INTERIM REMEDIAL ACTION REPORT FOR GROUND WATER

SIDNEY LANDFILL

Site No. 413004

Amphenol Corporation
and
Honeywell International

September 2006

JTM ASSOCIATES, LLC
environmental consulting

JTM ASSOCIATES, LLC
environmental consulting

September 7, 2006

Young S. Chang
USEPA – Region 2
290 Broadway
New York, NY 10007-1866

Re: Sidney Landfill
Revised Interim RA Report
for Ground Water

Dear Ms. Chang:

On behalf of Amphenol Corporation and Honeywell International (The Respondents), the enclosed materials provide the revised Interim RA Report for Ground Water for the Sidney Landfill Site.

If you have any questions, please contact Joe Bianchi (607.563.5940) or me.

Very truly yours,
JTM ASSOCIATES, LLC

James T. Mickam, P.G.
President

cc: J. Bianchi – Amphenol
S. Waldo – Amphenol
R. Galloway – Honeywell
M. Mason – NYSDEC
J. Kaczor – Earth Tech
C. Gachowski – JTM

Enclosure

290 Elwood Davis Road, Suite 290, Liverpool, New York 13088 ○ 315.641.1216 fax: 315.461.4713

Sidney Landfill Site
Interim Remedial Action Report for Ground Water
September 2006

Prepared for

Amphenol Corporation
and
Honeywell International

JTM ASSOCIATES, LLC
Liverpool, New York

Table of Contents

SECTION 1 – INTRODUCTION

Amphenol Corporation and Honeywell International are Respondents to an Administrative Order issued by the United States Environmental Protection Agency (USEPA) for the Sidney Landfill (the Site). The Order defines the Respondent's responsibilities for remediation of the Site. In accordance with the September 1995 Record of Decision (ROD), the response action applies a comprehensive approach and therefore only one operable unit is required to remediate the site. Following direction from the USEPA and the New York State Department of Environmental Conservation (NYSDEC), the ground water component has been separated from the landfill caps which were completed in September 1999. This Interim Remedial Action (RA) Report for Ground Water summarizes the ground water remedial activities that have been completed to date.

1.1 – Site description

The Site is an inactive landfill located in the Town of Sidney, Delaware County, New York, approximately 2.5 miles southeast of Sidney Center and 3.5 miles northeast of Trout Creek. Figure 1 illustrates the site and relevant local features. The 74-acre landfill is situated on the western slope of Richardson Hill, which is on the east side of Richardson Hill Road. West of the landfill, adjacent to Richardson Hill Road, is North Pond and to the southwest is South Pond. The site is situated on a drainage divide. To the north, wetlands which receive runoff from the vicinity of the site drain into an unnamed tributary to Carrs Creek, which flows through Sidney Center on its way to the Susquehanna River. To the south, wetlands which receive runoff from the vicinity of the site drain into Herrick Hollow Creek, a tributary to Trout Creek, which flows into the Cannonsville Reservoir on the west branch of the Delaware River. The Cannonsville Reservoir is part of the Delaware watershed system, supplying drinking water to the New York City metropolitan area. There are numerous springs around the site, some of which eventually discharge into the wetlands.

1.2 - Site history and enforcement activities

The land on which the Site is located was purchased by Devere Rosa in 1967 for the purpose of operating a refuse disposal area. While operating the Site, Mr. Rosa also operated a disposal area on the west side of Richardson Hill Road referred to as the Richardson Hill Road Landfill (RHRL). The Site and RHRL were used for the disposal of municipal waste from the Town of Sidney and commercial wastes from Bendix Corporation (predecessor Amphenol Corporation and Honeywell International). At the Sidney Landfill, disposal was conducted at several distinct areas including the Can and Bottle Dump Area; the White Goods Area; the Alleged Liquid Disposal Area; the North Disposal Area; the Southeast Disposal Area; and the Southwest Disposal Area. NYSDEC and New York State Department of Health (NYSDOH) files indicate that the Site was poorly operated, with improper compaction of waste, poor daily covering, no supervision, and uncontrolled access to the site. The Site was operated by Mr. James Bartlett from 1971 until 1972, when the Town of Sidney began sending its waste to a landfill in Chenango County. In 1987, ownership of the site changed to James Bartlett, and the current owner is Lou Mangone.

In July 1985, NYSDEC began a Phase II investigation of the Site by summarizing existing data and conducting limited sampling of environmental pathways to complete a National Priorities List (NPL) site nomination package. Based upon the results of this investigation, the Site was proposed for listing on the Superfund National Priorities List on June 24, 1988. The site was listed on the National Priorities List on March 30, 1989.

1.3 - Previous site investigations and major findings

Since the early 1990s, several investigations have been completed to assess the nature and extent of environmental impacts created by the site and also to evaluate approaches to mitigating defined impacts. This section briefly describes the general chronology and substantive conclusions of the primary studies that

have been completed.

