURRY (0.0' - 2.5') BENTONITE (2.5' - 7.5') 6" DIA. BORING (0.0' - 20.0') 2" I.D. SCH 40 PVC RISER PIPE COARSE SAND (7.5' - 20.0') 2" I.D. SCH 40 PVC SCREEN (0.01")	992.61' 992.00' 990.00'
0 - 9.0					MEDIUM-BROWN SILT, TRACE ROCK FRAGMENTS AND FINE SAND, DRY				987.50'
9.0				0	TOP OF BEDROCK AT 9.0' 9.0'				982.50'
9.0 - 19.3					MODERATELY HARD TO HARD, TAN TO GRAY FINE GRAINED SANDSTONE, TRACE CARBONACEOUS FLECKS, DRY TO WET				980.70'
15.0					WATER ENCOUNTERED AT 15.0'				
20.0				0	BLEW BOREHOLE AT 20.0' ESTIMATED FLOW RATE ~2.0 GPM 20.0'				970.70' 970.00'
20.0 - 35.0					BOTTOM OF BORING AT 20.0' UPON COMPLETION, MONITORING WELL MW-18A WAS INSTALLED WITH SCREEN INTERVAL FROM 9.3' TO 19.3'				



LOG OF BORING NO. MW-19A

Client WESTINGHOUSE ELECTRIC CORPORATION

Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-17-96

Date Completed 9-17-96

Field Geologist DPC

Checked By WAB

GWL: Depth

18.50' BGS

Date/Time 9-17-96/10:40

Driller EICHELBERGERS, INC.

Date/Time -

Drilling Method AIR ROTARY WITH 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	SAMPLE RECOVERY (IN.)	SPT BLOWS (6") OR RQD (%)	BOREHOLE (PPM)	PROFILE	Coordinates N 408,946.59 E 1,535,504.72	WELL CONSTRUCTION DETAIL	ELEVATION (FEET, MSL)
						Surface Elev. 981.44'		
0							<p>LOCKING 6 5/8 IN. PROTECTIVE STEEL CASING</p> <p>CONCRETE PAD</p> <p>GROUT SLURRY (0.0'-5.9')</p> <p>BENTONITE (5.9'-10.2')</p> <p>6" DIA. BORING (0.0'-23.5')</p> <p>2" I.D. SCH 40 PVC RISER PIPE</p> <p>COARSE SAND (10.2'-23.5')</p> <p>2" I.D. SCH 40 PVC SCREEN (0.01")</p>	983.74'
0								983.46'
0						MEDIUM BROWN TO DARK BROWN, SILT, FINE SAND AND ROCK FRAGMENTS, DRY		981.44'
5				0		TOP OF BEDROCK AT 5.0' 5.0'		
5						SOFT TO HARD, TAN AND GRAY FINE TO MEDIUM GRAINED SANDSTONE, CARBONACEOUS FLECKS, DRY TO WET		975.54'
10				2.0				971.24'
15								967.94'
20						WATER ENCOUNTERED AT 18.0'		
20				50.0				
25						BLEW BOREHOLE AT 23.5' ESTIMATED FLOW RATE ~1.0 GPM 23.5'		957.94'
25						BOTTOM OF BORING AT 23.5' UPON COMPLETION, MONITORING WELL MW-19A WAS INSTALLED WITH SCREEN INTERVAL FROM 13.5' TO 23.5'		
30								
35								



LOG OF BORING NO. MW-20

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-24-96 Date Completed 9-24-96

Field Geologist DPC Checked By WAB GWL: Depth 28.60' BGS Date/Time 9-25-96/07:30

Driller EICHELBERGERS, INC.

Drilling Method AIR ROTARY WITH 8" TO 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	SAMPLE RECOVERY (IN.)	SPT BLOWS (6" OR RQD (%))	BOREHOLE (PPM)	PROFILE	Coordinates N 408,907.62 E 1,535,896.79	WELL CONSTRUCTION DETAIL	ELEVATION (FEET, MSL)
						Surface Elev. 962.82'		
0							LOCKING 6 3/8 IN. PROTECTIVE STEEL CASING CONCRETE PAD	965.52' 964.73' 962.82'
0 - 5					ORANGE-BROWN CLAYEY SILT, DRY TO MOIST	~5.0'		
5 - 9.0					TAN TO ORANGE-BROWN FINE SAND, SILT AND CLAY, SOME ROCK FRAGMENTS, DRY TO TRACE WET		GROUT SLURRY (0.0'-48.2')	
9.0					TOP OF BEDROCK AT 9.0'	9.0'	8" DIA. BORING (0.0'-10.0')	
9.0 - 12				0	SOFT TO HARD, GRAY FINE-GRAINED ARGILLACEOUS SANDSTONE, INTERBEDDED GRAY SHALE LAYERS, DRY			952.82'
12 - 15					CARBONACEOUS SHALE FROM 12' TO 15'		2" I.D. SCH 40 PVC RISER PIPE	
15					COAL SEAM AT 15.0'			
20					BLEW BOREHOLE AT 20.0' NO WATER OBSERVED		6" DIA. BORING (10.0'-70.0')	
30					BLEW BOREHOLE AT 30.0' NO WATER OBSERVED	30.0'		
30 - 35				0	MODERATELY HARD TO HARD, DARK GRAY SHALE, DRY			



LOG OF BORING NO. MW-20

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-24-96 Date Completed 9-24-96

Field Geologist DPC Checked By WAB GWL: Depth 28.60' BGS Date/Time 9-25-96/07:30

Driller EICHELBERGERS, INC. Date/Time

Drilling Method AIR ROTARY WITH 8" TO 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	SAMPLE RECOVERY (IN.)	SPT BLOWS (6") OR RQD (%)	BOREHOLE (PPM)	PROFILE	Coordinates N408,907.62 E 1,535,896.79	WELL CONSTRUCTION DETAIL	ELEVATION (FEET, MSL)	
						Surface Elev. 962.82'			DESCRIPTION
35						MODERATELY HARD TO HARD, DARK GRAY SHALE, DRY			
40				0		BLEW BOREHOLE AT 40.0' NO WATER OBSERVED			
45									
50				0		BLEW BOREHOLE AT 50.0' NO WATER OBSERVED			
54.0'									914.62'
55						SOFT TO MODERATELY HARD, INTERBEDDED PURPLE AND GRAY SHALE, DRY			907.82'
60.0'									902.82'
60						HARD, LIGHT GRAY ARGILLACEOUS FINE GRAINED SANDSTONE, DRY TO WET			
62.0'						WATER ENCOUNTERED AT 62.0'			
65									
67.0'						ADDITIONAL WATER ENCOUNTERED AT 67.0'			
70.0'				0		BLEW BOREHOLE AT 70.0' ESTIMATED FLOW RATE ~3 TO 5 GPM 70.0'		892.82'	
						BOTTOM OF BORING AT 70.0' UPON COMPLETION, MONITORING WELL MW-20 WAS INSTALLED WITH SCREEN INTERVAL FROM 60.0' TO 70.0'			
75									



LOG OF BORING NO. MW-21

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-24-96 Date Completed 9-24-96

Field Geologist DPC Checked By WAB GWL: Depth 17.0' BGS Date/Time 9-24-96/09:15

Driller EICHELBERGERS, INC. Date/Time -

Drilling Method AIR ROTARY WITH 8" TO 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	SAMPLE RECOVERY (IN.)	SPT BLOWS (6" OR RQD (%))	BOREHOLE (PPM)	PROFILE	Coordinates N 409,008.94 E 1,535,919.26	WELL CONSTRUCTION DETAIL	ELEVATION (FEET, MSL)
						Surface Elev. 970.72'		
0							LOCKING 6 3/8 IN. PROTECTIVE STEEL CASING CONCRETE PAD	973.52' 972.64'
0						LIGHT TAN TO BROWN FINE SILTY SAND, TRACE GRAVEL AND ROCK FRAGMENTS, DRY TO MOIST, WEATHERED BEDROCK		970.72'
5							GROUT SLURRY (0.0'-14.0')	
10							8" DIA. BORING (0.0'-15.0')	
15							2" I.D. SCH 40 PVC RISER PIPE	
17.0							BENTONITE (14.0-17.0')	956.72'
20						HARD, DARK GRAY CARBONACEOUS SHALE, DRY		953.72'
22.0						WATER ENCOUNTERED AT 22.0'		950.72'
25						MODERATELY HARD TO HARD, LIGHT GRAY FINE GRAINED SANDSTONE, DRY TO WET		
27.0						COAL LENS AT 27.0'		
30.0						BLEW BOREHOLE AT 30.0' ESTIMATED FLOW RATE ~1.5 GPM		940.72'
30.0						BOTTOM OF BORING AT 30.0' UPON COMPLETION, MONITORING WELL MW-21 WAS INSTALLED WITH SCREEN INTERVAL FROM 20.0' TO 30.0'		
35							6" DIA. BORING (15.0'-30.0')	
							2" I.D. SCH 40 PVC SCREEN (0.01")	



LOG OF BORING NO. MW-22

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-19-96 Date Completed 9-19-96

Field Geologist DPC Checked By WAB GWL: Depth 29.50' BGS Date/Time 9-19-96/12.05

Driller EICHELBERGERS, INC.

Drilling Method AIR ROTARY WITH 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	SAMPLE RECOVERY (IN.)	SPT BLOWS (6" OR RQD (%))	BOREHOLE (PPM)	PROFILE	Coordinates N 409,234.40 E 1,535,793.81	WELL CONSTRUCTION DETAIL	ELEVATION (FEET, MSL)
						Surface Elev. 987.30'		
DESCRIPTION								
0							LOCKING 6 5/8 IN. PROTECTIVE STEEL CASING	989.95'
							CONCRETE PAD	989.44'
0						ORANGE-BROWN TO BROWN FINE SAND TO SILTY SAND, SOME ROCK FRAGMENTS, DRY		987.30'
5				0		TAN FINE SAND AND GRAVEL, SOME COBBLES, DRY	GROUT SLURRY (0.0'-24.5')	
						TOP OF BEDROCK AT 9.5'	6" DIA. BORING (0.0'-52.0')	
10						SOFT TO HARD, TAN, BROWN AND GRAY, FINE TO MEDIUM GRAINED SANDSTONE, CARBONACEOUS FLECKS, DRY	2" I.D. SCH 40 PVC RISER PIPE	
15				0		MODERATELY HARD TO HARD, GRAY MEDIUM GRAINED SANDSTONE, CARBONACEOUS FLECKS, DRY		
20						INTERBEDDED WITH BROWN FINE GRAINED SANDSTONE LAYERS FROM 21' TO 35'		
25							BENTONITE (24.5'-28.4')	962.80'
30							COARSE SAND (28.4'-41.9')	958.90'
35				0		BLEW BOREHOLE AT 31.0' NO WATER OBSERVED	2" I.D. SCH 40 PVC SCREEN (0.01")	956.60'



LOG OF BORING NO. MW-22

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-19-96 Date Completed 9-19-96

Field Geologist DPC Checked By WAB GWL: Depth 29.50' BGS Date/Time 9-19-96/12:05

Driller EICHELBERGERS, INC.

Drilling Method AIR ROTARY WITH 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	SAMPLE RECOVERY (IN.)	SPT BLOWS (6" OR RQD (%))	BOREHOLE (PPM)	PROFILE	Coordinates <u>N 409,234.40 E 1,535,793.81</u>	WELL CONSTRUCTION DETAIL	ELEVATION (FEET, MSL)
						Surface Elev. <u>987.30'</u>		
35								
40						HARD, DARK GRAY CARBONACEOUS SHALE, INTERBEDDED WITH LIGHT GRAY ARGILLACEOUS SANDSTONE LENSES, DRY TO WET WATER ENCOUNTERED AT 37.0'	<p>2" I.D. SCH 40 PVC SCREEN (0.01")</p> <p>COARSE SAND (28.4'-41.9')</p> <p>6" DIA. BORING (0.0'-52.0')</p> <p>BENTONITE (41.9'-52.0')</p>	946.60' 945.40'
45								
50				0		BLEW BOREHOLE AT 52.0' ESTIMATED FLOW RATE ~1 TO 2 GPM 52.0'		935.30'
55						BOTTOM OF BORING AT 52.0' UPON COMPLETION, MONITORING WELL MW-22 WAS INSTALLED WITH SCREEN INTERVAL FROM 30.7' TO 40.7'		
60								
65								
70								
75								



LOG OF BORING NO. MW-22A

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-17-96 Date Completed 9-17-96

Field Geologist DPC Checked By WAB GWL: Depth DRY Date/Time 9-17-96

Driller EICHELBERGERS, INC.

Drilling Method AIR ROTARY WITH 6" O.D. DOWNHOLE HAMMER BIT

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N 409,186.46 E 1,535,782.66 Surface Elev. 984.56'	BOREHOLE (PPM)	REMARKS
					DESCRIPTION		
0							
5							
10					~6.0' LIGHT TAN TO BROWN FINE SAND, TRACE GRAVEL, DRY	0	DRILL ROD AND BIT STUCK IN BOREHOLE BROKE CHAIN ON DRILL RIG WHEN ATTEMPTING TO REMOVE STOPPED 9-17-96
10.0					10.0' <i>BOTTOM OF BORING AT 10.0"</i> ATTEMPTS WERE MADE TO RETRIEVE DRILL ROD AND BIT ON 9-18-96 USING A BACKHOE AND CAT TRAC LOADER. THE ROD AND BIT WERE REMOVED WITH THE DRILL RIG ON 9-18-96. BORING WAS RELOCATED (SEE BORING MW-22) ~50' NORTH. BORING MW-22A WAS BACKFILLED WITH SODIUM-BENTONITE CHIPS		
15							
20							
25							
30							



LOG OF BORING NO. HP-1

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth 5.00'BGS Date/Time 9-4-96/10:00

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N 408,994.21 E 1,535,304.18 Surface Elev. 987.94'	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0								
0 - 2.0				{ } { }	MEDIUM BROWN SILT AND FINE SAND, SOME ROCK AND BRICK FRAGMENTS, DRY			PID - BACKGROUND IN BOREHOLE
2.0 - 5.0				// } // } // }	ORANGE-BROWN CLAYEY SILT, DRY			
5.0 - 6.3				{ } { }	ORANGE-BROWN FINE SAND, SOME ROCK FRAGMENTS, MOIST			
6.3					APPROXIMATE TOP OF BEDROCK AT 6.3'			SAMPLER REFUSAL AT 6.3'
6.3					BOTTOM OF BORING AT 6.3' UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			GROUNDWATER SAMPLE ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-2

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth 6.50' Date/Time 9-5-96/08:30

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N408,922.97 E 1,535,326.15</u> Surface Elev. <u>988.25'</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0	-	-	-		BROWN, FINE SAND AND ROCK FRAGMENTS, DRY	-	-	PID - BACKGROUND IN BOREHOLE
					2.0'			
					4.0'			
5					MEDIUM-BROWN SILT AND FINE SAND, TRACE SANDSTONE FRAGMENTS NEAR BOTTOM OF SAMPLER, DRY TO MOIST			SAMPLER REFUSAL AT 6.9'
					APPROXIMATE TOP OF BEDROCK AT 6.9' 6.9'			
10					<i>BOTTOM OF BORING AT 6.9'</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			GROUNDWATER SAMPLE ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
15								
20								
25								
30								



LOG OF BORING NO. HP-3

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth 6.30' Date/Time 9-5-96/10:00

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N 408,891.75 E 1,535,317.38	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. 988.76'			
0	-	-	-	{	ORANGE-BROWN SILT, TRACE FINE SAND, DRY	-	-	PID - BACKGROUND IN BOREHOLE
4.0'				{	ORANGE-BROWN CLAYEY SILT, SOME FINE SAND AND SANDSTONE FRAGMENTS, MOIST			
6.5'				{	APPROXIMATE TOP OF BEDROCK AT 6.5'			SAMPLER REFUSAL AT 6.5'
6.5'				{	BOTTOM OF BORING AT 6.5' UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			GROUNDWATER SAMPLE ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-4

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth 7.60' Date/Time 9-4-96/12:00

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N408,844.18 E 1,535,321.39</u> Surface Elev. <u>990.01'</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0	-	-	-		BROWN SILT, FINE SAND AND ROCK FRAGMENTS, DRY TO MOIST	-	-	PID - BACKGROUND IN BOREHOLE
5					WET AT ~7.5' APPROXIMATE TOP OF BEDROCK AT 8.0' 8.0'			SAMPLER REFUSAL AT 8.0'
10					BOTTOM OF BORING AT 8.0' UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			GROUNDWATER SAMPLE ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
15								
20								
25								
30								



LOG OF BORING NO. HP-5

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-4-96/13:25

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N408,798.61 E 1,535,414.01	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. 987.61'			
0	-	-	-			-	-	PID - BACKGROUND IN BOREHOLE
					MEDIUM BROWN SILT AND FINE SAND, SOME ROCK FRAGMENTS, DRY			SAMPLER REFUSAL AT 4.3'
5					<i>BOTTOM OF BORING AT 4.3'</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~3.3' TO 4.3') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
10								
15								
20								
25								
30								



LOG OF BORING NO. HP-6

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-4-96/13:50

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N408,837.56 E 1,535,444.40</u> Surface Elev. <u>986.67'</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0	-	-	-		MEDIUM BROWN, FINE SAND AND ROCK FRAGMENTS, DRY	-	-	PID - BACKGROUND IN BOREHOLE
5					GRAY STAINING AT 4.5'			SAMPLER REFUSAL AT 4.9'
					<i>BOTTOM OF BORING AT 4.9'</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~3.9' TO 4.9') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-7

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132
 Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA
 Date Started 9-4-96 Date Completed 9-4-96
 Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-4-96/14:15
 Driller MICROSEEPS ENVIRONMENTAL SERVICES Date/Time -
 Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N408,903.42 E 1,535,446.50</u> Surface Elev. <u>985.43'</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0	-	-	-		MEDIUM BROWN TO DARK BROWN FINE SAND AND ROCK FRAGMENTS, DRY	-	-	PID - BACKGROUND IN BOREHOLE
4.5					<i>BOTTOM OF BORING AT 4.5'</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SAMPLER REFUSAL AT 4.5' SOIL SAMPLE (~3.5' TO 4.5') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
5								
10								
15								
20								
25								
30								



LOG OF BORING NO. HP-8

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132
 Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA
 Date Started 9-4-96 Date Completed 9-4-96
 Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-4-96/13:25
 Driller MICROSEEPS ENVIRONMENTAL SERVICES Date/Time -
 Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N408,949.22 E 1,535,459.98	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. 983.10'			
DESCRIPTION								
0	-	-	-		ORANGE-BROWN TO TAN, FINE TO MEDIUM SAND, SOME ROCK FRAGMENTS, DRY TO MOIST	-	-	PID - 1.4 PPM IN BOREHOLE
5					APPROXIMATE TOP OF BEDROCK AT 5.0' 5.0'			SAMPLER REFUSAL AT 5.0'
					BOTTOM OF BORING AT 5.0' UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~4.0' TO 5.0') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
10								
15								
20								
25								
30								



LOG OF BORING NO. HP-9

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-4-96/13:30

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N408,940.10 E 1,535,554.54</u> Surface Elev. <u>980.26'</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0	-	-	-		MEDIUM-BROWN TO TAN, FINE TO MEDIUM SAND, SOME ROCK AND SANDSTONE FRAGMENTS, DRY TO MOIST	-	-	PID - BACKGROUND IN BOREHOLE
5					APPROXIMATE TOP OF BEDROCK AT 5.8' 5.8'			SAMPLER REFUSAL AT 5.8'
					BOTTOM OF BORING AT 5.8' UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~4.8' TO 5.8') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
10								
15								
20								
25								
30								



LOG OF BORING NO. HP-10

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132
 Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA
 Date Started 9-4-96 Date Completed 9-4-96
 Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-4-96/16:00
 Driller MICROSEEPS ENVIRONMENTAL SERVICES Date/Time -
 Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N408,985.53 E 1,535,590.47</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. <u>980.93'</u>			
0	-	-	-		MEDIUM BROWN FINE SAND, SOME ROCK FRAGMENTS, DRY TO MOIST SLIGHTLY WET FROM 2.0' TO 2.4'	-	-	PID - BACKGROUND IN BOREHOLE
5					APPROXIMATE TOP OF BEDROCK AT 5.5' 5.5'			SAMPLER REFUSAL AT 5.5'
					BOTTOM OF BORING AT 5.5' UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~4.5' TO 5.5') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-11

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-4-96 Date Completed 9-4-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-4-96/16:15

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N 409,057.80 E 1,535,548.39</u> Surface Elev. <u>981.96'</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0	-	-	-			-	-	PID - 0.4 PPM IN BOREHOLE
3.5								SAMPLER REFUSAL AT 3.5'
5					<i>BOTTOM OF BORING AT 3.5'</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~2.5' TO 3.5') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
10								
15								
20								
25								
30								



LOG OF BORING NO. HP-12

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-5-96 Date Completed 9-5-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-5-96/09:00

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N409,112.36 E 1,535,469.45</u> Surface Elev. <u>985.73'</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0								
0.5					BLACK SILT, SOME ROOTS, DRY (TOP SOIL) 0.5'			
5					ORANGE-BROWN FINE SAND AND SANDSTONE AND ROCK FRAGMENTS, DRY TO MOIST			
7.0					APPROXIMATE TOP OF BEDROCK AT 7.0' 7.0'			PID - BACKGROUND IN BOREHOLE SAMPLER REFUSAL AT 7.0'
7.0					<i>BOTTOM OF BORING AT 7.0'</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~6.0' TO 7.0') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-13

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-5-96 Date Completed 9-5-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-5-96/09:25

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N 409,133.10 E 1,535,381.62 Surface Elev. 988.07'	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					DESCRIPTION			
0					BLACK SILT, SOME ROOTS, DRY (TOP SOIL) 0.5'			
5					GRAY TO ORANGE-BROWN FINE SAND AND ROCK FRAGMENTS, DRY			PID - BACKGROUND IN BOREHOLE
					APPROXIMATE TOP OF BEDROCK AT 6.8' 6.8'			SAMPLER REFUSAL AT 6.8'
10					BOTTOM OF BORING AT 6.8" UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~5.8' TO 6.8') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-14

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-5-96 Date Completed 9-5-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-5-96/11:15

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N 408,856.06 E 1,535,270.72	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. 992.04'			
0	-	-	-		DARK BROWN FINE SANDY SILT, DRY	-	-	
2.0	-	-	-		ORANGE-BROWN FINE SAND, SOME ROCK FRAGMENTS, DRY TO MOIST	-	-	MOIST AT 2.0' TO 2.3'
5	-	-	-			-	-	PID - 1.0 PPM IN BOREHOLE
9.8	-	-	-		APPROXIMATE TOP OF BEDROCK AT 9.8' 9.8'	-	-	SAMPLER REFUSAL AT 9.8'
9.8	-	-	-		<i>BOTTOM OF BORING AT 9.8"</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS	-	-	SOIL SAMPLE (~8.8' TO 9.8') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-15

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-5-96 Date Completed 9-5-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-5-96/13:35

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N408,802.51 E 1,535,315.80	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. 992.32'			
0								
5	-	-	-		ORANGE-BROWN FINE SANDY SILT, SOME ROCK FRAGMENTS, DRY TO MOIST			
					4.0'			
					ORANGE-BROWN FINE SAND AND ROCK FRAGMENTS, DRY	-	-	PID - BACKGROUND IN BOREHOLE
					APPROXIMATE TOP OF BEDROCK AT 9.0'			SAMPLER REFUSAL AT 9.0'
10					BOTTOM OF BORING AT 9.0'			SOIL SAMPLE (~8.0' TO 9.0') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
					UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			
15								
20								
25								
30								
35								



LOG OF BORING NO. HP-16

Client WESTINGHOUSE ELECTRIC CORPORATION Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-5-96 Date Completed 9-5-96

Field Geologist DPC Checked By DES GWL: Depth DRY Date/Time 9-5-96/13:30

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates <u>N408,978.56 E 1,535,391.95</u>	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. <u>985.12'</u>			
DESCRIPTION								
0	-	-	-		BROWN TO GRAY SILT AND FINE SAND, DRY			
					2.0'			PID - BACKGROUND IN BOREHOLE
					APPROXIMATE TOP OF BEDROCK AT 5.0' 5.0'			SAMPLER REFUSAL AT 5.0'
					<i>BOTTOM OF BORING AT 5.0'</i> UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			SOIL SAMPLE (~4.0' TO 5.0') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS



LOG OF BORING NO. HP-17

Client WESTINGHOUSE ELECTRIC CORPORATION

Project No. 93-132

Location SPECIALTY METALS PLANT, BLAIRSVILLE, PENNSYLVANIA

Date Started 9-5-96

Date Completed 9-5-96

Field Geologist DPC

Checked By DES

GWL: Depth

DRY Date/Time 9-5-96/13:20

Driller MICROSEEPS ENVIRONMENTAL SERVICES

Date/Time -

Drilling Method GEOPROBE GH-40 WITH 2" O.D. SAMPLERS

DEPTH (FEET)	SAMPLE NO. AND TYPE	RECOVERY (INCHES)	SPT BLOWS (6")	PROFILE	Coordinates N 408,940.43 E 1,535,388.10	HEADSPACE (PPM)	MEASURED CONSISTENCY (TSF)	REMARKS
					Surface Elev. 986.76'			
0					DARK BROWN SILT, SOME ROOTS AND ROCK FRAGMENTS, DRY 1.0'			PID - BACKGROUND IN BOREHOLE
					ORANGE-BROWN FINE SAND, SOME ROCK FRAGMENTS, DRY			
5					APPROXIMATE TOP OF BEDROCK AT 5.5' 5.5'			SAMPLER REFUSAL AT 5.5'
					BOTTOM OF BORING AT 5.5'			SOIL SAMPLE (~4.5' TO 5.5') ANALYZED ON-SITE FOR SELECT VOLATILE ORGANIC COMPOUNDS
					UPON COMPLETION, BORING WAS BACKFILLED WITH SODIUM BENTONITE CHIPS			

