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March 20, 2008

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Mr. David Sholtis
Assistant Chief, Regulatory and Information
Services Section
Ohio Environmental Protection Agency
P.O. Box 1049
50 W. Town Street
Columbus, OH 43216-1049

Re: Comment Response Letter
Closure Plan - ARCO Scrubber Ductwork Laydown Area
Wheeling Pittsburgh Steel
Martins Ferry Plant
OHD 010 448 231

Dear Mr. Sholtis:

This letter provides Wheeling Pittsburgh Steel's (WPS) responses to the comments contained in the January 30, 2008 letter from the Ohio Environmental Protection Agency (OEPA) regarding the Closure Plan for the Utility ARCO Scrubber Ductwork Laydown Area at WPS's facility in Martins Ferry, Ohio that was submitted to OEPA on October 30, 2007. Our responses are based, in part, on discussions during the meeting between WPS and OEPA representatives at WPS's Yorkville Plant on February 5, 2008. To help facilitate your review, OEPA's comments are provided in bold typeface followed by WPS's response. The Closure Plan has also been revised as described in our responses and is enclosed for your review. As requested in the comment letter, the Closure Plan was revised by striking over old text to be deleted and capitalizing/italicizing new text that has been added. The cover and table of contents have also been revised to reflect these changes.

Many of OEPA's comments are based upon RCRA corrective action and OEPA closure plan requirements. Please again be reminded that WPS asserts that RCRA corrective action and OEPA closure plan requirements are not applicable. As you know, there have been extensive correspondence, meetings and frustration (for both WPS and OEPA) related to these issues, as they have been raised over the past ten or more years. All of this has combined to cost WPS large amounts of money, distraction of limited personnel resources and, importantly, an undesired worse-than-necessary relationship with OEPA. Because WPS believes that this closure plan approach is an appropriate avenue to eliminate these costs and distractions in the future, it has decided to cooperate with OEPA in this fashion. And I must say that working

with OEPA in this regard has been professionally and personally pleasant. Thus, because WPS believes that the areas of concern identified by OEPA are not problematic from an environmental standpoint, WPS has made a business decision to further investigate and, if appropriate, to remediate those areas of concern identified by OEPA and to do so in alignment with Ohio requirements that would be applicable to hazardous waste treatment, storage and disposal facilities. In this way, WPS believes it will be able to demonstrate, finally, that no further action is necessary with regard to these areas of concern.

In order to be as responsive as possible without cluttering the response, we have chosen not to take issue with specific references to corrective action and closure plan requirements in our response. Again, please be reminded that WPS does not agree that such requirements are applicable.

Thank you for your continued cooperation. Our further comments are provided below and the revised Closure Plan is attached.

General Comments

1. **In accordance with OAC rule 3745-66-12 (B)(6), the plan must be revised to include a schedule of closure activities. As the closure period begins on the date the plan is approved by the director, the schedule of activities should not be specified in terms of calendar dates but rather in terms of days/weeks from the plan approval. All critical closure activities (sampling, decontamination, etc.) should be noted on the schedule and activities that will be overseen by the Professional Engineer should be identified.**

   In addition, the plan should clearly indicate that WPSC will notify Ohio EPA SEDO staff (John Rochotte), at a minimum, five working days in advance of critical on-site activities such as the planned soil sampling or if additional soil sampling is required.

   Lastly, the plan should include a provision for requesting an extension to the closure period (in accordance with OAC rule 3745-66-13 (B)) should the closure activities, of necessity, take longer than the approved closure period.

   RESPONSE

   A new section ("Section 6.0 - Schedule") has been added to the Closure Plan. This section provides a schedule for the significant closure activities, indicates which

activities will be overseen by a representative of the Professional Engineer, notes that OEPA will be notified at least five working days prior to the start of critical on-site activities, and includes a provision for requesting an extension to the closure period should closure activities take longer than the approved closure period.

2. **The plan must be revised to include basic, summary information regarding geologic and hydrogeologic conditions at the site. This information should include such items as proximate depth to groundwater, flow direction, yield, and any impacting features (e.g., production wells, Ohio River). The plan must also include a general assessment of the potential for impacts to groundwater from the unit undergoing closure (see Section 3.12 of the 2006 CPRG for further guidance). And, the plan must provide a basis for why a groundwater investigation is not appropriate or practical in this situation.**

   Pursuant to OAC 3745-66-15, a certification of closure must be submitted within 60 days of completion of closure activities. The plan should be revised to acknowledge this requirement and specify the information that will be included in the certification (see Section 5.2 of the 2006 CPRG for examples of the types of relevant information - http://www.epa.state.oh.us/dhwm/cprg.html).

   The certification should also include a statement as to the RCRA regulatory status of the facility (e.g., Large Quantity Generator, etc.) after closure. The plan should acknowledge that the certification must include the wording requirements found in OAC rule 3745-50-42 (D) and be signed by the owner/operator and the independent, State of Ohio registered professional engineer.

   RESPONSE

   A new section ("Section 2.0 - Physical and Hydrogeologic Setting") has been added to the Closure Plan that provides a general description of the subsurface and hydrogeologic conditions at the site. A discussion of potential impacts to groundwater and why a groundwater investigation is not warranted for this situation has been added to Section 4.2 of the revised Plan.

   A new section ("Section 5.0 - Closure Certification") has been added to the Closure Plan. Finally, the new Section 5.0 provides a list of the relevant information that will be included in the certification report, including the RCRA regulatory status of the Facility after closure.

Section 2.2 and Figure #2: Soil Boring Locations

3. **Figure #2 indicates an approximate spacing of 50 feet between boring locations. Ohio EPA believes that these locations should be spaced 15 to 20 feet apart because lead is not prone to migrate in soil. Therefore, Ohio EPA believes that spacing the samples closer together will give a better indication of any potential migration from the specific ductwork locations in the laydown yard. Determinations as to specific location can be made in the field.**

   RESPONSE

   Figure 2 of the Closure Plan has been revised to reflect an approximate spacing between borings of 15 to 20 feet.

Section 2.3 Soil Samples

4. **The plan indicates that the additional soil samples/borings will be advanced using direct-push techniques. To ensure quality soil sample acquisition, the plan should be revised to include a Standard Operation Procedures (SOP) or equivalent document for the direct-push activity. The SOP or the plan should specify procedures for contingencies such as core barrel refusal or loss of sample integrity. In addition, sample boring logs should be submitted as a part of the closure certification documentation. An example boring log data sheet should be included in the revised plan.**

   RESPONSE

   Section 3.3 of the revised Closure Plan has been revised to reference a Standard Operating Procedure (SOP) for direct push soil sampling. The SOP has been added to the revised Closure Plan as Appendix A. Section 3.3 has also been revised to include a statement that a boring log will be completed for each boring and included in the Closure Certification Report. An example boring log has been added to the Closure Plan as Appendix B.

5. **The plan should include a discussion on field quality control (QC) samples (number & type, e.g., field blanks, trip blanks, etc.) and the frequency at which field QC samples will be collected. The plan should specify how QC data will be used and what actions will result if field QC criteria are triggered.**

RESPONSE

A new section ("Section 3.4 - Quality Control Samples") has been added to the revised Closure Plan that describes the types and frequency of QC samples that will be collected. This section also includes a description of how the QC data will be used and what actions will result if QC actions are triggered.

Section 2.4 Laboratory Analysis

6. Analytical result included with the closure certification must include appropriate and supportive data validation information. DHWM assesses data validation from a tiered approach and will typically conduct a Tier I data validation evaluation on data submitted to support closure activities. The minimum amount of lab QC data needed for Tier I evaluation is identified at the following web link: http://www.epa.state.oh.us/dhwm/pdf/QC.pdf. The plan should be revised to note that analytical data will be submitted with the minimum QC information.