Remedial Investigation

Between 1991 and 1995, Malcolm Pirnie, Inc., under contract with EPA, completed a Remedial Investigation (RI) at the site. The purpose of the RI (Malcolm Pirnie, 1995) was to evaluate the nature and extent of contamination at the site, and the effect this contamination could have on potential human and ecological receptors. The scope of work included sampling of surface water, sediment, leachate, soil and ground water. Surface water, sediment and leachate samples identified the presence of chlorinated VOCs and PCBs. Surface soil samples showed elevated concentrations of PCBs, pesticides, and inorganics. Bedrock ground water samples indicated the presence of chlorinated and non-chlorinated VOCs. The compound TCE and its associated degradation products, 1,2-dichloroethene (12DCE) and vinyl chloride (VC) were the primary ground water contaminants detected over most of the site. A non-aqueous phase liquid (NAPL) that consisted of chlorinated solvents, fuel-related VOCs, and PCBs was observed in a monitoring well located in the northeast quadrant of the site (MW-2S). Based on the presence of NAPL and ground water analytical results, ground water in the vicinity of MW-2S was identified as a "hotspot" for VOCs. Additionally, three off-site private water supplies showed the same compounds as identified in ground water at the site.

A baseline risk assessment was completed to estimate risks associated with current and future site conditions. The risk assessment addressed both human health and ecological risks and evaluated exposure pathways and potential risks. The human health risk assessment indicated a potential risk to human receptors from exposure to contaminants in spring water, on-site surface soil, and on-site leachate by way of direct contact and ingestion. Importantly, relative to consideration of current human receptors, the springs identified as being used for potable supply are no longer in use. The ecological risk assessment identified risks to aquatic biota and terrestrial wildlife from contaminants contained in

surface water and surface soil.

Based on these results, remedial action objectives for the site were defined to protect human health and the environment. The following remedial action objectives were established:

- minimize infiltration and the resulting contaminant leaching to ground water;
- control surface water runoff and erosion;
- mitigate the off-site migration of contaminated ground water;
- restore ground water quality to levels which do not exceed state or federal drinking water standards;
- control generation and prevent migration of subsurface landfill gas; and
- prevent contact with the contaminants in the ground water.

Feasibility Study

Based on results of the RI, a FS was prepared in 1995 to evaluate potential remedial alternatives for the site. The FS evaluated the effectiveness, implementability, and cost of several potential remedial alternatives for the site. The major components of the selected remedy included:

- excavation of debris from the Can and Bottle Dump Area and relocation in the adjacent North Disposal Area
- construction of independent landfill cover systems over the North Disposal Area, the White Goods and Alleged Liquid Disposal Areas, the Southeast Disposal Area, and the Southwest Disposal Area
- extraction of "hotspot" contaminated ground water from the bedrock aquifer near MW-2S, followed by treatment and discharge to surface water.

Record of Decision

The Record of Decision (ROD) evaluated several remedial alternatives for addressing the contamination associated with the Site. Various processes were

considered and were assembled into remedial alternatives which could accomplish the remedial action objectives. The EPA Region 2 Administrator signed the ROD for the Site on September 28, 1995. The document specifies that the remedy for the site shall include:

- excavating and relocating the waste from the Can and Bottle Dump Area to the adjacent North Disposal Area
- constructing four independent closure caps which are consistent with the requirements of New York State 6 NYCRR Part 360 over the North disposal area, the White Goods disposal area, Alleged Liquid disposal area, the Southeast disposal area, and the Southwest disposal area and the construction of for individual chain-link fences
- extracting contaminated ground water from the bedrock aquifer in the vicinity of monitoring well, MW-2S (located just east of the North disposal area, were floating product was detected), followed by air stripping or other appropriate treatment and discharge to surface water.
- Taking steps to secure institutional controls (the placement of restrictions on the installation and use of ground water wells at the site in restrictions on the future use of the site in order to protect the integrity of the caps).
- Long-term monitoring of ground water, surface water, and sediments

Blasted Bedrock Trench Pilot Test Report

To implement the provision in the ROD calling for the collection and treatment of ground water in the "hotspot", a trench in the bedrock was constructed in May of 1998. The location of the trench is depicted on Figure 1. Figure 2 illustrates an enlarged view of this area. The Blasted Bedrock Trench Report (Harding Lawson Associates, 1999a) summarizes the activities associated with the construction, post-construction testing, and post-construction monitoring of the bedrock trench. Data presented in the report indicate that the blasting caused the shallow bedrock zone to become hydraulically connected with the deeper zone, thereby de-watering the hydraulic zone represented by MW-2S. As a result, contaminants

residing within and proximate to the blasted trench were likely dispersed vertically and horizontally.

MW-2S Area Ground Water "Hotspot" Status Update Report

In September 1998, the Respondents and EPA held a meeting to discuss the status of the ground water treatment system for the blasted bedrock trench. Based on this meeting, a monitoring plan was prepared which described the process for monitoring ground water in the "hotspot" area and identified concentrations that would trigger implementation of the ground water "hotspot" extraction and treatment system.

Data presented for MW-2S from a ground water sample collected in 1997 and prior to the installation of the blasted bedrock trench did not observe LNAPL and reported concentrations of TCE and PCB significantly lower than previously reported. Ground water samples collected in March and June of 1999 indicated that chlorinated solvents were present in wells within and around the bedrock trench. The pump test showed that the blasted bedrock trench appears to capture ground water from the MW-2S "hotspot" area upgradient of the trench, although VOC concentrations were relatively low.

Enhanced Biodegradation Report of MW-2S Area

Based on the results of studies completed in the "hotspot" area, the EPA directed the Respondents to complete a Focused Feasibility Study (FFS) to evaluate additional "hotspot" treatment technologies. In their approval of the Draft Final FFS (Harding ESE, 2001), EPA directed the Respondents to complete a pilot test of the most promising "hotspot" remedy, enhanced biodegradation. Enhanced biodegradation was evaluated using HRC, a commercially available product marketed for this application. Two primary fracture zones were targeted for injection. Ground water samples were collected prior to HRC injection and again following injection. Ground water samples were collected from eleven wells (MW-2SR, 2M, 2DR, 15SR, 15D, EW-1, EW-1D, PZ-1, PZ-2, PZ-3 and PZ-4)

prior to HRC injection in November 2001 and subsequent to injection on a quarterly basis in 2002. Although there was some evidence of reducing conditions being established and VOC degradation, it could not be definitively concluded that enhanced biodegradation technology could be used effectively at the site.

Natural Attenuation Monitoring Program

The Natural Attenuation Monitoring Plan (NAMP) (Harding Lawson Associates, 1988) was prepared to identify the tasks needed to monitor the long-term natural attenuation of chlorinated organics and to provide long-term ground water quality data to satisfy landfill post-closure monitoring requirements. The RI identified the presence of chlorinated solvents and their degradation products at the site, and it appeared that some of these contaminants are undergoing reductions in concentration due to naturally occurring destructive mechanisms (biodegradation) and non-destructive attenuative mechanisms. The likelihood of natural attenuation was evaluated using the EPA draft Region IV Approach to Natural Attenuation of Chlorinated Solvents. Data from the North Disposal Area were used in the scoring methodology provided in this document. A score indicating some evidence for biodegradation of chlorinated organics was estimated. Natural attenuation was therefore considered a potentially important mechanism in attaining acceptable residual concentrations of compounds at the site. To evaluate the progress of reductions in contaminant concentrations, a long-term monitoring program was required. The NAMP identified the natural attenuation monitoring locations, analytical methods, and sampling frequency. In addition, criteria that provide the basis for modifying the monitoring plan to adapt to changing site conditions were identified.

Reporting requirements are also set forth in the plan and specify that data summary reports are to be provided following the first, second, and third quarter sampling events. An annual report presenting a summary of the years monitoring data together with an interpretation of data trends is to be submitted subsequent to

the fourth quarter sampling event. The plan also requires a detailed review of data after the third year of monitoring. However, the USEPA and respondents agreed after the second year of monitoring that the post-closure monitoring data, together with available historic information, were sufficient to complete a comprehensive review of the site and the selected remedy. Subsequently a report titled Sidney Landfill Site Environmental Monitoring Data Review Report (JTM Associates, 2004; revised September 2006) was submitted to USEPA in April 2004. A revised version was submitted in September 2006. This document summarized and interpreted available data for the site and was used to support an Explanation of Significant Differences (ESD) prepared by USEPA in October 2004.

Sidney Landfill Site Environmental Monitoring Data Review Report

This report was prepared to review available data following two years of post-closure monitoring and assess trends that may be occurring. This report concluded the highest concentrations of contaminants are present in wells MW-6S, MW-6D and MW-12D, which are located at or near the downgradient site boundary. It also concluded that natural biodegradation of TCE is not occurring at the site except possibly to a limited degree at MW-6S and MW-8D. To this end, it was proposed to discontinue the sampling and analysis of natural attenuation parameters at all locations except MW-6S and MW-8D. It was further recommended to initiate natural attenuation sampling and analysis at MW-12D to see if natural biodegradation was occurring in this area of the site.

This report also concluded that efficient hydraulic connection exists between the RHRL North Area ground water recovery wells and the area proximate to well groups 8 and 9. The RHRL site recovery system consists of four bedrock recovery wells which are located in close proximity (approximately 800 ft) to the contaminated site wells and are screened at similar relative depths as the deep bedrock wells at the site. Testing results from November 2003 indicated that a hydraulic connection exists between the Site well groups 8 and 9 and pumping of

the recovery system creates a differential hydraulic potential between these areas. It is therefore reasonable to conclude that ground water in the vicinity of these wells will flow to the recovery system when it is operating. Although the startup monitoring did not demonstrate a direct hydraulic connection between the recovery system and the well 6 group, given that its location is generally inline with well group 9, it is reasonable to expect that long-term operation of the recovery system may similarly influence this area. To this end, it was recommended that monthly ground water elevation monitoring be initiated at wells MW-6S, 6D, 8S, 8D, 8DD, 9S, 9D, 10S, 10D and 23.

Remedial alternatives evaluation for MW-6 group

In June of 2004, USEPA requested that the Respondents evaluate remedial alternatives for the ground water contamination that exists at monitoring well MW-6 group. The MW-6 group wells consistently detect VOCs at the highest concentrations at the Site. The Agency also requested an estimate of the time that an active remedial program would require to reduce contaminant levels to the MCL concentrations as compared to natural attenuation. Additionally, the cost effectiveness of a focused remedial effort relative to continuing the on-going ground water monitoring program was assessed. Results of this evaluation were presented in a letter report prepared by JTM Associates dated September 21, 2004 and are briefly summarized here.

Since previous evaluations have shown that neither natural nor enhanced biological degradation are technically viable options to reduce the concentrations of site-related compounds at the MW-6 group, the remaining options include continued ground water monitoring and focused ground water recovery and treatment. The continued monitoring option would involve the quarterly sampling and analysis of MW-6S and MW-6D as is currently taking place. Focused ground water recovery and treatment would require the installation and operation of the ground water recovery wells in the shallow and deep bedrock zones. Collected ground water would be conveyed to the existing ground water

treatment plant located at the RHRL. Necessary maintenance and appropriate operational monitoring would also need to be performed.

The Bioscreen model was used to develop an estimate of how long it might take for the concentration of trichloroethene (TCE) in the shallow and deep wells at MW-6 to reach MCLs under both non-pumping and pumping scenarios. The variables used in the model were selected based on known site conditions and approved by USEPA. A complete discussion of the evaluation approach and results was presented in a letter to US EPA dated September 21, 2004 (letter to Ms. Young Chang; USEPA Region 2; September 21, 2004).

The modeling results showed that it would take 17 years for concentrations in MW-6S to reach MCLs without pumping, as compared to 15 years with pumping. At MW-6D, it would take 22 years to reach MCLs without pumping as compared to 17 years with pumping. The estimated capital expenses and the cost associated with recovery system operation, monitoring and maintenance for a 17-year period totals approximately $555,000. The estimated present worth for continuing the current monitoring program at MW-6 group for 22 years is approximately $55,000. The ability to possibly reduce the amount of time whereby MCL concentrations are observed by between 11 and 22 percent is not justified by this incremental expenditure.

As part of this report, it was proposed that the MW-12 ground water monitoring well group be re-assigned to the RHRL site. This well group is situated south of the Sidney Landfill disposal areas on the eastern edge of the central drainage valley, and it is probable that the analytical data from these wells reflect conditions related to the RHRL site.

Environmental Monitoring Data Review Report

In June of 2004, EPA performed a five-year review of the site. The five-year review concluded that the portion of the remedy implemented at the site was done

in accordance with the remedy selected in the ROD and that it is fully protective of human health and the environment.

SECTION 2 - OPERABLE UNIT BACKGROUND

In September 1995, EPA issued a ROD for the Site that documents the USEPA's selection of a remedial action. The requirements of the remedy selected in the ROD are discussed in Section 1.3 of this report. In accordance with the ROD, the remedial action applies a comprehensive approach, and therefore only one operable unit is required to remediate the site. However, work associated with the landfill caps was completed in November 1999 and presented separately in a RA report, which was approved on March 31, 2000. Institutional controls are being implemented at the site. Site inspections and maintenance, both performed by the Town and Village of Sidney, were initiated in November 2001. Additional information regarding these activities is presented in the Operations & Maintenance Manual (Parsons Engineering Science, 2000). Quarterly ground water monitoring was initiated in the fourth quarter (November) of 2001 in accordance with the approved NAMP. This Interim Remedial Action Report for ground water summarizes work associated with the ground water component of the site. Since the execution of the ROD, all required remedial activities have been completed with the exception of the recovery and treatment of ground water in the MW-2S area "hotspot". An attempt was made to recover ground water in the MW-2S area "hotspot" by the construction of a bedrock trench. This approach proved unsuccessful. Subsequently, the involved parties (EPA and the Respondents) agreed to attempt to reduce the concentrations of VOCs that remained by enhancing the biodegradation capacity of the indigenous subsurface microbial population. The results of this effort concluded that the benefits gained from the addition of hydrogen releasing compounds to stimulate reductive de-chlorination were not significant.

In accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan, if after the USEPA selects a remedial action, there is significant change with respect to that action, an explanation of significant differences (ESD) and the reasons such changes were made must be published. Ground water data indicate that the elevated concentrations of contaminants are no longer present in the "hotspot" area.

Therefore, extraction and treatment of contaminated ground water in this area is no longer necessary. The ESD prepared by USEPA in September 2004 concluded, using data presented in the Sidney Landfill Environmental Monitoring Data Review Report, that the bedrock ground water recovery system in the North Area of the RHRL site hydraulically influences contaminated site monitoring wells. It was further concluded in the ESD that downgradient ground water contamination at the Site (particularly at monitoring wells MW-6, MW-8 and MW-9 groups) will be addressed utilizing the RHRL recovery wells.

The changes to the selected remedy are not considered by EPA or the NYSDEC to be a fundamental alteration of the remedy selected in the 1995 ROD. The remedy modifications maintain the protectiveness of the ground water action with respect to human health and the environment, and comply with federal and state requirements that were identified in the ROD.

In April 2004, a final inspection with regards to the soils and cap remedy was conducted by USEPA, NYSDEC and PRP representatives. No deficiencies were identified during this inspection. Further, it was determined that the construction for the entire site has been completed and that the implemented remedy is consistent with the ROD. Other than maintenance of the caps, continued ground water extraction and treatment of the RHRL recovery system, and long-term ground water monitoring, no further response is anticipated.

SECTION 3 - CONSTRUCTION ACTIVITIES

Landfill remedy

The landfill cap construction work was completed in November of 1999 and is documented in a RA report which was approved by USEPA on March 31, 2000.

Ground water remedy

The ground water remedy selected in the ROD calls for the reduction of VOC concentrations to ground water standards by extraction of contaminated ground water from the MW-2S "hotspot" area in combination with natural attenuation in downgradient areas. As discussed previously, construction of the blasted bedrock trench resulted in dewatering of the hydraulic zone represented by MW-2S and therefore the selected remedy for the MW-2S "hotspot" area could not be implemented. Since low levels of VOCs still exist in the "hotspot" area, the PRPs evaluated other potential treatment technologies. An enhanced biodegradation pilot test program was undertaken, but it was determined that it would not be a suitable alternative at the Site. The natural attenuation monitoring performed since the fourth quarter of 2001 showed that natural attenuation processes are only occurring at limited locations. However, the ground water recovery wells at the adjacent RHRL site appear to be hydraulically connected to the contaminated site wells. The downgradient ground water contamination at the Site is being addressed by the RHRL ground water recovery system.

Construction for the Entire Site

On April 27, 2004, a final inspection with regard to the soils and cap remedy was conducted by EPA, NYSDEC, and PRP representatives. A pre-final inspection with regard to the RHRL site's ground water remedy was conducted by USEPA, NYSDEC and PRP representatives on May 1, 2000. Based on the results of these inspections, it was determined that construction for the entire site has been completed and that the implemented remedy is consistent with the ROD and ESD. Other than the maintenance of the caps, continued ground water extraction and

treatment of the RHRL recovery system, and long-term ground water monitoring, not further response is anticipated. The remaining activities to be completed include submission of this Interim Ground Water Remedial Action Report and a Final Ground Water Remedial Action Report when ground water standards are met.

SECTION 4 - CHRONOLOGY OF EVENTS

DATE	EVENT
September 28, 1995	ROD issued for OU1.
December 1995	EPA issued Notice Letter to PRPs, inviting them to design and implement the remedy for the site. The PRPs did not agree to conduct the work.
July 1996	EPA issued PRPs a Unilateral Administrative Order, EPA Index No. II-CERCLA-96-0204. The PRPs subsequently agreed to comply with the UAO to conduct the remedial design/remedial action.
1997	PRPs began design of the selected remedy.
July 1998	Submittal of Operations, Maintenance and Monitoring for Sidney Landfill Site (includes Natural Attenuation Monitoring Plan).
November 1999	Construction of landfill caps completed.
August 2000	Submittal of Operation and Maintenance Manual – Sidney Landfill site for work which Village and Town are responsible.
Fourth Quarter 2001 to present	Quarterly ground water monitoring activities completed during February, May, August and November of each year.
April 2004	Submittal of Environmental Monitoring Data Review Report
June 2004	Five-Year Review completed by USEPA.
September 2004	Explanation of Significant Differences prepared by USEPA.
September 2004	Superfund Preliminary Site Close-Out Report prepared by USEPA.
September 2006	Submission of Interim RA Report for Ground Water.
June 2009	Second Five-Year Review (projected).
March 2026	Submission of Ground Water RA Report (projected).
March 2027	Deletion of Site from NPL (projected).

SECTION 5 – DEMONSTRATION OF CLEANUP ACTIVITY QUALITY ASSURANCE AND QUALITY CONTROL

RA activities at the Site were undertaken in a manner consistent with the ROD, as modified by the ESD, and with the remedial design plans and specifications, as modified by the as-built documentation. All applicable USEPA and NYSDEC quality assurance and quality control procedures and protocols were incorporated into the remedial design. EPA analytical methods were used for monitoring samples collected during the remedial activities. All procedures and protocols followed for ground water sample collection and all sample analyses were performed at state-certified laboratories.

Quality Assurance/Quality Control

Attachment B to the Operations, Maintenance and Monitoring Plan (Harding Lawson Associates, 1998) presents the Sampling and Analysis Quality Assurance Plan (QAPP) that was used throughout the project. This QAPP provides guidance to ensure that the field program is conducted in accordance with USEPA Region II protocols and that the data generated throughout the project are of high quality, usable and accurate. Specific data quality objectives were established to develop sampling protocols and identify applicable documentation, sample handling procedures, and measurement system procedures. The data quality objectives were established based on site conditions, objectives of the project, and knowledge of available measurement systems. Data obtained are intended to address outstanding technical issues and to support design activities.

Data validation

Consistent with the requirement of the monitoring plan, quarterly VOC and PCB analytical data are validated by a third party. This task is presently completed by Data Validation Services who has been accepted by USEPA for work on this project. Data validation is performed with guidance from the most current versions of the USEPA National Functional Guidelines for Data Review and the

USEPA Region II Validation SOPs for CLP methodologies, with consideration for specific QAP and method requirements.

Health and safety

The Operations, Maintenance and Monitoring Plan includes specific requirements for health and safety while conducting O & M post-closure tasks. The collection of ground water, surface water, and landfill gas samples is conducted in accordance with the requirements of the O & M Health and Safety Plan (HASP) that was developed as part of the O & M work. The O & M HASP was developed using both Superfund guidance and the technical specification for the Construction HASP. The HASP provides procedures for maintaining safe conditions during the O & M phase of the project and includes personnel requirements, task identification, and a copy of the monitoring plan as required by 6 NYCRR Part 360.

SECTION 6 – FINAL INSPECTION AND CERTIFICATION

In September of 2004, USEPA prepared a Superfund Preliminary Site Close-Out Report for the Site. In this report, USEPA determined that remedial construction activities at the site have been deemed complete in accordance with the Close-Out Procedures for National Priorities List Sites (USEPA, 2000). Based upon field observations associated with USEPA's construction oversight and an April 27, 2004 site inspection, USEPA determined that the potentially responsible parties (PRPs) have constructed the remedy for the Site in accordance with the September 1995 Record of Decision (ROD), as modified by a September 2004 Explanation of Significant Differences (ESD). USEPA has also determined that no further response other than maintenance of the cap and cover, continued ground water extraction and treatment of the adjacent Richardson Hill Road Landfill (RHRL) site's recovery system, and long-term ground water monitoring is required. Activities necessary to achieve performance standards and site completion have been initiated by the PRPs, and human exposures and contaminated ground water releases are under control.

SECTION 7 - OPERATION AND MAINTENANCE ACTIVITIES

The required elements of the maintenance and monitoring program are described in the Operations, Maintenance and Monitoring Plan. This document specifies inspection and maintenance activities for the landfill fencing, cover, and drainage systems and landfill gas vent monitoring. The plan also defines the environmental monitoring program which is comprised of three elements: landfill gas vent lower explosive limit (LEL) monitoring, ground water sampling and analysis, and spring and surface water sampling and analysis. Earlier in the monitoring program, spring and surface water samples did not detect site-related compounds. With consent from USEPA, beginning in the third quarter of 2003, sampling of springs and surface water was discontinued. The monitoring plan has been amended with the approval of USEPA and currently includes quarterly ground water monitoring at selected wells and monthly ground water elevation measurements at selected downgradient wells.

As noted earlier, the RHRL North Area ground water recovery and treatment system likely collects contaminated ground water from the Site. Therefore, the OM&M plan for this system is incorporated by reference.

Reporting requirements are also set forth in the plan and specify that data summary reports are to be provided following the first, second, and third quarter sampling events. An annual report presenting a summary of the years monitoring data together with an interpretation of data trends is to be submitted subsequent to the fourth quarter sampling event.

In addition to the tasks included in the plan referenced above, a Stipulation and Order to Settlement between the Respondents and several municipalities, deemed to be responsible parties, mandates supplemental monitoring activities. This judicial order requires the municipalities to sample and analyze selected ground water monitoring wells for the parameter suite specified in NYCRR Part 360. Further, the order assigns the responsibility of gas vent monitoring and landfill cover and drainage system inspection

and maintenance to the municipalities. Details of the municipalities' requirements are presented in the Operations and Maintenance Manual (Parsons Engineering Science, 2000).

Gas vent monitoring

A total of 13 gas vents exist within the five separately capped disposal areas. In accordance with the monitoring plan, vapor emanating from the vents is measured in the field for %LEL as methane. Measurements are recorded using a MSA Passport LEL meter model #310L calibrated to methane. These data are collected on behalf of the Village of Sidney.

Ground water sampling and analysis

Several dozen ground water monitoring wells have been installed at the site during the various phases of investigations. Adirondack Environmental Services, Inc., who has been accepted by USEPA for work on this project, completes the sampling and analysis tasks. Collected ground water samples are subjected to a combination of laboratory parameter suites as prescribed by the monitoring plan. Samples are also field evaluated for pH, specific conductance, temperature, turbidity, dissolved oxygen, and redox potential. Additionally, as proposed in the Environmental Monitoring Data Review Report, ground water elevations are measured monthly at several selected wells to continue to assess the influence of the adjacent RHRL site. Since the closure of the site, the ground water monitoring program has been modified based on the interpretation of various ground water chemistry trends that have become apparent.

Beginning with the first quarter of 2006, additional modifications to the NAMP are proposed based on the five-year review and evaluation of data. A revised ground water monitoring plan is included as Appendix A.

SECTION 8 - SUMMARY OF REMEDIATION COSTS

For the Site remediation project, the PRPs were not required by the terms of the UAO to make cost information available. The construction capital cost estimated in the ROD was $4,624,041. Annual costs were also not required to be submitted but were estimated at $370, 728 in the ROD.

SECTION 9 – FIVE-YEAR REVIEW

Hazardous substances remain at the Site above levels which would allow for unlimited use and unrestricted exposure. Pursuant to CERCLA, EPA must conduct five-year reviews. The first five-year review was completed in June 2004, and the next review will be performed before June 2009.

SECTION 10 - CONTACT INFORMATION

Lead: Site is enforcement lead – EPA is the lead agency

Primary contact: Young S. Chang (212) 637-4253

Secondary contact: Joel Singerman, Chief, Western New York Superfund Section I

Main PRPs: Amphenol Corporation and Honeywell International

The following company analyzed samples:

For the PRPs:

Adirondack Environmental Services, Inc.
314 North Pearl Street
Albany, New York 12207
Telephone: (518) 434-4546

The project manager for the PRPs was:
Joseph Bianchi
Amphenol Corporation
40-60 Delaware Avenue
Sidney, NY 13838-1395
Liverpool, NY 13088
Telephone: (607) 563-5940
Fax: (607) 563-5849
E-mail: jbian@sidney.amphenol-aerospace.com

The project manager for USEPA was:
Young S. Chang
Central New York Remediation Section
Emergency and Remedial Response Division
United States Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866
Telephone: (212) 637-4253
E-mail: chang.young@epa.gov

NYSDEC Project Manager
Mr. Mike Mason
NYSDEC
Remedial Bureau D
Division of Remediation
625 Broadway – 12th Floor
Albany, NY 12233-7013

EPA Oversight Contractor; 1995 - 2005
Bruce R. Nelson, CPG
Malcolm Pirnie, Inc.
43 British American Blvd.
Latham, New York 12110

EPA Oversight Contractor ; 2006 – Current
Earth Tech
Attn: James Kaczor, PG
100 Corporate Parkway, Suite 341
Amherst, NY 14226

REFERENCES

Harding ESE, 2001. Final Work Plan for Enhanced Biodegradation - MW-2S Area Groundwater "Hotspot", Sidney Landfill Site, Sidney, NY, September 2001.

Harding ESE, 2001. Draft Final Focused Feasibility Study, MW-2S Area Groundwater "Hotspot", Sidney Landfill Site, Sidney, NY, April 2001.

Harding Lawson Associates, 1998. Operations, Maintenance and Monitoring Plan for Sidney Landfill Site, Sidney, NY, July 1998.

Harding Lawson Associates, 1999a. Blasted-Bedrock Trench Pilot Test Report for Sidney Landfill Site, Sidney, NY, May 1999.

Harding Lawson Associates, 1999b. MW-2S Area Groundwater "Hotspot" Status Update Report for Sidney Landfill Site, Sidney, NY, July 1999.

JTM Associates, 2004. Sidney Landfill Site Environmental Monitoring Data Review Report, April 2004.

MACTEC Engineering & Consulting, Inc., 2003. Draft Enhanced Biodegradation Report MW-2S Area Groundwater "Hotspot", Sidney Landfill Site, Sidney, NY, May 2003.

Malcolm Pirnie, Inc., 1995. Draft Remedial Investigation Report, February 1995.

Parsons Engineering Science, Inc., 2000. Operations and Maintenance Manual, Sidney Landfill Site, Sidney, NY, August 2000.

USEPA, 2000. Close Out Procedures for National Priorities List Sites, OSWER Directive 9320.2-09A-P, PB98-963223, January 2000.

USEPA, 2004. Explanation of Significant Differences, Sidney Landfill Superfund Site, Town of Sidney, Delaware County, New York. October 2004.

USEPA, 1996. EPA Superfund Record of Decision: Sidney Landfill, Town of Sidney, Delaware County, NY. PB95-963811; EPA/ROD/RO2-95/257; February 1996.

USEPA, 2004. Superfund Preliminary Site Close-Out Report, Sidney Landfill Site, Sidney, Delaware County, New York.

Letter to Ms. Young Chang; USEPA Region 2 from JTM Associates, LLC; September 21, 2004

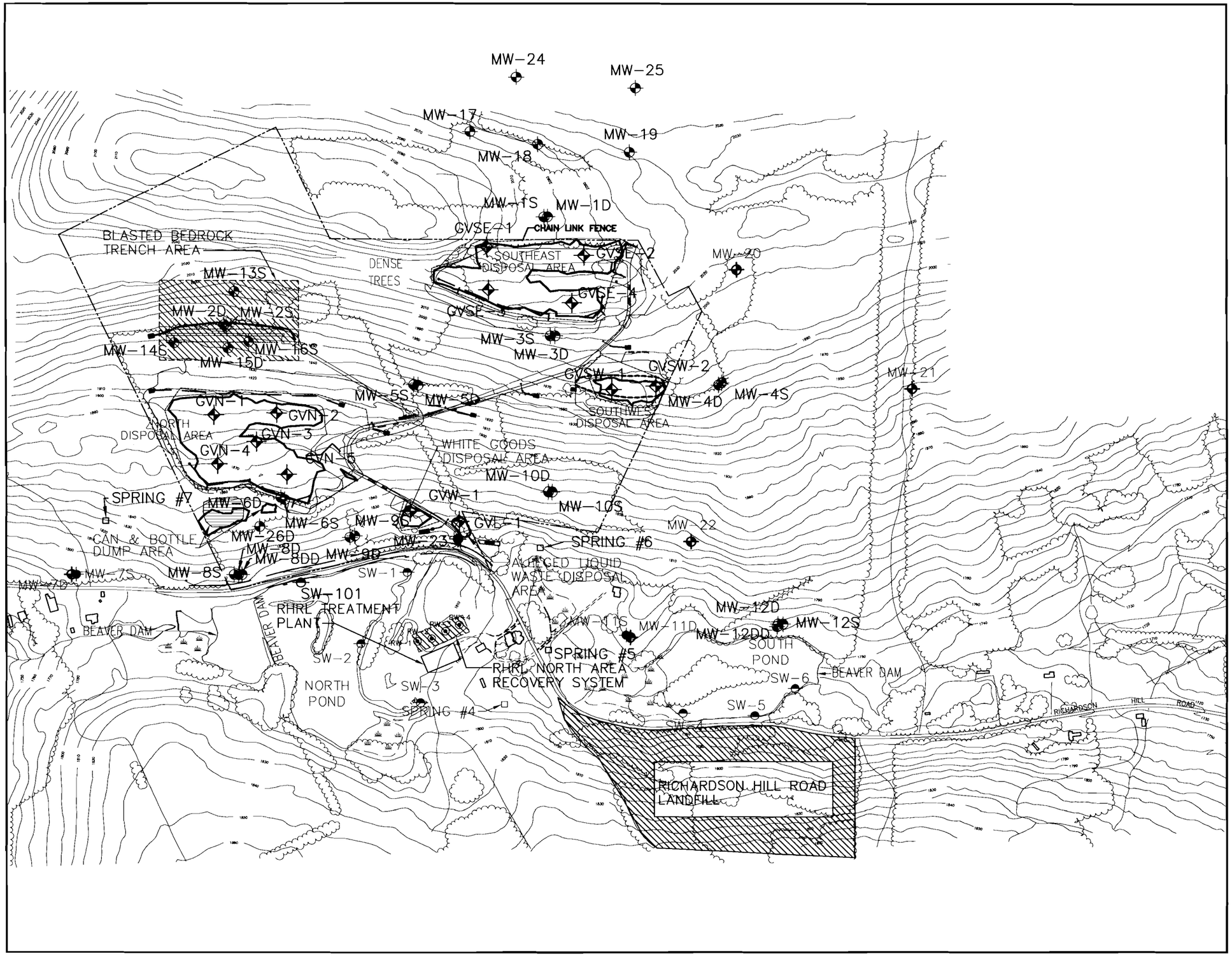
FIGURES

DWG PATH:C:\dwgs\JTM-Associates\Sidney Landfill\013.dwg

FIGURE 1

SIDNEY LANDFILL ENVIRONMENTAL MONITORING PROGRAM

SITE MAP



LEGEND

- BEDROCK MONITORING WELL
- GLACIAL TILL MONITORING WELL
- GAS VENT LOCATION
- SURFACE WATER SAMPLE LOCATION
- RECOVERY WELL
- SPRING
- TREE LINE
- SIDNEY LANDFILL PROPERTY BOUNDARY
- WASTE LIMITS

NOTES:

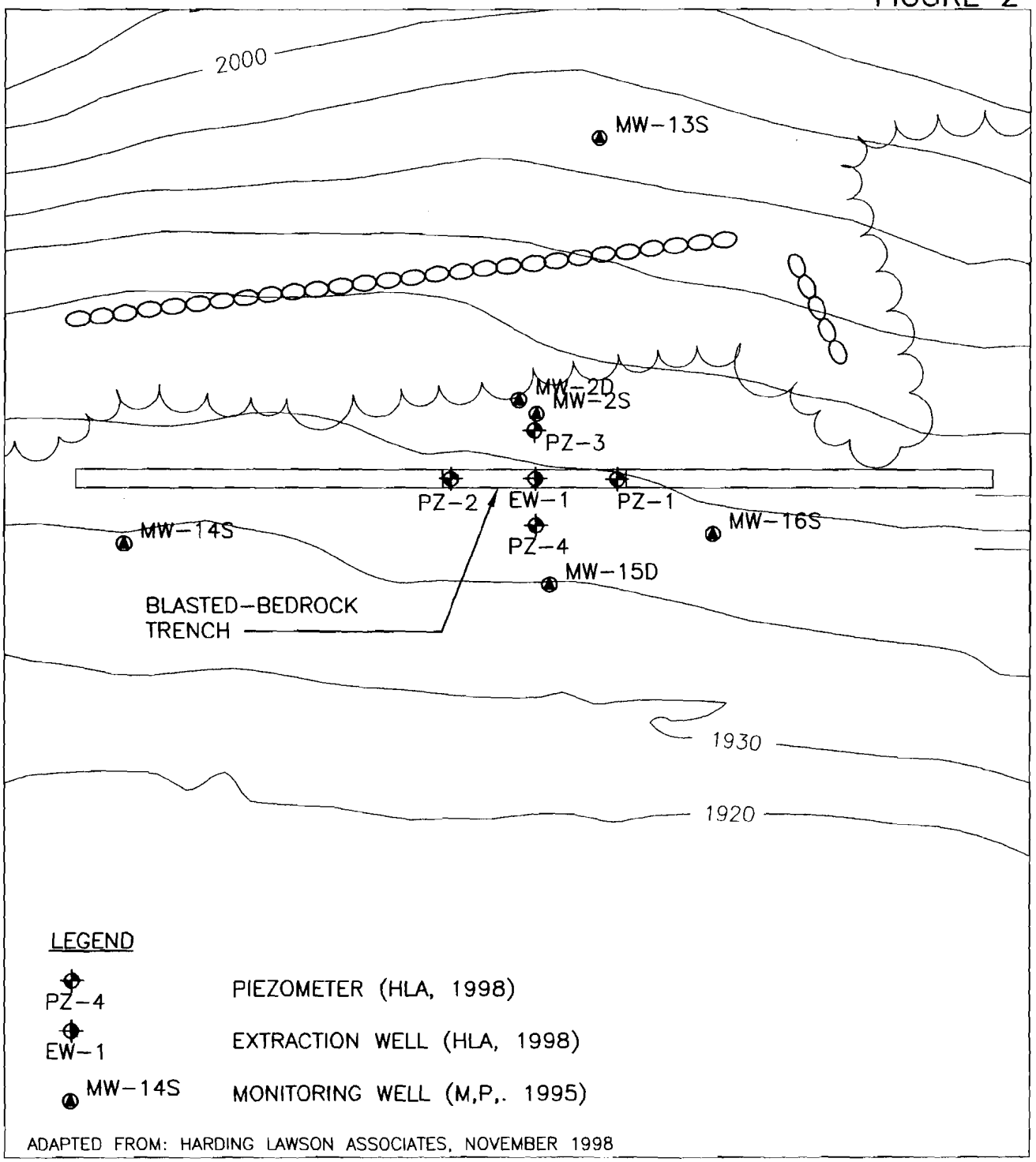
1. ADAPTED FROM MAPS AND ILLUSTRATIONS PREPARED BY HARDING ESE.
2. TOPOGRAPHIC SURVEY FROM MALCOLM PIRNIE; JANUARY 1995.

200 0 200 400

JTM ASSOCIATES, LLC
environmental consulting

PLOT DATE: 8/24/06

FIGURE 2



SIDNEY LANDFILL

BLASTED BEDROCK TRENCH AREA

80 0 80

APPROX. SCALE IN FEET

JTM ASSOCIATES, LLC
environmental consulting

FILE NO. XX-XXX-015

DWG PATH: C:\DWGS\JTM-ASSOCIATES\SIDNEY LANDFILL\015 RA.DWG SF =1

PLOT DATE: 9/07/06