APPENDIX B
GEOPHYSICAL LOGS

APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

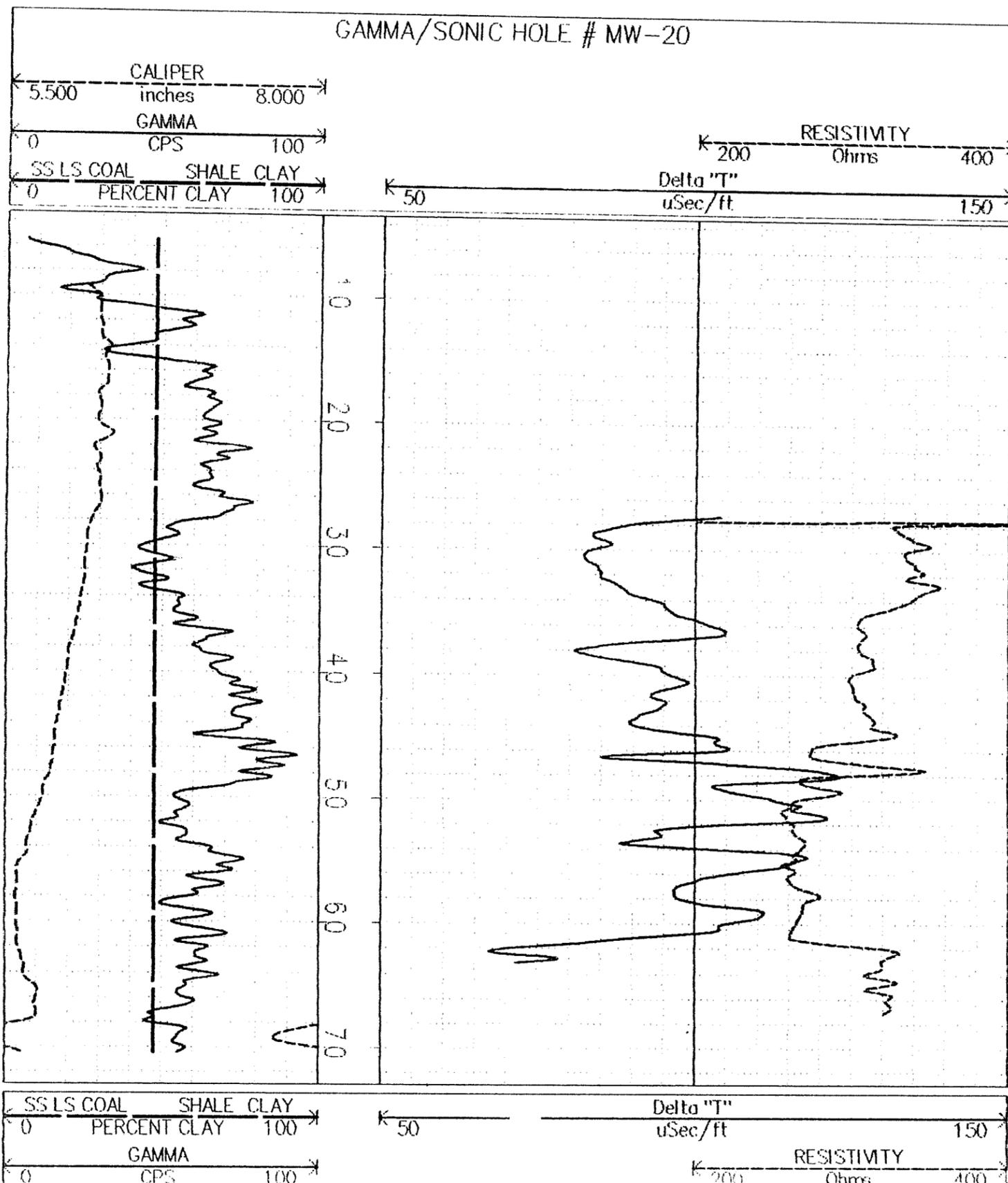
WELL No:
MW-20
LOG SUITE
LITHOLOGY

COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLAIRSVILLE
DEPTH DRILLER: 71	COUNTY: Westmoreland	
LOGGER: 71	STATE: PA	DRILLING CO:
ELEVATION:	DRILLING FLUID: AIR	DRILLER:
BIT SIZE: 6	WATER LEVEL: 27	DATE LOGGED: September 24, 1996
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
2	GAMMA	0-71	100 CPS		NATURAL
3	DELTA T	27-67	100uS/ft SEC		3/4 ft.
1	RESISTANCE	27-68	200 ohm		

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL



APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

WELL No:
MW-20
LOG SUITE
GROUNDWATER

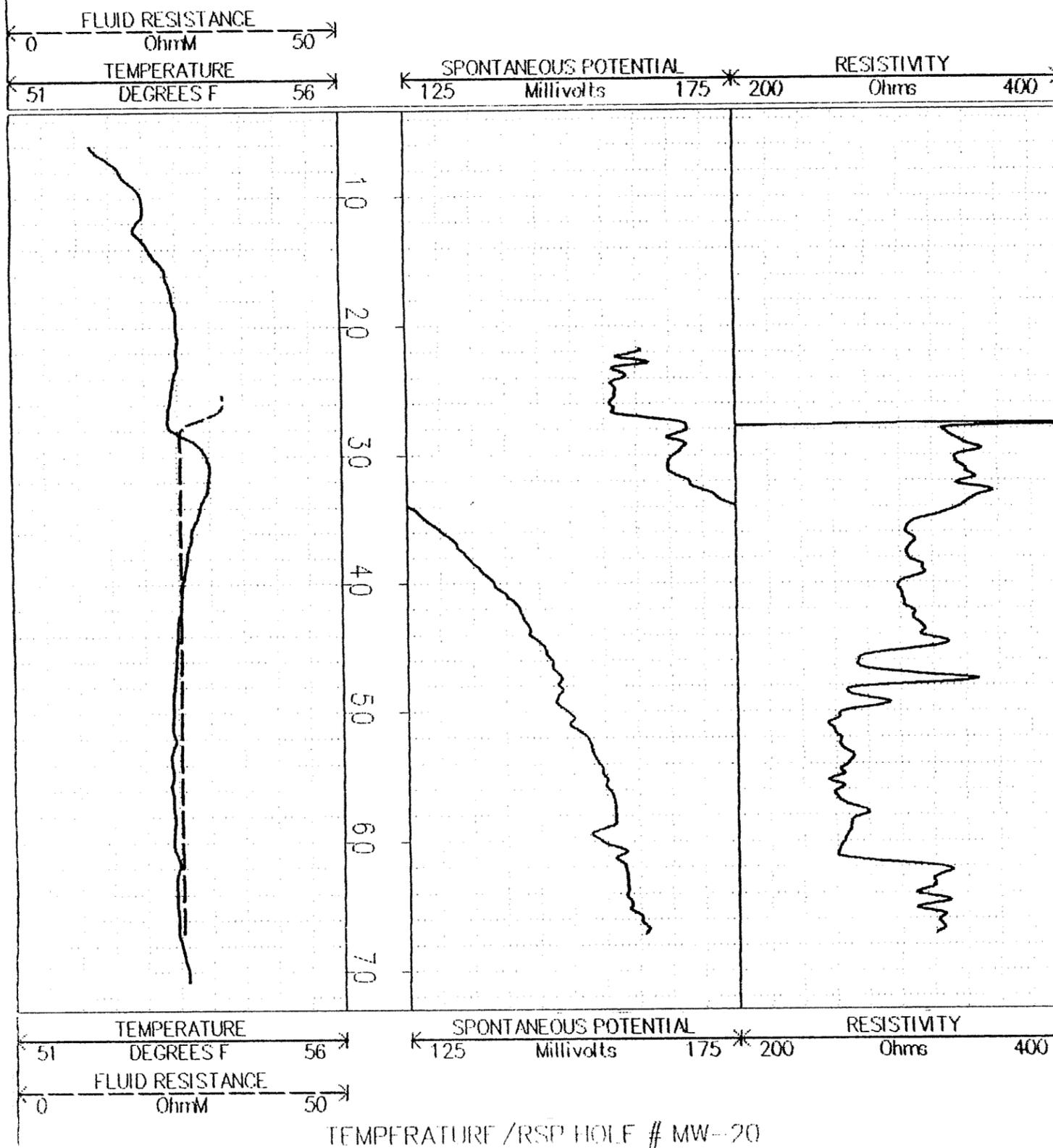
COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLLAIRSVILLE
DEPTH DRILLER: 71	COUNTY: Westmoreland	DRILLING CO:
LOGGER: 71	STATE: PA	DRILLER:
ELEVATION:	DRILLING FLUID: AIR	DATE LOGGED:
BIT SIZE: 6	WATER LEVEL: 27	September 24, 1996
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
1	TEMPERATURE	27-71	5 Deg F		
1	FLUID RESISTANCE	27-68	50 OhmM		
1	RESISTIVITY	27-68	200 ohm		
1	S. P.	27-68	50 mv		

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL

TEMPERATURE /RSP HOLE # MW-20



APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

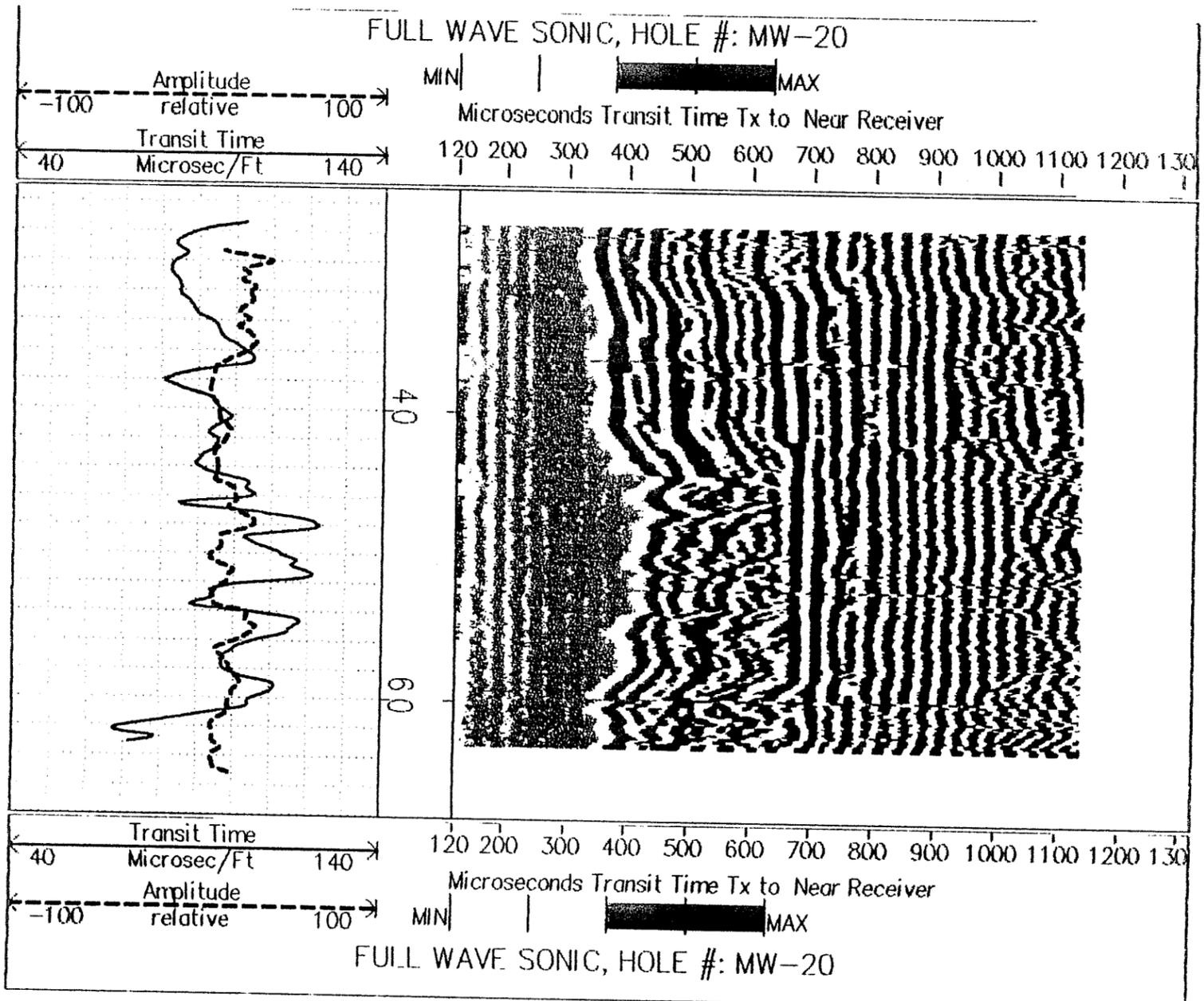
WELL No:
MW-20
LOG SUITE
FULL WAVE SONIC

COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLAIRSVILLE
DEPTH DRILLER: 71	COUNTY: Westmoreland	
LOGGER: 71	STATE: PA	DRILLING CO:
ELEVATION:	DRILLING FLUID: AIR	DRILLER:
BIT SIZE: 6	WATER LEVEL: 27	DATE LOGGED: September 24, 1996
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
3	Delta T	27-67	100us/f		
3	P wv Amp	27-67	percent		
3	Full Wave	27-67	1.2 ms		3/4 ft.

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL



APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

WELL No:
MW-21
LOG SUITE
LITHOLOGY

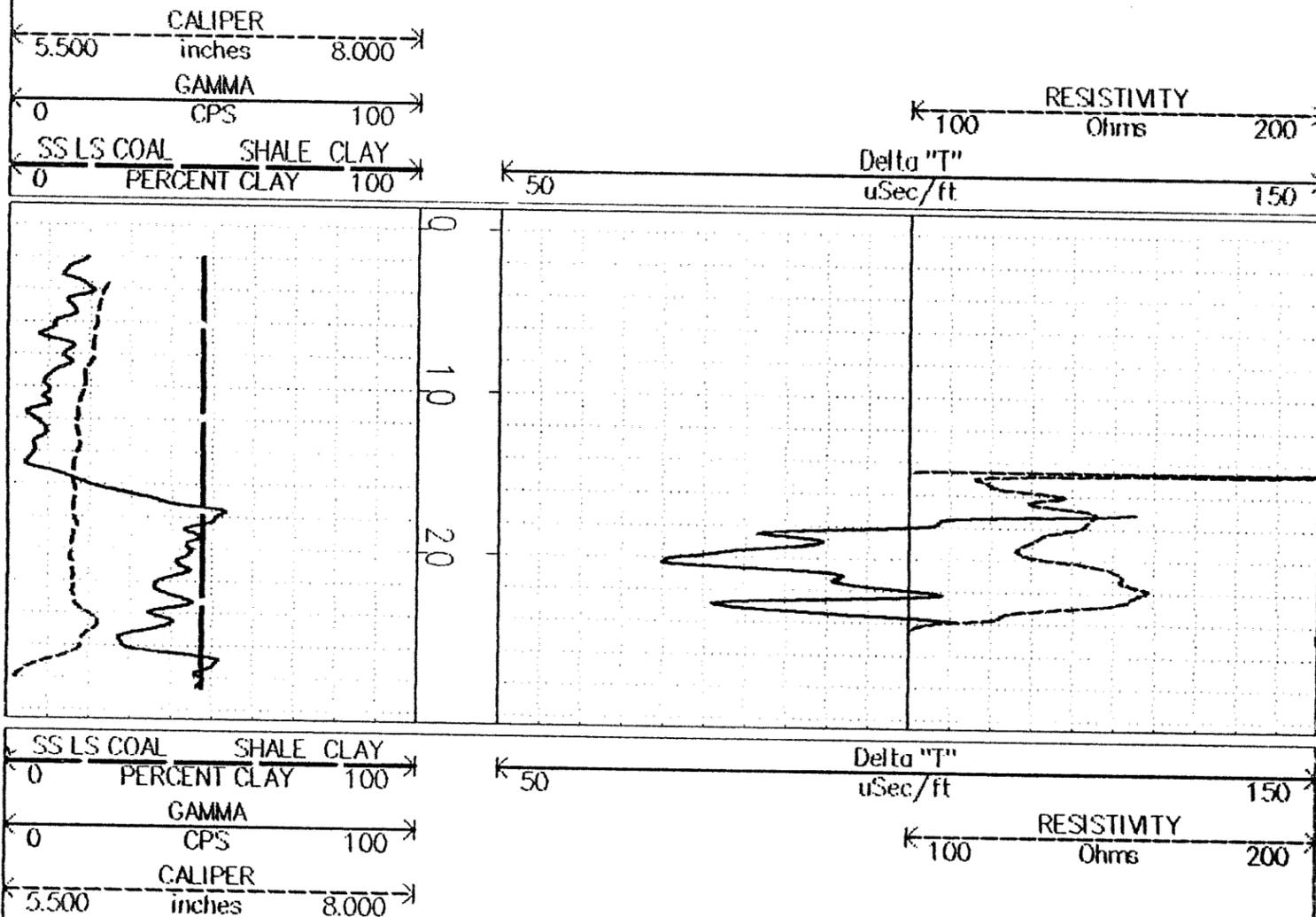
COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLAIRSVILLE
DEPTH DRILLER: 30	COUNTY: Westmoreland	DRILLING CO:
LOGGER: 28	STATE: PA	DRILLER:
ELEVATION:	DRILLING FLUID: AIR	DATE LOGGED:
BIT SIZE: 6	WATER LEVEL: 14	September 24, 1996
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
2	GAMMA	0-28	100 CPS		NATURAL
3	DELTA T	14-24	100 uS / f2 SEC		3/4 ft.
1	RESISTANCE	14-25	100 ohm		

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL

GAMMA/SONIC HOLE # MW-21



GAMMA/SONIC HOLE # MW-21

APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

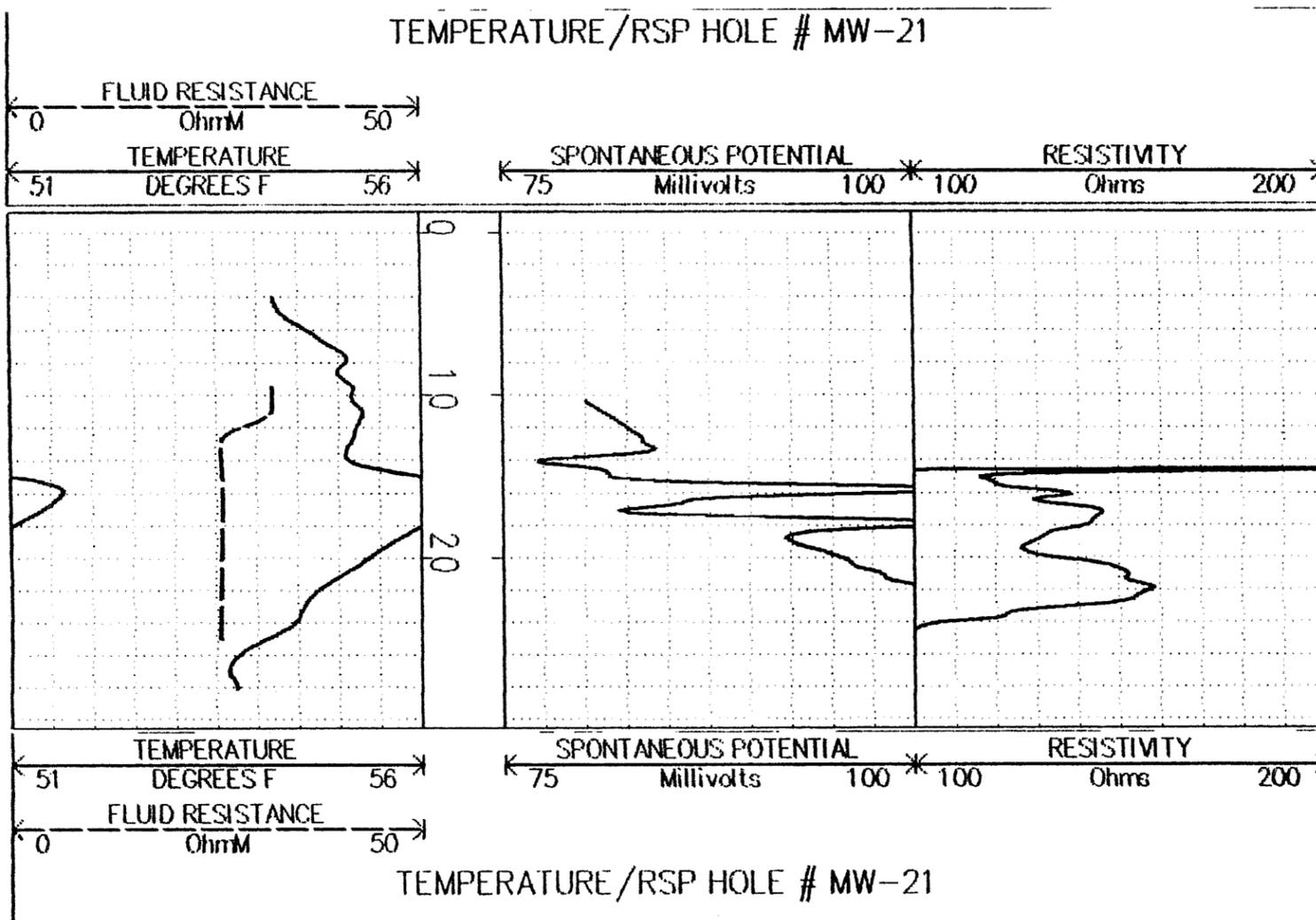
WELL No:
MW-21
LOG SUITE
GROUNDWATER

COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLLAIRSVILLE
DEPTH DRILLER: 30	COUNTY: Westmoreland	
LOGGER: 28	STATE: PA	DRILLING CO:
ELEVATION:	DRILLING FLUID: AIR	DRILLER:
BIT SIZE: 6	WATER LEVEL: 14	DATE LOGGED: September 24, 1996
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
1	TEMPERATURE	14-28	5 Deg F		
1	FLUID RESISTANCE	14-25	50 OhmM		
1	RESISTIVITY	14-25	100 ohm		
1	S. P.	14-25	25 mv		

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL



APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

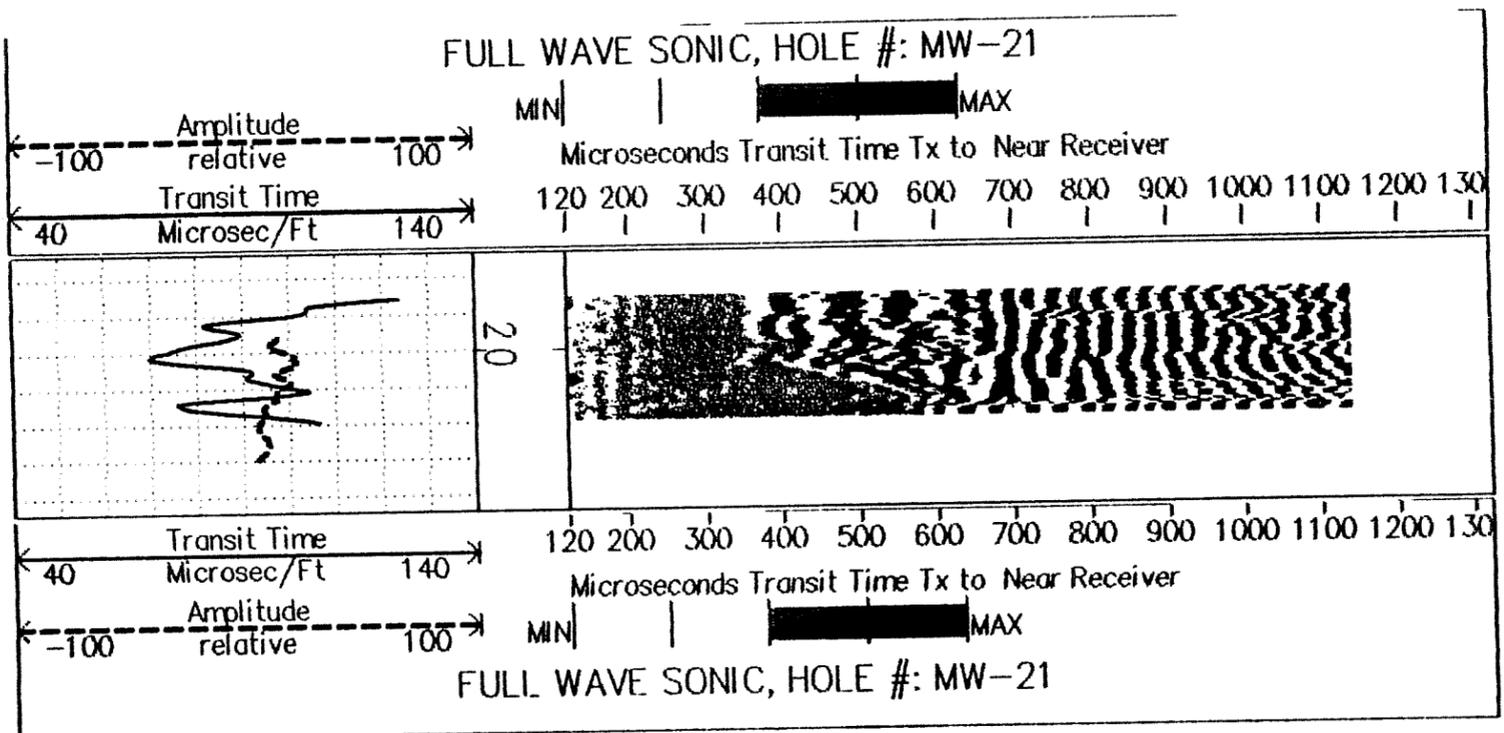
WELL No:
MW-21
LOG SUITE
FULL WAVE SONIC

COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLAIRSVILLE
DEPTH DRILLER: 30	COUNTY: Westmoreland	DRILLING CO:
LOGGER: 28	STATE: PA	DRILLER:
ELEVATION:	DRILLING FLUID: AIR	DATE LOGGED: September 24, 1996
BIT SIZE: 6	WATER LEVEL: 14	
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
3	Delta T	14-24	100 us/f		
3	P wv Amp	14-24	percent		
3	Full Wave	14-24	1.2 ms		3/4 ft.