RESPONSE

A statement has been added to Section 3.5 of the revised Closure Plan (formerly Section 2.4) indicating that the laboratory reports provided with the Closure Certification will include sufficient back-up and QC information for OEPA to perform Tier 1 data evaluation.

Section 3.1 Determining the Extent of Contamination

7. Ohio EPA concurs that establishment of representative and meaningful background concentrations for the constituents of concern would be difficult based on the historic placement of slag and other industrial fill across the site. As such, Ohio EPA finds the "lowest generic cleanup number (GCN)" approach for defining the unit boundary to be appropriate based on the particular circumstances of this closure. Typically, it is inappropriate to use Ohio EPA's GCNs to define the extent of contamination. As the entire facility is subject to RCRA Corrective Action requirements, any historic contamination beyond the unit boundary will need to be addressed as appropriate under site-wide remediation activities. The plan should include a statement which speaks to the intent regarding site-wide cleanup. In addition, the plan must include a justification for the use of a 20 DAF for the protective of groundwater GCN.

RESPONSE

We appreciate and respectfully disagree with OEPA's statements that indicate corrective action requirements are applicable.

A statement has been added to Section 4.1 of the revised Closure Plan (formerly Section 3.1) that historic contamination identified beyond the Closure Area boundary will be addressed on a site-wide basis. As discussed during the February 5th meeting, there is no Groundwater Protection GCN for lead so the DAF would not apply, regardless.

8. **The plan specifies how and where additional samples would be taken and also when the Ohio EPA would be contacted. However, the wording is ambiguous and needs to be clarified. Ohio EPA must be contacted with the results of the testing and also if additional samples are needed for determining the lateral extent of contamination. In addition, the lateral extent should continue until 2 consecutive results are below the specified GCN. The plan must be revised accordingly.**

   When additional lateral samples must be collected, samples should be collected from successive 2-foot depth intervals in lieu of simply sampling at the same depth interval(s) where the GCN was exceeded in the original boring. Such an approach will serve to assure adequate risk characterization within the unit boundary and the plan should be revised accordingly. Also, sample results for lateral borings should report concentrations for all constituents of concern even if the GCN for a particular constituent was not exceeded in the original boring.

RESPONSE

Section 4.1 of the revised Closure Plan (formerly Section 3.1) has been revised to indicate that determining the lateral extent of contamination will include the collection of additional samples from borings in four perpendicular directions at approximately 5-foot intervals from the original sample location (when practical) until the results from two consecutive samples are below the GCN. As was discussed during the February 5th meeting, it is inappropriate to prescribe that samples from all depth intervals from the additional borings will be submitted for laboratory analysis. A statement has been added to Section 4.1 indicating that, if a GCN is exceeded in one of the initial samples and additional borings are necessary to determine the lateral extent of contamination, WPS will contact OEPA to discuss and agree upon the boring locations and sample depth intervals prior to initiating the additional investigation activities. Since lead is the only constituent of concern, the comment regarding the need to analyze for "all constituents of concern" is not relevant.

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Please call Bud Smith at (304) 234-2662 if you have any questions or if further revisions are necessary. To avoid the expense and adversity of an appeal, please do not modify and then issue the Closure Plan to WPS. We are confident that we can continue to work cooperatively to address any remaining issues, but WPS cannot accept revisions unless they have been reviewed, considered and authorized by WPS. Thank you for your continued cooperation.

Sincerely,

Ken Komoroski

Kenneth S. Komoroski

KSK:mkf

Attachments

cc: Jim Sferra – OEPA
Dave Olson – CEC
Bud Smith

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OHIO EPA
MAR 21 2008
DIV. OF HAZARDOUS
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CLOSURE PLAN
ARCO SCRUBBER DUCTWORK LAYDOWN AREA
MARTINS FERRY PLANT

Prepared For:

WHEELING PITTSBURGH STEEL

Prepared By:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
EXPORT, PENNSYLVANIA

CEC Project 071-795.0002

October 30, 2007
Revised March 20, 2008

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FIGURES

Figure 1 – Site Location
Figure 2 – Former ARCO Ductwork Laydown Areas

APPENDICES

Appendix A – Standard Operating Procedure (SOP) for Direct Push Drilling and Soil Sampling
Appendix B – Example Soil Boring Log
Appendix C – Laboratory Analytical Results

1.0 INTRODUCTION

Wheeling Pittsburgh Steel (WPS) operates a steel manufacturing facility in Martins Ferry, Belmont County, Ohio (Figure 1). As part of the manufacturing process, steel sheet coils are run through a hot dip (molten zinc) galvanizing line. Flux is added to the steel strip prior to entering the galvanizing line. As the steel sheet enters the molten zinc, the flux burns off and creates an airborne dust. Historically, this airborne dust was captured and removed using a wet scrubber system known as the "ARCO" scrubber system. The ARCO system was replaced with a dry baghouse system in the early 1990s. During that time, the ARCO system was dismantled and the ductwork was cut into sections and stored on a paved area in the northeast portion of the facility for potential future use (Figure 1).

During a multimedia inspection of the facility by the U.S. Environmental Protection Agency (EPA) and Ohio EPA in June 1999, agency representatives noticed that a white residue was adhered to the inside of the ductwork. At the time, it was estimated that approximately 3 cubic feet of residue was present. At Ohio EPA's request, WPS collected a representative sample of the residue and submitted it to Antech Ltd. Laboratory in Export, Pennsylvania for analysis. The laboratory analysis included the eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) and zinc using the Toxicity Characteristic Leaching Procedure (TCLP). The analytical results indicated that the residue exceeded the TCLP for lead (TCLP result of 19 mg/l versus a regulatory limit of 5.0 mg/l). The analytical results are presented in Appendix ~~A~~C. It should be noted that these results were unexpected, as historical analysis of the ARCO scrubber sludge consistently indicated that the sludge tested as non-hazardous.

Following receipt of the analytical results, WPS removed all of the ductwork from the site and cleaned the paved area. Most of the ductwork was placed directly into 30 cubic yard hazardous waste containers along with the residues contained in them. Some of the ductwork pieces were relatively clean. The residues in these pieces were scraped and removed with a vacuum truck until no visible residues remained. The residues were then placed in the 30 cubic yard hazardous

waste container, and the clean ductwork was disposed as nonhazardous waste. A small amount of loose granular material was also removed from the pavement in the immediate area of the ductwork. Following removal of the loose granular material, a firm-bristled broom was used to loosen remaining residues to allow for final removal by vacuum truck. These activities were continued until the area of the ductwork was visibly free of white, granular materials. The collected residues were placed in the 30 cubic yard hazardous waste container. All of the materials collected in the hazardous waste container were transported to the Chem-Met Services Facility in Brownstown, Michigan for disposal.

Due to concerns for the potential effects of contaminated runoff, a sample of sediment in a catch basin located within the southern end of the paved area (Figure 2) was also sampled and analyzed for TCLP lead. This material was determined to contain levels of lead below the TCLP (0.19 mg/l versus a regulatory limit of 5.0 mg/l). The laboratory analytical report for this sample is also contained in Appendix ~~A~~*C*.