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL



APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

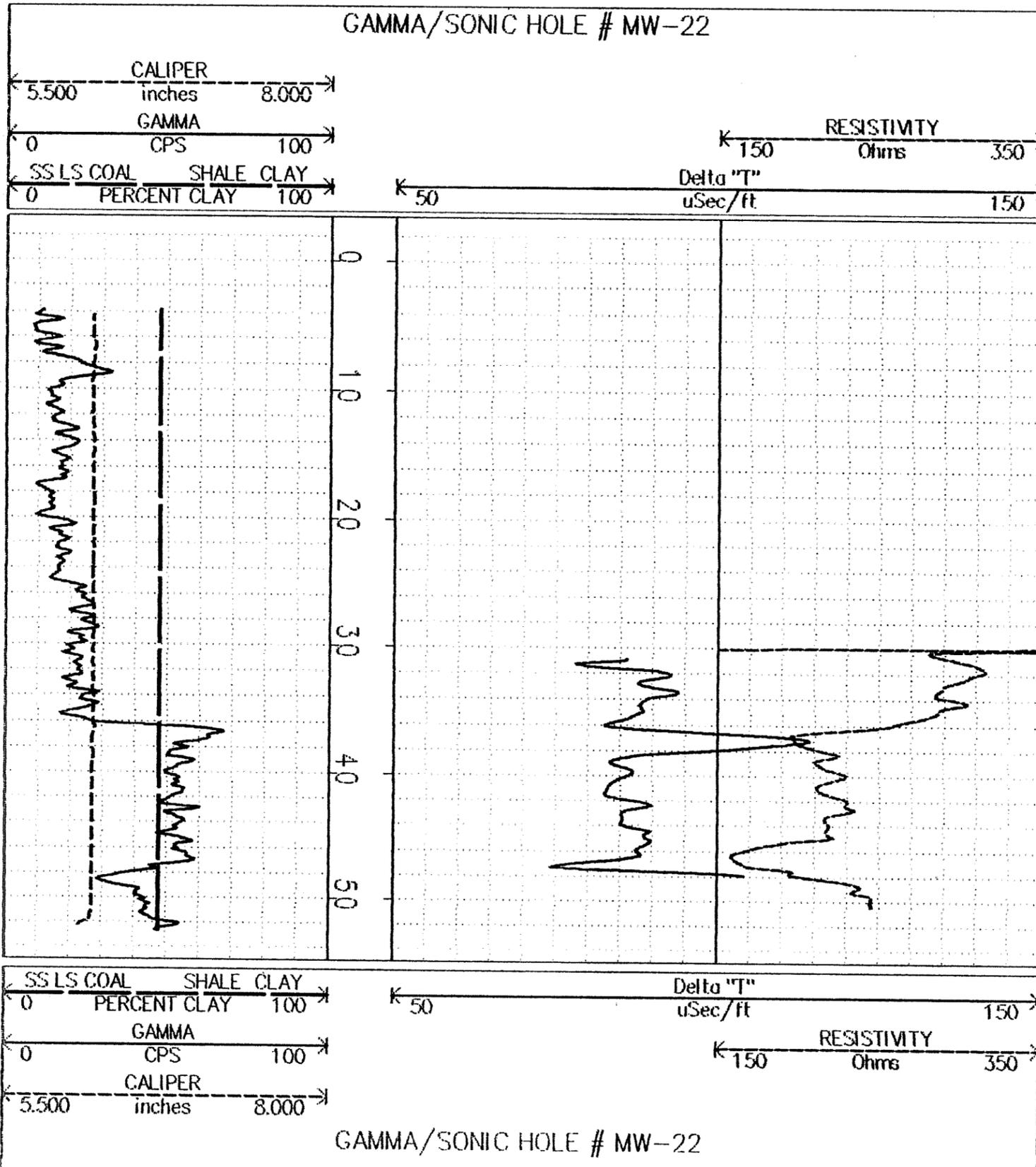
WELL No:
MW-22
LOG SUITE
LITHOLOGY

COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLAIRSVILLE
DEPTH DRILLER: 53	COUNTY: Westmoreland	
LOGGER: 53	STATE: PA	DRILLING CO:
ELEVATION:	DRILLING FLUID: AIR	DRILLER:
BIT SIZE: 6	WATER LEVEL: 34	DATE LOGGED: September 19, 1996
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
2	GAMMA	0-53	100 CPS		NATURAL
3	DELTA T	34-49	100uS/12 SEC		3/4 ft.
1	RESISTANCE	34-50	200 ohm		

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL



APPALACHIAN GEOPHYSICAL SURVEYS

276 PA Route 366
APOLLO, PA 15613
(412) 327-8119

WELL No:

MW-22

LOG SUITE

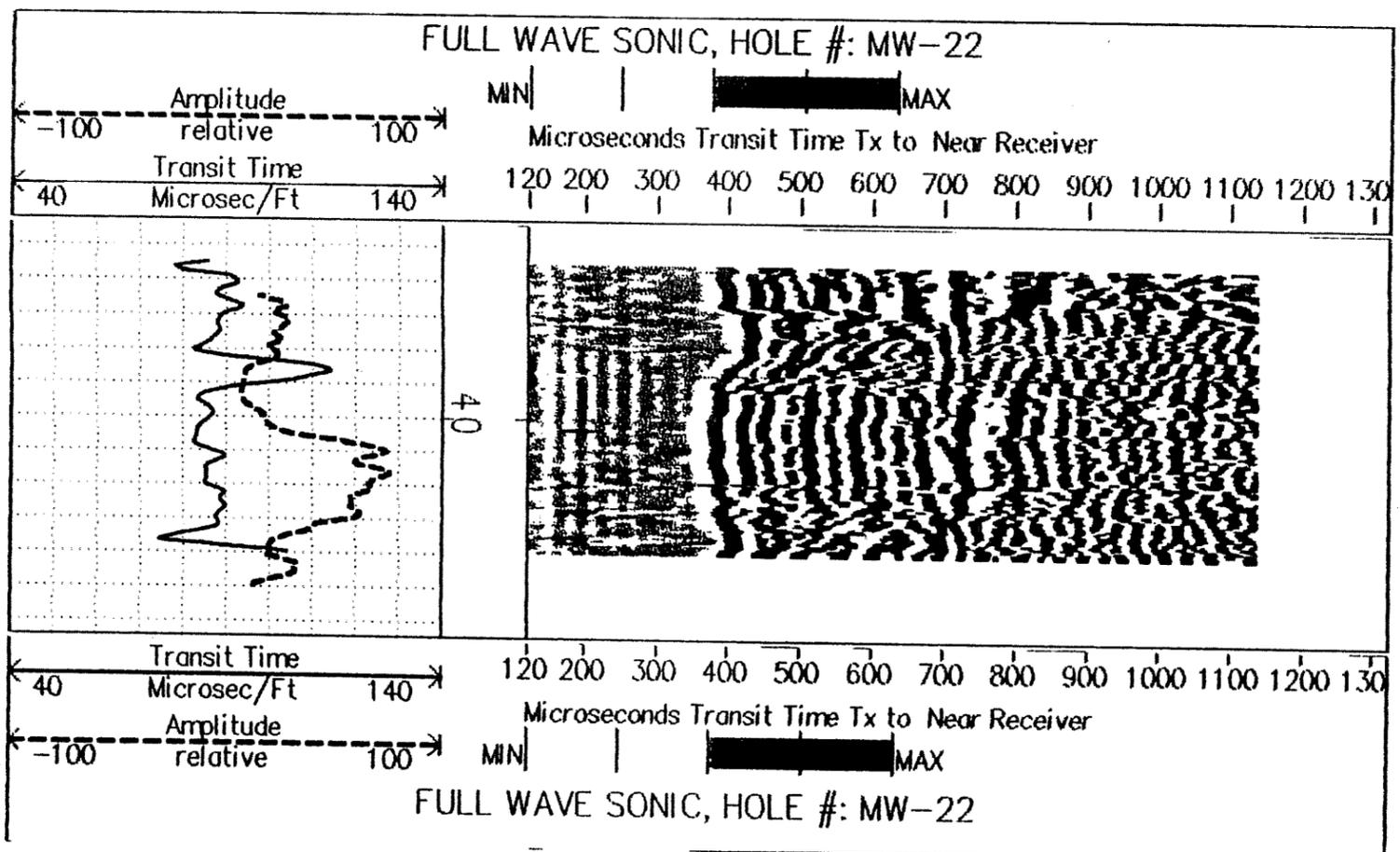
FULL WAVE SONIC

COMPANY: CUMMINGS/RITER CONSULTANTS		LOCATION:
CLIENT REP: D. Cusick	OPERATOR: CBC	BLAIRSVILLE
DEPTH DRILLER: 53	COUNTY: Westmoreland	
LOGGER: 53	STATE: PA	DRILLING CO:
ELEVATION:	DRILLING FLUID: AIR	DRILLER:
BIT SIZE: 6	WATER LEVEL: 34	DATE LOGGED: September 19, 1996
CASING (FR. LOG): 10		
CASING DIAMETER: 6		

RUN #	LOG	INTERVAL	RANGE	TIME CONSTANT	SOURCE SPACING
3	Delta T	34-49	100us/f		
3	P wv Amp	34-49	percent		
3	Full Wave	34-49	1.2 ms		3/4 ft.

EXPANDED ZONES:
SCALE: 1 INCH = 1 FOOT

COMMENTS: DATUM IS GROUND LEVEL



APPENDIX C

FIELD DATA INFORMATION FORMS

25

PROJECT NAME Blairville (W)

FIELD ENG./GEO DPC

PROJECT NO. 93-132

DATE 9-18-96

INITIAL WATER LEVEL 7.50' TOR

TIME DEVELOPMENT STARTED 10:00

WATER LEVEL AFTER DEVELOPMENT 8.70' TOR

TIME DEVELOPMENT CEASED 10:25

WATER LEVEL AFTER RECOVERY 7.75' TOR

LENGTH OF RECOVERY PERIOD 15 min.

WATER DEVELOPMENT TECHNIQUE(S) USED Pump and Surge using Redi-flow submersible pump

Date	Time	Cumulative Volume	pH	Specific Conductance	Temp (°C)	Remarks
9-18-96	10:00	~0.1	6.02	170 μ mhos	NA	Turbid
"	10:07	~10.0	6.18	160 μ mhos	17	Turbid
"	10:13	~18.0	6.22	130 μ mhos	16	sl. turbid
"	10:18	~27.0	6.29	140 μ mhos	16	sl. turbid
"	10:23	~33.0	6.32	125 μ mhos	16	sl. turbid

Was water injected into well during development? Yes No

If yes give approximate volume _____

Visual description of water: Prior to Development Turbid
After Development slightly turbid

Was recovery test run following development? Yes No

If yes give approximate volume _____

Additional Remarks: 21.50' TOR Total depth / One well volume = 2.3 gal
Hnu = 1.0 ppm in riser / Pumping rate ~1.5 gpm stable at 9.0' TOR

93-132-522-10

PROJECT NAME Blainville (D)

FIELD ENG./GEO DPC

PROJECT NO. 93-132

DATE 9-18-96

INITIAL WATER LEVEL 16.20' TOR

TIME DEVELOPMENT STARTED 11:35

WATER LEVEL AFTER DEVELOPMENT 21.70' TOR

TIME DEVELOPMENT CEASED 12:10

WATER LEVEL AFTER RECOVERY —

LENGTH OF RECOVERY PERIOD —

WATER DEVELOPMENT TECHNIQUE(S) USED Pump and Surge using Redi-flow submersible pump

Date	Time	Cumulative Volume	pH	Specific Conductance	Temp (°C)	Remarks
9-18-96	11:37	~0.2	6.06	270 umhos	17.9	Turbid
"	11:41	~8.0	6.12	370 umhos	17.6	Turbid
"	11:47	~18.0	6.27	360 umhos	17.6	Turbid
"	11:53	~25.0	6.13	360 umhos	17.7	Turbid
"	11:58	~33.0	6.18	340 umhos	17.6	slightly turbid
"	12:05	~40.0	6.24	345 umhos	17.4	slightly turbid - clear
"	12:10	~45.0	6.28	350 umhos	17.9	clear

Was water injected into well during development? Yes No

If yes give approximate volume —

Visual description of water: Prior to Development Turbid

After Development clear

Was recovery test run following development? Yes No

If yes give approximate volume —

Additional Remarks: MN-200 ppm in river / 25.60' Total depth One well volume = 1.5 gal.

Pumping rate ~ 1 gpm / stable at 21.0' TOR

PROJECT NAME Blainville (W)

FIELD ENG./GEO JRC

PROJECT NO. 93-132

DATE 9-26-96

INITIAL WATER LEVEL 32.80' TOR

TIME DEVELOPMENT STARTED 10:10

WATER LEVEL AFTER DEVELOPMENT 34.00' TOR

TIME DEVELOPMENT CEASED 10:45

WATER LEVEL AFTER RECOVERY —

LENGTH OF RECOVERY PERIOD —

WATER DEVELOPMENT TECHNIQUE(S) USED Pump + Surge

Date	Time	Cumulative Volume	pH	Specific Conductance (microhm/cm)	Temp (°C)	Remarks
9-26-96	10:14	~1.0	6.88	290	14.8	Clear
"	10:20	~9.0	7.18	250	13.7	slightly turbid to clear
"	10:26	~18.0	7.20	230	13.7	clear
"	10:32	~26.0	7.21	230	13.7	clear
"	10:38	~34.0	7.20	230	13.8	clear
"	10:45	~45.0	7.19	230	13.8	clear

Was water injected into well during development? Yes No

If yes give approximate volume —

Visual description of water: Prior to Development clear
After Development clear

Was recovery test run following development? Yes No

If yes give approximate volume —

Additional Remarks: One well vol = 6.3 gal / HNO = 1.4 ppm in rise
stable at ~35.5 TOR pumping rate = 1.5 gpm

PROJECT NAME Blairsville (W)

FIELD ENG./GEO DPC

PROJECT NO. 93-132

DATE 9-26-96

INITIAL WATER LEVEL 19.00' TOR

TIME DEVELOPMENT STARTED 12:40

WATER LEVEL AFTER DEVELOPMENT 19.45' TOR

TIME DEVELOPMENT CEASED 13:10

WATER LEVEL AFTER RECOVERY —

LENGTH OF RECOVERY PERIOD —

WATER DEVELOPMENT TECHNIQUE(S) USED Pump + surge

Date	Time	Cumulative Volume	pH	Specific Conductance	Temp (°)	Remarks
9-26-96	12:44	~1.0	7.36	700	15.0	Turbid
"	12:48	~9.0	6.48	500	14.1	Turbid
"	12:54	~18.0	6.30	370	14.1	slightly turbid
"	12:59	~27.0	6.20	500	14.1	slightly turbid to clear
"	13:06	~36.0	6.16	500	14.1	slightly turbid to clear
"	13:10	~45.0	6.17	560	14.0	clear

Was water injected into well during development? Yes No

If yes give approximate volume —

Visual description of water: Prior to Development Turbid

After Development clear

Was recovery test run following development? Yes No

If yes give approximate volume —

Additional Remarks: One well not = 2.0 gal

Stable at ~20.0' TOR pumping rate ~1.5gpm

PROJECT NAME Blairsville (W)

FIELD ENG./GEO DPC

PROJECT NO. 93-132

DATE 9-26-96

INITIAL WATER LEVEL 32.0' TOR

TIME DEVELOPMENT STARTED 0755

WATER LEVEL AFTER DEVELOPMENT 40.0'

TIME DEVELOPMENT CEASED 0822

WATER LEVEL AFTER RECOVERY 33.20'

LENGTH OF RECOVERY PERIOD 8 min

WATER DEVELOPMENT TECHNIQUE(S) USED Pump and Surge

Date	Time	Cumulative Volume	pH	Specific Conductance (umhos)	Temp (°C)	Remarks
9-26-96	07:57	~1 gal	6.53	390	12.6	Turbid
"	08:03	~9 gal	6.23	300	12.9	Turbid
"	08:08	~14 gal	6.14	210	13.5	slightly turbid to clear
"	08:14	~18 gal	6.17	220	13.2	clear
"	08:22	~25 gal	6.24	200	13.0	clear

Was water injected into well during development? Yes No

If yes give approximate volume —

Visual description of water: Prior to Development Turbid

After Development clear

Was recovery test run following development? Yes No

If yes give approximate volume —

Additional Remarks: One well vol = 2.0 gal / HWL = background in rise
stable at 39.0' TOR w/ pumping rate of 3/4 gpm

Well Number:	---	MW-2	MW-18A	MW-9A	MW-20	
Purging Date:	---	10-14-96	10-14-96	10-14-96	10-14-96	
Purging Order:	---	2	3	5	7	
Well Riser Diameter:	inches	2.0	2.0	2.0	2.0	
Total Well Depth:	feet	13.6	21.45	25.50	73.0	
Static Water Level:	feet	6.25	7.89	17.90	34.99	
Reference Point ^(a) :	---	TOR	TOR	TOR	TOR	
Water Column Height:	feet	7.35	13.56	7.60	38.00	
Well Volume Calculation ^(b) :	--	x0.16	x0.16	x0.16	x0.16	
One Well Volume:	gallons	~1.2	~2.2	1.2	6.1	
Purging Time:	start/stop	1000 / 1020	1145 / 1210	1325 / 1340	1525 / 1625	1
Well Vol. Removed:	---	~3.5	~3.0	3	3	
Total Vol. Removed:	gallons	~4.0	~7.0	~4	~18.5	
Purging Method ^(c) :	---	Taylor bucket				
Purge Water Disposition ^(d) :	---	Contained	on-site			

Proir to Purging:	pH (standard units)	6.57	7.83	6.60	7.25	
	Temperature (°C)	17.9	64.8°F	18.5	14.1	
	Spec. Cond. (µmhos/cm)	1100	127	280	240	
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	
	Water Appearance	clear	clear	Turbid	clear	
1 Well Volume	pH (standard units)	7.10	7.72	6.49	7.56	
	Temperature (°C)	17.4	63.5°F	18.5	13.8	
	Spec. Cond. (µmhos/cm)	1090	144	420	220	
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	
	Water Appearance	sl. turbid	Sl. turbid	Turbid	clear	
2 Well Volumes	pH (standard units)	7.25	7.28	6.34	7.43	
	Temperature (°C)	17.4	63.5°F	18.3	13.6	
	Spec. Cond. (µmhos/cm)	1090	117	440	210	
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	
	Water Appearance	sl. turbid	Sl. turbid	Turbid	clear	
3 Well Volumes	pH (standard units)	7.40	7.22	6.31	7.58	
	Temperature (°C)	17.5	63.2°F	18.1	13.6	
	Spec. Cond. (µmhos/cm)	1000	117	410	200	
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	
	Water Appearance	sl. turbid	Sl. turbid	Turbid	clear	
4 Well Volumes	pH (standard units)					
	Temperature (°C)					
	Spec. Cond. (µmhos/cm)					
	Dissolved Oxygen (ppm) ^(e)					
	Water Appearance					
5 Well Volumes	pH (standard units)					
	Temperature (°C)					
	Spec. Cond. (µmhos/cm)					
	Dissolved Oxygen (ppm) ^(e)					
	Water Appearance					

Well Number:	---	MW-12A	MW-19A	MW-21	MW-22	MW-15	
Purging Date:	---	10-14-96	10-14-96	10-14-96	10-15-96	10-15-96	
Purging Order:	---	1	4	6	8	9	
Well Riser Diameter:	inches	4	2	2	2	2	
Total Well Depth:	feet	21.0	26.6	32.5	47.7	62.3	
Static Water Level:	feet	5.20	16.60	19.05	33.02	37.52	
Reference Point ^(a) :	---	TOR	TOR	TOR	TOR	TOR	
Water Column Height:	feet	15.80	10.0	13.45	14.68	24.78	
Well Volume Calculation ^(b) :	--	x0.65	x0.16	x0.16	x0.16	x0.16	
One Well Volume:	gallons	10.3	1.6	2.2	2.3	1.0	
Purging Time:	start/stop	0940/1050	1325/1345	1520/1545	0830/0900	0945/1035	
Well Vol. Removed:	---	~3	3	3	3	3	
Total Vol. Removed:	gallons	~31	~5	~7	~7	~12.0	
Purging Method ^(c) :	---	Teflon [®] Bailers					→
Purge Water Disposition ^(d) :	---	On Site Poly Tank					→

Prior to Purging:	pH (standard units)	5.92	7.59	7.01	7.76	7.09
	Temperature (°F)	64.2	67.0	58.7	53.3	48.2
	Spec. Cond. (µmhos/cm)	788	258	482	176	342
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	-
	Water Appearance	Turbid	Clear	Sl. turbid	Clear	Sl. turbid
1 Well Volume	pH (standard units)	6.62	7.41	7.09	5.98	7.45
	Temperature (°F)	66.7	64.2	57.6	50.4	48.9
	Spec. Cond. (µmhos/cm)	729	250	378	170	481
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	-
	Water Appearance	Turbid	Turbid	Turbid	Turbid	Sl. turbid
2 Well Volumes	pH (standard units)	6.85	7.32	7.16	5.77	7.76
	Temperature (°F)	66.0	64.4	57.7	51.8	59.2
	Spec. Cond. (µmhos/cm)	581	246	372	213	528
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	-
	Water Appearance	Turbid	Turbid	Turbid	Sl. turbid	Sl. turbid
3 Well Volumes	pH (standard units)	6.86	7.18	7.21	6.16	7.72
	Temperature (°F)	66.1	63.6	57.3	47.7	51.9
	Spec. Cond. (µmhos/cm)	422	234	366	203	548
	Dissolved Oxygen (ppm) ^(e)	-	-	-	-	-
	Water Appearance	Sl. turbid	Turbid	Turbid	Turbid	Clear
4 Well Volumes	pH (standard units)					
	Temperature (°F)					
	Spec. Cond. (µmhos/cm)					
	Dissolved Oxygen (ppm) ^(e)					
	Water Appearance					
5 Well Volumes	pH (standard units)					
	Temperature (°F)					
	Spec. Cond. (µmhos/cm)					
	Dissolved Oxygen (ppm) ^(e)					
	Water Appearance					

WATER SAMPLE COLLECTION REPORT

PROJECT Westinghouse - Blairsville SAMPLE ID SEEP #3
 PROJECT NO. 93-132 WELL NO. ● -
 SAMPLE DATE 08 / 28 / 96 SAMPLED BY WAB/DES
 SAMPLE TIME (START/END) 10:50 / 11:15 SAMPLE SEQUENCE NO. 1
 SAMPLE COLLECTION EQUIPMENT collected in pre-cleaned laboratory supplied container
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) NA 1 -
 RECHARGE TIME NA MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
pH	Standard Units	7.03
Specific Conductance	umho/cm	1,816
Water Temperature	° F	71.6
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 8-27-96 (see Eq. Cal. Log)

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Slight sheen - slightly turbid.

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
<u>TCL VOCs</u>	<u>80ml</u>	<u>2</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HCl</u>	N <input type="checkbox"/>
<u>TAL METALS</u>	<u>500ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HNO3</u>	N <input type="checkbox"/>
<u>CYANIDE</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>NaOH</u>	N <input type="checkbox"/>
<u>ALK, CHL. SULF., pH.</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
<u>GROSS ALPHA/BETA</u>	<u>2,000ml</u>	<u>2</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
<u>TOTAL RADIUM</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HNO3</u>	N <input type="checkbox"/>
<u>TOTAL URANIUM, Uranium Isotopes</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HNO3</u>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD NA
 LABORATORY Cemic Corporation DELIVERED VIA Courier DATE 8-29-96

WEATHER CONDITIONS Sunny 80°

COMMENTS Collected duplicate sample (Dup-1)

WATER SAMPLE COLLECTION REPORT

PROJECT WESTINGHOUSE - Blairsville SAMPLE ID SEEP #2
 PROJECT NO. 93-132 WELL NO. -
 SAMPLE DATE 08 / 28 / 96 SAMPLED BY WAB/DES
 SAMPLE TIME (START/END) 12:01 / 12:20 SAMPLE SEQUENCE NO. 2
 SAMPLE COLLECTION EQUIPMENT Collected in pre-cleaned laboratory supplied container
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) NA 1 -
 RECHARGE TIME NA MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
Parameter	Standard Units	Value
pH		7.87
Specific Conductance	umho/cm	609
Water Temperature	°F	63.8
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 8-27-96 (SEE EQ CAL. LOG)

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Slightly Turbid

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
<u>TCL VOCs</u>	<u>80ml</u>	<u>2</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HCl</u>	N <input type="checkbox"/>
<u>TAL METALS</u>	<u>500ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HNO₃</u>	N <input type="checkbox"/>
<u>CYANIDE</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>NaOH</u>	N <input type="checkbox"/>
<u>ALK., CHL., SULF., NH</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
<u>GROSS ALPHA/BETA</u>	<u>2,000ml</u>	<u>2</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
<u>TOTAL RADIUM</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HNO₃</u>	N <input type="checkbox"/>
<u>TOTAL URANIUM, URANIUM Isotopes</u>	<u>1,000ml</u>	<u>1</u>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> <u>HNO₃</u>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
_____	_____	_____	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD NA
 LABORATORY Cemic Corporation DELIVERED VIA Courier DATE 8-29-96
 WEATHER CONDITIONS PARTLY-MOSTLY SUNNY 80°F
 COMMENTS Numerous Crawfish in seep drainage.

CUMMINGS PRITER CONSULTANTS, INC.

WATER SAMPLE COLLECTION REPORT

PROJECT Westinghouse - Blairsville SAMPLE ID SEEP #1
 PROJECT NO. 93-132 WELL NO. -
 SAMPLE DATE 08 / 28 / 96 SAMPLED BY WAB/DES
 SAMPLE TIME (START/END) 12:30 / 1:12 SAMPLE SEQUENCE NO. 3
 SAMPLE COLLECTION EQUIPMENT Collected in pre-cleaned laboratory supplied container
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) NA
 RECHARGE TIME NA MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
Parameter	Standard Units	Value
pH		7.40
Specific Conductance	umho/cm	845
Water Temperature	°F	66.9
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 8-27-96 (SEE EQ CAL. LOG)

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Slightly turbid

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
TCL VOCs	80ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/>	HCl N <input type="checkbox"/>
TAL METALS	500ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/>	HNO ₃ N <input type="checkbox"/>
CYANIDE	1,000ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/>	NaOH N <input type="checkbox"/>
ALK, CHL, SULF, PH	1,000ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Gross ALPHA/BETA	2,000ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
TOTAL RADIUM	1,000ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/>	HNO ₃ N <input type="checkbox"/>
TOTAL URANIUM, URANIUM Isotopes	1,000ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/>	HNO ₃ N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD NA
 LABORATORY CEMIC CORPORATION DELIVERED VIA COURIER DATE 8-29-96

WEATHER CONDITIONS Mostly Sunny 80°F

COMMENTS _____

WATER SAMPLE COLLECTION REPORT

PROJECT Blairsville (W) SAMPLE ID EB-1 (Equivalent Blank)
 PROJECT NO. 93-132 WELL NO. N/A
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY DPC/ccc
 SAMPLE TIME (START/END) 0845 / 0855 SAMPLE SEQUENCE NO. 1
 SAMPLE COLLECTION EQUIPMENT Tuller bailer
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) NA / NA
 RECHARGE TIME - MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS

Parameter	Standard Units	Value
pH		7.56
Specific Conductance	umho/cm	4.97
Water Temperature	°F	60.1
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Clear, colorless

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
VOCs	40ml	2	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL	500ml	1	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1L	1	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross α+β	1L	2	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Radium	1L	1	Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Total Uranium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Uranium Isotopes			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
TDS, Alkalinity	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Chloride, Sulfate, pH			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD NA

LABORATORY Cummins DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Cloudy, low 60s

COMMENTS _____

WATER SAMPLE COLLECTION REPORT

PROJECT (W) Blainsville SAMPLE ID MW-12A
 PROJECT NO. 93-132 WELL NO. MW-12A
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY CC/DPC
 SAMPLE TIME (START/END) 1050 / 1110 SAMPLE SEQUENCE NO. 2
 SAMPLE COLLECTION EQUIPMENT Teflon® Bailer
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 5.20 / 5.26
 RECHARGE TIME <1.0 min. MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
pH	Standard Units	6.88
Specific Conductance	umho/cm	422
Water Temperature	°F	66.1
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Slightly Turbid

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
Voc	40ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals:	500ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> H ₂ O ₂	N <input type="checkbox"/>
Cyanide	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
TDS, Alkalinity, Chloride, Sulfate, pH	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Gross Alpha/Beta	2 L	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Radium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> H ₂ O ₂	N <input type="checkbox"/>
Total Uranium / Isotopes	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> H ₂ O ₂	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD -

LABORATORY Cemtec DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Overcast - 60°F

COMMENTS _____

WATER SAMPLE COLLECTION REPORT

PROJECT Blainville (W) SAMPLE ID MW-2
 PROJECT NO. 93-132 WELL NO. MW-2
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY DPC/ccc
 SAMPLE TIME (START/END) 11:30 / 11:45 SAMPLE SEQUENCE NO. 3
 SAMPLE COLLECTION EQUIPMENT Tullon boiler
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 6.25 / 6.20
 RECHARGE TIME ~ 1 hour MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS

Parameter	Standard Units	Value
pH		7.04
Specific Conductance	umho/cm	680
Water Temperature	° F	64.7
Dissolved Oxygen	ppm	

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: sl. turbid

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
VOCs	40ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross T + B	1L	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Radium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
TDS, Alkalinity	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Chloride, sulfate			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
Total Uranium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Uranium Isotopes			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD —

LABORATORY Cemic DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Sunny 60s

COMMENTS —

WATER SAMPLE COLLECTION REPORT

PROJECT W Blairsville SAMPLE ID mw-18A
 PROJECT NO. 93-132 WELL NO. mw-18A
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY DPC/ccc
 SAMPLE TIME (START/END) 1210 / 1225 SAMPLE SEQUENCE NO. 4
 SAMPLE COLLECTION EQUIPMENT Teflon[®] Bailer
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 7.89 / 7.98
 RECHARGE TIME 1.0 min. MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
pH	Standard Units	7.22
Specific Conductance	umho/cm	117
Water Temperature	° F	63.2
Dissolved Oxygen	ppm	—

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Slightly Turbid

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
VOC	40ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross Alpha/beta	1L	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Radium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
TDS, Alkalinity	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Chloride, sulfate, pH			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
Total Uranium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Uranium/Isotopes			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 15 FILTRATION METHOD —

LABORATORY Cemir DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Sunny - high clouds

COMMENTS ms/mdb collected here for VOCs + TAL Metals only

WATER SAMPLE COLLECTION REPORT

PROJECT (W) Blairsville SAMPLE ID mw-19A
 PROJECT NO. 93-152 WELL NO. mw-19A
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY DPC/ccc
 SAMPLE TIME (START/END) 1345 / 1400 SAMPLE SEQUENCE NO. 5
 SAMPLE COLLECTION EQUIPMENT Teflon® Bailer
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 16.60 / 17.16
 RECHARGE TIME 1.0 min MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS

pH	Standard Units	7.18
Specific Conductance	umho/cm	234
Water Temperature	° F	63.6
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Turbid, Strong Odor

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
VOC	40ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross Alpha/Beta	1L	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Radium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
TDS, Alkalinity, Sulfates, Chloride, pH	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Uranium	1L	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Uranium Isotopes			Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 18 FILTRATION METHOD -

LABORATORY Cermic DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Sunny - 70°

COMMENTS Duplicate collected here (Dup-1)

WATER SAMPLE COLLECTION REPORT

PROJECT (W) Blairsville SAMPLE ID MW-9A
 PROJECT NO. 93-132 WELL NO. MW-9A
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY DPC/ccc
 SAMPLE TIME (START/END) 1445 / 1500 SAMPLE SEQUENCE NO. 6
 SAMPLE COLLECTION EQUIPMENT Teflon® Bailor
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 17.90 / 18.58
 RECHARGE TIME ~ 1 hour MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
pH	Standard Units	6.31
Specific Conductance	umho/cm	410
Water Temperature	°C	18.1
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: subd

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
VOC	40 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1 l	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross Alpha/Beta	1 l	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Radium	1 l	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
TDS Alkalinity } Sulfates Chlorides, pH	1 l	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Uranium } Uranium Isotopes	1 l	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD NA

LABORATORY Cemic DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Sunny - 70°

COMMENTS _____

WATER SAMPLE COLLECTION REPORT

PROJECT ② Blairsville SAMPLE ID MW-21
 PROJECT NO. 95-132 WELL NO. MW-21
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY DPC/CCG
 SAMPLE TIME (START/END) 1610 / 1620 SAMPLE SEQUENCE NO. 7
 SAMPLE COLLECTION EQUIPMENT Teflon® Bailor
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 19.05 / -
 RECHARGE TIME ~25 min. MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS

Parameter	Standard Units	Value
pH		7.21
Specific Conductance	umho/cm	366
Water Temperature	°	57.3
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Sl. turbid, No odor

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
VOC	40 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross Alpha/Beta	1000 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
TDS, Alkalinity, } Sulfate, Chloride, pH }	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Uranium } Uranium Isotopes }	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Total Radium	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD -

LABORATORY Cermic DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Sunny - 70°

COMMENTS -

WATER SAMPLE COLLECTION REPORT

PROJECT (W) Blairsville SAMPLE ID MW-20
 PROJECT NO. 93-132 WELL NO. MW-20
 SAMPLE DATE 10 / 14 / 96 SAMPLED BY CCG/DPC
 SAMPLE TIME (START/END) 1635 / 1645 SAMPLE SEQUENCE NO. 8
 SAMPLE COLLECTION EQUIPMENT Teflon® Bailer
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 34.99 / -
 RECHARGE TIME ~10 min MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
pH	Standard Units	7.58
Specific Conductance	umho/cm	200
Water Temperature	°C	13.6
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 10-14-96

WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Clear

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
VOC	40 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross Alpha/Beta	1000 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
TDS, Alkalinity, Sulfate, Chloride, pH	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
Total Uranium Uranium Isotopes	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
Total Radium	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD -

LABORATORY Cermic DELIVERED VIA Pick up DATE 10-16-96

WEATHER CONDITIONS Sunny - 70°

COMMENTS _____

WATER SAMPLE COLLECTION REPORT

PROJECT Blairsville SAMPLE ID mw-22
 PROJECT NO. 93-132 WELL NO. mw-22
 SAMPLE DATE 10 15 196 SAMPLED BY DPC/jcc
 SAMPLE TIME (START/END) c 900 10915 SAMPLE SEQUENCE NO. 9
 SAMPLE COLLECTION EQUIPMENT Teflon Bailer
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 33.02 / 33.43
 RECHARGE TIME <1.0 min MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS

Parameter	Standard Units	Value
pH		6.16
Specific Conductance	umho/cm	903
Water Temperature	°F	47.7
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? NO YES DATE 10-14-96
 WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: Turbid No odor

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
VOC	40 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross Alpha/Beta	1000 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
TDS, Alkalinity, } Sulfate Chloride pH }	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Total Radon	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Total Uranium } Uranium isotopes }	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD NA
 LABORATORY Cemil DELIVERED VIA Pick up DATE 10-16-96
 WEATHER CONDITIONS Sunny - 45°F
 COMMENTS _____

WATER SAMPLE COLLECTION REPORT

PROJECT (W) Blairsville SAMPLE ID FAW-15
 PROJECT NO. 93-132 WELL NO. FAW-15
 SAMPLE DATE 10 / 15 / 96 SAMPLED BY SPC/LCC
 SAMPLE TIME (START/END) 1035 / 1050 SAMPLE SEQUENCE NO. 10
 SAMPLE COLLECTION EQUIPMENT Teflon[®] Pail
 DEPTH TO WATER PRIOR TO PURGING/SAMPLING (FT) 37.52 / 37.60
 RECHARGE TIME < 1 min MEASURED FROM TOC TOR GS

FIELD MEASUREMENTS		
Parameter	Standard Units	Value
pH		7.72
Specific Conductance	umho/cm	548
Water Temperature	° F	51.9
Dissolved Oxygen	ppm	-

METER CALIBRATION PERFORMED? N Y DATE 10-14-96
 WATER APPEARANCE, IMMISCIBLE PHASES OR ODORS: clear

SAMPLE TYPES COLLECTED

PARAMETER	VOLUME	# CONTAINERS	FIELD FILTERED?		PRESERVED?	
VOC	40 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HCl	N <input type="checkbox"/>
TAL Metals	500 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Cyanide	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/> NaOH	N <input type="checkbox"/>
Gross Alpha/Beta	1000 ml	2	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
TDS, Alkalinity	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>
Sulfate, Chloride, pH			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
Total Uranium	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
Uranium Isotopes			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
Total Radium	1000 ml	1	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Y <input checked="" type="checkbox"/> HNO ₃	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>
			Y <input type="checkbox"/>	N <input type="checkbox"/>	Y <input type="checkbox"/>	N <input type="checkbox"/>

NUMBER OF CONTAINERS 9 FILTRATION METHOD -
 LABORATORY Gomic DELIVERED VIA Pick up DATE 10-16-96
 WEATHER CONDITIONS Sunny -60°
 COMMENTS _____

APPENDIX D

LABORATORY ANALYTICAL DATA

MICROSEEPS

University of Pittsburgh Applied Research Center
220 William Pitt Way, Pittsburgh, PA 15238
(412) 826-5245
FAX (412) 826-3433

September 23, 1996

Mr. William A. Baughman, P.G.
Cummings Riter Consultants, Inc.
339 Haymaker Road
Parkway Building, Suite 201
Monroeville, PA 15146

Dear Mr. Baughman:

Attached are copies of the final data listings, daily field activity logs, sample collection logs and sample analysis logs for your project at Westinghouse in Blairsville, PA.

Please give me a call if you have questions or I can be of further assistance. Thank you for using MICROSEEPS.

Sincerely,



David J. Masdea

DJM/lsp

Attachment: 961055



MICROSEBPS

961055

VER. 3

----- CUMMINGS RITER -----
----- PROJECT: WESTINGHOUSE SPECIALTY METALS -----
----- PROJECT LOCATION: BLAIRSVILLE, PA. -----
----- SOIL CONCENTRATIONS IN (ug/l) -----

SAMPLE NAME	VINYL	METHYLENE		trans-	cis-	CHLORO	1,1,1-	CARBON	TCE	PCE	FILE NAME	DATE COLLECTED	DATE ANALYZED	
	CHLORIDE (ng/g)	1,1-DCE (ng/g)	CHLORIDE (ng/g)	1,1-DCA (ng/g)	1,2-DCE (ng/g)	1,2-DCE (ng/g)	FORM (ng/g)	TCA (ng/g)						TETRA CHLORIDE (ng/g)
HP2-02	<100	2	<2	<2	<2	<2	<1	2	<1	2	<1	M11 105	09/04/96	09/04/96
HP3-02	<100	<2	<2	<2	<2	<2	<1	<1	<1	1	<1	M11 106	09/04/96	09/04/96
HP5	<100	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	M11 107	09/04/96	09/04/96
HP6-02	<100	<2	<2	<2	<2	4	<1	<1	<1	<1	<1	M11 108	09/04/96	09/05/96
HP7-02	<100	<2	<2	<2	<2	<2	<1	1	<1	<1	<1	M11 109	09/04/96	09/05/96
HP8-02	<100	<2	<2	<2	<2	<2	<1	<1	<1	48	<1	M11 110	09/04/96	09/05/96
HP9-03	<100	<2	<2	<2	<2	4	<1	2	<1	140	<1	M11 111	09/04/96	09/05/96
HP10-02	<100	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	M11 112	09/04/96	09/05/96
HP11-01	<100	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	M11 113	09/04/96	09/05/96
HP12-03	<100	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	M11 119	09/05/96	09/05/96
HP13-03	<100	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	M11 121	09/05/96	09/05/96
HP14-03	<100	<2	<2	<2	<2	<2	<1	<1	<1	17	<1	M11 122	09/05/96	09/05/96
HP15-03	<100	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	M11 123	09/05/96	09/05/96
HP16-03	<100	<2	<2	<2	<2	<2	<1	<1	<1	2	<1	M11 124	09/05/96	09/05/96
HP17-03	<100	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	M11 125	09/05/96	09/05/96

05-Sep-96

MICROSEBPS

961055

VER. 2

----- CUMMINGS RITER -----
 ----- PROJECT: WESTINGHOUSE SPECIALTY METALS -----
 ----- PROJECT LOCATION: BLAIRSVILLE, PA. -----
 ----- H2O CONCENTRATIONS IN (ug/l) -----

SAMPLE NAME	VINYL		METHYLENE		trans-	cis-	CHLORO	1,1,1-	CARBON	TCE	PCB	FILE NAME	DATE COLLECTED	DATE ANALYZED
	CHLORIDE (ug/l)	1,1-DCE (ug/l)	CHLORIDE (ug/l)	1,1-DCA (ug/l)	1,2-DCE (ug/l)	1,2-DCE (ug/l)	FORM (ug/l)	TCA (ug/l)	TETRA CHLORIDE (ug/l)					
HP1-W	<50	<1	<1	<1	<1	2	0.4	3.8	<.1	11.3	<.1	M11 103	09/04/96	09/04/96
HP2-W	<50	47	13	67	<1	26	0.3	32.2	<.1	13.3	<.1	M11 118	09/05/96	09/05/96
HP3-W	<50	<1	<1	<1	<1	<1	<.1	0.3	<.1	49.1	0.1	M11 120	09/05/96	09/05/96
HP4-W	<50	<1	<1	<1	<1	5	<.1	0.1	<.1	240.9	0.1	M11 104	09/04/96	09/04/96

DAILY FIELD ACTIVITY LOG

Date: 9-5-96

Day of week: Thursday

CLIENT CO. NAME: Westinghouse

CONTACT: Dan Curick

PROJECT LOCATION: Westinghouse - Specialty Metals, Blairsville PA

PROJECT DESCRIPTION: Collection of soil and groundwater samples using Composite Micro-Core sampling system

Name(s) of field personnel:

Art Curick
Brian Novek

Job description:

Operator / Design
" "

	Time	Hours	COMMENTS
Arrive on site	0800		
Leave site	1345		
Lunch break	1150 1220		
Down time			

Total number of hours worked

Miles from lab to site 38

Materials used:

Quantity		Quantity		Quantity	Other
	5"x1" PVC screen		Expendable tips		
	10"x1" PVC riser	15-48"	Soil sleeves		
	Bottom plug	16'	3/8" tubing		
	Adapter/coupler		1/4" tubing		
	Lock cap	2'	Silicon tubing		
	Well cover	9pc.	Latex gloves		
10016	Bentonite 3/8" chips		Work gloves		
	Cement	7gal	Deionized water		

Client signature: Daniel P. Curick

Date: 9-5-96

Comments:

DAILY FIELD ACTIVITY LOG

Date: 9-4-96 → 9-5-96
 Day of week: WED, THURS.

CLIENT CO. NAME: CUMMINGS RITER CONTACT: DAN CUSICK
 PROJECT LOCATION: WESTINGHOUSE SPECIALTY METALS, BLAIRS, LE, PA
 PROJECT DESCRIPTION: MOBILE LAB

Name(s) of field personnel:
JOE MONTORE

Job description:
CHEMIST

	Time	Hours	COMMENTS
Arrive on site	830 9/4/96		
Leave site	1630 9/5/96		
Lunch break			
Down time			

Total number of hours worked

Miles from lab to site _____

Materials used:

Quantity		Quantity		Quantity	Other
	5'x1" PVC sreen		Expendable tips		
	10'x1" PVC riser		Soil sleeves		
	Bottom plug		3/8" tubing		
	Adapter/coupler		1/4" tubing		
	Lock cap		Silicon tubing		
	Well cover		Latex gloves		
	Bentonite		Work gloves		
	Cement		Deionized water		

Client signature: _____

Date: _____

Comments:

MICROSEEPS

University of Pittsburgh Applied Research Center
220 William Pitt Way, Pittsburgh, PA 15229

CLIENT: Cummings-Ritter Consultants
LOCATION: Westinghouse Specialty Metals Branch
PROJECT #: 961055
PAGE: 1 OF: 2

===== SAMPLE COLLECTION LOG =====

SAMPLER NAME(S): N₂C / BN

SAMPLE ID#	DATE	TIME	SEQ.#	SAMPLE DEPTH	SAMPLE TYPE			SAMPLE SIZE	COMMENTS
					G	S	W		
HP-1-01	9-7-96	10947	1	0-4'		✓			
-02		10955	2	4'-6.5"		✓		Refusal at 6'3"	
-W		1029	3	4-6'		✓	3-10ml	Sample through millipore screen	
HP-2-01		1046	4	0-4'		✓			
-02		1055	5	4'-6.5"		✓		Refusal at 6'9" (1.25' screen / 1.5' riser)	
HP-3-01		1107	6	0-4'		✓			
-02		1116	7	4'-6.5"		✓		Refusal at 6.5' (1.5' screen / 1.5' Riser)	
HP-4-01		1135	8	0-3.9"		✓			
-02		1145	9	3.9'-2.5'		✓			
-03		1156	10	7.5'-8'		✓			
HP-4-W		1207	11	8'		✓	2-10ml		
HP-5-01		1309	12	0-4'		✓			
-02		1317	13	4'-4.2"		✓		Refusal at 4'2"	
-03		1326	14	3.9'-4'		✓		Pre-Test to 3'-8" then Samples Refused at 4'1"	
HP-6-01		1338	15	0-4'		✓			
-02		1348	16	4'-4.2"		✓		Refusal at 4'-10"	
HP-7-01		1401	17	0-4'		✓			
-02		1409	18	4'-4.5'		✓		Refusal at 4.5'	
HP-8-01		1425	19	0-4'		✓			
-02		1435	20	4'-2.5'		✓		Refusal at 4'-11"	
HP-9-01		1453	21	0-2.4"		✓		Refusal at 2'4"	
-02		1458	22	0-4'		✓		Relocation 3' Down Stream - Rockier Site	
-03		1524	23	4'-2.5'		✓		Refusal at 5'2"	
HP-10-01		1573	24	0-4'		✓			
-02		1551	25	4'-2.5'		✓		Refusal at 5'5"	
HP-11-01		1610	27	0-3.5'		✓		Refusal at 3.5'	
HP-2-W	9-5-96	10935	1	6.9'		✓	2-10ml		
HP-12-01		1047	2	0-4'		✓			
-02		10856	3	4'-7'		✓		Refusal at 7'	
HP-13-01		10910	4	0-4'		✓			
-02		10918	5	4'-6.8"		✓		Refusal at 6'8"	
HP-3-W		10956	6	6.5'		✓	2-10ml		
HP-14-01		11053	7	0-4'		✓			
-02		11001	8	4'-7.5'		✓			
-03		11081	9	7.5'-9.8"		✓		Refusal at 9'8"	
HP-15-01		1123	10	0-4'		✓			
-02		1131	11	4'-7.5'		✓			
-03		1139	12	7.5'-9'		✓			
HP-16-01		1132	13	0-4'		✓			
-02		11239	14	4'-5'		✓		Refusal at 5'	

MICROSEEPS, INC.

***** ONSITE ANALYSIS *****

PAGE 1 OF 2

LABORATORY LOCATION: ~~WESTING-HOUSE Bldg~~
BLAIRSVILLE, PA

CUMMINGS RYDER
PROJECT: 961055

ANALYSIS: CHLORINATED

PATH: C:\CPI\M11

BASE FILE NAME: M11A\A3

ANALYSIS DATE	SAMPLE ID	CYCLE #	HSS #	PID MET/CAL	ECD MET/CAL	FID MET/CAL	COMMENTS
9-4-96	H2O BLANK	97	1	Not	MICRAWB	MICRAW	
	WSTD L5 R5	95	2				
	" R5	96	3				
	" R4	97	4				
	" R4	98	5				
	" R2	99	6				
	" R2	100	7				
	" CIS 1,2-DE R6	101	8				
	H2O BLANK	102	9				
	HP1-W	103	10				10.29
	HP4-W	104	11				120.7
	HP2-02	105	12		MICRASE	MICRAS	6.4
	HP3-02	106	13				5.0
	HP5-	107	14				5.0
	HP6-02	108	15				5.5
	HP7-02	109	16				4.7
	HP8-02	110	17				5.1
	HP9-03	111	18				4.7
	HP10-02	112	19				5.3
	HP11-01	113	20				4.7
	WSTD VC 1000	114	21				
	H2O WSTD L5 R4	115	22				
	H2O BLANK	116	23				
9-5-96	H2O BLANK	117	1		MICRAWB	MICRAW	
	WSTD CIS 1,2-DE R4	118	2				

HP2-W

CUMMINGS
CRITER
CONSULTANTS, INC.

Environmental
Scientists/Engineers

William A. Baughman, P.G.
Project Manager

339 Haymaker Road
Parkway Building, Suite 201
Monroeville, PA 15146
(412) 373-5240
Fax: (412) 373-5242
E-Mail: crc@nb.net

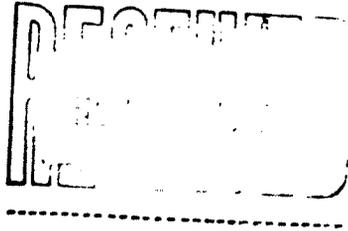


W. L. GORE & ASSOCIATES, INC.

101 LEWISVILLE ROAD • P.O. BOX 1100 • ELKTON, MARYLAND 21922-1100 PHONE: 410/392-3300
FAX: 410/996-3325 • TELEX 467637 GORE FB ELKT
ENVIRONMENTAL PRODUCTS GROUP

November 8, 1996

Mr. Doug Spicuzza
Cummings Ritter
339 Haymaker Road
Suite 201
Monroeville, PA 15146



Site Reference: Westinghouse Facility, Blairsville, PA
Customer Purchase Order Number: SMP 28334
Gore Production Order Number: 070104

Dear Mr. Spicuzza:

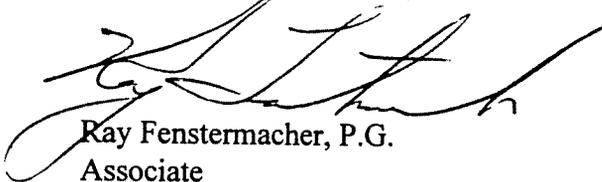
Thank you for choosing a GORE-SORBERSM Screening Survey.

The attached deliverables package consists of the following information:

- **Laboratory Report**
- **Chain of Custody record and Laboratory Analytical Summary Data (included in Appendix A)**

Please contact our office if you have any questions or comments concerning this report. We appreciate this opportunity to be of service to Cummings Ritter (and Westinghouse), and look forward to working with you again in the future.

Sincerely,
W.L. Gore & Associates, Inc.



Ray Fenstermacher, P.G.
Associate

Attachments

cc: File (W.L. Gore & Associates, Inc.)

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GORE-SORBER Screening Survey is a Service mark of W. L. Gore & Associates, Inc.



W. L. GORE & ASSOCIATES, INC.

101 LEWISVILLE ROAD • P.O. BOX 1100 • ELKTON, MARYLAND 21922-1100 PHONE: 410/392-3300
FAX: 410/996-3325 • TELEX 467637 GORE FB ELKT
ENVIRONMENTAL PRODUCTS GROUP

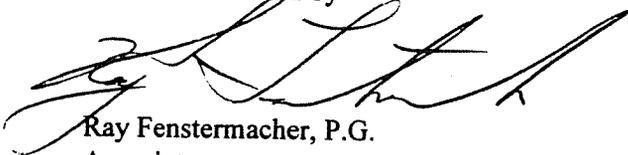
GORE-SORBERSM Screening Survey Final Report

Westinghouse Facility
Blairsville, PA

November 8, 1996

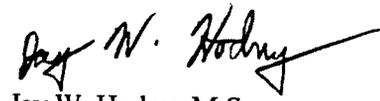
Prepared For:
Cummings Ritter
339 Haymaker Road
Suite 201
Monroeville, PA 15146

W.L. Gore & Associates, Inc.
Written/Submitted by



Ray Fenstermacher, P.G.
Associate

W.L. Gore & Associates, Inc.
Reviewed/Approved by



Jay W. Hodny, M.S.
Associate

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FORM 11R.3
Rev 06/13/96

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GORE-SORBER Screening Survey is a registered service mark of W. L. Gore & Associates, Inc.