This closure plan addresses the sampling and analysis of soil surrounding the paved area that could potentially have been impacted by the ARCO duct residue. *DESPITE THE FACT WPS BELIEVES NO CLOSURE PLAN IS REQUIRED UNDER HAZARDOUS WASTE REGULATIONS, WPS IS SUBMITTING THIS CLOSURE PLAN IN ORDER TO ADDRESS AND RESOLVE ISSUES IDENTIFIED BY OHIO EPA.*

2.0 PHYSICAL AND HYDROGEOLOGIC SETTING

THE MARTINS FERRY FACILITY IS SITUATED ON A HISTORIC FLOOD PLAIN TERRACE OF THE OHIO RIVER. FILL MATERIALS CONSISTING OF SOIL, SLAG, AND OTHER INDUSTRIAL BYPRODUCTS HAVE HISTORICALLY BEEN PLACED ACROSS THE SITE TO RAISE THE GROUND SURFACE ABOVE THE 100-YEAR FLOOD PLAIN. THE DEPTH OF FILL MATERIALS VARIES ACROSS THE SITE. THE FILL MATERIALS REST DIRECTLY ON NATURAL ALLUVIAL SOILS DEPOSITED BY THE OHIO RIVER. THESE DEPOSITS GENERALLY CONSIST OF FINE-GRAINED FLOOD PLAIN SEDIMENTS THAT COARSEN DOWNWARD TO SAND AND GRAVEL AND REST DIRECTLY ON SEDIMENTARY STRATA (BEDROCK). THE DEPTH TO BEDROCK BENEATH THE CLOSURE AREA IS ESTIMATED AT APPROXIMATELY 60 FEET BELOW GROUND SURFACE. THE SAND AND GRAVEL ALLUVIAL DEPOSITS FORM AQUIFERS AND ARE OFTEN USED AS A WATER SUPPLY SOURCE FOR MUNICIPALITIES AND INDUSTRIAL FACILITIES. THE CITY OF MARTINS FERRY OPERATES SEVERAL MUNICIPAL WATER SUPPLY WELLS EAST OF THE CLOSURE AREA.

THE GROUNDWATER TABLE BENEATH THE CLOSURE AREA LIES WITHIN THE ALLUVIAL DEPOSITS. IN GENERAL, GROUNDWATER FLOW IS ANTICIPATED TO BE TOWARDS THE OHIO RIVER; HOWEVER, LOCAL HYDRAULIC GRADIENTS AND FLOW DIRECTIONS MAY VARY DUE TO THE EFFECTS OF THE CITY WELLS, SPATIAL VARIATIONS IN LITHOLOGY OF THE ALLUVIAL DEPOSITS, AND POSSIBLE INTERMITTENT SUBSURFACE WATER LEAKS AT THE FACILITY THAT MAY RECHARGE GROUNDWATER LOCALLY.

~~2~~3.0 SOIL SAMPLING AND ANALYSIS

~~2~~3.1 CONSTITUENTS OF CONCERN

Based on the ARCO duct residue analytical results discussed in Section 1.0, the constituent of concern (COC) associated with the residue is lead. Therefore, all soil samples collected as part of closure of the ARCO ductwork laydown area will be analyzed for total lead.

~~2~~3.2 BORING LOCATIONS

The ARCO Scrubber ductwork was staged at two discrete locations on the paved area (Figure 2). Three soil borings (SS1 through SS3) are proposed along the western edge of the paved area near the southern ductwork laydown area, and three borings (SS4 through SS6) are proposed along the northern edge of pavement near the northern ductwork laydown area. One additional boring (SS7) is proposed in an area of deteriorated pavement next to the northern ductwork laydown area. These boring locations were selected as the soil areas with the greatest potential to be impacted by runoff from of the ductwork laydown areas.

Each of the boring locations will be surveyed for x, y coordinates using an existing benchmark at the facility or by utilizing a portable Global Positioning System (GPS) device.

~~2~~3.3 SOIL SAMPLES

Each boring will be advanced 8 feet below ground surface. Eight soil samples will be collected from each boring at 1-foot depth intervals and will be labeled accordingly. For example, the samples collected at boring location SS2 will be designated SS2(0-1), SS2(1-2), SS2(2-3), and so on. The upper two samples will be submitted to the laboratory for analysis. The remaining deeper samples will be archived (stored in refrigerator) pending review of the analytical results for the upper two samples as discussed in Section ~~3~~4.1.

Each boring will be advanced using direct push techniques. *A STANDARD OPERATING PROCEDURE FOR DIRECT PUSH DRILLING AND SOIL SAMPLING IS ATTACHED AS APPENDIX A.* This technique involves advancing a steel core barrel with a plastic inner sleeve and collecting a continuous soil core 4 feet in length within the inner sleeve. The soil core will be removed from the plastic sleeve and cut into four 1-foot sections. Each 1-foot sample will be homogenized in a stainless bowl and transferred directly into clean containers provided by the laboratory. All sampling equipment will be cleaned in the field between sample locations using an Alconox and water solution followed by a triple water rinse. All cleaning fluids will be containerized for later disposal.

A LOG WILL BE COMPLETED FOR EACH BORING TO DOCUMENT SUBSURFACE CONDITIONS ENCOUNTERED, SAMPLE INTERVALS, AND OTHER RELEVANT INFORMATION. AN EXAMPLE BORING LOG IS PRESENTED IN APPENDIX B.

3.4 QUALITY CONTROL SAMPLES

THREE TYPES OF QUALITY CONTROL (QC) SAMPLES WILL BE COLLECTED IN THE FIELD DURING THE SOIL SAMPLING PROGRAM: EQUIPMENT BLANKS, FIELD DUPLICATES, AND MATRIX SPIKE/MATRIX SPIKE DUPLICATES. THE FOLLOWING PROVIDES A DESCRIPTION OF THESE TYPES OF QC SAMPLES, THEIR CORRESPONDING FREQUENCY OF COLLECTION, AND HOW THE ANALYTICAL RESULTS WILL BE USED TO EVALUATE THE VALIDITY/USABILITY OF THE SOIL SAMPLING RESULTS.

3.4.1 EQUIPMENT BLANKS

EQUIPMENT (OR RINSATE) BLANKS ARE USED TO DEMONSTRATE THAT COCs ARE NOT INTRODUCED INTO THE FIELD SAMPLES DUE TO IMPROPER OR INADEQUATE

DECONTAMINATION OF REUSABLE SAMPLING EQUIPMENT. EQUIPMENT BLANKS WILL BE COLLECTED BY FILLING OR POURING LABORATORY GRADE DEIONIZED WATER THROUGH THE REPRESENTATIVE DECONTAMINATED SAMPLING DEVICE IMMEDIATELY FOLLOWING DECONTAMINATION AND PRIOR TO ANY SUBSEQUENT SAMPLE COLLECTIONS. THE EQUIPMENT BLANK IS SUBMITTED TO THE LABORATORY AND ANALYZED FOR THE SAME CONSTITUENTS AS THE ASSOCIATED SOIL SAMPLES COLLECTED USING THAT PIECE OF SAMPLING EQUIPMENT. ONE EQUIPMENT BLANK WILL BE COLLECTED PER DAY OR PER EVERY 20 SAMPLES OR FRACTION THEREOF, WHICHEVER IS GREATER. THE EQUIPMENT BLANK ANALYTICAL RESULTS WILL BE EVALUATED BY COMPARING THE RELATIVE AMOUNT OF TARGET ANALYTE DETECTED IN THE FIELD BLANK TO THE ASSOCIATED SAMPLE RESULTS. SAMPLE RESULTS LESS THAN FIVE TIMES ANY AMOUNT DETECTED IN THE FIELD BLANK (AFTER ACCOUNTING FOR SAMPLE PREPARATION FACTORS) WILL BE CONSIDERED BIASED HIGH AND LIKELY ARTIFACTS DUE TO FIELD CONTAMINATION. EVIDENCE OF FIELD CONTAMINATION WILL TRIGGER RETRAINING OF FIELD PERSONNEL ON APPROPRIATE DECONTAMINATION PROCEDURES.

3.4.2 FIELD DUPLICATES

FIELD DUPLICATES WILL BE COLLECTED TO ASSESS SAMPLE MATRIX HETEROGENEITY, AS WELL AS THE PRECISION OF SAMPLE COLLECTION AND LABORATORY ANALYSIS PROCEDURES. FIELD DUPLICATES MEASURE BOTH FIELD AND LABORATORY PRECISION; THEREFORE, THESE RESULTS MAY HAVE MORE VARIABILITY THAN LABORATORY DUPLICATES WHICH MEASURE ONLY LABORATORY VARIABILITY. THIS IS ESPECIALLY TRUE OF SOIL SAMPLES WHICH EXHIBIT GREATER VARIANCE THAN WATER MATRIX DUPLICATES DUE TO DIFFICULTIES WITH COLLECTING IDENTICAL FIELD SAMPLES AND OF THE LABORATORY OBTAINING A REPRESENTATIVE SUBSAMPLE FOR ANALYSIS.