**GORE-SORBERsm Screening Survey
Final Report**

REPORT DATE: November 8, 1996

AUTHOR: RFF

SITE INFORMATION

Site Reference: Westinghouse Facility, Blairsville, PA

Customer Purchase Order Number: SMP 28334

Gore Production Order Number: 070104

Gore Site Code: UH

FIELD PROCEDURES

Modules shipped: 22

Installation Date(s): October 15, 1996

Field work performed by: Cummings Ritter

Modules Installed: 14

Retrieval date(s): October 29, 1996

Modules Retrieved: 14

Modules Lost in Field: -0-

Exposure Time: 14 [days]

Trip Blanks Returned: 2

Unused Modules Returned: 6

Date/Time Received by Gore: October 30, 1996 @ 11:10am **By:** TS

Recorded Cooler/Water Temperature Control Blank temperature: 3.5 [°C]

Chain of Custody Form attached: √

Chain of Custody discrepancies: None

Comments: None

GORE-SORBERsm Screening Survey Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990. The Laboratory is audited regularly by a quality system design, development and auditing company.

Instrumentation consists of Hewlett-Packard 5890 gas chromatographs and 5971 mass selective detectors, as well as Perkin-Elmer ATD 400 automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbents, each containing 40mg of a suitable granular adsorbent) to a thermal desorption tube for analysis. Sorbents remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Screening Method Quality Assurance:

Before each run sequence, two instrument blanks, a sorber containing 5 μ g BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in our methods before samples can be analyzed. A sorber containing BFB is also analyzed after every 30 samples and/or trip blanks, as is a method blank. Standards containing the selected target compounds at three calibration levels of 5, 20, and 50 μ g are analyzed at the beginning of each run. The criterion for each target compound is less than 35% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 20 μ g per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by the presence of the target ion and at least two secondary ions, retention time versus reference standard, and the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbents not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection

Quality Assurance Level: 2 (ANA-A1)

Instrument ID: # 3

Chemist: WW

Data Subdirectory: 070104

Compounds/mixtures requested: Gore Custom Target Analyte List (A7)

Deviations from Standard Method: None

Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 4).

**GORE-SORBERsm Screening Survey
Final Report**

DATA TABULATION

CONTOUR MAPS ENCLOSED: None

LIST OF MAPS ENCLOSED:

- N/A

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE-SORBER Screening Modules received and analyzed by W.L. Gore, as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on either a single-level (QA Level 1) or three-level (QA Level 2) standard calibration.

Comments:

- None

GORE-SORBER is a registered trademark of W. L. Gore & Associates, Inc.

**GORE-SORBERsm Screening Survey
Final Report**

**KEY TO DATA TABLE
Westinghouse Facility, Blairsville, PA**

UNITS

μg micrograms (per sorber), reported for compounds for which we
run external standards.
MDL method detection limit

ANALYTES

ct12DCE cis and trans-1,2-dichloroethene
t12DCE trans-1,2-dichloroethene
11DCA 1,1-dichloroethane
c12DCE cis-1,2-dichloroethene
CHCl₃ chloroform
111TCA 1,1,1-trichloroethane
12DCA 1,2-dichloroethane
TCE trichloroethylene
PCE tetrachloroethene

BLANKS

TBn unexposed trip blanks, which traveled with the exposed modules
BLKn method blank, retained at Gore

APPENDIX A:

1. CHAIN OF CUSTODY
2. DATA TABLE

GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only

Production Order #

070104



W. L. Gore & Associates, Inc., Environmental Products Group

101 Lewisville Road • Elkton, Maryland 21921 • Tel: (410) 392-3300 • Fax (410) 996-3325

Instructions: Customer must complete ALL shaded cells

Customer Name: <u>Westinghouse Spec Metals</u>	Site Name: <u>Westinghouse</u>
Address: <u>R.D. 4 Box 333</u> <u>Blairsville, PA 15717</u>	Site Address: _____
Phone: <u>412-373-5240</u>	Project Manager: <u>Wayne George / Doug Spicuzza</u>
FAX: <u>412-373-5242</u>	Customer Project No.: _____
	Customer P.O. #: <u>SMPL9334</u> Quote #: <u>BK 1312</u>

Serial # of Modules Shipped	# of Modules for Installation <u>20</u>	# of Trip Blanks <u>2</u>
# <u>127847</u> through # <u>127868</u>	Total Modules Shipped: <u>22</u>	Pieces
# _____ through # _____	Total Modules Received: <u>22</u>	Pieces
# _____ through # _____	Total Modules Installed: <u>14</u>	Pieces
# _____ through # _____	Serial # of Trip Blanks (Client Decides)	# <u>127861</u> ✓
# _____ through # _____	# <u>127862</u> ✓	# _____
# _____ through # _____	# _____	# _____
# _____ through # _____	# _____	# _____

Installation Performed By:	Installation Method(s) (circle those that apply):
Name (please print): <u>D. Lusick / C. Coy</u>	<input checked="" type="checkbox"/> Slide Hammer <input type="checkbox"/> Hammer Drill <input type="checkbox"/> Auger
Company/Affiliation: <u>Cummings/Ritec Consultants</u>	Other: _____

Installation Start Date and Time:	<u>10 / 15 / 96</u>	<u>12 : 00</u>	AM <input checked="" type="radio"/> PM
Installation Complete Date and Time:	<u>10 / 15 / 96</u>	<u>16 : 00</u>	AM <input checked="" type="radio"/> PM

Retrieval Performed By:	Total Modules Retrieved: <u>14</u>	Pieces
Name (please print): <u>D. Lusick</u>	Total Modules Lost in Field: <u>0</u>	Pieces
Company/Affiliation: <u>Cummings/Ritec Consultants</u>	Total Unused Modules Returned: <u>6</u>	Pieces

Retrieval Start Date and Time:	<u>10 / 28 / 96</u>	<u>: 09 10</u>	AM <input checked="" type="radio"/> PM
Retrieval Complete Date and Time:	<u>10 / 28 / 96</u>	<u>: 10 15</u>	AM <input checked="" type="radio"/> PM

Target Analytes to be Mapped (Check Options or List as appropriate):	To Be Determined Pending Completion of Lab Analysis <input checked="" type="checkbox"/> or write "None", if applicable. <u>None</u>
---	--

Analyte #1: (See attached copy #8)	Analyte #2:	Analyte #3:
------------------------------------	-------------	-------------

Other Instructions, if any: 8 selected compounds from A1

Relinquished By <u>Terry Shepley</u>	Date <u>9/27/96</u>	Time <u>15:00</u>	Received By: <u>Daniel P. Curick</u>	Date <u>9/30/96</u>	Time <u>10:30</u>
Affiliation: <u>W.L. Gore & Associates, Inc.</u>			Affiliation: <u>Cummings/Ritec</u>		
Relinquished By <u>Daniel P. Curick</u>	Date <u>10/28/96</u>	Time <u>12:00</u>	Received By: _____	Date _____	Time _____
Affiliation: <u>Cummings/Ritec Cons</u>			Affiliation: _____		
Relinquished By _____	Date _____	Time _____	Received By: <u>Terry Shepley</u>	Date <u>10/30/96</u>	Time <u>11:10 AM</u>
Affiliation _____			Affiliation: <u>W.L. Gore & Associates, Inc.</u>		

Temperature of Samples When Received By Gore	<u>3.5</u> °C
--	---------------

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
 WESTINGHOUSE SPECIALTY METALS, BLAIRSVILLE, PA
 CUSTOM TARGET COMPOUND LIST (A7)
 SITE UH - PRODUCTION ORDER #070104

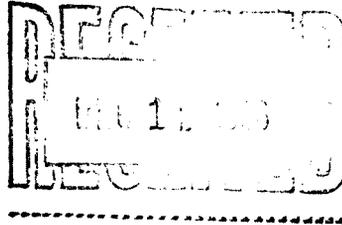
DATE ANALYZED	SAMPLE NAME	ct12DCE, ug	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug	12DCA, ug	TCE, ug	PCE, ug
	MDL =	0.03	0.16	0.05	0.03	0.04	0.08	0.02	0.01	0.03
11/07/96	127847	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.09	0.00
11/07/96	127848	0.53	0.02	0.05	0.51	0.02	0.94	0.04	5.58	0.26
11/07/96	127849	0.55	0.04	0.06	0.51	0.04	0.15	0.00	1.29	0.11
11/07/96	127850	0.00	0.00	0.00	0.00	0.20	0.30	0.00	0.02	0.00
11/07/96	127851	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.03	0.00
11/07/96	127852	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.08	0.01
11/07/96	127853	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.41	0.02
11/07/96	127854	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00
11/07/96	127855	38.69	6.05	0.10	32.64	0.02	4.08	0.18	191.62	0.62
11/07/96	127856	28.27	1.16	0.62	27.11	0.04	4.44	0.21	135.21	0.19
11/07/96	127857	51.35	1.95	0.78	49.40	0.04	4.31	0.20	131.95	0.17
11/07/96	127858	0.39	0.08	0.00	0.31	0.02	0.28	0.01	4.30	0.01
11/07/96	127859	9.10	1.06	0.11	8.05	0.04	1.87	0.09	82.93	0.12
11/07/96	127860	2.29	0.22	0.09	2.07	0.09	0.44	0.03	11.63	0.04
11/07/96	TB 1, 127861	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
11/07/96	TB 2, 127862	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.02	0.01
11/07/96	method blank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max Observed	51.35	6.05	0.78	49.40	0.21	4.44	0.21	191.62	0.62

CEIMIC

ANALYTICAL CHEMISTRY FOR ENVIRONMENTAL MANAGEMENT

December 11, 1996

Bill Baughman
Cummings/Riter
339 Haymaker Road
Parkway Building, Suite 201
Monroeville, PA 15146



Dear Mr. Baugmhman,

Enclosed are the data for the samples received on August 30, 1996 at Ceimic for the Westinghouse Blairsville project. This shipment includes the results for Ceimic SDG 6148.

The enclosed reports contains a cross reference, case narrative, results for Gamma and chain of custody.

If you have any questions about the data, please feel free to give me a call.

Sincerely,

Robert Beimer
Project Manager

encl.: a/s

GAMMA

Samples were analyzed using EPA 901.1 method for water. One liter aliquot of sample was placed in a 1L Marinelli beaker and counted for 1000 min using a low background HPGe detector. The resulting gamma spectrum was searched for standard gamma isotopes and any unidentified peaks.

No peaks were detected from 100KeV to 2100 KeV.

LOWER LIMIT OF DETECTION

SAMPLE SIZE : ONE LITER

COUNT TIME : 1000 MIN

Pb-212 = 5.4 pCi/L

Tl-208 = 3.0 pCi/L

Cs-134 = 3.3 pCi/L

Pb-214 = 7.2 pCi/L

Bi-214 = 6.8 pCi/L

Cs-137 = 2.4 pCi/L

Co-60 = 2.5 pCi/L

Co-57 = 2.0 pCi/L

K-40 = 40.0 pCi/L

CROSS REFERENCE

CLIENT: CUMMINGS/RITER
PROJECT NAME: WESTINGHOUSE BLAIRSVILLE
ANALYSIS CODE: GAMMA
CEIMIC SDG #: 6148

<u>LAB SAMPLE ID:</u>	<u>SAMPLE ID:</u>
6148-01	SEPP 3
6148-02	DUP 1

Maestro II - 66120301.chm

Files Calculate Services ROI Presets Acquire Display



Display
MCB/010000
MCB# 1 Seg# 1
STOP/Expand
Ut : Log
Hz : 4096
ROI : Off

Presets
Rl Tm
Lv Tm
ROI Cnt
ROI Int

Time
Rl Tm 60000
Lv Tm 59975
Dead Tm 0.0%
12-05-96
09:02:54
EG&G ORTEC

Marker: 2048 = 1077.376 kev Counts: 15

Sample : 6148-01 1L GAMMA SPEC.

Maestro II - G61119BC.chm

Files Calculate Services ROI Presets Acquire Display

Display
MCB/BISS
MCB# 1 Seg# 1
GTU/Expand
Ut : Log
Hz : 4096
ROI : Off

Presets
Rl Tm
Lv Tm
ROI Cnt
ROI Int

Time
Rl Tm 60000
Lv Tm 59977
Dead Tm 0.0%
12-05-96
11:11:43
EG&G ORTEC

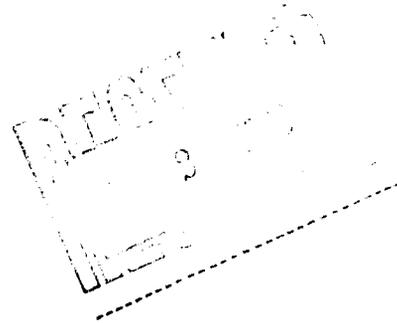
Marker: 2048 = 1077.376 keV Counts: 11

Sample : 1000 MIN BKG

CEIMIC

ANALYTICAL CHEMISTRY FOR ENVIRONMENTAL MANAGEMENT

Bill Baughman
Cummings Riter
Parkway Bldg Suite 201
339 Haymaker Rd.
Monroeville, PA 15146



Dear Mr. Baughman,

Peg Marple requested that a hardcopy of the radiological report be sent to you. If you have any questions you may reach me at (619) 637-7400.

Sincerely,

A handwritten signature in cursive script that reads "Rick Phillips".

Rick Phillips

Narrative Project: Blairsville
Reference No.:
Client: Cummings Riter Consultants, Inc.
SDG No.: 6456

GROSS ALPHA/BETA

Samples were analysed for gross alpha and beta activity in WATER following the EPA 900.0 procedure. An aliquot of the sample is taken based on the sample percent solids to obtain a final concentration of solids just below 100 mg. The aliquot is reduced to approximately 20 mL, treated twice with nitric acid (to remove chlorides) than brought to dryness on a planchette for counting. The sample is counted using low level gas flow proportional counting and the results are corrected for efficiency and self-absorption. The GPC is calibrated and checked using Americium 241 for alpha activity and Strontium 90 for beta activity. Samples are counted for a nominal 1000 minutes.

All QC was acceptable. No complications were encountered in the analysis of the sample.

QC Criteria	Status	Comments
Preparation Blank	Compliant	
LCS Recovery	Compliant	
Duplicate Reproducibility	Compliant	

Total Radium

Preparation of radium 224/226 in water was performed using EPA 903 procedures. Yields were determined gravimetrically by weighing a BaSO₄ precipitate.

No problems were encountered in the analysis of the samples, all QC passed criteria.

QC Criteria	Status	Comments
Preparation Blank	Compliant	
LCS Recovery	Compliant	
Carrier Recovery	Compliant	

CEIMIC

NARRATIVE

Narrative Project: Blairsville
Reference No.:
Client: Cummings Riter Consultants, Inc.
SDG No.: 6456

URANIUM

Samples were analyzed for isotopes of uranium in water following EERF-00-07 procedures. A 1 L aliquot of the sample is taken to dryness and then brought to 100mL volume in 9M HCl. The uranium is extracted into Triisooctylamine (TiOA), stripped from the TiOA with 0.1N HNO₃, and then co-precipitated with lanthanum as a fluoride. The sample is then radioassayed by alpha spectroscopy on an EG&G ORTEC Model 576A spectrometer. Chemical yield is established using U232 tracer.

QC Criteria	Status	Comments
Blanks	Compliant	
LCS Recovery	Compliant	

Except for sample MW-15, all samples contained little or no U. Low tracer recoveries were obtained for samples MW-18A, MW-19A, and for the Prepblank and LCS. The LCSW gave the poorest tracer recovery, however once a correction was incorporated for the tracer yield, the spike recoveries for U234 and U238 were approximately 90 %. No additional complications were noted in the analysis of the samples, and remaining QC is acceptable.

CEIMIC RADIOCHEMISTRY LABORATORY

LABORATORY CONTROL SAMPLE -- FORM 4

LAB NAME: CEIMIC CONTRACT: _____
LAB SAMPLE ID: LCSW102196 CASE: _____
SOLID LCS SOURCE: _____ SDG: 6456
AQUEOUS LCS SOURCE: WS#77 & WS#78

$LCS\%R = (LCS\ FOUND/LCS\ TRUE) * 100$

RADIOANALYTICAL DETERMINATION	AQUEOUS (dpm)			SOLID (dpm)		
	TRUE	FOUND	LCS%R	TRUE	FOUND	LCS%R
AM-241	9.50	9.47	99.68			
SR-90	9.50	9.34	98.32			

COMMENTS:

CEIMIC RADIOCHEMISTRY LABORATORY

LABORATORY CONTROL SAMPLE -- FORM 4

LAB NAME: CEIMIC CONTRACT: _____
LAB SAMPLE ID: LCSW102496 CASE: CEIMIC RI
SOLID LCS SOURCE: _____ SDG: 6456
AQUEOUS LCS SOURCE: WS#60

$LCS\%R = (LCS\ FOUND/LCS\ TRUE) * 100$

RADIOANALYTICAL DETERMINATION	AQUEOUS (dpm)			SOLID (dpm)		
	TRUE	FOUND	LCS%R	TRUE	FOUND	LCS%R
RA-226	66.00	65.89	99.83			

COMMENTS:

CEIMIC RADIOCHEMISTRY LABORATORY

URANIUM CALCULATION

SAMPLE MATRIX: WATER

ANALYSIS CODE: U-ISO

TRACER USED: U-232

TRACER ID: TR#1015

ANALYST: AM

DATE: 11/18/96

SDG: 6456

CASE:

RESULTS = (SAMPLE COUNT)/(2.22*VOL)

ERROR(2σ) = (ERROR DPM)/(2.22*VOL)

SAMPLE ID	SAMPLE VOL (L)	TRACER YIELD	U234 COUNT (dpm)	U234 ERROR (dpm)	U234 RESULTS (pCi/L)	U234 ERROR (pCi/L)	U238 COUNT (dpm)	U238 ERROR (dpm)	U238 RESULTS (pCi/L)	U238 ERROR (pCi/L)	U235 COUNT (dpm)	TOTAL U ug/L
6456-01	1.0	0.8123	NC		0.00	0.00	NC		0.00	0.00	NC	0
6456-02	1.0	0.7355	0.116	0.05	0.05	0.02	0.100	0.05	0.05	0.02	NC	0.149
6456-03	1.0	0.6313	5.440	0.48	2.45	0.22	0.700	0.15	0.32	0.07	NC	0.956
6456-04	1.0	0.2716	NC		0.00	0.00	NC		0.00	0.00	NC	0
6456-05	1.0	0.2128	NC		0.00	0.00	NC		0.00	0.00	NC	0
6456-06	1.0	0.7399	0.510	0.11	0.23	0.05	0.280	0.08	0.13	0.04	NC	0.388
6456-07	1.0	0.8484	NC		0.00	0.00	NC		0.00	0.00	NC	0
6456-08	1.0	0.8189	0.450	0.12	0.20	0.05	0.190	0.06	0.09	0.03	NC	0.269
6456-09	1.0	0.7222	NC		0.00	0.00	NC		0.00	0.00	NC	0
6456-10	1.0	0.7640	NC		0.00	0.00	NC		0.00	0.00	NC	0
6456-11	1.0	0.7225	28.270	1.76	12.73	0.79	28.260	1.76	12.73	0.79	NC	38
LCSW102396	1.0	0.0731	8.680	1.94	3.91	0.87	9.380	2.04	4.23	0.92	NC	NA
PBW102396	1.0	0.1446	NC		0.00	0.00	NC		0.00	0.00	NC	NA

NC = NO COUNT

CEIMIC RADIOCHEMISTRY LABORATORY

LABORATORY CONTROL SAMPLE -- FORM 4

LAB NAME: CEIMIC CONTRACT: _____
LAB SAMPLE ID: LCSW102396 CASE: _____
SOLID LCS SOURCE: _____ SDG: 6456
AQUEOUS LCS SOURCE: WS#47

$LCS\%R = (LCS\ FOUND / LCS\ TRUE) * 100$

RADIOANALYTICAL DETERMINATION	AQUEOUS (dpm)			SOLID (dpm)		
	TRUE	FOUND	LCS%R	TRUE	FOUND	LCS%R
U-234	10.00	8.68	86.80			
U-238	10.00	9.38	93.80			

COMMENTS:

CEIMIC RADIOCHEMISTRY LABORATORY

URANIUM CALCULATION

SAMPLE MATRIX: WATER

ANALYSIS CODE: U-ISO

TRACER USED: U-232

TRACER ID: TR#1015

ANALYST: AM

DATE: 9/10/98

SDG: 6148

CASE: CEIMIC RI

RESULTS = (SAMPLE COUNT)/(2.22*VOL)

ERROR(2σ) = (ERROR DPM)/(2.22*VOL)

SAMPLE ID	SAMPLE VOL (L)	TRACER YIELD	U234 COUNT (dpm)	U234 ERROR (dpm)	U234 RESULTS (pCi/L)	U234 ERROR (pCi/L)	U238 COUNT (dpm)	U238 ERROR (dpm)	U238 RESULTS (pCi/L)	U238 ERROR (pCi/L)	U235 COUNT (dpm)	U235 ERROR (dpm)	U235 RESULTS (pCi/L)	U235 ERROR (pCi/L)
6148-01	1.0	0.763	2.710	0.3	1.22	0.14	1.580	0.21	0.71	0.09	0.000	0	0.00	0.00
6148-02	1.0	0.893	4.870	0.34	2.19	0.15	2.490	0.23	1.12	0.10	0.000	0	0.00	0.00
6148-03	1.0	0.712	13.990	0.78	6.30	0.34	11.100	0.65	5.00	0.29	0.150	0.07	0.07	0.03
6148-04	1.0	0.186	30.310	2.69	13.65	1.21	21.420	2.04	9.65	0.92	0.440	0.23	0.20	0.10
LCSW090596	1.0	0.937	8.580	0.51	4.32	0.23	10.480	0.54	4.72	0.24	0.000	0	0.00	0.00
PBW090596	1.0	0.848	0.000	0	0.00	0.00	0.000	0	0.00	0.00	0.000	0	0.00	0.00

6148-01 (SEEP 3) TOTAL URANIUM = 2.11 ug/L

6148-02 (DUP 1) TOTAL URANIUM = 3.34 ug/L

6148-03 (SEEP 2) TOTAL URANIUM = 14.92 ug/L

6148-04 (SEEP 1) TOTAL URANIUM = 28.80 ug/L

Project Name: <u>Blairsville (W)</u>	Results To: <u>William Baughman</u>	Invoice To: <u>Jeff Banta / Wayne George</u>
Project Location: <u>Blairsville PA</u>	Company: <u>Cummings / Riter</u>	Company: <u>Westinghouse Electric</u>
Project Number: <u>93-132</u>	Address: <u>339 Hahnemann Road Suite 201</u>	Address: _____
Sampled By: (print) <u>D. Cusick / C. Coy</u>	Address: <u>Monaca PA 15146</u>	Phone: _____
	Phone: <u>412-373-5240</u>	Phone: _____

Lab ID	Sample Identification	Date	Time	Grab	Composite	Sample Matrix	No. of Bottles	Analyses							Preservatives				Remarks	
								VECs	TAL Metals	Cyanide	TDS, Alkal Chloride Sulfide pH	Gross Solids	Total Petroleum	Total Uranium	Uranium IS	HCL	HNO3	H2SO4		NaOH
01	EB-1	10-14-96	0845	/		H ₂ O	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
02	MW-12A	"	1050	/		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
03	MW-2	"	1130	/		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
04	MW-18A	"	1210	/		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	CN Sent TO RI: 10-17-96
05	MW-18A MS/MSD	"	1210	/		"	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
06	Trip Blank	"	-	/		"	2	✓												RECEIVED
07	MW-19A	"	1345	/		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	CN SENT TO RI 10-17-96
08	DUP-1	"	-	/		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Rad Samples ONLY
09	MW-9A	"	1445	/		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	CN SENT TO RI 10-17-96
10	MW-21	"	1610	/		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Turnaround Time Required: Lg <u>10/17/96</u> Normal <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	1. Relinquished By: (signature) <u>Daniel P. Cusick</u>	Date <u>10/16/96</u>	Time <u>10:50</u>	1. Received By: (signature) <u>J. Kulawinski</u>
Sample Disposal: Return to Client _____ Disposal by Lab <input checked="" type="checkbox"/>	2. Relinquished By: (signature)	Date <u>10/17/96</u>	Time <u>8:55</u>	2. Received By: (signature) <u>J. Quora (CEMIC Corp San Diego)</u>
Known Hazard (flammable/toxic): Yes (comment below) _____ No <input checked="" type="checkbox"/>	3. Relinquished By: (signature)	Date	Time	3. Received By: (signature)

Special Instructions/Comments: <u>* Report cis-1,2-dichloroethene and trans-1,2-dichloroethene under USEPA Method 8260</u>	Sample Condition Upon Receipt: <u>Good</u>
---	--



**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

November 11, 1996

Mr. William Baughman
Cummings Riter Consultants, Inc.
339 Haymaker Road
Parkway Building, Suite 201
Monroeville, PA 15146

Dear Mr. Baughman:

Enclosed are the results for the analyses performed in support of the Cummings Riter Consultants, Blairsville-Westinghouse Project. The samples were taken from the field on October 14th and 15th, 1996 and were received at Ceimic Corporation on October 16, 1996.

The following analyses will be forwarded when available: Uranium isotopes, Gross α & β , Total uranium, and Total radium.

These samples are reported under the Ceimic Project Number 960826, which can be referenced when inquiring about this project.

If you have any questions or concerns regarding this data, please call me at the telephone number listed below.