FIELD DUPLICATE SAMPLES WILL BE COLLECTED FROM THE SAME HOMONGENIZED SAMPLE VOLUME AS THE ORIGINAL SOIL SAMPLE AND ANALYZED FOR THE SAME PARAMETERS. FIELD DUPLICATE PRECISION WILL BE EVALUATED BY CALCULATING THE RELATIVE PERCENT DIFFERENCE (RPD) OF THE RESULTS OF THE ORIGINAL AND DUPLICATE SAMPLES. FIELD DUPLICATE SAMPLES WILL BE COLLECTED AT A FREQUENCY OF ONE PER EVERY 20 SAMPLES OR FRACTION THEREOF. THERE ARE NO REGULATORY OR METHOD SPECIFIED CRITERIA FOR THE ANALYSIS OF FIELD DUPLICATE RESULTS. ACCEPTABLE FIELD PRECISION WILL BE DEMONSTRATED BY RPD $\leq$ 40% (WHICH IS TWICE THE METHOD ALLOWABLE RPD FOR LABORATORY DUPLICATES WHICH MEASURE ONLY LABORATORY PRECISION). IF THE CALCULATED RPD EXCEEDS 40%, THE SAMPLE CONCENTRATION WILL BE ESTIMATED AS A VALUE BETWEEN THE RESULTS OF THE ORIGINAL SAMPLE AND THE FIELD DUPLICATE.

3.4.3 MATRIX SPIKE/MATRIX SPIKE DUPLICATES

MATRIX SPIKE/MATRIX SPIKE DUPLICATES ARE DESIGNED TO INDICATE THE EFFECT OF THE SAMPLE MATRIX ON THE PRECISION AND ACCURACY OF THE RESULTS GENERATED USING THE SELECTED METHOD. MATRIX SPIKES ARE USED TO DETERMINE THE EFFECT OF THE MATRIX ON A METHOD'S RECOVERY EFFICIENCY. SAMPLE RECOVERY IS DETERMINED AS THE PERCENT RECOVERY OF A KNOWN AMOUNT OF ADDED TARGET ANALYTE. THE ANALYSIS OF THE MATRIX SPIKE DUPLICATE IS USED TO OBTAIN A MEASURE OF THE PRECISION OF THE RECOVERY FOR EACH ANALYTE IN THE MATRIX OF INTEREST. PRECISION MAY BE EXPRESSED AS THE RPD BETWEEN THE DUPLICATE SAMPLE ANALYSES. THE PERCENT RECOVERY AND RPD ARE EVALUATED AGAINST EITHER METHOD SPECIFIED CRITERIA OR THE LABORATORY'S STATISTICALLY DERIVED QUALITY CONTROL ACCEPTANCE CRITERIA AS DOCUMENTED IN THEIR QA MANUAL (OR EQUIVALENT DOCUMENT).

MATRIX SPIKE/MATRIX SPIKE DUPLICATES WILL BE COLLECTED AT A FREQUENCY OF ONE PER EVERY 20 SAMPLES OR FRACTION THEREOF. FOR METALS, THE SPIKING LEVEL MUST BE AT LEAST FOUR TIMES THE LEVEL DETECTED DURING THE ORIGINAL ANALYSIS OR THE EVALUATION OF TARGET ANALYTE RECOVERY IS NOT APPROPRIATE. FOR ANALYTES MEETING THIS CRITERIA, RECOVERY RESULTS WILL BE COMPARED TO THE LABORATORY'S ESTABLISHED CRITERIA. RESULTS WILL NOT BE CORRECTED FOR RECOVERY. MATRIX SPIKE RESULTS ARE NOT TYPICALLY USED BY THEMSELVES TO DISQUALIFY DATA USAGE BUT MAY BE USED IN CONJUNCTION WITH OTHER QUALITY CONTROL RESULTS TO EVALUATE DATA USABILITY. POSITIVE RESULTS ASSOCIATED WITH RECOVERIES ABOVE THE UPPER CONTROL LIMIT MAY BE CONSIDERED BIASED HIGH. RESULTS WITH OBSERVED HIGH BIAS THAT ARE BELOW CLOSURE OBJECTIVES ARE FULLY ACCEPTABLE FOR USE WITHOUT QUALIFICATION. POSITIVE RESULTS ASSOCIATED WITH LOW BIAS THAT ARE ABOVE THE CLOSURE OBJECTIVES ARE ALSO FULLY ACCEPTABLE FOR USE WITHOUT QUALIFICATION. RESULTS ASSOCIATED WITH LOW BIAS THAT ARE BELOW CLOSURE OBJECTIVES WILL BE USED WITH CAUTION TO DETERMINE IF PROJECT OBJECTIVES ARE ABLE TO BE MET. POSITIVE RESULTS ASSOCIATED WITH HIGH BIAS THAT EXCEED CLOSURE OBJECTIVES ARE MORE PROBLEMATIC IN THEIR USAGE. IF THE HIGH BIASED RESULT IS NEAR THE OBJECTIVE, ONE OPTION WOULD BE TO ASK THE LABORATORY TO, IF IT IS POSSIBLE, REANALYZE THE SAMPLE AND TAKE ANY NECESSARY CORRECTIVE ACTION TO MINIMIZE THE OBSERVED MATRIX EFFECTS. THIS WOULD NEED TO BE EVALUATED ON A CASE BY CASE BASIS.

IF THE RPD OF THE MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DOES NOT MEET CRITERIA, THE SAMPLE CONCENTRATION SHOULD BE CONSIDERED AS ESTIMATED WITH A TOLERANCE OF ± THE OBSERVED RPD.

~~2.~~43.5 LABORATORY ANALYSIS

All soil samples will be submitted to TestAmerica Analytical Testing Corporation in Pittsburgh, Pennsylvania for analysis for lead by U.S. EPA SW-846 Method 6020. *THE LABORATORY REPORTS WILL PROVIDE SUFFICIENT BACK-UP AND QUALITY CONTROL INFORMATION FOR OHIO EPA TO CONDUCT TIER 1 DATA EVALUATION.*

34.0 COMPARISON WITH REMEDIATION STANDARDS

The soil remediation standards selected for this closure are the Generic Cleanup Numbers (GCN) contained in Appendix N of the Ohio EPA Closure Plan Review Guidance for RCRA Facilities dated May 2006. In general, the GCN include risk-based standards for Direct Contact and for Protection of Groundwater, and MCL-based standards for Protection of Groundwater. The risk-based Direct Contact GCN for lead is 245 mg/kg. There are no Groundwater Protection GCN (risk-based or MCL-based) for lead. Therefore, 245 mg/kg will be the remediation standard for lead.

34.1 DETERMINING THE EXTENT OF CONTAMINATION

Slag and other industrial fill materials have historically been placed across the site to bring the site to grade. These fill materials may contain the same constituents that were identified as COCs in the ductwork residue. Because it would be very difficult to establish site background concentrations for the COCs in these fill materials, the GCN will be used as criteria for determining the extent of soil contamination (if any) related to the ARCO ductwork laydown areas. *HISTORIC CONTAMINATION IDENTIFIED BEYOND THE CLOSURE AREA BOUNDARY WILL BE ADDRESSED ON A SITE-WIDE BASIS.*

At each of the seven boring locations, samples collected at successive 1-foot depth intervals will be submitted for analysis until COC concentrations in two consecutive samples are below the GCN. Initially, the two upper samples (0-1' and 1'-2') at each boring location will submitted for analysis and the results compared to the GCN. If the analytical results for all 14 samples are below the applicable GCN, no further sampling will be required. If the analytical results for the 0-1' sample at a given location are above the GCN, the archived 2'-3' sample from that location will be submitted to the laboratory for analysis. If the analytical results for the 1'-2' sample at a given location are above the GCN, the archived 2'-3' and 3'-4' samples will be submitted to the laboratory for analysis. If the analytical results for two consecutive samples (1'-2' and 2'-3' or

2'-3'and 3'-4') are below the GCN, no further sampling will be required. If the analytical results for two consecutive samples are not below the GCN, successively deeper samples will be submitted for analysis until the analytical results for two consecutive samples are below the GCN.

At boring locations where the analytical results exceed the GCN, additional boring(s) will also be needed to determine the lateral extent of contamination. *SAMPLING IN A LATERAL DIRECTION WILL CONTINUE UNTIL THE ANALYTICAL RESULTS FOR TWO CONSECUTIVE SAMPLES ARE BELOW THE GCN. INITIALLY, WHERE PRACTICAL, EIGHT BORINGS WILL BE ADVANCED NEAR THE LOCATION OF THE ORIGINAL BORING WHERE THE GCN WAS EXCEEDED, WITH TWO BORINGS* ~~In general, these borings will be located~~ *NORTH, SOUTH, EAST, AND WEST SPACED* approximately 5 ~~to~~ *AND* 10 feet from the original boring. ~~and s~~*S*amples will be collected *AT SUCCESSIVE 1-FOOT DEPTH INTERVALS AS IN THE ORIGINAL BORING. SAMPLE INTERVALS TO BE SUBMITTED FOR ANALYSIS WILL BE DETERMINED BASED ON THE DEPTH INTERVAL EXCEEDING THE GCN IN THE ORIGINAL BORING. WPS WILL CONTACT OHIO EPA PRIOR TO INITIATING ANY ADDITIONAL INVESTIGATION ACTIVITIES TO DISCUSS AND AGREE UPON BORING LOCATIONS AND SAMPLE DEPTH INTERVALS.* ~~from the same depth interval(s) where the GCN were exceeded in the original boring. The number of borings required to determine the lateral extent of contamination will be determined based on specific sample locations and field conditions.~~

~~3~~4.2 DETERMINING THE NEED FOR FURTHER ACTION

After the extent of contamination (if any) has been determined, the soil analytical results will be evaluated to determine if further action is necessary. This will be accomplished by performing a statistical evaluation of the analytical results to determine the 95% upper confidence limit (UCL) ~~value~~. *THE UCL WILL BE CALCULATED USING THE MOST RECENT VERSION OF U.S. EPA'S PROUCL SOFTWARE.* The 95% UCL value *RECOMMENDED BY PROUCL* will be

USED AS the "exposure concentration," unless it is greater than the maximum detected value. If the 95% UCL *VALUE* is greater than the maximum, the maximum detected value will be the exposure concentration. The exposure concentration will be compared to the GCN. If the exposure concentration is below the GCN, no further action will be required. If the exposure concentration is greater than the GCN, further action will be necessary. If the exposure concentration is greater that the GCN, WPS will develop a plan for further action at that time and will submit the plan to the Ohio EPA as an amendment to this closure plan. *IT IS NOTED THAT IF A DISCRETE AREA(S) OF ELEVATED CONTAMINATION ("HOT SPOT") IS IDENTIFIED, EVALUATION OF POTENTIAL EXPOSURE AND THE NEED FOR REMEDIATION OF THE "HOT SPOT" WILL BE PERFORMED SEPARATELY FROM THE REMAINING DATA SET.*

AN INVESTIGATION OF GROUNDWATER IS NOT BELIEVED TO BE WARRANTED AT THIS LOCATION FOR THE FOLLOWING REASONS. FIRST, LEAD CONTAINED IN THE DUCTWORK RESIDUE IS NOT MOBILE IN THE SOIL COLUMN AND IS NOT EXPECTED TO HAVE MIGRATED TO THE GROUNDWATER TABLE. SECOND, GROUNDWATER WILL BE ASSESSED ON A SITE-WIDE BASIS.

5.0 CLOSURE CERTIFICATION

A CLOSURE CERTIFICATION REPORT WILL BE PREPARED AND SUBMITTED TO OHIO EPA WITHIN 60 DAYS OF COMPLETION OF CLOSURE ACTIVITIES. THE CERTIFICATION REPORT WILL BE SIGNED BY A REPRESENTATIVE OF WPS AS WELL AS BY AN INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN OHIO. THE CERTIFICATION REPORT WILL INCLUDE THE FOLLOWING STATEMENT ON THE SIGNATURE PAGE:

> *"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."*

THE CERTIFICATION REPORT WILL ALSO INCLUDE THE FOLLOWING:

- *THE APPROVED CLOSURE PLAN OR REFERENCE TO THE APPROVED PLAN AND A SUMMARY OF THE CHANGES TO THE PLAN OFFERED BY WPS AND APPROVED BY OHIO EPA AS WELL AS SIGNIFICANT CORRESPONDENCE REGARDING CLOSURE ACTIVITIES;*

- *A NARRATIVE DESCRIBING ALL SIGNIFICANT ACTIVITIES (E.G., SAMPLING, DECONTAMINATION, ETC.) DURING CLOSURE;*

- *THE VOLUME OF WASTE REMOVED INCLUDING WASTE GENERATED BY CLOSURE ACTIVITIES SUCH AS DECONTAMINATION. FOR HAZARDOUS WASTE REMOVED OR GENERATED, DOCUMENTATION WILL BE INCLUDED THAT DETAILS PROPER CHARACTERIZATION OF THE WASTE (SAMPLING DATA) AND PROPER MANAGEMENT TO OFF-SITE FACILITIES (COPIES OF MANIFESTS);*

- *RESULTS OF ALL MEDIA SAMPLING AND ANALYTICAL ACTIVITIES INCLUDING APPLICABLE QUALITY ASSURANCE/QUALITY CONTROL INFORMATION;*

- *DOCUMENTATION THAT CLEANUP STANDARDS DEFINED IN THE APPROVED CLOSURE PLAN HAVE BEEN ACHIEVED AND THAT THE CLOSURE PERFORMANCE STANDARD HAS BEEN MET. THIS MAY INCLUDE DOCUMENTATION THAT ANY APPLICABLE INSTITUTIONAL CONTROLS HAVE BEEN IMPLEMENTED;*

- *SOIL BORING LOGS;*

- *ANY OTHER INFORMATION NEEDED TO DOCUMENT COMPLIANCE WITH THE APPROVED CLOSURE PLAN AND THE CLOSURE PERFORMANCE STANDARD; AND*

- *A STATEMENT AS TO THE RCRA REGULATORY STATUS OF THE FACILITY (E.G., LARGE QUANTITY GENERATOR, ETC.) AFTER CLOSURE.*

6.0 SCHEDULE

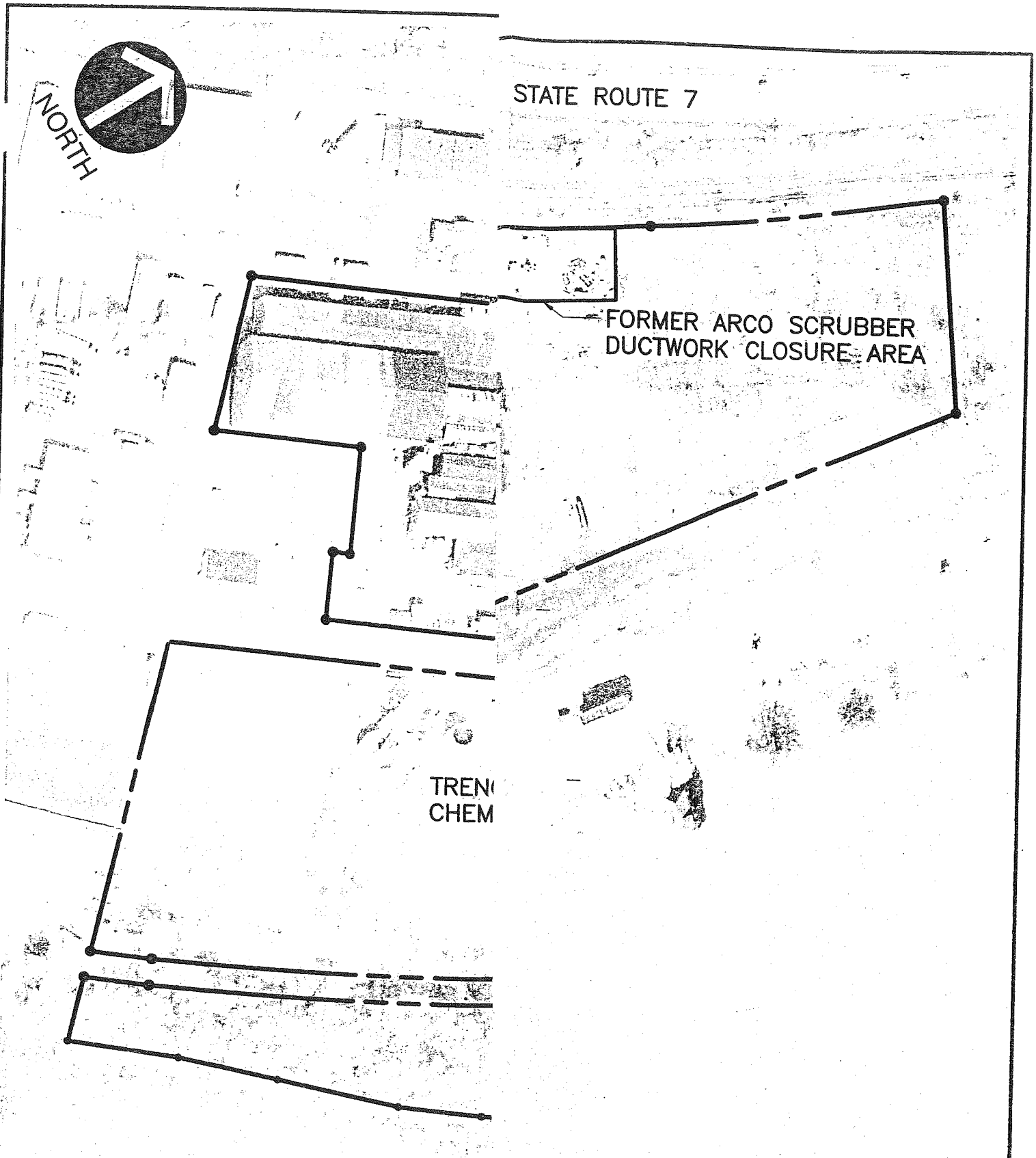
THE PROPOSED SCHEDULE FOR COMPLETING THE CLOSURE ACTIVITIES FOLLOWING OHIO EPA'S APPROVAL OF THIS CLOSURE PLAN IS AS FOLLOWS:

TASK	*SCHEDULE*
1. COORDINATE WITH DRILLER AND LABORATORY FOR PERFORMING SOIL BORINGS/SAMPLING DESCRIBED IN CLOSURE PLAN	*4 WEEKS*
2. PERFORM SOIL BORINGS/SAMPLING DESCRIBED IN CLOSURE PLAN	*1 WEEK*
3. LABORATORY ANALYSIS OF COLLECTED SOIL SAMPLES. (FOUR WEEKS ALLOWS FOR ANALYSIS OF INITIAL UPPER 2 SAMPLES AT EACH BORING LOCATION. THE ADDITIONAL 4 WEEKS ALLOWS FOR ANALYSIS OF DEEPER ARCHIVED SAMPLES SHOULD THE UPPER SAMPLE(S) EXCEED THE GCN.)	*4-8 WEEKS*
4. COORDINATE WITH DRILLER AND LABORATORY FOR ADDITIONAL SOIL BORINGS/SAMPLING TO DEFINE LATERAL EXTENT OF CONTAMINATION (ONLY IF NECESSARY BASED ON INITIAL SAMPLE RESULTS)	*4 WEEKS*
5. PERFORM ADDITIONAL SOIL BORINGS/SAMPLING TO DEFINE LATERAL EXTENT OF CONTAMINATION (ONLY IF NECESSARY)	*1 WEEK*
6. LABORATORY ANALYSIS OF ADDITIONAL SAMPLES (ONLY IF NECESSARY)	*4-8 WEEKS*
7. PREPARATION OF CLOSURE CERTIFICATION REPORT AND SUBMISSION TO OHIO EPA	*8 WEEKS*

BASED ON THE ABOVE SCHEDULE, THE TIME REQUIRED TO COMPLETE THE CLOSURE ACTIVITIES COULD RANGE FROM 17 TO 34 WEEKS. NOTE THAT THIS SCHEDULE ASSUMES OHIO EPA'S TIMELY APPROVAL OF ADDITIONAL WORK STEPS (IF NECESSARY) AND DOES NOT ACCOUNT FOR UNFORESEEN FIELD CONDITIONS THAT COULD DELAY INVESTIGATION ACTIVITIES.

A REPRESENTATIVE OF THE REGISTERED PROFESSIONAL ENGINEER WILL BE PRESENT DURING ALL OF THE FIELD ACTIVITIES DESCRIBED ABOVE.

WPS WILL NOTIFY OHIO EPA AT LEAST FIVE WORKING DAYS BEFORE INITIATING THE FIELD ACTIVITIES DESCRIBED UNDER TASKS 2 AND 5 DESCRIBED ABOVE. FINALLY, WPS WILL REQUEST AN EXTENSION TO THE CLOSURE PERIOD FROM OHIO EPA SHOULD THE CLOSURE ACTIVITIES, OF NECESSITY, TAKE LONGER THAN PRESENTED IN THE ABOVE SCHEDULE.



SITE LAYOUT
MARTIN'S FERRY PLANT
WHEELING-PITTSBURGH
STEEL CORPORATION

PROJECT NO: 071795.002 | FIGURE NO:

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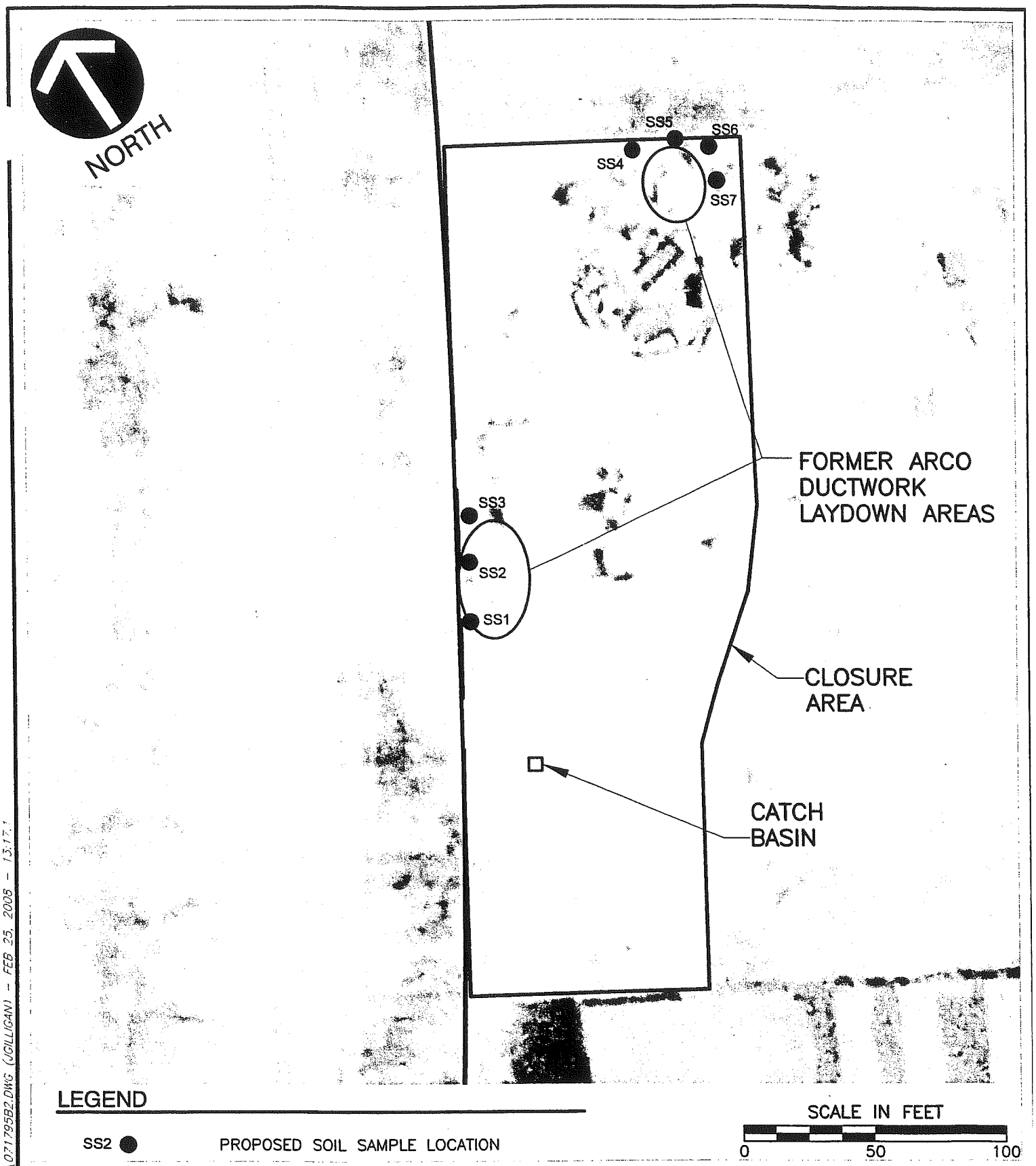

CEC
Civil & Environmental Consultants, Inc.
Four Triangle Lane, Suite 200, Export, PA 15632-9522
(724) 327-5200 · (800) 899-3610
Pittsburgh, PA
Cincinnati, OH
Columbus, OH
Indianapolis, IN
Nashville, TN
Chicago, IL
St. Louis, MO
Detroit, MI

FORMER ARCO DUCTWORK LAYDOWN AREAS
MARTINS FERRY PLANT
WHEELING-PITTSBURGH STEEL CORPORATION

QUALITY MANAGER APPROVAL:		PROJECT NO: 071795.002	FIGURE NO: 2
DRAWN BY: CAF	CHKD BY: RCP	DWG SCALE: 1"=50'	LAST EDIT DATE: 10/31/07

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APPENDIX A

STANDARD OPERATING PROCEDURE (SOP) FOR DIRECT PUSH DRILLING AND SOIL SAMPLING

STANDARD OPERATING PROCEDURE

SUBSURFACE SOIL SAMPLING FOR METALS ANALYSIS – DIRECT PUSH METHOD

I. SCOPE AND APPLICABILITY: This procedure is applicable to the collection of soil samples for metals analysis by the driller during advancement of borings in soil, unconsolidated materials, fill, and weathered bedrock.

II. PROJECT SPECIFIC REQUIREMENTS

Refer to applicable closure plan for project specific requirements, including sample locations, sample numbers, analytical parameters, and quality assurance samples to be collected.

III. METHODOLOGY

A. Soil borings will be advanced using one of the following drilling methods:

Geoprobe® macrocore sampler, or equivalent: This will be the primary drilling method used to advance soil borings and facilitate the collection of subsurface soil samples. Standard operating procedures for this method are as follows:

1. Position the Geoprobe® drive assembly over the point to be sampled.
2. Hammer sampler as detailed in Geoprobe® sampling literature.
3. Collect macrocore soil core samples continuously from the soil boring.
4. Remove the macrocore sample liner from the 4-foot barrel sampler upon retrieval from the borehole. Split the acetate liner down the middle using a cutting tool exposing the soil core.
5. Document the sample recovery as the total length of sample retrieved.
6. Classify the material for color, composition, grain size, relative moisture content, relative density, origin, and other observable characteristics.
7. Split the soil core in half using a stainless steel knife, and observe the soil core for visual or olfactory signs of contamination. Record any signs of contamination in the field log book.
8. Transfer the designated interval (1-foot or 2-foot sample intervals) of soil core to a stainless steel bowl and mix thoroughly. Samples for laboratory analysis will be collected from the homogenized soil material using a stainless spoon and transferred directly into containers provided by the laboratory.
9. Decontaminate the direct push drill rods, sample tube assembly, and cutting shoe before use at the next soil boring. Perform the decontamination with a non-phosphate soap solution and wash brush. Rinse the components with potable water.

If refusal is encountered at a drilling location, advance hollow-stem augers beyond the depth of refusal until favorable subsurface conditions are again encountered. Disconnect the hollow-stem augers from the drill rig and leave in-place. Resume boring advancement using the direct-push Geoprobe® method inside of the hollow-stem augers. If the boring is not able to be advanced using the hollowstem augers, move the Geoprobe® rig several feet and attempt another boring. If refusal continues to be encountered after several relocation attempts, another drilling method will need to be considered.

IV. PRECAUTIONS AND COMMON PROBLEMS

A. If sample recovery is low, instruct the driller to use plastic core catchers in the macrocore sampler. In tight soils, a core catcher may inhibit sample recovery.

V. DOCUMENTATION

A. Complete a log for each soil boring completed. Document the soil boring ID, sample recoveries, blow counts (split-spoon method), PID readings, and subsurface material descriptions. Include laboratory sample locations, depth of fill, depth to encountered groundwater, and sampling refusal on each log. An example boring log is included in Appendix B.

APPENDIX B

EXAMPLE SOIL BORING LOG

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
FIELD SOIL BORING LOG
DIRECT PUSH METHOD

ng .mber	Boring Location	Sheet No.
Drilling Method	Field Geologist	Surface Elevation
Project Name	Project Number	Date Started Date Completed

Depth (ft)	Lab Sample	Sample Recovery (ft)	PID (ppm)	Material Description	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

ld Conditions (weather, etc.) _____

Comments _____

APPENDIX C

LABORATORY ANALYTICAL RESULTS

- DUCTWORK RESIDUE
- CATCH BASIN SOLIDS

DUCTWORK RESIDUE

Attachment A

Table 1
General Data Table
Wheeling-Pittsburgh Steel Corporation
Antech Ltd. Project No. 99-3384
Waste Characterization; MF-LAR-99006
Purchase Order No. C 9810 02151; Martin's Ferry Plant

Parameter	Analytical Method	Units	Sample Identification 9906-2496 MF ARCO Ductwork (6/14/99)	9906-2497 Recirculation Tank (6/14/99)	9906-2498 Method Blank (6/15/99)
TCLP(1) Metals:					
Silver (TCLP)	6010(2)	mg/l	<0.050	<0.050	<0.050
Arsenic (TCLP)	6010(2)	mg/l	0.086	<0.050	<0.050
Barium (TCLP)	6010(2)	mg/l	11	17	<1.0
Cadmium (TCLP)	6010(2)	mg/l	0.12	<0.050	<0.050
Chromium (TCLP)	6010(2)	mg/l	0.12	0.12	<0.050
Mercury (TCLP)	7470(2)	mg/l	<0.010	<0.010	<0.010
Lead (TCLP)	6010(2)	mg/l	19	<0.050	<0.050
Selenium (TCLP)	6010(2)	mg/l	<0.10	<0.10	<0.10
Zinc (TCLP)	6010(2)	mg/l	500	540	<0.050
TCLP Extraction Fluid Data:					
Extraction Fluid	1311(2)	-	No.2	No.2	No.2
pH with Deionized Water		pH units	5.97	6.42	NAP(3)
pH After Addition of 1 Normal HCL		pH units	5.23	6.23	NAP
pH of TCLP Extract		pH units	5.47	6.18	2.89
Amount of Sample Extracted		g	10.0	10.0	NAP

(1) TCLP = Toxicity Characteristic Leaching Procedure.
(2) U.S. Environmental Protection Agency, 1987, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.
(3) NAP = Not applicable.

Table 1
General Data Table
Wheeling-Pittsburgh Steel Corporation
Antech Ltd. Project No. 00-4655
Waste Characterization; MF-TAK-00004; North Yard Catch Basin
Purchase Order No. C 9810 02151; Martins Ferry Plant

Parameter	Analytical Method	Units	Sample Identification	
			0009-1010 MF-TAK-00004 (9/8/00)	0009-1011 Method Blank (9/11/00)
TCLP[1] Metal:				
Lead (TCLP)	6010[2]	mg/l	0.19	<0.050
TCLP Extraction Fluid Data:				
Extraction Fluid	1311[2]	-	No.1	No.1
pH with Deionized Water		pH units	8.41	NAP[3]
pH After Addition of 1 Normal HCL		pH units	3.19	NAP
pH of TCLP Extract		pH units	5.84	4.91
Amount of Sample Extracted		g	10.0	NAP

(1) TCLP = Toxicity Characteristic Leaching Procedure.
(2) U.S. Environmental Protection Agency, 1987, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.
(3) NAP = Not applicable.

CATCH BASIN SOLIDS

Antech Ltd.
One Triangle Lane
Export, PA 15632
Phone: (724)733-1161
Fax: (724)327-7793

April 10, 2001

Mr. Patrick J. Smith
Wheeling Pittsburgh Steel Corporation
1134 Market Street
Wheeling, WV 26003

Dear Mr. Smith:

Enclosed are analytical results for samples submitted to Antech Ltd. by Wheeling Pittsburgh Steel Corporation. The samples were received on April 5, 2001. Please reference Antech project number 01-1690 when inquiring about this report.

Client Site: Martin's Ferry Plant
Client Ref.: [redacted] MF-TAK-01005

Antech Sample Indentification	Client Sample Identification
[redacted]	[redacted]
0104-0341	MF-TAK-01005

General Comments: None

Please call me if you have any questions regarding the information contained within this report.

Sincerely,

Penelope J. Morris

Penelope J. Morris
Project Coordinator

PJG: lmy

Enclosures

cc: Todd Koget, Wheeling Pittsburgh Steel Corporation

Mr. Patrick J. Smith
Wheeling Pittsburgh Steel Corporation
1134 Market Street
Wheeling, WV 26003

Client Site: Martin's Ferry Plant
Client Ref.: [redacted], MF-TAK-01005

Lab Project ID: 01-1690
Lab Sample ID: 0104-0341
Client Sample ID: MF-TAK-01005
Sample Matrix: Solid

Date Sampled: 04/05/2001
Date Received: 04/05/2001

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Reactive)	9012A(1)	<1.0	1.0	mg/kg	TAT	04/06/2001	040609-12	<1.0
Flash Point	1010(1)	>200	1.0	F	TAT	04/09/2001	N/A	N/A
pH	9045(1)	5.09	1.00	pH	EAC	04/05/2001	040509-24	NAP
Sulfide (Reactive)	9030(1)	<10	10	mg/kg	AME	04/05/2001	040509-27	<10

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Arsenic	TCLP/6010B(1)	<0.050	0.050	mg/l	WJM	04/06/2001	040907-03	<0.050
Barium	TCLP/6010B(1)	9.7	1.0	mg/l	WJM	04/06/2001	040907-03	<1.0
Cadmium	TCLP/6010B(1)	<0.050	0.050	mg/l	WJM	04/06/2001	040907-03	<0.050
Chromium	TCLP/6010B(1)	<0.050	0.050	mg/l	WJM	04/06/2001	040907-03	<0.050
Lead	TCLP/6010B(1)	0.82	0.050	mg/l	WJM	04/06/2001	040907-03	<0.050
Mercury	TCLP/7470(1)	<0.010	0.010	mg/l	AJB	04/06/2001	040607-06	<0.010
Selenium	TCLP/6010B(1)	<0.10	0.10	mg/l	WJM	04/06/2001	040907-03	<0.10
Silver	TCLP/6010B(1)	<0.050	0.050	mg/l	WJM	04/06/2001	040907-03	<0.050

(1) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: None

Antech Ltd.
Chain of Custody Record

Ship To:
Antech Ltd.
One Triangle Lane
Export, PA 15632
(724) 733-1161
FAX (724) 327-7793

Page 1 of 1

For Laboratory Use Only
Laboratory Project No.: 01-1690

Project Name: [redacted]
Project No.: [redacted]
Sampler: Todd Koget (Printed Name) Todd Koget (Signature)

Relinquished By: (Signature and Printed Name) Todd Koget Todd Koget — Date 5APR01 — Time 1445
Received By: (Signature and Printed Name) [signature] — Date 5AP — Time 1445
Relinquished By: (Signature and Printed Name) — Date — Time
Received By: (Signature and Printed Name) [signature] — Date 4-5-01 — Time 1645

Antech Quote ID No.:
Antech Contact Name:
Client Purchase Order No.:
Method of Shipment:
Shipment ID:

Please Check when Monitoring Samples are Collected:
☐ Residual Chlorine Present
☐ Residual Chlorine Not Present

Please Check when VOA Vials are Collected:
☐ Free of Bubbles
☐ Bubbles Present
(Specify in Special Instructions/Comments)

Sample ID Number	Sample Description: Date	Time	Description	Grab	Composite	Chemistry (500 ml, 1000 ml)	Nutrient (250 ml, 500 ml)	Total Metals (250 ml, 500 ml)	Dissolved Metals (250 ml, 500 ml)	Cyanide (1000 ml)	Phenolics (1000 ml)	TOC (125 ml)	TOX (250 ml)	Sulfide (500 ml)	Radiological (1000 ml)	Oil & Grease (1000 ml)	TPHC (1000 ml)	VOA (40 ml)	Organics (1000 ml, 2.5 liter)	Bacteriological (125 ml)	Widemouth Jar, Soil (250 ml, 500 ml, 1000 ml)	VOA Septa Jar, Soil (125 ml)	Other (Please Specify)	No. of Containers	For Lab Use Only Laboratory ID
[redacted]				X																					04-0340
MF-TAK01005	04/05/01	09:30AM	North Yard Catch Basins	X																					0341

Special Instructions/Comments:
Test parameters:
RCI, TCLP - metals
48hr turnaround

Sample Return/Disposal:
☐ Return to Client
☑ Disposal by Antech

Results To: Client Name: Todd Koget
Company: Wheeling - Pitt Steel
Address: Mingo Junction
Phone No:
Fax No: (740) 283-5793

Invoice To: Client Name:
Company: Wheeling - Pitt Steel
Address: Wheeling, WV

For Laboratory Use Only
Sample Condition Upon Receipt
Was Temperature Vial Sent With Cooler? YES NO Cooler Temperature [illegible]
WHITE - Original COC File YELLOW - Return with Report PINK - Project File GOLD - Client Receipt

MAC Antech-Admin Antech-Chain of Custody

OCT-24-07 17:27 FROM-WPSC Mingo Jct Environmental/Utilities 740 283 5779 T-244 P.019/023 F-924