Sincerely,



Neil Pothier, Ph.D.
Laboratory Manager

NP/jmf

Enclosures

VOLATILE ANALYSES

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**METHOD BLANK
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Ceimic Project: 960826

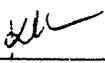
Blank ID: V61028-B1

Date Sample Analyzed: 10/28/96

Matrix: Aqueous

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Methyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**METHOD BLANK
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Ceimic Project: 960826

Blank ID: V61028-B1

Date Sample Analyzed: 10/28/96

Matrix: Aqueous

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m,p-Xylenes	ND	5
o-Xylene	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	95	62 - 139
Dibromofluoromethane	99	75 - 125
Toluene-d8	100	75 - 125
Bromofluorobenzene	96	75 - 125

Reported by: _____

Approved by: _____

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**METHOD BLANK
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Ceimic Project: 960826

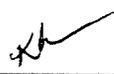
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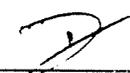
Date Sample Analyzed: 10/26/96

Matrix: Aqueous

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**METHOD BLANK
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Ceimic Project: 960826

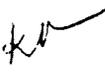
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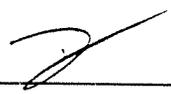
Date Sample Analyzed: 10/29/96

Matrix: Aqueous

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: EB-1

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-01

Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B2

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	9	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: _____



Approved by: _____



**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-12A

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-02

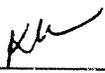
Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B2

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
1-Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	5	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	36	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	77	5
cis-1,2-Dichloroethene	69	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	2000*	100
Carbon Tetrachloride	500	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	850 *	100
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-2

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-03

Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-2

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-03

Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B1

Dilution Factor: 1

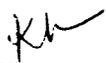
Concentration in: $\mu\text{g/L}$ (ppb)

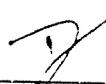
Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m,p-Xylenes	ND	5
o-Xylene	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	88	62 - 139
Dibromofluoromethane	94	75 - 125
Toluene-d8	95	75 - 125
Bromofluorobenzene	87	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-18A

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-04

Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B2

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
V Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	200 *	13
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-18A

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-04

Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B2

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m,p-Xylenes	ND	5
o-Xylene	ND	5

ND = Not detected

* Concentration was determined from a diluted analysis (1:2.5).

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	88	62 - 139
Dibromofluoromethane	95	75 - 125
Toluene-d8	93	75 - 125
Bromofluorobenzene	88	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**MATRIX SPIKE/MATRIX SPIKE DUPLICATE SUMMARY
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-18A

Date Sampled: 10/14/96

Date Sample Received: 10/17/96

Matrix: Aqueous

Matrix Spike ID: 960826-04

Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B2

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Spike Compound	Matrix Spike Recovery(%)	Matrix Spike Duplicate Recovery(%)	RPD(%)	QC Limits(%)*	
				RPD	Recovery
1,1-Dichloroethene	111	107	3	20	75 - 125
Trichloroethene	482	1113	79	20	71 - 125
Ethene	117	112	4	20	75 - 125
Toluene	112	108	3	20	74 - 125
Chlorobenzene	114	109	5	20	75 - 125

* These limits are provided for advisory purposes.

Surrogate Spike Recovery

Surrogate Compound	Matrix Spike Recovery(%)	Matrix Spike Duplicate Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	102	100	62 - 139
Dibromofluoromethane	106	103	75 - 125
Toluene-d8	106	103	75 - 125
Bromofluorobenzene	100	100	75 - 125

Reported by: _____ 

Approved by: _____ 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: TRIP_BLANK

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-05

Date Sample Analyzed: 10/26/96

Associated Method Blank: V81026-B2

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: _____

KW

Approved by: _____

J

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-19A

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-06

Date Sample Analyzed: 10/28/96

Associated Method Blank: V61028-B1

Dilution Factor: 250

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	1300
Bromomethane	ND	1300
Vinyl Chloride	ND	1300
Chloroethane	ND	1300
Methylene Chloride	2200	1300
Acetone	ND	2500
Carbon Disulfide	ND	1300
1,1-Dichloroethene	ND	1300
trans-1,2-Dichloroethene	ND	1300
1,1-Dichloroethane	ND	1300
cis-1,2-Dichloroethene	2900	1300
Chloroform	ND	1300
1,2-Dichloroethane	ND	1300
2-Butanone	ND	2500
1,1,1-Trichloroethane	ND	1300
Carbon Tetrachloride	ND	1300
Bromodichloromethane	ND	1300
1,2-Dichloropropane	ND	1300
trans-1,3-Dichloropropene	ND	1300
Trichloroethene	400000*	13000
Dibromochloromethane	ND	1300
1,1,2-Trichloroethane	ND	1300
Benzene	ND	1300
cis-1,3-Dichloropropene	ND	1300
Bromoform	ND	1300
2-Hexanone	ND	2500

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-19A

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-06

Date Sample Analyzed: 10/28/96

Associated Method Blank: V61028-B1

Dilution Factor: 250

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	2500
Tetrachloroethene	ND	1300
1,1,1,2-Tetrachloroethane	ND	1300
Toluene	ND	1300
Chlorobenzene	ND	1300
Ethylbenzene	ND	1300
Styrene	ND	1300
m,p-Xylenes	ND	1300
o-Xylene	ND	1300

ND = Not detected

* Concentration was determined from a diluted analysis (1:2500).

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	92	62 - 139
Dibromofluoromethane	97	75 - 125
Toluene-d8	98	75 - 125
Bromofluorobenzene	96	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: DUP-1

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-07

Date Sample Analyzed: 10/28/96

Associated Method Blank: V61028-B1

Dilution Factor: 250

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	2500
Tetrachloroethene	ND	1300
1,1,2,2-Tetrachloroethane	ND	1300
Toluene	ND	1300
Chlorobenzene	ND	1300
Ethylbenzene	ND	1300
Styrene	ND	1300
m,p-Xylenes	ND	1300
o-Xylene	ND	1300

ND = Not detected

* Concentration was determined from a diluted analysis (1:2500).

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	95	62 - 139
Dibromofluoromethane	99	75 - 125
Toluene-d8	97	75 - 125
Bromofluorobenzene	95	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-9A

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-08

Date Sample Analyzed: 10/28/96

Associated Method Blank: V61028-B1

Dilution Factor: 20

Concentration in: $\mu\text{g/L}$ (ppb)

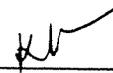
Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	200
Tetrachloroethene	ND	100
2,2-Tetrachloroethane	ND	100
Toluene	ND	100
Chlorobenzene	ND	100
Ethylbenzene	ND	100
Styrene	ND	100
m,p-Xylenes	ND	100
o-Xylene	ND	100

ND = Not detected

* Concentration was determined from a diluted analysis (1:50).

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	96	62 - 139
Dibromofluoromethane	97	75 - 125
Toluene-d8	100	75 - 125
Bromofluorobenzene	97	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-21

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-09

Date Sample Analyzed: 10/28/96

Associated Method Blank: V61028-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	5
Carbon Disulfide	ND	10
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	5
1,1,1-Trichloroethane	7	10
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	9	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: _____

Approved by: _____

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-21

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-09

Date Sample Analyzed: 10/28/96

Associated Method Blank: V61028-B1

Dilution Factor: 1

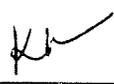
Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m,p-Xylenes	ND	5
o-Xylene	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	97	62 - 139
Dibromofluoromethane	95	75 - 125
Toluene-d8	97	75 - 125
Bromofluorobenzene	95	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-20

Date Sampled: 10/14/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-10

Date Sample Analyzed: 10/28/96

Associated Method Blank: V61028-B1

Dilution Factor: 1

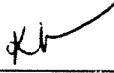
Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m,p-Xylenes	ND	5
o-Xylene	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	96	62 - 139
Dibromofluoromethane	96	75 - 125
Toluene-d8	93	75 - 125
Bromofluorobenzene	94	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-22

Date Sampled: 10/15/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-11

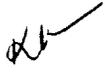
Date Sample Analyzed: 10/29/96

Associated Method Blank: V81029-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	5
Carbon Disulfide	ND	10
1,1-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	5
1,1,1-Trichloroethane	ND	10
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-22

Date Sampled: 10/15/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-11

Date Sample Analyzed: 10/29/96

Associated Method Blank: V81029-B1

Dilution Factor: 1

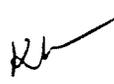
Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m,p-Xylenes	ND	5
o-Xylene	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	97	62 - 139
Dibromofluoromethane	106	75 - 125
Toluene-d8	88	75 - 125
Bromofluorobenzene	86	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-15

Date Sampled: 10/15/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-12

Date Sample Analyzed: 10/29/96

Associated Method Blank: V81029-B1

Dilution Factor: 10

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	ND	50
Acetone	ND	100
Carbon Disulfide	ND	50
1,1-Dichloroethene	ND	50
trans-1,2-Dichloroethene	ND	50
1,1-Dichloroethane	ND	50
cis-1,2-Dichloroethene	ND	50
Chloroform	ND	50
1,2-Dichloroethane	ND	50
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	50
Carbon Tetrachloride	ND	50
Bromodichloromethane	ND	50
1,2-Dichloropropane	ND	50
trans-1,3-Dichloropropene	ND	50
Trichloroethene	710	50
Dibromochloromethane	ND	50
1,1,2-Trichloroethane	ND	50
Benzene	ND	50
cis-1,3-Dichloropropene	ND	50
Bromoform	ND	50
2-Hexanone	ND	100

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: MW-15

Date Sampled: 10/15/96

Date Sample Received: 10/16/96

Matrix: Aqueous

Laboratory ID: 960826-12

Date Sample Analyzed: 10/29/96

Associated Method Blank: V81029-B1

Dilution Factor: 10

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
4-Methyl-2-Pentanone	ND	100
Tetrachloroethene	ND	50
1,2-Dichloroethane	ND	50
Toluene	ND	50
Chlorobenzene	ND	50
Ethylbenzene	ND	50
Styrene	ND	50
m,p-Xylenes	ND	50
o-Xylene	ND	50

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	97	62 - 139
Dibromofluoromethane	98	75 - 125
Toluene-d8	87	75 - 125
Bromofluorobenzene	91	75 - 125

Reported by:  _____

Approved by:  _____

METAL ANALYSES

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

METHOD BLANK
TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Ceimic Project: 960826

Blank ID: PBW

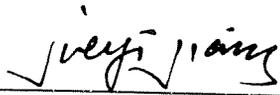
Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	ND	0.2
Antimony	1105	ND	0.2
Arsenic	1105	ND	0.01
Barium	1105	ND	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Calcium	1105	ND	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	ND	0.1
Lead	1105	ND	0.005
Magnesium	1105	ND	0.5
Manganese	1105	ND	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	ND	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	ND	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	ND	0.02

ND = Not Detected

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: EB-1

Date Sampled: 10/14/96

Laboratory ID: 960826-01

Date Sample Received: 10/17/96

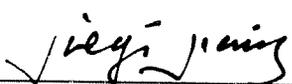
Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	ND	0.2
Antimony	1105	ND	0.2
Arsenic	1105	ND	0.01
Barium	1105	ND	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Cadmium	1105	ND	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	ND	0.1
Lead	1105	ND	0.005
Magnesium	1105	ND	0.5
Manganese	1105	ND	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	ND	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	1.5	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	ND	0.02

ND = Not Detected

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-12A

Date Sampled: 10/14/96

Laboratory ID: 960826-02

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	0.8	0.2
Antimony	1105	ND	0.2
Arsenic	1105	ND	0.01
Barium	1105	0.05	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Calcium	1105	97.6	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	13.3	0.1
Lead	1105	ND	0.005
Magnesium	1105	9.5	0.5
Manganese	1105	0.52	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	5.9	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	28.9	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	0.03	0.02

ND = Not Detected

Reported by: _____

Jerry Jiang

Approved by: _____

[Signature]

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-2

Date Sampled: 10/14/96

Laboratory ID: 960826-03

Date Sample Received: 10/17/96

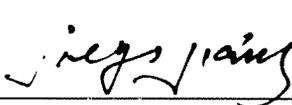
Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	2.0	0.2
Antimony	1105	ND	0.2
Arsenic	1105	ND	0.01
Barium	1105	0.09	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Cesium	1105	134	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	2.9	0.1
Lead	1105	ND	0.005
Magnesium	1105	9.8	0.5
Manganese	1105	1.02	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	2.0	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	91.1	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	0.07	0.02

ND = Not Detected

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-18A

Date Sampled: 10/14/96

Laboratory ID: 960826-04

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	41.5	0.2
Antimony	1105	ND	0.2
Arsenic	1105	0.05	0.01
Barium	1105	0.59	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	0.01	0.01
Calcium	1105	24.8	0.5
Chromium	1105	0.06	0.02
Cobalt	1105	0.04	0.02
Copper	1105	0.11	0.02
Iron	1105	139	0.1
Lead	1105	0.050	0.005
Magnesium	1105	9.2	0.5
Manganese	1105	1.35	0.01
Mercury	1105	0.0004	0.0002
Nickel	1105	0.08	0.04
Potassium	1105	4.7	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	7.0	0.5
Thallium	1105	0.02	0.01
Vanadium	1105	0.10	0.05
Zinc	1105	0.22	0.02

ND = Not Detected

Reported by: _____

Jing Jiang

Approved by: _____

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**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

**SPIKE SAMPLE SUMMARY
TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Client Sample ID: MW-18A

Date Sampled: 10/14/96

Date Sample Received: 10/17/96

Matrix: Aqueous

Laboratory ID: 960826-04Spk

Date Analysis Completed: 11/11/96

Concentration in: mg/L (ppm)

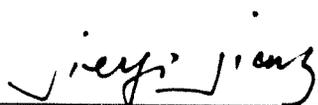
Target Analyte	Sample Result	Predigest Spike Added	Spiked Sample Result	Recovery(%)		
				Predigest Spike	QC Limits	Post Digest Spike
Aluminum	41.5	2.00	46.3	239	**	NR
Antimony	ND	0.500	0.321	64	75 - 125	91.9
Arsenic	0.0539	0.0400	0.0963	106	75 - 125	NR
Barium	0.592	2.00	2.62	101	75 - 125	NR
Bismuth	ND	0.0500	0.0474	90	75 - 125	NR
Caesium	0.0122	0.0500	0.0597	95	75 - 125	NR
Chromium	0.0618	0.200	0.258	98	75 - 125	NR
Cobalt	0.0413	0.500	0.493	90	75 - 125	NR
Copper	0.110	0.250	0.374	106	75 - 125	NR
Iron	139	1.00	148	898	**	NR
Lead	0.0496	0.0200	0.0701	103	75 - 125	NR
Manganese	1.35	0.500	1.89	108	75 - 125	NR
Mercury	0.000377	0.00100	0.00131	93	75 - 125	NR
Nickel	0.0756	0.500	0.534	92	75 - 125	NR
Selenium	ND	0.0100	0.0142	90	75 - 125	NR
Silver	ND	0.0500	0.0466	93	75 - 125	NR
Thallium	0.0159	0.0500	0.0627	93	75 - 125	NR
Vanadium	0.0999	0.500	0.564	93	75 - 125	NR
Zinc	0.217	0.500	0.680	93	75 - 125	NR

ND = Not Detected

NR = Not Required

** Sample result exceeds four times the spike added value. There is no control limit in this case.

Reported by: _____



Approved by: _____



CEIMIC Corporation
 "Analytical Chemistry for Environmental Management"

DUPLICATE SAMPLE SUMMARY
 TOTAL METALS
 SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-18A

Date Sampled: 10/14/96

Date Sample Received: 10/17/96

Matrix: Aqueous

Laboratory ID: 960826-04Dup

Date Analysis Completed: 11/11/96

Concentration in: mg/L (ppm)

Target Analyte	Sample Result	Duplicate Result	RPD(%)	QC Limit(%)
Aluminum	41.5	41.6	0	20
Antimony	ND	ND	**	±0.2
Arsenic	0.0539	0.0552	2	20
Barium	0.592	0.599	1	20
Beryllium	ND	ND	**	±0.01
Cadmium	0.0122	0.0124	**	±0.01
Calcium	24.8	24.8	0	20
Chromium	0.0618	0.0623	**	±0.02
Cobalt	0.0413	0.0453	**	±0.02
Copper	0.110	0.112	1	20
Iron	139	139	0	20
Lead	0.0496	0.0479	4	20
Magnesium	9.25	9.24	0	20
Manganese	1.35	1.35	0	20
Mercury	0.000377	0.000376	**	±0.0002
Nickel	0.0756	0.0730	**	±0.04
Potassium	4.65	4.71	1	20
Selenium	ND	ND	**	±0.01
Silver	ND	ND	**	±0.01
Sodium	7.04	7.07	0	20
Thallium	0.0159	0.0162	**	±0.01
Vanadium	0.0999	0.101	**	±0.05
Zinc	0.217	0.216	0	20

ND = Not Detected

RPD = Relative Percent Difference

** For these analytes the sample concentration was less than five times the quantitation limit.
 In these cases the control limit is ± the quantitation limit.

Reported by: _____

Jiaji Jiang

Approved by: _____

Alvin D...

CEIMIC Corporation
"Analytical Chemistry for Environmental Management"

TOTAL METALS
 SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-19A

Date Sampled: 10/14/96

Laboratory ID: 960826-06

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	10.1	0.2
Antimony	1105	ND	0.2
Arsenic	1105	0.02	0.01
Barium	1105	0.11	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Cadmium	1105	37.6	0.5
Chromium	1105	ND	0.02
Cobalt	1105	0.02	0.02
Copper	1105	ND	0.02
Iron	1105	35.1	0.1
Lead	1105	0.036	0.005
Magnesium	1105	8.8	0.5
Manganese	1105	7.70	0.01
Mercury	1105	0.0003	0.0002
Nickel	1105	ND	0.04
Potassium	1105	2.3	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	21.2	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	0.07	0.02

ND = Not Detected

Reported by: *Jerry Jiang*

Approved by: *Amy De*

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: DUP-1

Date Sampled: 10/14/96

Laboratory ID: 960826-07

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	14.6	0.2
Antimony	1105	ND	0.2
Arsenic	1105	0.04	0.01
Barium	1105	0.17	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Calcium	1105	39.4	0.5
Chromium	1105	0.04	0.02
Cobalt	1105	0.05	0.02
Copper	1105	0.02	0.02
Iron	1105	62.3	0.1
Lead	1105	0.070	0.005
Magnesium	1105	10.1	0.5
Manganese	1105	8.81	0.01
Mercury	1105	0.0002	0.0002
Nickel	1105	0.04	0.04
Potassium	1105	3.0	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	22.2	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	0.10	0.02

ND = Not Detected

Reported by: Jeff Jiang

Approved by: Ann White

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-9A

Date Sampled: 10/14/96

Laboratory ID: 960826-08

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	43.5	0.2
Antimony	1105	ND	0.2
Arsenic	1105	0.07	0.01
Barium	1105	0.20	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	0.01	0.01
Cesium	1105	29.5	0.5
Chromium	1105	0.16	0.02
Cobalt	1105	0.08	0.02
Copper	1105	0.05	0.02
Iron	1105	146	0.1
Lead	1105	0.053	0.005
Magnesium	1105	17.9	0.5
Manganese	1105	16.7	0.01
Mercury	1105	ND	0.0002
Nickel	1105	0.12	0.04
Potassium	1105	3.9	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	29.4	0.5
Thallium	1105	0.01	0.01
Vanadium	1105	0.10	0.05
Zinc	1105	0.21	0.02

ND = Not Detected

Reported by: *Gregory Young*

Approved by: *Amey White*

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-21

Date Sampled: 10/14/96

Laboratory ID: 960826-09

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	5.4	0.2
Antimony	1105	ND	0.2
Arsenic	1105	0.01	0.01
Barium	1105	0.18	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Calcium	1105	48.7	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	20.3	0.1
Lead	1105	0.010	0.005
Magnesium	1105	8.4	0.5
Manganese	1105	2.73	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	1.7	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	40.8	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	0.02	0.02

ND = Not Detected

Reported by: _____

Joey Jiang

Approved by: _____

Amey Wu

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

**TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Client Sample ID: MW-20

Date Sampled: 10/14/96

Laboratory ID: 960826-10

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	0.7	0.2
Antimony	1105	ND	0.2
Arsenic	1105	ND	0.01
Barium	1105	0.78	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Cesium	1105	24.2	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	1.4	0.1
Lead	1105	ND	0.005
Magnesium	1105	4.2	0.5
Manganese	1105	0.04	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	1.8	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	14.1	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	ND	0.02

ND = Not Detected

Reported by: _____

Jing Jiang

Approved by: _____

[Signature]

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

**TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Client Sample ID: MW-21

Date Sampled: 10/14/96

Laboratory ID: 960826-09

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	5.4	0.2
Antimony	1105	ND	0.2
Arsenic	1105	0.01	0.01
Barium	1105	0.18	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Calcium	1105	48.7	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	20.3	0.1
Lead	1105	0.010	0.005
Magnesium	1105	8.4	0.5
Manganese	1105	2.73	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	1.7	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	40.8	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	0.02	0.02

ND = Not Detected

Reported by: *J. J. J. J.*

Approved by: *A. J. J. J.*

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

**TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Client Sample ID: MW-20

Date Sampled: 10/14/96

Laboratory ID: 960826-10

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	0.7	0.2
Antimony	1105	ND	0.2
Arsenic	1105	ND	0.01
Barium	1105	0.78	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Cadmium	1105	24.2	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	1.4	0.1
Lead	1105	ND	0.005
Magnesium	1105	4.2	0.5
Manganese	1105	0.04	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	1.8	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	14.1	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	ND	0.02

ND = Not Detected

Reported by: _____

Gregory Jones

Approved by: _____

Thomas H. Ke

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: MW-22

Date Sampled: 10/15/96

Laboratory ID: 960826-11

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	8.7	0.2
Antimony	1105	ND	0.2
Arsenic	1105	0.01	0.01
Barium	1105	0.26	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Calcium	1105	28.1	0.5
Chromium	1105	ND	0.02
Cobalt	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	16.0	0.1
Lead	1105	0.011	0.005
Magnesium	1105	7.9	0.5
Manganese	1105	0.66	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	2.4	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	8.2	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	0.05	0.02

ND = Not Detected

Reported by: Jieyi Jiang

Approved by: Amy White

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

**TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Client Sample ID: MW-15

Date Sampled: 10/15/96

Laboratory ID: 960826-12

Date Sample Received: 10/17/96

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	1105	0.5	0.2
Antimony	1105	ND	0.2
Arsenic	1105	ND	0.01
Barium	1105	0.18	0.01
Beryllium	1105	ND	0.01
Cadmium	1105	ND	0.01
Cobalt	1105	43.9	0.5
Chromium	1105	ND	0.02
Copper	1105	ND	0.02
Iron	1105	2.2	0.1
Lead	1105	ND	0.005
Magnesium	1105	26.8	0.5
Manganese	1105	0.50	0.01
Mercury	1105	ND	0.0002
Nickel	1105	ND	0.04
Potassium	1105	2.6	0.5
Selenium	1105	ND	0.01
Silver	1105	ND	0.01
Sodium	1105	27.1	0.5
Thallium	1105	ND	0.01
Vanadium	1105	ND	0.05
Zinc	1105	ND	0.02

ND = Not Detected

Reported by: _____

Jerry J. King

Approved by: _____

Springer

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**LABORATORY CONTROL SAMPLE SUMMARY
TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Ceimic Project: 960826

Laboratory Control Spike ID: LCSW

Date Analysis Completed: 11/11/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Spike Added	Lab Control Spike Result	Lab Control Spike Recovery(%)	QC Limits(%)
Aluminum	1105	10.0	9.65	96.5	75 - 125
Antimony	1105	5.00	5.13	102.7	75 - 125
Arsenic	1105	0.200	0.199	99.5	75 - 125
Barium	1105	10.0	9.66	96.6	75 - 125
Beryllium	1105	0.250	0.227	90.8	75 - 125
Cadmium	1105	0.100	0.0944	94.4	75 - 125
Calcium	1105	25.0	24.4	97.6	75 - 125
Chromium	1105	1.00	0.963	96.3	75 - 125
Cobalt	1105	2.50	2.28	91.3	75 - 125
Copper	1105	1.25	1.23	98.3	75 - 125
Iron	1105	5.00	4.84	96.9	75 - 125
Lead	1105	0.200	0.188	94.0	75 - 125
Magnesium	1105	25.0	23.9	95.7	75 - 125
Manganese	1105	2.50	2.28	91.3	75 - 125
Mercury	1105	0.00250	0.00261	104.0	75 - 125
Nickel	1105	2.50	2.27	90.8	75 - 125
Potassium	1105	25.0	22.8	91.1	75 - 125
Selenium	1105	0.200	0.201	100.7	75 - 125
Silver	1105	1.25	1.10	87.8	75 - 125
Sodium	1105	25.0	23.8	95.1	75 - 125
Thallium	1105	0.200	0.192	95.9	75 - 125
Vanadium	1105	2.50	2.33	93.1	75 - 125
Zinc	1105	2.50	2.26	90.3	75 - 125

Reported by: _____

Jrey J. King

Approved by: _____

Annex D

INORGANIC ANALYTES

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

QUALITY CONTROL
METHOD BLANK

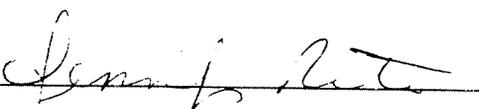
Client: Cummings Riter Consultants

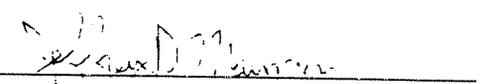
Blank ID: PBW_1

Ceimic Project: 960826

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	ND	mg/L	2.0	10/28/96	10/28/96
Chloride	ND	mg/L	1.0	10/30/96	10/30/96
Sulfate	ND	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	ND	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

QUALITY CONTROL
METHOD BLANK

Client: Cummings Riter Consultants

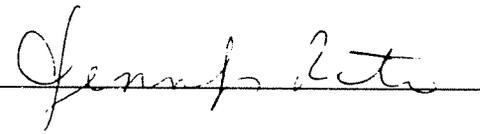
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Ceimic Project: 960826

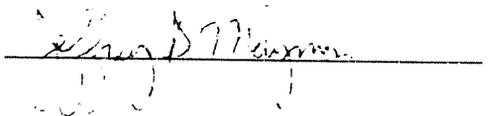
Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Total Cyanide	ND	mg/L	0.01	10/23/96	10/24/96

ND = Not Detected

Reported by:



Approved by:



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: EB-1

Date Sampled: 10/14/96

Laboratory ID: 960826-01

Date Sample Received: 10/16/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	2.4	mg/L	2.0	10/28/96	10/28/96
Chloride	1.4	mg/L	1.0	10/30/96	10/30/96
pH	6.77	Units		10/17/96	10/17/96
Sulfate	ND	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	30.0	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by:

[Handwritten Signature]

Approved by:

[Handwritten Signature]

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-12A

Date Sampled: 10/14/96

Laboratory ID: 960826-02

Date Sample Received: 10/16/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	120	mg/L	2.0	10/28/96	10/28/96
ride	22.6	mg/L	1.0	10/30/96	10/30/96
pH	6.47	Units		10/17/96	10/17/96
Sulfate	222	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	560	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by: _____

Jennifer Riter

Approved by: _____

Jeffrey D. Maguire

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-2

Date Sampled: 10/14/96

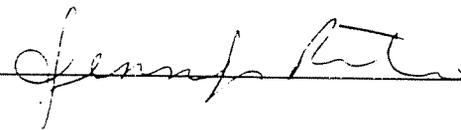
Laboratory ID: 960826-03

Date Sample Received: 10/16/96

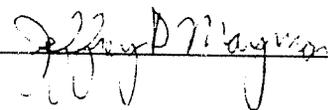
Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	95.1	mg/L	2.0	10/28/96	10/28/96
Chloride	84.6	mg/L	1.0	10/30/96	10/30/96
pH	7.38	Units		10/17/96	10/17/96
Sulfate	91.7	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	922	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	0.04	mg/L	0.01	10/21/96	10/21/96

Reported by:



Approved by:



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-18A

Date Sampled: 10/14/96

Laboratory ID: 960826-04

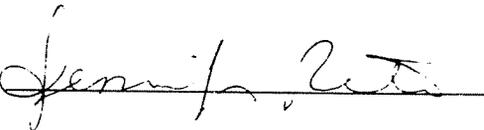
Date Sample Received: 10/16/96

Matrix: Aqueous

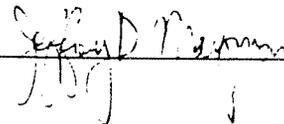
Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	63.8	mg/L	2.0	10/28/96	10/28/96
Chloride	4.2	mg/L	1.0	10/30/96	10/30/96
pH	6.50	Units		10/17/96	10/17/96
Sulfate	26.6	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	249	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/23/96	10/24/96

ND = Not Detected

Reported by:



Approved by:



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-19A

Date Sampled: 10/14/96

Laboratory ID: 960826-06

Date Sample Received: 10/16/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	84.5	mg/L	2.0	10/28/96	10/28/96
Chloride	50.9	mg/L	1.0	10/30/96	10/30/96
pH	6.21	Units		10/17/96	10/17/96
Sulfate	47.8	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	285	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/23/96	10/24/96

ND = Not Detected

Reported by: _____

Jennifer Riter

Approved by: _____

John D. Maynor

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: DUP-1

Date Sampled: 10/14/96

Laboratory ID: 960826-07

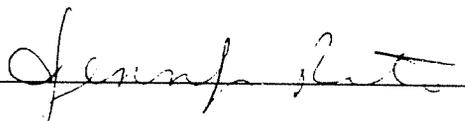
Date Sample Received: 10/16/96

Matrix: Aqueous

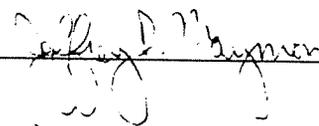
Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	78.5	mg/L	2.0	10/28/96	10/28/96
Chloride	50.8	mg/L	1.0	10/30/96	10/30/96
pH	6.21	Units		10/17/96	10/17/96
Sulfate	46.8	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	340	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/23/96	10/24/96

ND = Not Detected

Reported by: _____



Approved by: _____



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-9A

Date Sampled: 10/14/96

Laboratory ID: 960826-08

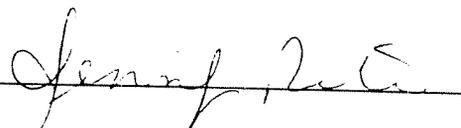
Date Sample Received: 10/16/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	55.6	mg/L	2.0	10/28/96	10/28/96
Chloride	73.1	mg/L	1.0	10/30/96	10/30/96
pH	6.30	Units		10/17/96	10/17/96
Sulfate	56.6	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	296	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by:



Approved by:



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-21

Date Sampled: 10/14/96

Laboratory ID: 960826-09

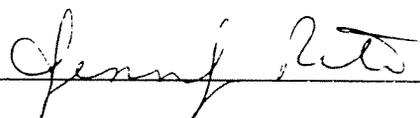
Date Sample Received: 10/16/96

Matrix: Aqueous

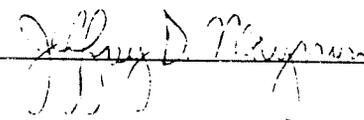
Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	56.7	mg/L	2.0	10/28/96	10/28/96
Chloride	51.7	mg/L	1.0	10/30/96	10/30/96
pH	6.31	Units		10/17/96	10/17/96
Sulfate	48.0	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	462	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by:



Approved by:



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-20

Date Sampled: 10/14/96

Laboratory ID: 960826-10

Date Sample Received: 10/16/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	126	mg/L	2.0	10/28/96	10/28/96
Chloride	3.0	mg/L	1.0	10/30/96	10/30/96
pH	7.35	Units		10/17/96	10/17/96
Sulfate	ND	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	225	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by:

Approved by:

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-22

Date Sampled: 10/15/96

Laboratory ID: 960826-11

Date Sample Received: 10/16/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	44.5	mg/L	2.0	10/28/96	10/28/96
Nitrite	35.9	mg/L	1.0	10/30/96	10/30/96
pH	6.38	Units		10/17/96	10/17/96
Sulfate	26.9	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	199	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by: _____

Jerry Riter

Approved by: _____

Jeffrey D. Maymon

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: MW-15

Date Sampled: 10/15/96

Laboratory ID: 960826-12

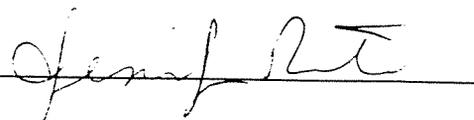
Date Sample Received: 10/16/96

Matrix: Aqueous

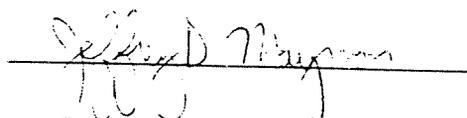
Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	196	mg/L	2.0	10/28/96	10/28/96
Chloride	82.7	mg/L	1.0	10/30/96	10/30/96
pH	6.94	Units		10/17/96	10/17/96
Sulfate	47.4	mg/L	5.0	10/29/96	10/29/96
Total Dissolved Solids	390	mg/L	10.0	10/22/96	10/23/96
Total Cyanide	ND	mg/L	0.01	10/21/96	10/21/96

ND = Not Detected

Reported by:



Approved by:



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

QUALITY CONTROL
LABORATORY CONTROL SAMPLE SUMMARY

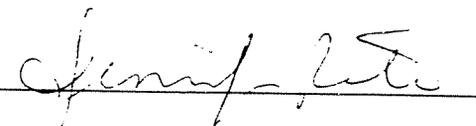
Client: Cummings Riter Consultants

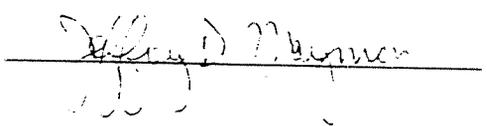
Laboratory Control Spike ID: QC_1

Ceimic Project: 960826

Concentration in: mg/L (ppm)

Target Analyte	Date Prep'd	Date Analyzed	Spike Added	Lab Control Spike Result	Lab Control Spike Recovery(%)	QC Limits(%)
Alkalinity	10/28/96	10/28/96	24.2	26.1	108.0	80-120
Chloride	10/30/96	10/30/96	51.6	52.3	101.0	80-120
Sulfate	10/29/96	10/29/96	20.0	16.7	84.0	80-120
Total Dissolved Solids	10/22/96	10/23/96	262	292	111.0	80-120
Total Cyanide	10/21/96	10/21/96	0.080	0.084	105.0	80-120

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

QUALITY CONTROL
LABORATORY CONTROL SAMPLE SUMMARY

Client: Cummings Riter Consultants

Laboratory Control Spike ID: QC_2

Ceimic Project: 960826

Concentration in: mg/L (ppm)

Target Analyte	Date Prep'd	Date Analyzed	Spike Added	Lab Control Spike Result	Lab Control Spike Recovery(%)	QC Limits(%)
Total Cyanide	10/23/96	10/24/96	0.080	0.088	110.0	80-120

Reported by:

Cummings Riter

Approved by:

William D. Nguyen

CHAIN OF CUSTODY

Project Name: Blairsville (W)
Project Location: Blairsville PA
Project Number: 93-132
Sampled By: (print)
D. Cusick / C. Coy

Results To: William Baughman
Company: Cummings / Riter
Address: 339 Hedgesville Road Suite 201
Monaca, PA 15146
Phone: 412 273 5240

Invoice To: Jeff Banta / Weyers Garage
Company: Westinghouse Electric
Address: _____
Phone: _____

Lab ID	Sample Identification	Date	Time	Grab	Composite	Sample Matrix	No. of Bottles	Analyses							Preservatives				Remarks		
								VOCs	TAL Metals	Cyanide	Total Alkalinity	Total Hardness	Total Sulfate	Total Chloride	Total Phosphate	Total Nitrate	Total Ammonia Nitrogen	HCL		HNO3	H2SO4
EB-1		10-11-96	0845	✓		H ₂ O	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
MW-12A		"	1050	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
MW-2		"	1130	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
MW-18A		"	1210	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
MW-18A MS/MSD		"	1210	✓		"	6	✓	✓								✓	✓			
Trip Blank		"	-	✓		"	2	✓									✓				
MW-19A		"	1345	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
DUP-1		"	-	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
MW-9A		"	1445	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
MW-21		"	1610	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Turnaround Time Required: Normal <input checked="" type="checkbox"/> Rush _____	1. Relinquished By: (signature) <u>Daniel P. Cusick</u>	Date <u>10/16/96</u>	Time <u>10:50</u>	1. Received By: (signature) <u>J. Kulawinski</u>
Sample Disposal: Return to Client _____ Disposal by Lab <input checked="" type="checkbox"/>	2. Relinquished By: (signature)	Date	Time	2. Received By: (signature)
Known Hazard (flammable/toxic): Yes (comment below) _____ No <input checked="" type="checkbox"/>	3. Relinquished By: (signature)	Date	Time	3. Received By: (signature)

Special Instructions/Comments:
* Report cis-1,2-dichloroethene and trans-1,2-dichloroethene
under USEPA Method 8260

Sample Condition Upon Receipt:

Chain of Custody Record

Project Name: Blairsville 
Project Location: Blairsville, PA
Project Number: 93-132

Results To: William A. Baughman
Company: See pg 1D
Address: _____
Phone: _____

Invoice To: _____
Company: Westinghouse Electric
Address: _____
Phone: _____

Sampled By: (print)
D. Lusick / C. Gay

Lab ID	Sample Identification	Date	Time	Grab	Composite	Sample Matrix	No. of Bottles	Analyses										Preservatives				Remarks				
								VOCs	TAL Metals	Cyanide	TDs sulfide chloride chloride pH	Total Radon	Gross Alpha/Beta	Total Uranium Uranium Isotopes	HCL	HNO3	H2SO4	NaOH								
	MW-20	10-14-96	16:35	✓		H ₂ O	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
	MW-22	10-15-96	09:00	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
	MW-15	10-15-96	10:35	✓		"	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						

Turnaround Time Required:
Normal
Rush

1. Relinquished By: (signature)
Daniel P. Lusick

Date 10/14/96 Time 10:50

1. Received By: (signature)
J. Kulawinski

Sample Disposal:
Return to Client
Disposal by Lab

2. Relinquished By: (signature)

Date _____ Time _____

2. Received By: (signature)

Known Hazard (flammable/toxic):
Yes (comment below)
No

3. Relinquished By: (signature)

Date _____ Time _____

3. Received By: (signature)

Special Instructions/Comments:
* Report cis-1,2 dichloroethane and trans 1,2-dichloroethane
under USEPA Method 8260

Sample Condition Upon Receipt:

CEIMIC CORPORATION
Sample Receiving Checklist

Number of Coolers: 1

LIMS # 960826

Date Received: 10/21/96

Project: Blansdale

USE THE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

- A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 10/21/96
by (print): DE (sign): [Signature]
1. Did cooler come with a shipping slip (airbill, etc.)? YES NO
 - If YES, enter carrier name & airbill number here: AX
 2. Were custody seals on outside of cooler? YES NO
 - How many & where: _____ seal date: _____ seal name: _____
 3. Were custody seals unbroken and intact at the date and time of arrival NA YES NO
 4. Did you screen samples for radioactivity using a Geiger Counter? Reading: 0 YES NO
 5. Were custody papers sealed in a plastic bag & taped inside to the lid? YES NO
 6. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? YES NO
 9. If required, was enough ice used? Cooler Temperature: 5° Type of ice: blue YES NO
 10. Have designated person initial here to acknowledge receipt of cooler: DOB (date): 10/21/96

- B. LOG-IN PHASE: Date samples were logged-in: 10/21/96
by (print): DE (sign): [Signature]
11. Describe type of packing in cooler: peanuts
 12. Were all bottles sealed in separate plastic bags? YES NO
 13. Did all bottles arrive unbroken and were labels in good condition? YES NO
 14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 15. Did all bottle labels agree with custody papers? YES NO
 16. Were correct containers used for the tests indicated? YES NO
 17. Were correct preservatives added to samples? YES NO
 18. Was a sufficient amount of sample sent for tests indicated? YES NO
 19. Were bubbles absent in VOA samples? If NO, list by sample#: NA YES NO
 20. Was the project manager called and status discussed? YES NO
If YES, give details on the back of this form.
 21. Who was called? _____ By whom? _____ (date): _____

CEIMIC CORPORATION
Sample Receiving Checklist

Number of Coolers: 1

LIMS # 7122000

Date Received: 12/17/96

Project: Cummings, Etkin, Blainville

USE THE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 12/17/96
by (print): Michael Perry (sign): Michael Perry

1. Did cooler come with a shipping slip (airbill, etc.)? YES NO
If YES, enter carrier name & airbill number here: FX AB 1904633533

2. Were custody seals on outside of cooler? YES NO
How many & where: _____ seal date: _____ seal name: _____

3. Were custody seals unbroken and intact at the date and time of arrival NA YES NO

4. Did you screen samples for radioactivity using a Geiger Counter? Reading: 0 YES NO

5. Were custody papers sealed in a plastic bag & taped inside to the lid? YES NO

6. Were custody papers filled out properly (ink, signed, etc.)? YES NO

7. Did you sign custody papers in the appropriate place? YES NO

8. Was project identifiable from custody papers? YES NO

9. If required, was enough ice used? Cooler Temperature: 4°C Type of ice: 0 YES NO

10. Have designated person initial here to acknowledge receipt of cooler: MRP (date): 12/17/96

B. LOG-IN PHASE: Date samples were logged-in: 12/17/96
by (print): Michael Perry (sign): Michael Perry

11. Describe type of packing in cooler: nuts

12. Were all bottles sealed in separate plastic bags? YES NO

13. Did all bottles arrive unbroken and were labels in good condition? YES NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO

15. Did all bottle labels agree with custody papers? YES NO

16. Were correct containers used for the tests indicated? YES NO

17. Were correct preservatives added to samples? YES NO

18. Was a sufficient amount of sample sent for tests indicated? YES NO

19. Were bubbles absent in VOA samples? If NO, list by sample #: _____ YES NO

20. Was the project manager called and status discussed? YES NO
If YES, give details on the back of this form.

21. Who was called? _____ By whom? _____ (date): _____

*cyanide bottles missing for
MW-8A ← MS/MSD also
MW-174
DUP-1*

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

September 26, 1996

Mr. William Baughman
Cummings Riter Consultants, Inc.
339 Haymaker Road
Parkway Building/Suite 201
Monroeville, PA 15146



Dear Mr. Baughman:

Enclosed are the results for the analyses performed in support of the Cummings Riter Consultants, Westinghouse Blairsville Project. The samples were taken from the field on August 28, 1996 and received at Ceimic Corporation on August 30, 1996.

These samples are reported under the Ceimic Project Number 960687, which can be referenced when inquiring about this project.

If you have any questions or concerns regarding this data, please call me at the telephone number listed below.

Sincerely,

Neil Pothier, Ph.D.
Laboratory Manager

NP/jmf

Enclosures

VOLATILE ANALYSES

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**METHOD BLANK
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Ceimic Project: 960687

Blank ID: V30904-B1

Date Sample Analyzed: 09/04/96

Matrix: Aqueous

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	ND	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (total)	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: SEEP3

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-01

Date Sample Analyzed: 09/04/96

Associated Method Blank: V30904-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	24	5
Acetone	31	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (total)	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: SEEP3

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-01

Date Sample Analyzed: 09/04/96

Associated Method Blank: V30904-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	90	78 - 130
Dibromofluoromethane	96	83 - 119
Toluene-d8	88	75 - 125
Bromofluorobenzene	94	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: SEEP2

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-03

Date Sample Analyzed: 09/04/96

Associated Method Blank: V30904-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	91	78 - 130
Dibromofluoromethane	94	83 - 119
Toluene-d8	88	75 - 125
Bromofluorobenzene	97	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: SEEP1

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-04

Date Sample Analyzed: 09/04/96

Associated Method Blank: V30904-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	26	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (total)	64	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	200	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: SEEP1

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-04

Date Sample Analyzed: 09/04/96

Associated Method Blank: V30904-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	90	78 - 130
Dibromofluoromethane	96	83 - 119
Toluene-d8	88	75 - 125
Bromofluorobenzene	96	75 - 125

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: TRIP_BLANK

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-05

Date Sample Analyzed: 09/04/96

Associated Method Blank: V30904-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Chloromethane	ND	5
Bromomethane	ND	5
Vinyl Chloride	ND	5
Chloroethane	ND	5
Methylene Chloride	25	5
Acetone	ND	10
Carbon Disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (total)	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
cis-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10

Reported by: 

Approved by: 

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET COMPOUND LIST (TCL)
VOLATILE ORGANICS ANALYSIS
SW846 METHOD 8260A**

Client: Cummings Riter Consultants

Client Sample ID: TRIP_BLANK

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-05

Date Sample Analyzed: 09/04/96

Associated Method Blank: V30904-B1

Dilution Factor: 1

Concentration in: $\mu\text{g/L}$ (ppb)

Target Analyte	Sample Concentration	Quantitation Limit
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
1,2-Dichloroethane-d4	88	78 - 130
Dibromofluoromethane	94	83 - 119
Toluene-d8	89	75 - 125
Bromofluorobenzene	93	75 - 125

Reported by: 

Approved by: 

METAL ANALYSES

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

METHOD BLANK
TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Ceimic Project: 960687

Blank ID: PBW

Date Analysis Completed: 09/24/96

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	0918	ND	0.2
Antimony	0918	ND	0.2
Arsenic	0918	ND	0.01
Barium	0918	ND	0.01
Beryllium	0918	ND	0.01
Cadmium	0918	ND	0.01
Calcium	0918	ND	0.5
Chromium	0918	ND	0.02
Cobalt	0918	ND	0.02
Copper	0918	ND	0.02
Iron	0918	ND	0.1
Lead	0918	ND	0.005
Magnesium	0918	ND	0.5
Manganese	0918	ND	0.01
Mercury	0920	ND	0.0002
Nickel	0918	ND	0.04
Potassium	0918	ND	0.5
Selenium	0918	ND	0.01
Silver	0918	ND	0.01
Sodium	0918	ND	0.5
Thallium	0918	ND	0.01
Vanadium	0918	ND	0.05
Zinc	0918	ND	0.02

ND = Not Detected

Reported by: *Wesley J. Jones*

Approved by: *[Signature]*

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TARGET ANALYTE LIST (TAL)
TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: SEEP3

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-01

Date Analysis Completed: 09/24/96

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	0918	1.1	0.2
Antimony	0918	ND	0.2
Arsenic	0918	ND	0.01
Barium	0918	0.10	0.01
Beryllium	0918	ND	0.01
Cadmium	0918	ND	0.01
Calcium	0918	40.6	0.5
Chromium	0918	0.03	0.02
Cobalt	0918	ND	0.02
Copper	0918	ND	0.02
Iron	0918	3.3	0.1
Lead	0918	ND	0.005
Magnesium	0918	53.4	0.5
Manganese	0918	0.30	0.01
Mercury	0920	ND	0.0002
Nickel	0918	ND	0.04
Potassium	0918	4.8	0.5
Selenium	0918	ND	0.01
Silver	0918	ND	0.01
Sodium	0918	44.3	0.5
Thallium	0918	ND	0.01
Vanadium	0918	ND	0.05
Zinc	0918	0.02	0.02

ND = Not Detected

Reported by: _____

Approved by:  _____

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**TARGET ANALYTE LIST (TAL)
TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Client Sample ID: DUP1

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-02

Date Analysis Completed: 09/24/96

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	0918	2.3	0.2
Antimony	0918	ND	0.2
Arsenic	0918	ND	0.01
Barium	0918	0.11	0.01
Beryllium	0918	ND	0.01
Cadmium	0918	ND	0.01
Calcium	0918	150	0.5
Chromium	0918	0.10	0.02
Cobalt	0918	0.08	0.02
Copper	0918	ND	0.02
Iron	0918	49.2	0.1
Lead	0918	0.005	0.005
Magnesium	0918	98.7	0.5
Manganese	0918	2.14	0.01
Mercury	0920	0.0003	0.0002
Nickel	0918	0.16	0.04
Potassium	0918	13.8	0.5
Selenium	0918	ND	0.01
Silver	0918	ND	0.01
Sodium	0918	22.4	0.5
Thallium	0918	ND	0.01
Vanadium	0918	ND	0.05
Zinc	0918	0.04	0.02

ND = Not Detected

Reported by: Jieyuan

Approved by: [Signature]

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TARGET ANALYTE LIST (TAL)
TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: SEEP2

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

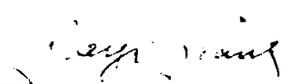
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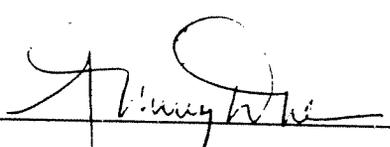
Date Analysis Completed: 09/24/96

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	0918	1.1	0.2
Antimony	0918	ND	0.2
Arsenic	0918	ND	0.01
Barium	0918	0.07	0.01
Beryllium	0918	ND	0.01
Cadmium	0918	ND	0.01
Calcium	0918	37.7	0.5
Chromium	0918	0.02	0.02
Cobalt	0918	ND	0.02
Copper	0918	ND	0.02
Iron	0918	3.6	0.1
Lead	0918	0.012	0.005
Magnesium	0918	28.5	0.5
Manganese	0918	0.15	0.01
Mercury	0920	ND	0.0002
Nickel	0918	ND	0.04
Potassium	0918	3.3	0.5
Selenium	0918	ND	0.01
Silver	0918	ND	0.01
Sodium	0918	42.3	0.5
Thallium	0918	ND	0.01
Vanadium	0918	ND	0.05
Zinc	0918	0.02	0.02

ND = Not Detected

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

TARGET ANALYTE LIST (TAL)
TOTAL METALS
SW846 METHOD 6010 AND 7470

Client: Cummings Riter Consultants

Client Sample ID: SEEP1

Date Sampled: 08/28/96

Date Sample Received: 08/30/96

Matrix: Aqueous

Laboratory ID: 960687-04

Date Analysis Completed: 09/24/96

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit
Aluminum	0918	0.3	0.2
Antimony	0918	ND	0.2
Arsenic	0918	ND	0.01
Barium	0918	0.07	0.01
Beryllium	0918	ND	0.01
Cadmium	0918	ND	0.01
Calcium	0918	159	0.5
Chromium	0918	ND	0.02
Cobalt	0918	0.04	0.02
Copper	0918	ND	0.02
Iron	0918	15.8	0.1
Lead	0918	ND	0.005
Magnesium	0918	110	0.5
Manganese	0918	2.03	0.01
Mercury	0920	ND	0.0002
Nickel	0918	0.07	0.04
Potassium	0918	14.9	0.5
Selenium	0918	ND	0.01
Silver	0918	ND	0.01
Sodium	0918	24.9	0.5
Thallium	0918	ND	0.01
Vanadium	0918	ND	0.05
Zinc	0918	ND	0.02

ND = Not Detected

Reported by: *[Signature]*

Approved by: *[Signature]*

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

**LABORATORY CONTROL SAMPLE SUMMARY
TOTAL METALS
SW846 METHOD 6010 AND 7470**

Client: Cummings Riter Consultants

Laboratory Control Spike ID: LCSW

Matrix: Aqueous

Ceimic Project: 960687

Date Analysis Completed: 09/24/96

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Spike Added	Lab Control Spike Result	Lab Control Spike Recovery(%)	QC Limits(%)
Aluminum	0918	10.0	9.51	95.1	75 - 125
Antimony	0918	5.00	4.82	96.4	75 - 125
Arsenic	0918	0.200	0.196	98.0	75 - 125
Barium	0918	10.0	9.36	93.6	75 - 125
Beryllium	0918	0.250	0.241	96.3	75 - 125
Cadmium	0918	0.100	0.0974	97.4	75 - 125
Calcium	0918	25.0	24.0	95.9	75 - 125
Chromium	0918	1.00	1.01	100.8	75 - 125
Cobalt	0918	2.50	2.37	94.6	75 - 125
Copper	0918	1.25	1.16	93.1	75 - 125
Iron	0918	5.00	4.74	94.8	75 - 125
Lead	0918	0.200	0.186	92.8	75 - 125
Magnesium	0918	25.0	23.8	95.4	75 - 125
Manganese	0918	2.50	2.37	94.9	75 - 125
Mercury	0920	0.00250	0.00244	96.0	75 - 125
Nickel	0918	2.50	2.33	93.3	75 - 125
Potassium	0918	25.0	23.9	95.5	75 - 125
Selenium	0918	0.200	0.201	100.3	75 - 125
Silver	0918	1.25	1.12	89.9	75 - 125
Sodium	0918	25.0	23.5	93.9	75 - 125
Thallium	0918	0.200	0.185	92.5	75 - 125
Vanadium	0918	2.50	2.37	94.6	75 - 125
Zinc	0918	2.50	2.33	93.0	75 - 125

Reported by: _____

Approved by: _____

INORGANIC ANALYTES

-

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

QUALITY CONTROL
METHOD BLANK

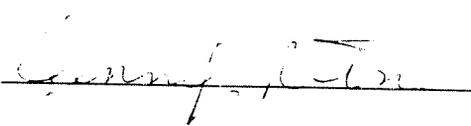
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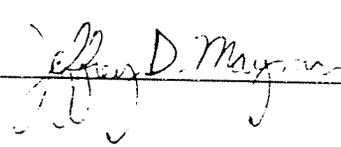
Blank ID: PBW

CEIMIC Project: 960687

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	ND	mg/L	2.0	09/04/96	09/04/96
Chloride	ND	mg/L	2.0	09/09/96	09/09/96
Sulfate	ND	mg/L	5.0	09/14/96	09/14/96

ND = Not Detected

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: SEEP3

Date Sampled: 08/28/96

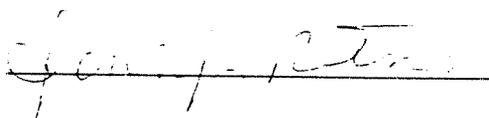
Laboratory ID: 960687-01

Date Sample Received: 08/30/96

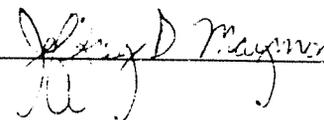
Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	240	mg/L	2.0	09/04/96	09/04/96
Chloride	104	mg/L	2.0	09/09/96	09/09/96
pH	7.43	Units		08/30/96	08/30/96
Sulfate	64.2	mg/L	5.0	09/14/96	09/14/96

Reported by:



Approved by:



**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: DUP1

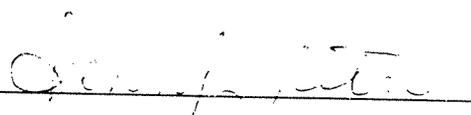
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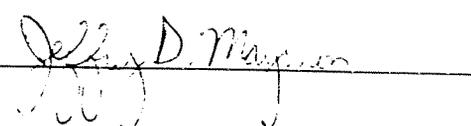
Laboratory ID: 960687-02

Date Sample Received: 08/30/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	630	mg/L	2.0	09/04/96	09/04/96
Chloride	34.2	mg/L	2.0	09/09/96	09/09/96
pH	6.93	Units		08/30/96	08/30/96
Sulfate	13.7	mg/L	5.0	09/14/96	09/14/96

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: SEEP2

Date Sampled: 08/28/96

Laboratory ID: 960687-03

Date Sample Received: 08/30/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	134	mg/L	2.0	09/04/96	09/04/96
Chloride	96.8	mg/L	2.0	09/09/96	09/09/96
pH	7.91	Units		08/30/96	08/30/96
Sulfate	9.9	mg/L	5.0	09/14/96	09/14/96

Reported by: _____

[Handwritten Signature]

Approved by: _____

[Handwritten Signature]

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Cummings Riter Consultants

Client Sample ID: SEEP1

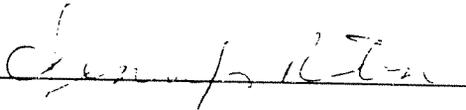
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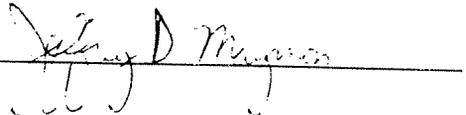
Laboratory ID: 960687-04

Date Sample Received: 08/30/96

Matrix: Aqueous

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Alkalinity	652	mg/L	2.0	09/04/96	09/04/96
Chloride	35.4	mg/L	2.0	09/09/96	09/09/96
pH	6.99	Units		08/30/96	08/30/96
Sulfate	16.2	mg/L	5.0	09/14/96	09/14/96

Reported by: 

Approved by: 

**CEIMIC
Corporation**
"Analytical Chemistry for Environmental Management"

QUALITY CONTROL
LABORATORY CONTROL SAMPLE SUMMARY

Client: Cummings Riter Consultants

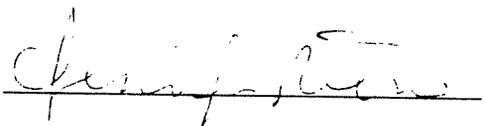
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CEIMIC Project: 960687

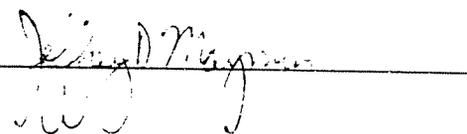
Concentration in: mg/L (ppm)

Target Analyte	Date Prep'd	Date Analyzed	Spike Added	Lab Control Spike Result	Lab Control Spike Recovery(%)	QC Limits(%)
Alkalinity	09/04/96	09/04/96	74.1	75.7	102.0	75-125
Chloride	09/09/96	09/09/96	50.0	51.4	103.0	75-125
Fluoride	09/14/96	09/14/96	20.0	18.7	94.0	75-125

Reported by:



Approved by:



CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

BLANK

GROSS ALPHA DETERMINATION

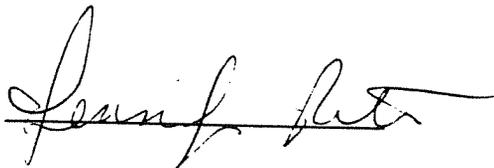
Client : Cummings Riter Consultants

Date Analyzed : 09/09/96

Laboratory ID	Gross Alpha	Unit	Method Reporting Limit
PBW_090996	ND	pCi/L	0.30

ND : Not Detected

Reported by :



Approved by :



CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

LABORATORY CONTROL SAMPLE SUMMARY

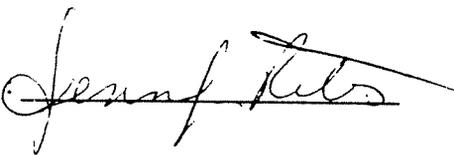
GROSS ALPHA DETERMINATION

Client : Cummings Riter Consultants

Date Analyzed : 09/09/96

Laboratory ID	Unit	Gross Alpha (Found)	Gross Alpha (True)	% Recovery	Method Reporting Limit
CSW_090996	pCi/L	42.84	42.80	100	1.0

Reported by



Approved by :



CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

SAMPLE RESULT

GROSS ALPHA DETERMINATION

Client : Cummings Riter Consultants

Date Analyzed : 09/09/96

Matrix : Aqueous

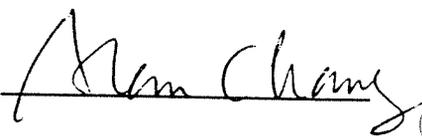
Unit : pCi/L

Sample ID	Laboratory ID	Gross Alpha Result	Date Sampled	Date Received
SEEP3	960687-01	4.00 +/- 3.00	08/28/96	08/30/96
DUP1	960687-02	4.27 +/- 2.85	08/28/96	08/30/96
SEEP2	960687-03	14.48 +/- 2.19	08/28/96	08/30/96
SEEP1	960687-04	25.83 +/- 3.07	08/28/96	08/30/96

Reported by:



Approved by:



CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

BLANK

ISOTOPIC URANIUM DETERMINATION

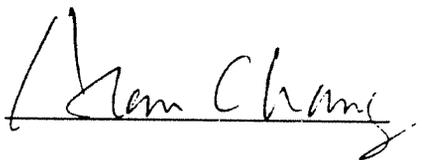
Client : Cummings Riter Consultants

Date Analyzed : 09/05/96

Laboratory ID	Unit	Uranium 234	Uranium 235	Uranium 238	Method Reporting Limit
PBW_090596	pCi/L	ND	ND	ND	0.05

ND : Not Detected

Reported by : 

Approved by : 

CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

LABORATORY CONTROL SAMPLE SUMMARY

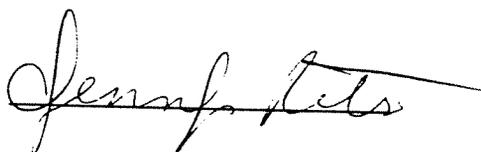
ISOTOPIC URANIUM DETERMINATION

Client : Cummings Riter Consultants

Date Analyzed : 09/05/96

Laboratory ID	Unit	Uranium 234 (Found)	Uranium 234 (True)	% Recovery	Method Reporting Limit
LCSW_090596	pCi/L	4.32	4.50	95.9	0.30

Reported by :



Approved by :



CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

LABORATORY CONTROL SAMPLE SUMMARY

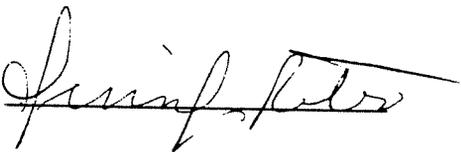
ISOTOPIC URANIUM DETERMINATION

Client : Cummings Riter Consultants

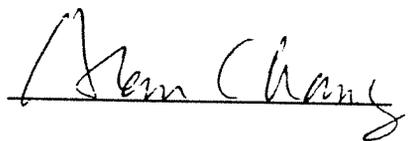
Date Analyzed : 09/05/96

Laboratory ID	Unit	Uranium 238 (Found)	Uranium 238 (True)	% Recovery	Method Reporting Limit
SW_090596	pCi/L	4.72	4.50	105	0.30

Reported by :



Approved by :



CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

SAMPLE RESULT

URANIUM ISOTOPE (U 234) DETERMINATION

Client : Cummings Riter Consultants

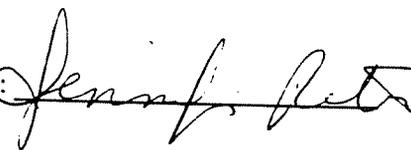
Date Analyzed : 09/05/96

Matrix : Aqueous

Unit : pCi/L

Sample ID	Laboratory ID	Uranium 234 Result	Date Sampled	Date Received
SEEP3	960687-01	1.22 +/- 0.14	08/28/96	08/30/96
DUP1	960687-02	2.19 +/- 0.15	08/28/96	08/30/96
SEEP2	960687-03	6.30 +/- 0.34	08/28/96	08/30/96
SEEP1	960687-04	13.65 +/- 1.21	08/28/96	08/30/96

Reported by:



Approved by:



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"Analytical Chemistry for Environmental Management"

SAMPLE RESULT

URANIUM ISOTOPE (U 235) DETERMINATION

Client : Cummings Riter Consultants

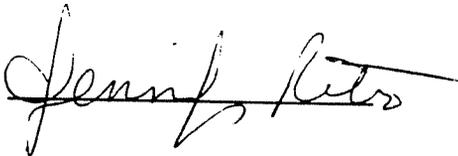
Date Analyzed : 09/05/96

Matrix : Aqueous

Unit : pCi/L

Sample ID	Laboratory ID	Uranium 235 Result	Date Sampled	Date Received
SEEP3	960687-01	0.00 +/- 0.00	08/28/96	08/30/96
DUP1	960687-02	0.00 +/- 0.00	08/28/96	08/30/96
SEEP2	960687-03	0.07 +/- 0.03	08/28/96	08/30/96
SEEP1	960687-04	0.20 +/- 0.10	08/28/96	08/30/96

Reported by :



Approved by :



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SAMPLE RESULT

URANIUM ISOTOPE (U 238) DETERMINATION

Client : Cummings Riter Consultants

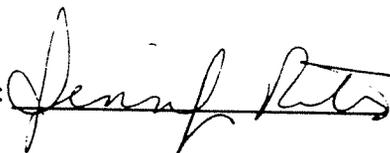
Date Analyzed : 09/05/96

Matrix : Aqueous

Unit : pCi/L

Sample ID	Laboratory ID	Uranium 238 Result	Date Sampled	Date Received
SEEP3	960687-01	0.71 +/- 0.09	08/28/96	08/30/96
DUP1	960687-02	1.12 +/- 0.10	08/28/96	08/30/96
SEEP2	960687-03	5.00 +/- 0.29	08/28/96	08/30/96
SEEP1	960687-04	9.65 +/- 0.92	08/28/96	08/30/96

Reported by:



Approved by:



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SAMPLE RESULT
TOTAL URANIUM DETERMINATION

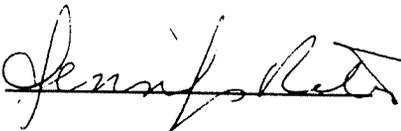
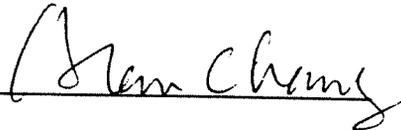
Client : Cummings Riter Consultants

Date Analyzed : 09/05/96

Matrix : Aqueous

Unit : pCi/L

Sample ID	Laboratory ID	Total Uranium Result	Date Sampled	Date Received
SEEP3	960687-01	1.93 +/- 0.17	08/28/96	08/30/96
DUP1	960687-02	3.31 +/- 0.18	08/28/96	08/30/96
SEEP2	960687-03	11.37 +/- 0.45	08/28/96	08/30/96
SEEP1	960687-04	23.5 +/- 1.5	08/28/96	08/30/96

Reported by :  Approved by : 

CEIMIC

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"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

BLANK

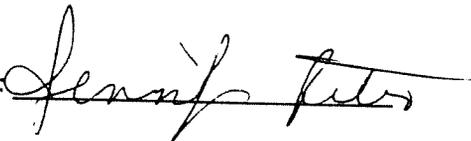
GROSS BETA DETERMINATION

Client : Cummings Riter Consultants

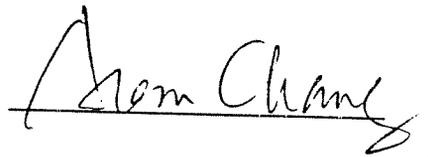
Date Analyzed : 09/09/96

Laboratory ID	Gross Beta	Unit	Method Reporting Limit
PBW_090996	1.49	pCi/L	0.97

Reported by :



Approved by :



CEIMIC

Corporation

"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

LABORATORY CONTROL SAMPLE SUMMARY

GROSS BETA DETERMINATION

Client : Cummings Riter Consultants

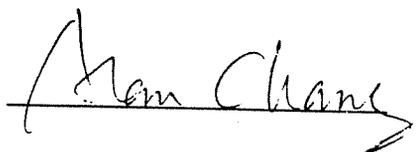
Date Analyzed : 09/09/96

Laboratory ID	Unit	Gross Beta (Found)	Gross Beta (True)	% Recovery	Method Reporting Limit
ICSW_090996	pCi/L	43.29	42.80	101	1.0

Reported by :



Approved by :



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"Analytical Chemistry for Environmental Management"

SAMPLE RESULT

GROSS BETA DETERMINATION

Client : Cummings Riter Consultants

Date Analyzed : 09/09/96

Matrix : Aqueous

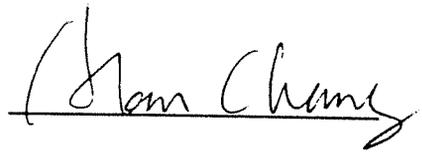
Unit : pCi/L

Sample ID	Laboratory ID	Gross Beta Result	Date Sampled	Date Received
SEEP3	960687-01	17.23 +/- 2.64	08/28/96	08/30/96
DUP1	960687-02	20.96 +/- 2.56	08/28/96	08/30/96
SEEP2	960687-03	6.05 +/- 1.17	08/28/96	08/30/96
SEEP1	960687-04	21.35 +/- 1.59	08/28/96	08/30/96

Reported by:



Approved by:



CEIMIC

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"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

BLANK

TOTAL RADIUM DETERMINATION

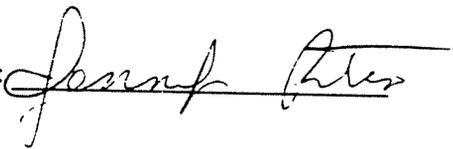
Client : Cummings Riter Consultants

Date Analyzed : 09/05/96

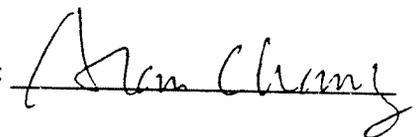
Laboratory ID	Radium 226	Unit	Method Reporting Limit
PBW_090596	ND	pCi/L	0.10

ND : Not Detected

Reported by :



Approved by :



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"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

LABORATORY CONTROL SAMPLE SUMMARY

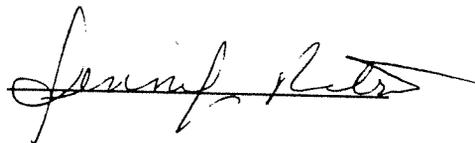
TOTAL RADIUM DETERMINATION

Client : Cummings Riter Consultants

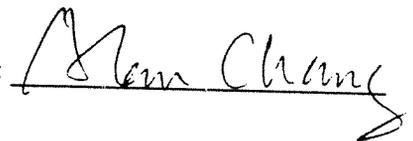
Date Analyzed : 09/05/96

Laboratory ID	Unit	Radium 226 (Found)	Radium 226 (True)	% Recovery	Method Reporting Limit
LCSW_090596	pCi/L	32.73	31.17	105	0.20

Reported by :



Approved by :



CEIMIC
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"Analytical Chemistry for Environmental Management"

SAMPLE RESULT
TOTAL RADIUM DETERMINATION

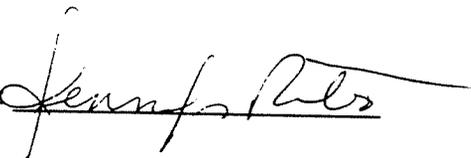
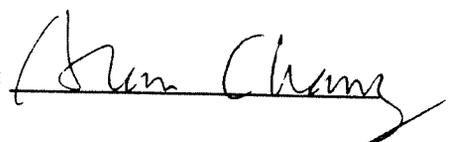
Client : Cummings Riter Consultants

Date Analyzed : 09/05/96

Matrix : Aqueous

Unit : pCi/L

Sample ID	Laboratory ID	Total Radium Result	Date Sampled	Date Received
SEEP3	960687-01	0.22 +/- 0.16	08/28/96	08/30/96
DUP1	960687-02	0.16 +/- 0.12	08/28/96	08/30/96
SEEP2	960687-03	0.32 +/- 0.15	08/28/96	08/30/96
SEEP1	960687-04	0.40 +/- 0.18	08/28/96	08/30/96

Reported by  Approved by : 

CHAIN OF CUSTODY

CEMATIC CORPORATION
Sample Receiving Checklist

Number of Coolers: 1

LIMS # 9602637

Date Received: 3/30

Project: Cannings Riter

USE THE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

- A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 3/30
by (print): Michael Perry (sign): Michael Perry
1. Did cooler come with a shipping slip (airbill, etc.)? YES NO
If YES, enter carrier name & airbill number here: AB 8318926884
 2. Were custody seals on outside of cooler? YES NO
How many & where: _____ seal date: _____ seal name: _____
 3. Were custody seals unbroken and intact at the date and time of arrival YES NO
 4. Did you screen samples for radioactivity using a Geiger Counter? Reading: 0 YES NO
 5. Were custody papers sealed in a plastic bag & taped inside to the lid? YES NO
 6. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? YES NO
 9. If required, was enough ice used? Cooler Temperature: 47 Type of ice: bc YES NO
 10. Have designated person initial here to acknowledge receipt of cooler: MRP (date): 3/30/96
- B. LOG-IN PHASE: Date samples were logged-in: 3/30/96
by (print): Michael Perry (sign): Michael Perry
11. Describe type of packing in cooler: _____
 12. Were all bottles sealed in separate plastic bags? YES NO
 13. Did all bottles arrive unbroken and were labels in good condition? YES NO
 14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 15. Did all bottle labels agree with custody papers? Cal. lists 9 cont./sample 5 for each YES NO
 16. Were correct containers used for the tests indicated? YES NO
 17. Were correct preservatives added to samples? YES NO
 18. Was a sufficient amount of sample sent for tests indicated? YES NO
 19. Were bubbles absent in VOA samples? If NO, list by sample#: _____ YES NO
 20. Was the project manager called and status discussed? YES NO
If YES, give details on the back of this form.
 21. Who was called? _____ By whom? _____ (date): _____

**CEIMIC
Corporation**

"Analytical Chemistry for Environmental Management"

Fax Cover Sheet

To: Dan Cusik
Cummings River

Fax #: (412) 373-5242

From: Carla Rodman

Date: 10/29/96

Re: Westinghouse Blairsville - Rec'd 8/30/96

of Pages: 1
(includes cover sheet)

Following are the results for cis + trans-1,2-Dichloroethene.

Client ID	Ceimic ID	Conc. (ug/L)		Quant. Limit
		Cis	Trans	
SEEP3	960687-01	ND	ND	5
DUP1..	960687-02	ND	ND	5
SEEP2	960687-03	ND	ND	5
SEEP1	960687-04	58	ND	5
TRIP-BLANK	960687-05	ND	ND	5

Please note that although there was some trans isomer present in SEEP1, it was below the quantitation limit.

I apologize for the inconvenience caused you because we reported this incorrectly the 1st time. The data that is now being analyzed will be reported w/ cis + trans-1,2-DCE.

If you have any questions please call me.

Carla

CEIMIC

NARRATIVE

Narrative Project: Blairsville
Reference No.:
Client: Cummings Riter Consultants, Inc.
SDG No.: 6456

URANIUM

Samples were analyzed for isotopes of uranium in water following EERF-00-07 procedures. A 1 L aliquot of the sample is taken to dryness and then brought to 100mL volume in 9M HCl. The uranium is extracted into Triisooctylamine (TiOA), stripped from the TiOA with 0.1N HNO₃, and then co-precipitated with lanthanum as a fluoride. The sample is then radioassayed by alpha spectroscopy on an EG&G ORTEC Model 576A spectrometer. Chemical yield is established using U232 tracer.

QC Criteria	Status	Comments
Blanks	Compliant	
LCS Recovery	Compliant	

Except for sample MW-15, all samples contained little or no U. Low tracer recoveries were obtained for samples MW-18A, MW-19A, and for the Prepblank and LCS. The LCSW gave the poorest tracer recovery, however once a correction was incorporated for the tracer yield, the spike recoveries for U234 and U238 were approximately 90 %. No additional complications were noted in the analysis of the samples, and remaining QC is acceptable.

CEIMIC RADIOCHEMISTRY LABORATORY

URANIUM CALCULATION

SAMPLE MATRIX: WATER

ANALYSIS CODE: U-ISO

TRACER USED: U-232

TRACER ID: TR#1015

ANALYST: AM

DATE: 11/18/96

SDG: 6456

CASE:

RESULTS = (SAMPLE COUNT)/(2.22*VOL)

ERROR(2σ) = (ERROR DPM)/(2.22*VOL)

SAMPLE ID	SAMPLE VOL (L)	TRACER YIELD	U234 COUNT (dpm)	U234 ERROR (dpm)	U234 RESULTS (pCi/L)	U234 ERROR (pCi/L)	U238 COUNT (dpm)	U238 ERROR (dpm)	U238 RESULTS (pCi/L)	U238 ERROR (pCi/L)	U235 COUNT (dpm)	U235 ERROR (dpm)	U235 RESULTS (pCi/L)	U235 ERROR (pCi/L)
6456-01	1.0	0.8123	NC		0.00	0.00	NC		0.00	0.00	NC		0.00	0.00
6456-02	1.0	0.7355	0.118	0.05	0.05	0.02	0.100	0.05	0.05	0.02	NC		0.00	0.00
6456-03	1.0	0.8313	5.440	0.48	2.45	0.22	0.700	0.15	0.32	0.07	NC		0.00	0.00
6456-04	1.0	0.2716	NC		0.00	0.00	NC		0.00	0.00	NC		0.00	0.00
6456-05	1.0	0.2128	NC		0.00	0.00	NC		0.00	0.00	NC		0.00	0.00
6456-06	1.0	0.7399	0.510	0.11	0.23	0.05	0.280	0.08	0.13	0.04	NC		0.00	0.00
6456-07	1.0	0.8484	NC		0.00	0.00	NC		0.00	0.00	NC		0.00	0.00
6456-08	1.0	0.8189	0.450	0.12	0.20	0.05	0.190	0.06	0.09	0.03	NC		0.00	0.00
6456-09	1.0	0.7222	NC		0.00	0.00	NC		0.00	0.00	NC		0.00	0.00
6456-10	1.0	0.7640	NC		0.00	0.00	NC		0.00	0.00	NC		0.00	0.00
6456-11	1.0	0.7225	28.270	1.76	12.73	0.79	28.260	1.76	12.73	0.79	NC		0.00	0.00
LCSW102396	1.0	0.0731	8.680	1.94	3.91	0.87	9.380	2.04	4.23	0.92	NC		0.00	0.00
PBW102396	1.0	0.1446	NC		0.00	0.00	NC		0.00	0.00	NC		0.00	0.00

NC = NO COUNT

CEIMIC RADIOCHEMISTRY LABORATORY

LABORATORY CONTROL SAMPLE -- FORM 4

LAB NAME: CEIMIC CONTRACT: _____
LAB SAMPLE ID: LCSW102396 CASE: _____
SOLID LCS SOURCE: _____ SDG: 6456
AQUEOUS LCS SOURCE: WS#47

$LCS\%R = (LCS\ FOUND / LCS\ TRUE) * 100$

RADIOANALYTICAL DETERMINATION	AQUEOUS (dpm)			SOLID (dpm)		
	TRUE	FOUND	LCS%R	TRUE	FOUND	LCS%R
U-234	10.00	8.68	86.80			
U-238	10.00	9.38	93.80			

COMMENTS:

