

C3-006-03010-2.1



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**BER SCANNED**

**NOV 06 2013**

**FINAL**

# **REMOVAL ACTION DESIGN PLAN**

## **WADE'S ALUMINUM SMELTER SITE**

**Section 17**  
**Twp. 25 South, Range 25 East**  
**BOURBON COUNTY, KANSAS**

**April 24, 2013**

RECEIVED

MAY 06 2013

BUREAU OF  
ENVIRONMENTAL PROTECTION



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## 1.0 Executive Summary

This document is meant to be the final plan for the cleanup of the Wade's Aluminum Smelter Site (C3-006-03010) located in Section 17, Township 25 South, Range 25 East, Bourbon County, Kansas. The site is located on property owned by Bourbon County located approximately 2 miles north of Fort Scott, Kansas on the north side of Noble Road just east of the intersection with 225<sup>th</sup> Street.

The property was investigated by Kansas Department of Health and Environment under an agreement between the Bourbon County Commissioners and KDHE dated December 20, 2010. A Removal Site Evaluation Report dated December 2011 was prepared under this agreement and presented to the Bourbon County Commission on January 6, 2012 by KDHE personnel. As a result of this report, the following plan was prepared to finish the removal of lead contaminated waste products located on this site. Upon successful implementation of the plan, including the placement of an Environmental Use Control stipulation on the deed to the property, the site will be reclassified as "Resolved with Restrictions". This will be done following recommendations made in the December, 2011, Removal Site Evaluation Report and any other approved options discovered since the report was written.

## 2.0 Introduction

2.1. This document presents a plan to clean up and dispose of areas contaminated with aluminum smelter waste (dross) left over from the operation of the Wade Aluminum Smelter just north of Fort Scott, Kansas. The waste material is characterized by lead contamination at various levels as noted in the KDHE report dated December 2011. Some material failed the TCLP test requiring disposal off site in an approved hazardous waste disposal site, but most of the material can be consolidated and buried on site with appropriate measures taken to contain the material and cover it with low permeability earth fill.

2.1.1 **Property Location:** The waste material is scattered over approximately 20 acres located north of Noble Road and west of

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the Burlington Northern Railroad right of way. The property is bounded by the railroad on the east, Noble Road on the south, Bourbon County property on the north and property owned by Douglas and Trisha Whitehead on the west.

**2.1.2 Property History:** The property is owned by Bourbon County and was acquired along with property used for the Bourbon County C&D Landfill in 2006 when the area was purchased from Cullar Properties, L.L.C. Bourbon County signed an agreement indemnifying Cullar Properties from any environmental issues on the property at the time of purchase. Since that time, the area has been idle with attempts made by the County to restrict public access. Unfortunately, several piles of garbage, old tires, and scrap metal have accumulated over the years.

**2.1.3 Previous Investigations:** KDHE Bureau of Waste Management completed a preliminary property assessment in 1995 which indicated that dross at the site was potential RCRA hazardous waste due to concentrations of cadmium, chromium, and lead. An integrated Removal Site Evaluation/Site Inspection (RSE/SI) was conducted in 2005. The 2005 study collected 33 samples including 5 background soil samples and three surface water samples. Lead was the only analyte that exceeded Tire 2 levels (1000 mg/kg) for non-residential soils with lead concentrations found to be in the 270 to 7300 mg/kg range. The TCLP results in three of the samples indicated that some of the dross could be characteristically hazardous.

The Removal Site Evaluation was then conducted with field activities conducted from May 2-5, 2011. Another trip was made on September 8, 2011 to collect more samples to test for chromium. Field analysis using an XRF analyzer was conducted on 57 dross piles with 11 dross samples submitted for off site analysis. Two samples (WW-00, WP-7) which were piles of

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dross not in barrels, exceeded the TCLP threshold for lead of 5 mg/l. Several drum groups (Group X, Group Y, Group Z) containing dross also exceeded the TCLP threshold for lead.

### 3.0 Nature and Extent of Contamination

**3.1 Drums and Barrels:** 5 cubic yards was estimated in the two dross piles (WW-00, WP-7) and the three barrel groups (X,Y,Z) that failed the TCLP test requiring disposal in a hazardous waste facility capable of accepting the product.

**3.2 Dross Piles:** The Removal Site Evaluation identified from 1738 to 2611 cubic yards of contaminated soil and waste above the KDHE Tier 2 level for non residential use. This is in the form of dross piles scattered around the property and the soil immediately in contact with the piles.

**3.3 Other Waste:** KDHE has also recommended that waste material containing aluminum dross and other waste debris that did not test above the 1000 mg/kg for lead be gathered and disposed of with the material that tested above the Tier 2 level. This material makes up approximately 7000 to 10,500 additional cubic yards of waste.

### 4.0 Cleanup Options

**4.1 TCLP waste:** This is the material in the two dross piles and the three barrel groups that exceeded the TCLP testing. It was estimated at approximately 5 cubic yards of volume by KDHE personnel. Because of its potential mobility, it must be disposed of in a facility that can handle hazardous waste, or recycled in an industrial process acceptable to KDHE.

Bourbon County investigated several alternatives for disposal of this product. One included recycling at a nearby aluminum smelter. This

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option did not receive favorable response from the smelter due to concerns of potential contamination of their waste stream. Another lead recycling facility in Missouri was called but their process was not compatible with processing aluminum dross. Containment in concrete on site was also investigated and that option was considered a problem with permitting and long term care and handling. Another option considered was sending the material to a hazardous waste disposal facility in Waynoka, Oklahoma. This also proved unacceptable as the aluminum dross was found to be reactive with caustics used in the stabilization process at the Waynoka facility. Finally, PSC Environmental Services of Kansas City, Mo. was contacted and an agreement proposed for their company to dispose of the material. PSC estimated there would be not over 5 cubic yards of the material, it would be containerized in plastic single cubic yard boxes by PSC personnel at the site, and transported out of state for disposal. The Bourbon County Commission approved the use of PSC at their commission meeting of June 25<sup>th</sup>, 2012.

**4.2 Dross above Tier 2 Levels:** This is the material in the dross piles that tested above Tier 2 levels for non-residential contamination. It is estimated at between 1738 and 2611 cubic yards. One option recommended in the Removal Site Evaluation Report is that the material be disposed of on site in a former quarry pit along the west side of the County's property (Figure 1).

**4.3 Dross and Other Waste Below the Tier 2 Level:** This is the material located in dross piles that did not contain the level of lead contamination requiring action in non-residential areas. It is estimated at between 7000 and 10,500 cubic yards of material. It is also recommended that this material be disposed of in the same location as the material testing above the Tier 2 level since the piles are intermingled across the site and the variation in sampling indicates that "hot" spots could be present in the lower contaminated piles making them a potential hazard in the future. In addition, if the entire

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property is to be returned to a higher level of use, these areas also need cleaned up to avoid future problems with land use.

## 5.0 Implementing The Plan

**5.1 TCLP Waste:** The material was packaged by PCS personnel on July 24, 2012 at the site. Packaging consisted of one cubic yard cardboard boxes with plastic lining in the form of large plastic bags filled with the material. A total of 5 boxes were used with the closed boxes placed on pallets and stored in one of the sheds on the property awaiting removal by PCS to a final disposal site. Bourbon County provided a loader and operator to handle the loading and moving of the boxes. PCS personnel handled the loading of the boxes and sealing of the bags.

Samples were taken by KDHE personnel on the day the material was packaged. Results of the lab tests of the material are included in Appendix A.

The material was stored on site until PCS arrived with a truck for removal on August 23, 2012. At that time the boxes were loaded into an enclosed van trailer and removed from the site for final disposal at a site determined by PCS. The RCRA forms and manifest documents are attached in Appendix A. Photos of the removal process are included in Appendix C.

**5.2 Dross Above and Below Tier 2 Levels:** Bourbon County proposes to conduct the cleanup utilizing county forces to remove and consolidate the dross piles in the former quarry area. The former quarry area will be cleared of brush and loose stone and filled with dross and other waste material located in and around the dross piles in a manner that when the final cover material and topsoil is added, will fill in the site to above the pre-quarry elevation, beginning at the south end and progressing north as space is needed. It is felt that filling back to above the original ground level will allow surface runoff to move freely across the site preventing ponding and surface water infiltration into the material below. Runoff from the site will be directed away from the

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fill area to prevent ponding and infiltration into the cover material. When the waste material reaches an elevation within 30 inches of the proposed final grade, filling will cease and another area will be opened up to the north, progressing the fill area northward to the end of the old quarry excavation, if needed.

**5.3 Cover Material:** Once the contaminated material has all been removed to the old quarry site, the site will be covered with a 30 inch thick cap of clay material and topsoil obtained from County owned land east of the railroad tracks and south of Noble Road. BER Policy RS-48 was utilized to determine the suitability of the borrow area for use as cover material. Soils were classified as Type CL by laboratory testing for Atterberg Limits and Uniform Soil Classification methods (USCS). Soil from the proposed borrow area was also tested for permeability utilizing ASTM D-5084 falling head permeability tests with values obtained from disturbed samples of  $5.30 \times 10^{-9}$  cm/sec at 95% of Standard Proctor Density. Laboratory permeability tests and classification tests are shown in Appendix B. The soil is classified as a Zaar silt clay soil in the USDA Bourbon County soil survey and is listed as having a permeability of less than 0.06 inches per hour. Although the soil is a fat clay, according to the USDA Soil Survey, it will grow grass and when used in a well drained area and should be adequate for establishing a grass cover vegetation over the clay cover cap.

The soil to be used for cover was tested by PACE Laboratories to determine the composition of the parent clay material that would be used. Results of the tests are shown in Appendix B of this report. Levels of contaminants were found to be well below the levels shown for soil pathway contaminants in Appendix A "KDHE Tier 2 Risk Based Summary Table" as shown in the KDHE RSK Manual, 5<sup>th</sup> Version dated October 2010.

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Topsoil found in the same area was not tested for contaminants as the area was noted as undisturbed former cropland but the topsoil was tested for fertility and was found to need a small amount of nitrogen and a larger amount of phosphorus for the establishment of native grass cover. Results of the K-State Soils lab for tests on the topsoil are also shown in Appendix B.

**5.4 Quality Control:** Periodic inspections by the supervising on site engineer will be conducted as the County forces advance in the removal process from areas near the disposal pit to areas farther away from the pit. Once the material has been removed to the final disposal area, KDHE personnel will be notified so that testing can be conducted on the cleaned up areas to determine if any residue is left. Once the contaminated material has all been removed to the disposal pit, the cover material will be hauled on to the site from the borrow area east of the property. Material used in the construction of the clay cover will be placed in lifts no thicker than 6 inches of compacted material by County forces and compacted by either controlled travel of loaded rubber tired earthmoving equipment or sheepsfoot roller to a density of 95% Standard Proctor density as determined by laboratory compaction testing using ASTM D698. Field compaction will be verified by the supervising on site engineer utilizing nuclear density tests periodically to establish compaction techniques and verifying compactive effort. A minimum of one passing test per each 100 foot by 100 foot grid of each completed lift shall be conducted on cover material to verify quality of compactive effort in order to replicate laboratory permeability standards. KDHE personnel will verify the removal area has been cleared of contaminated waste by testing the soil under the dross piles areas with an XRF analyzer after the material has been removed to the disposal area. Visual observation of the dross removal will be conducted by the on site engineer to determine if the area is ready for testing by KDHE personnel.

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**5.5 Quantity:** The quarry site has an estimated capacity of over 15,000 cubic yards excluding the 30 inches of cover material required for the cap which would require approximately 4400 CY if the entire site is utilized.

**6.0 Estimated Costs**

**6.1 TCLP Material:** The cost of disposal of the 5 boxes of the material that failed the TCLP test was \$7371.83, including all labor involved in loading the material, taxes and transportation costs. The paid invoice is also attached in Appendix A.

**6.2: Dross Above and Below Tier 2 Levels:** Although the County is doing the work with their own forces, a cost estimate is useful to determine the worth of the effort when compared to commercial costs. The following estimate is for a contracted job using outside forces only.

Mobilization.....	\$ 5,000
Clearing and debris removal over 10 acre site.....	\$10,000
Relocate 13000 cubic yards of contaminated fill @ \$4/CY .....	\$ 52,000
Cover with 3500 cubic yards of cover material @ \$4/CY.....	\$ 14,000
Seeding and fertilizing .....	\$ 5,000
<b>Total.....</b>	<b>\$86,000</b>

Above costs are based on the rough estimates of volumes supplied by the KDHE survey and may increase or decrease as material is moved and placed in the disposal area.

**7.0 Post Closure**

**7.1 Environmental Use Control:** Once the site work has been completed, Bourbon County will work with KDHE to develop Environmental Use Controls (EUC) to restrict future uses of the facility and develop a long term maintenance plan for the care and preservation of the impervious soil cap. The exact form of

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the EUC and the long term maintenance plan will be developed through mutual agreement with KDHE and the Bourbon County Commission.

**7.2 Leachate Management:** In addition to land use controls, Bourbon County will construct a small leachate and surface runoff collection basin at the downstream (north) end of the dross disposal area to temporarily detain any leachate from the quarry floor area and surface runoff from the covered disposal area for future water quality testing. It is not anticipated that pollutants will be found in this collection basin, but if there are determined to be pollutants in that area, the County will be able to deal with the contaminated water at that time.

## **8.0 Additional Permits (ARARs and TBCs)**

Table 1 in Appendix D lists pertinent applicable or relevant and appropriate requirements (ARARs) and other items to be considered (TBCs) as listed by KDHE recommendations. Bourbon County has filed a Stormwater Pollution Prevention Plan (SWPPP) with KDHE to control sediment contaminated runoff from the site during the clean up process. In that plan, efforts are made to keep sediment laden runoff on site to be cleaned up and deposited in the appropriate areas after each runoff event. As part of that plan, a seeding area is shown for the areas disturbed as well as the final disposal area. The SWPPP NOI is shown in Appendix E.

In the process of filing the NOI, KDWP and the Kansas Biological Survey was notified to determine the presence of threatened and endangered species and the Kansas Historical Society was notified to determine the presence of cultural resources on the site. The response letters from those agencies are also shown in Appendix E.

## **9.0 Health and Safety Plan**

The Health and Safety Plan is attached in Appendix F and consists of outlines forms for tailgate safety meetings at the beginning of each major event at the site, incident

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reporting forms, near miss reporting forms, and accident investigation forms. Also included is a map showing the most direct route to the hospital from the site. Health and Safety issues related to the operation of heavy earthmoving equipment and personnel safety will be managed on site by Marty Pearson, Road and Bridge Superintendent for Bourbon County, who is certified through the Mine Safety and Health Administration (MSHA) for activities at the various active County limestone quarries scattered throughout the County. The County is also investigating the use of a certified HAZWOPER person already in the County's work force for use on this project. If one is found, or if one of the current employees becomes certified in the HAZWOPER training program, that person will be in charge of daily health and safety issues for the various workers utilized on site.

## **10.0 Figures and Appendices**

<b>Appendix A.....</b>	<b>Material Disposal Manifests, etc. for TCLP waste</b>
<b>Appendix B.....</b>	<b>Soil Tests for cover material and topsoil</b>
<b>Appendix C.....</b>	<b>Photos of Waste Removal</b>
<b>Appendix D.....</b>	<b>Table 1; ARARs and TBCs</b>
<b>Appendix E.....</b>	<b>SWPPP NOI, State Agencies Correspondence</b>
<b>Appendix F.....</b>	<b>Health and Safety Plan</b>
<b>Title Page.....</b>	<b>Location Map</b>
<b>Figure 1.....</b>	<b>Existing Topographic Map</b>
<b>Figure 2.....</b>	<b>Location Map</b>
<b>Figure 3.....</b>	<b>Aerial Site Map</b>
<b>Figure 4.....</b>	<b>Disposal Area Final Contours</b>
<b>Figure 5.....</b>	<b>Cross Sections</b>
<b>Figure 6.....</b>	<b>Cross Sections</b>
<b>Figure 7.....</b>	<b>Cross Sections</b>
<b>Figure 8.....</b>	<b>Seeding Plan</b>
<b>Figure 9.....</b>	<b>Typical Cross Sections of Disposal areas and shallow containment basin</b>
<b>Figure 10.....</b>	<b>Seeding Plan</b>

**APPENDIX A: MATERIAL DISPOSAL MANIFESTS;  
INVOICES FOR TCLP WASTE;  
KDHE TEST RESULTS**

**PSC- Solvent Recovery Corporation**  
**RCRA Land Disposal Restriction Notification Form EZ - Page 1 of 2**

Generator: WADE'S ALUMINUM US EPA ID No. KSR000512905  
PSC Prequal No. 548733-00 Manifest Doc. No. 005699232FLE

The wastes identified on this form are subject to the land disposal restrictions of 40 CFR Part 268. The wastes do not meet the treatment standards specified in Part 268, Subpart D. Pursuant to 40 CFR 268.7(a), the required information applicable to each waste is identified below (check all boxes that apply). If D001-D043 boxes are checked generator must determine the underlying hazardous constituents [268.9(a)]. Complete and attach Form UC to address underlying hazardous constituents as defined at 268.2(i) (unless D001 nonwastewaters treated by CMBST, RORGS, OR POLYM of 268.42, Table 1):

Treatability Group:  Wastewater  Nonwastewater  
(Wastewaters contain less than 1% filterable solids and less than 1% Total Organic Carbon)

- D001 Ignitable (except for High TOC) managed in non-CWA/non-CWA-equivalent/non Class I SDWA systems
- D001 Ignitable (except for High TOC) managed in CWA/ CWA-equivalent/Class I SDWA systems
- D001 High TOC Ignitable (greater than 10% total organic carbon)
- D002 Corrosive managed in non-CWA/non-CWA-equivalent/non Class I SDWA systems
- D002 Corrosive managed in CWA/ CWA-equivalent/Class I SDWA systems
- D003 Reactive Sulfides based on 261.23(a)(5)
- D003 Reactive Cyanides based on 261.23(a)(5)
- D003 Water Reactives based on 261.23(a)(2),(3) and (4) managed in non-CWA/non-CWA-equivalent/non Class I SDWA systems
- D003 Water Reactives based on 261.23(a)(2),(3) and (4) managed in CWA/ CWA-equivalent/Class I SDWA systems
- D003 Other Reactives based on 261.23(a)(1)(6)
- D004 Arsenic  D005 Barium  D006 Cadmium  D006 Cadmium-containing batteries RTHRM
- D007 Chromium  D008 Lead  D008 Lead acid batteries RLEAD
- D009 High mercury inorganic (>260 mg/kg total), including incinerator residue and residues from RMERC
- D009 High-mercury organic (>260 mg/kg total), not including incinerator residue
- D009 Low-mercury (<260 mg/kg total)
- D009 All D009 wastewaters
- D010 Selenium
- D011 Silver
- D012 Endrin  D023 *o*-Cresol  D033 Hexachlorobutadiene
- D013 Lindane  D024 *m*-Cresol  D034 Hexachloroethane
- D014 Methoxychlor  D025 *p*-Cresol  D035 Methyl ethyl ketone
- D015 Toxaphene  D026 Cresols (Total)  D036 Nitrobenzene
- D016 2,4-D  D027 *p*-Dichlorobenzene  D037 Pentachlorophenol
- D017 2,4,5-TP (Silvex)  D028 1,2-Dichloroethane  D038 Pyridine
- D018 Benzene  D029 1,1-Dichloroethylene  D039 Tetrachloroethylene
- D019 Carbon tetrachloride  D030 2,4-Dinitrotoluene  D040 Trichloroethylene
- D020 Chlordane  D031 Heptachlor  D041 2,4,5-Trichlorophenol
- D021 Chlorobenzene  D032 Hexachlorobenzene  D042 2,4,6-Trichlorophenol
- D022 Chloroform  D043 Vinyl chloride

If this shipment carries additional waste codes that are not addressed above, identify them here (subcategory, if any, can be determined from the 268.40 table of treatment standards (e.g, low-TOC ignitables). If listed code treatment standard does not address a characteristic, identify characteristic above (56 FR 3872):

<u>EPA Waste Code</u>	<u>Subcategory (if applicable)</u>	<u>EPA Waste Code</u>	<u>Subcategory (if applicable)</u>

**PSC Solvent Recovery Corporation**  
**RCRA Land Disposal Restriction Notification EZ - Page 2 of 2**

In addition, the following wastes are included in this shipment:

- F001-F005 spent solvents. (If this box is checked, complete the F001-F005 section on this form. Check the hazardous waste number(s) that applies, and identify the constituents likely to be present in the waste.)

The wastes identified on this form are subject to the land disposal restrictions of 40 CFR Part 268. The wastes do not meet the treatment standards specified in 40 CFR Part 268.40. The required information applicable to each waste is identified below (check all boxes that apply) If listed code treatment standard does not address a characteristic, identify characteristic above(56 FR 3872):

**F001-F005 Spent Solvents**

Check the box(es) that applies; identify the individual constituents likely to be present.

<u>Hazardous waste description</u>	<u>Regulated hazardous constituents</u>	
<input type="checkbox"/> F001 Spent halogenated solvents used in degreasing	Carbon tetrachloride Tetrachloroethylene Trichloroethylene Trichloromonofluoromethane	Methylene chloride 1,1,1-Trichloroethane 1,1,2-Trichloro-1,2,2-trifluoroethane
<input type="checkbox"/> F002 Spent halogenated solvents	Chlorobenzene Methylene chloride 1,1,1-Trichloroethane Trichloroethylene Trichloromonofluoromethane	<i>o</i> -Dichlorobenzene Tetrachloroethylene 1,1,2-Trichloroethane 1,1,2-Trichloro-1,2,2-trifluoroethane
F003 Spent non-halogenated solvents	Acetone Cyclohexanone* Ethyl benzene Methanol* Xylenes (total)	<i>n</i> -Butyl alcohol Ethyl acetate Ethyl ether Methyl isobutyl ketone
<input type="checkbox"/> F004 Spent non-halogenated solvents	<i>m</i> -Cresol <i>p</i> -Cresol Nitrobenzene	<i>o</i> -Cresol Cresol-mixed isomers (cresylic acid)
F005 Spent non-halogenated solvents	Benzene 2-Ethoxyethanol Methyl ethyl ketone Pyridine	Carbon disulfide* Isobutyl alcohol 2-Nitropropane Toluene

\*The treatment standards for carbon disulfide, cyclohexanone, and methanol nonwastewaters are based on the TCLP and apply to spent solvent nonwastewaters containing only one, two, or all three of these constituents. The treatment standards for these three constituents do not apply when any of the other F001-F005 constituents are present in the waste.

- This shipment includes F039 multisource leachate, as identified on the attached sheet(s). [If this box is checked, attach Form UC to identify individual underlying hazardous constituents likely to be present in the waste.]
- This shipment includes hazardous debris. [If this box is checked, complete and attach Form HD.]
- This shipment includes contaminated soil. [If this box is checked, complete and attach Form CS.]

As an authorized representative of the generator named above and being familiar with the waste through analysis and testing or through knowledge of the waste, all the information submitted in this Land Disposal Restriction notification form, is true and correct to the best of my knowledge.

Martin J Pearson  
Printed Name

Martin J Pearson  
Signature

8-23-12  
Date

**PSC - Solvent Recovery Corporation  
RCRA Land Disposal Restriction Notification Form UC**

Generator: WADE'S ALUMINUM

US EPA ID No KSR000512905

PSC Prequal No. 548733-00

Manifest Doc. No. 005699232FLE

*In accordance with 40 CFR 268.7(a) and 268.9 special requirements, the underlying hazardous constituents must be addressed in this waste. Per 268.2(i), "underlying hazardous constituent" means any constituent listed in 268.48, Table UTS—Universal Treatment Standard which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standard. Refer to Form-EZ (attached) for the waste code(s), treatability group, and subcategory applicable to this waste.*

**Please check the appropriate box(es):**

- This shipment includes D001 [other than 1) high-TOC ignitables, or 2) other ignitables that will be combusted or recovered], D002, D003 (other than reactive cyanides/sulfides and unexploded ordnance/other explosive devices subject to an emergency response), D004-D011 (other than those waste subcategories that have specified treatment methods in 268.40), and/or D012-D043 (other than D012-D017 wastewaters) characteristic wastes. The wastes will not be managed in CWA/CWA-equivalent/Class I SDWA systems and are indicated below. The underlying hazardous constituents in the waste, as defined in 268.2(i), are identified below or on the following page(s).
- This shipment includes F039 multisource leachate. The individual constituents likely to be present are identified below or on the following page(s).
- This shipment includes contaminated soil subject to 268.49. The constituents subject to treatment as decreed in 268.49(d) are identified below or on the following page(s).
- I have reviewed the UTS list of 268.48, and per 268.7(a), I have determined that there are no underlying hazardous constituents reasonably expected to be present in this waste.
- I have reviewed the UTS list of 268.48, and per 268.7(a), I have determined that underlying hazardous constituents are present in this waste. The underlying hazardous constituents are identified below and/or on the accompanying pages:

**The determination of underlying hazardous constituents was based on:**

- Generator's knowledge of the waste
- Analysis

*As an authorized representative of the generator named above and being familiar with the waste through analysis and testing or through knowledge of the waste, all the information submitted in this Land Disposal Restriction notification form, is true and correct to the best of my knowledge.*

Martin J. Pearson  
Printed Name

Martin J. Pearson  
Signature

8-23-12  
Date

**I. Organic Constituents:**

A2213	Aniline	Benzo(a)pyrene	Carbaryl	Chloroethane
Acenaphthene	Anthracene	alpha-BHC	Carbenzadim	bis(2-Chloroethoxy)methane
Acenaphthylene	Aramite	beta-BHC	Carbofuran	bis(2-Chloroethyl)ether
Acetone	Barban	delta-BHC	Carbofuran phenol	2-Chloroethyl vinyl ether
Acetonitrile	Bendiocarb	gamma-BHC	Carbon disulfide	Chloroform
Acetophenone	Bendiocarb	Bromodichloromethane	Carbon tetrachloride	bis(2-Chloroisopropyl)ether
2-Acetylaminofluorene	Benomyl	Bromomethane/Methyl bromide	Carbosulfan	p-Chloro-m-cresol
Acrolein	Benzo(a)anthracene	4-Bromophenyl phenyl ether	Chlordane (alpha and gamma isomers)	Chloromethane/Methyl chloride
Acrylamide	Benzal chloride	n-Butyl alcohol	p-Chloroaniline	2-Chloronaphthalene
Acrylonitrile	Benzene	Butyl benzyl phthalate	Chlorobenzene	2-Chlorophenol
Aldicarb sulfone	Benzo(b)fluoranthene	Butylate	Chlorobenzilate	3-Chloropropylene
Aldrin	Benzo(k)fluoranthene	2-sec-Butyl-4,6-dinitrophenol/Dinoseb	2-Chloro-1,3-butadiene	Chrysene
4-Aminobiphenyl	Benzo(g,h,i)perylene		Chlorodibromomethane	

**PSC - Solvent Recovery Corporation**  
**RCRA Land Disposal Restriction Notification Form UC**

o-Cresol	1,4-Dinitrobenzene	Indeno (1,2,3-c,d) pyrene	Pentachlorobenzene	1,1,2-Trichloroethane
m-Cresol (difficult to distinguish from p-cresol)	4,6-Dinitro-o-cresol	Iodomethane	PeCDDs (All Pentachlorodibenzo-p-dioxins)	Trichloroethylene
p-Cresol (difficult to distinguish from m-cresol)	2,4-Dinitrophenol	3-Iodo-2-propynyl n-butylcarbamate	PeCDFs (All Pentachlorodibenzofurans)	Trichloromonofluoromethane
m-Cumenyl methylcarbamate	2,4-Dinitrotoluene	isobutyl alcohol	Pentachloroethane	2,4,5-Trichlorophenol
Cycloate	2,6-Dinitrotoluene	Isodrin	Pentachloronitrobenzene	2,4,6-Trichlorophenol
Cyclohexanone	Di-n-octyl phthalate	Isolan	Pentachlorophenol	2,4,5-Trichlorophenoxyacetic acid/2,4,5-T
o,p'-DDD	Di-n-propylnitrosamine	Isosafrole	Phenacetin	1,2,3-Trichloropropane
p,p'-DDD	1,4-Dioxane	Kepone	Phenanthrene	1,1,2-Trichloro-2,2,2-trifluoroethane
o,p'-DDE	Diphenylamine (difficult to distinguish from diphenylnitrosamine)	Methacrylonitrile	Phenol	Triethylamine
p,p'-DDE	Diphenylnitrosamine (difficult to distinguish from diphenylamine)	Methanol	o-Phenylenediamine	tris-(2,3-Dibromopropyl) phosphate
o,p'-DDT	1,2-Diphenylhydrazine	Methapyrene	Phorate	Vernolate
p,p'-DDT	Disulfoton	Methomyl	Phthalic acid	Vinyl chloride
Dibenz(a,h)anthracene	Dithiocarbamates (total)	Methoxychlor	Phthalic anhydride	Xylenes-mixed isomers (sum of o-,m-, and p-xylenes)
Dibenz(a,e)pyrene	Endosulfan I	<input type="checkbox"/> Methyl ethyl ketone	Physostigmine	
1,2-Dibromo-3-chloropropane	Endosulfan II	<input type="checkbox"/> Methyl isobutyl ketone	Physostigmine salicylate	<b>II. Inorganic Constituents:</b>
1,2-Dibromoethane/Ethylene dibromide	Endosulfan sulfate	Methyl methacrylate	Promecarb	Antimony
Dibromomethane	Endrin	Methyl methansulfonate	Pronamide	Arsenic
m-Dichlorobenzene	Endrin aldehyde	Methyl parathion	Propam	Barium
o-Dichlorobenzene	EPTC	3-Methylchloranthrene	Propoxur	Beryllium
p-Dichlorobenzene	Ethyl acetate	4,4-Methylene bis(2-chloroaniline)	Prosulfocarb	Cadmium
Dichlorodifluoromethane	Ethyl benzene	Methylene chloride	Pyrene	Chromium (Total)
1,1-Dichloroethane	Ethyl cyanide/Propanenitrile	Metolcarb	Pyridine	Cyanides (Total)
1,2-Dichloroethane	Ethyl ether	Mexacarbate	Safrole	Cyanides (Amenable)
1,1-Dichloroethylene	Ethyl methacrylate	Molinate	Silvex/2,4,5-TP	Fluorides
trans-1,2-Dichloroethylene	Ethylene oxide	Naphthalene	1,2,4,5-Tetrachlorobenzene	Lead
2,4-Dichlorophenol	bis(2-Ethylhexyl) phthalate	o-Nitroaniline	TCDDs (All Tetrachlorodibenzo-p-dioxins)	Mercury—Nonwastewater from Retort
2,6-Dichlorophenol	Famphur	p-Nitroaniline	TCDFs (All Tetrachlorodibenzofurans)	Mercury—All Others
2,4-Dichlorophenoxyacetic acid/2,4-D	Fluoranthene	Nitrobenzene	1,1,1,2-Tetrachloroethane	Nickel
1,2-Dichloropropane	Fluorene	5-Nitro-o-toluidine	1,1,2,2-Tetrachloroethane	Selenium
dis-1,3-Dichloropropylene	Formetanate hydrochloride	o-Nitrophenol	Tetrachloroethylene	Silver
trans-1,3-Dichloropropylene	Formparanate	p-Nitrophenol	2,3,4,6-Tetrachlorophenol	Sulfide
Dieldrin	Heptachlor	N-Nitrosodiethylamine	Thiodi carb	Thallium
Diethyl phthalate	Heptachlor epoxide	N-Nitrosodimethylamine	Thiophanate-methyl	Vanadium
Diethylene glycol dicarbamate	Hexachlorobenzene	N-Nitrosodimethylamine	Tirpate	Zinc
p-Dimethylaminoazobenzene	Hexachlorobutadiene	N-Nitroso-di-n-butylamine	Toluene	
2,4-Dimethyl phenol	Hexachlorocyclopentadiene	N-Nitroso-methylethylamine	Toxaphene	
Dimethyl phthalate	Hexachloroethane	N-Nitrosomorpholine	Triallate	
Dimetilan	Hexachloropropylene	N-Nitrosopiperidine	Tribromomethane/Bromoforn	
Di-n-butyl phthalate	HxCDDs (All Hexachlorodibenzo-p-dioxins)	N-Nitrosopyrrolidine	1, 2, 4-Trichlorobenzene	
	HxCDFs (All Hexachlorodibenzofurans)	Oxamyl	1,1,1-Trichloroethane	
		Parathion		
		Total PCBs (sum of all PCB isomers, or all Aroclors)		
		Pebulate		

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <i>1000000000000000</i>	2. Page 1 of <i>1</i>	3. Emergency Response Phone <i>800-424-9300</i>	4. Manifest Tracking Number <b>005699232 FLE</b>		
5. Generator's Name and Mailing Address <i>1000000000000000</i>				Generator's Site Address (if different than mailing address) <i>1000000000000000</i>			
Generator's Phone: <i>1000000000000000</i>				<i>1000000000000000</i>			
6. Transporter 1 Company Name <i>1000000000000000</i>					U.S. EPA ID Number <i>1000000000000000</i>		
7. Transporter 2 Company Name <i>1000000000000000</i>					U.S. EPA ID Number <i>1000000000000000</i>		
8. Designated Facility Name and Site Address <i>1000000000000000</i>					U.S. EPA ID Number <i>1000000000000000</i>		
Facility's Phone: <i>1000000000000000</i>					<i>1000000000000000</i>		
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
1.	<i>1000000000000000</i>	<i>60</i>	<i>1</i>	<i>70.000</i>	<i>1</i>	<i>1000</i>	
2.							
3.							
4.							
14. Special Handling Instructions and Additional Information <i>1000000000000000</i>							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offeror's Printed/typed Name <i>1000000000000000</i>				Signature <i>1000000000000000</i>		Month Day Year <i>10 20 00</i>	
16. International Shipments: <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <i>1000000000000000</i>				Signature <i>1000000000000000</i>		Month Day Year <i>10 20 00</i>	
Transporter 2 Printed/Typed Name <i>1000000000000000</i>				Signature <i>1000000000000000</i>		Month Day Year <i>10 20 00</i>	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number: _____							
18b. Alternate Facility (or Generator)					U.S. EPA ID Number		
Facility's Phone: _____					Signature of Alternate Facility (or Generator)		
					Month Day Year		
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.	2.	3.	4.				
<i>1000</i>							
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a							

GENERATOR

TRANSPORTER

DESIGNATED FACILITY



PLEASE REMIT TO  
PSC Environmental Services LLC  
P.O. BOX 3069  
HOUSTON, TX 77253-3069

**Invoice # 29300587253**

Invoice Date 09/27/2012

Customer 63834

Oracle ID# 71497 Bill to 88479

Terms Net 30 days

ATTN.: JOANNE LONG  
BOURBON COUNTY  
210 S NATIONAL  
FORT SCOTT, KS 66701

SITE ADDRESS:  
WADE'S ALUMINUM  
2263 NOBLE ROAD  
FORT SCOTT, KS 66701

ORDER 1518905 WADE'S ALUMINUM

08/23/2012	Doc No.	693604-12	Manifest 005699232FLE	Waste Receipt KCM-51848	
	1	548733-00 - ALUMINUM DROSS		6.00 @ 525.000 / BX	\$3,150.00
07/23/2012					
	Supplies :				
		BOX, CUBIC YARD BOX		6.00 @ 65.000 / E	\$390.00
08/23/2012					
	TRANSPORTATION CHARGES :				
		BOX VAN (24 FT OR 48 FT), LESS THAN LOAD (LTL), ZONE 2, TOTES, IBC, PALLET		6.00 @ 130.000 / E	\$780.00

<b>Sub Total</b>	\$4,320.00
<b>Energy Charge</b>	\$734.40
<b>Waste Fee</b>	\$9.60
<b>INVOICE TOTAL</b>	<b>\$5,064.00</b>



We honor the above merchant cards for payment. Please contact our local PSC billing office for payment instructions.



PLEASE REMIT TO  
PSC Environmental Services LLC  
P.O. BOX 3069  
HOUSTON, TX 77253-3069

Page # 1

**Invoice # 29300587278**

Invoice Date 09/27/2012

Customer 63834

Oracle ID# 71497 Bill to 88479

Terms Net 30 days

ATTN.: JOANNE LONG  
BOURBON COUNTY  
210 S NATIONAL  
FORT SCOTT, KS 66701

SITE ADDRESS:  
WADE'S ALUMINUM  
2263 NOBLE ROAD  
FORT SCOTT, KS 66701

ORDER 1518905 WADE'S ALUMINUM

07/23/2012

LABOR CHARGES :

MOBILIZATION/DEMobilIZATION, PER DIEM, LABOR	1.00 @ 1972.500 / R	\$1,972.50
---	---------------------	------------

Sub Total	\$1,972.50
Energy Charge	\$335.33
<b>INVOICE TOTAL</b>	<b>\$2,307.83</b>



We honor the above merchant cards for payment. Please contact our local PSC billing office for payment instructions.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number KBR000512905	2. Page 1 of 1	3. Emergency Response Phone (877) 577-2889	4. Manifest Tracking Number 005699232 FL				
5. Generator's Name and Mailing Address WIDE'S ALUMINUM 2253 NOBLE ROAD FORT SCOTT KS 65701 Generator's Phone: FORT SCOTT KS 65701				Generator's Site Address (if different than mailing address) WIDE'S ALUMINUM 2253 NOBLE ROAD FORT SCOTT KS 65701 ( )					
6. Transporter 1 Company Name NORTRU, LLC					U.S. EPA ID Number MID002109275				
7. Transporter 2 Company Name					U.S. EPA ID Number				
8. Designated Facility Name and Site Address Solvent Recovery, LLC 715 Mulberry St. Facility's Phone: Kansas City, MO 64101 (800) 755-8732					U.S. EPA ID Number MO00000610765				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
	1. KBR077 HAZARDOUS WASTE, SOLID, N.O.S. (LEAD) 9 PG(II) R(0000)			No	Type				
	R			6	CF	9600	P	D009	
	2.								
	3.								
4.									
14. Special Handling Instructions and Additional Information 11) 543733 00 - (R61171) ALUMINUM CROSS									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offeror's Printed/Typed Name Martin J Pearson					Signature Martin J Pearson			Month Day Year 8 23 12	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____									
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Mark Overteit									
Signature Mark Overteit					Month Day Year 8 23 12				
18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
18b. Alternate Facility (or Generator)					Manifest Reference Number: _____ U.S. EPA ID Number _____				
18c. Signature of Alternate Facility (or Generator) _____ Month Day Year _____									
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1		2		3		4			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a									
Printed/Typed Name Clay Evans					Signature Clay Evans			Month Day Year 9 14 12	

13-006-03010



**KANSAS HEALTH AND ENVIRONMENTAL LABORATORIES**  
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

**REPORT OF ANALYSIS**

**INORGANIC CHEMISTRY**

Report To: BUREAU OF ENV. REMEDIATION  
Maura O'Halloran  
CURTIS SOB, SUITE 410  
TOPEKA KS 66612

Analysis Code: PT Lab Number: 583569

Site ID: 4EM80  
Account Code: EB

Collection Location: Wade's Aluminum C3-006-03010 WP7-N+6"

Collector: Maura O'Halloran

Matrix: Soil

Collect Depth:

Date/Time Collected: 07/24/12 09:30

Date/Time Received: 08/10/12 14:05

Sample Comments:

Parameter	Analytical Result	Units	Analysis Date	Analytical Method
Lead (Total)	120	mg/Kg	08/24/12	EPA 6010
Percent Solids	92	Percent	08/14/12	EPA 1311

**Analytical Comments:**

Results for total metals are expressed on a dry weight basis.

Reporting Analyst: MDB *MDB*  
Date Reported: 08/29/12  
Copies To: File

< - Not Detected at Indicated Level  
\* - Holding Time Exceeded

BER SCANNED

AUG 30 2012

RECEIVED

AUG 30 2012

BUREAU OF ENVIRONMENTAL PROTECTION

Laboratory Customer Service - (785) 296-1620

Laboratory Fax - (785) 296-1641

C3-006-03010



**KANSAS HEALTH AND ENVIRONMENTAL LABORATORIES**  
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

**REPORT OF ANALYSIS**

**INORGANIC CHEMISTRY**

Report To: BUREAU OF ENV. REMEDIATION  
Maura O'Halloran  
CURTIS SOB, SUITE 410  
TOPEKA KS 66612

Analysis Code: PT Lab Number: 583570

Site ID: 4EM80  
Account Code: EB

Collection Location: Wade's Aluminum  
Collector: Maura O'Halloran  
Date/Time Collected: 07/24/12 09:45

C3-006-03010 GRPX-S  
Matrix: Soil

Collect Depth:  
Date/Time Received: 08/10/12 14:07

Sample Comments:

Parameter	Analytical Result	Units	Analysis Date	Analytical Method
Lead (Total)	560	mg/Kg	08/24/12	EPA 6010
Percent Solids	93	Percent	08/14/12	EPA 1311

**Analytical Comments:**

Results for total metals are expressed on a dry weight basis.

Reporting Analyst: MDB  
Date Reported: 08/29/12  
Copies To: File

< - Not Detected at Indicated Level  
\* - Holding Time Exceeded

BER SCANNED

AUG 30 2012

RECEIVED

AUG 30 2012

Laboratory Customer Service - (785) 296-1620  
Laboratory Fax - (785) 296-1641

BUREAU OF ENVIRONMENTAL REMEDIATION

**APPENDIX B: COVER MATERIAL TESTS:  
PACE LABORATORY TESTS,  
AEA PERMEABILITY TESTS,  
AEA ATTERBURG LIMITS,  
AEA PROCTOR DENSITY,  
KSU SOIL FERTILITY TESTS**



Pace Analytical Services, Inc.  
9608 Loiret Blvd  
Lenexa, KS 66219  
(913)599-5665

October 18, 2012

FRANK YOUNG  
Agricultural Engineering

RE: Project: WADE'S ALUMINUM  
Pace Project No.: 60130602

Dear FRANK YOUNG:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mary Jane Walls for  
Angie Brown  
Angie.Brown@pacelabs.com  
Project Manager

Enclosures



**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc.



Pace Analytical Services, Inc.  
9608 Loiret Blvd  
Lenexa, KS 66219  
(913)599-5665

## CERTIFICATIONS

Project: WADE'S ALUMINUM  
Pace Project No.: 60130602

---

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2

## REPORT OF LABORATORY ANALYSIS

Page 2 of 9

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### SAMPLE SUMMARY

Project: WADE'S ALUMINUM  
Pace Project No.: 60130602

---

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60130602001	BOURBON COUNTY WADES	Solid	10/03/12 00:00	10/04/12 18:22

---

### REPORT OF LABORATORY ANALYSIS

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**SAMPLE ANALYTE COUNT**

Project: WADE'S ALUMINUM  
Pace Project No.: 60130602

---

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60130602001	BOURBON COUNTY WADES	EPA 6010	TDS	5
		ASTM D2974	TMD	1

**REPORT OF LABORATORY ANALYSIS**

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### ANALYTICAL RESULTS

Project: WADE'S ALUMINUM  
Pace Project No.: 60130602

Sample: **BOURBON COUNTY WADES** Lab ID: 60130602001 Collected: 10/03/12 00:00 Received: 10/04/12 18:22 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b>		Analytical Method: EPA 6010 Preparation Method: EPA 3050						
Arsenic	3.8	mg/kg	1.9	2	10/09/12 17:00	10/12/12 16:28	7440-38-2	
Cadmium	ND	mg/kg	0.97	2	10/09/12 17:00	10/12/12 16:28	7440-43-9	
Chromium	16.4	mg/kg	0.97	2	10/09/12 17:00	10/12/12 16:28	7440-47-3	
Lead	12.1	mg/kg	0.97	2	10/09/12 17:00	10/12/12 16:28	7439-92-1	
Zinc	50.3	mg/kg	19.4	2	10/09/12 17:00	10/12/12 16:28	7440-66-6	
<b>Percent Moisture</b>		Analytical Method: ASTM D2974						
Percent Moisture	20.1	%	0.50	1		10/12/12 00:00		

**QUALITY CONTROL DATA**

Project: WADE'S ALUMINUM

Pace Project No.: 60130602

QC Batch: MPRP/19865      Analysis Method: EPA 6010  
 QC Batch Method: EPA 3050      Analysis Description: 6010 MET  
 Associated Lab Samples: 60130602001

METHOD BLANK: 1075651      Matrix: Solid  
 Associated Lab Samples: 60130602001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	10/12/12 14:07	
Cadmium	mg/kg	ND	0.50	10/12/12 14:07	
Chromium	mg/kg	ND	0.50	10/12/12 14:07	
Lead	mg/kg	ND	0.50	10/12/12 14:07	
Zinc	mg/kg	ND	10.0	10/12/12 14:07	

LABORATORY CONTROL SAMPLE: 1075652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	41.6	83	80-120	
Cadmium	mg/kg	50	42.1	84	80-120	
Chromium	mg/kg	50	42.8	86	80-120	
Lead	mg/kg	50	43.7	87	80-120	
Zinc	mg/kg	50	44.1	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1075653      1075654

Parameter	Units	60130562006		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Arsenic	mg/kg	2.7	47.6	46.5	43.8	41.4	86	83	75-125	6	20	
Cadmium	mg/kg	21.8	47.6	46.5	63.1	62.7	87	88	75-125	1	20	
Chromium	mg/kg	59.7	47.6	46.5	90.4	102	64	92	75-125	12	20 M1	
Lead	mg/kg	803	47.6	46.5	754	880	-103	167	75-125	15	20 M1	
Zinc	mg/kg	534	47.6	46.5	554	621	42	189	75-125	12	20 M1	

**QUALITY CONTROL DATA**

Project: WADE'S ALUMINUM  
Pace Project No.: 60130602

QC Batch: PMST/7838                      Analysis Method: ASTM D2974  
QC Batch Method: ASTM D2974            Analysis Description: Dry Weight/Percent Moisture  
Associated Lab Samples: 60130602001

METHOD BLANK: 1078160                      Matrix: Solid  
Associated Lab Samples: 60130602001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	10/12/12 00:00	

SAMPLE DUPLICATE: 1078332

Parameter	Units	60130603001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.7	23.0	3	20	

## QUALIFIERS

Project: WADE'S ALUMINUM

Pace Project No.: 60130602

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WADE'S ALUMINUM

Pace Project No.: 60130602

---

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130602001	BOURBON COUNTY WADES	EPA 3050	MPRP/19865	EPA 6010	ICP/16346
60130602001	BOURBON COUNTY WADES	ASTM D2974	PMST/7838		

---



### CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

606130602

Page: of

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: <u>Agricultural Engineering Associates</u>		Report To: <u>Frank Young</u>		Attention: <u>Angie</u> <u>Frank Young</u>	
Address: <u>Box 4, Uniontown KS</u>		Copy To:		Company Name: <u>AEA</u>	
Email To: <u>Frank G ageengineering.com</u>		Purchase Order No.:		Address: <u>Box 4 Uniontown KS 66779</u>	
Phone: <u>620 756 7000</u> Fax: <u>620 756 4600</u>		Project Name: <u>WADES Aluminum</u>		Pace Quote Reference:	
Requested Due Date/TAT:		Project Number:		Pace Project Manager: <u>Angie</u>	
				Pace Profile #:	

REGULATORY AGENCY	
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA
<input type="checkbox"/> DRINKING WATER	<input type="checkbox"/> OTHER
SITE LOCATION	
<input type="checkbox"/> GA	<input type="checkbox"/> IL
<input type="checkbox"/> IN	<input type="checkbox"/> MI
<input type="checkbox"/> NC	<input type="checkbox"/> OH
<input type="checkbox"/> SC	<input type="checkbox"/> WI
<input type="checkbox"/> OTHER	

ITEM #	Section D Required Client Information		MATRIX CODE	SAMPLE TYPE G-GRAB C-COMP	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Requested Analysis: <u>EPA 6010 AS Cd Pb Zn Cu</u>	Pace Project No. / Lab ID: <u>1891u CU</u>
	SAMPLE ID				COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	H <sub>2</sub> SO <sub>4</sub>	Methanol	Other		
	One Character per box. (A-Z, 0-9, -)				DATE	TIME	DATE	TIME												
1	BOURBON COUNTY WADES SL				10/3/12		10/3/12		1											
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Additional Comments:	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	<u>Frank Young</u>	<u>10/3/12</u>		<u>[Signature]</u>	<u>10/4</u>	<u>1822</u>	Temp in °C	Received on ice	Curled Sealed Cooler	Samples Intact
								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
								<input type="checkbox"/> Y/N	<input type="checkbox"/> Y/N	<input type="checkbox"/> Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Frank Young

SIGNATURE OF SAMPLER: [Signature] DATE SIGNED (MM/DD/YYYY): 10/3/12



Sample Condition Upon Receipt

Client Name: AEA

Project # 100130602

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other VFA

Tracking #: \_\_\_\_\_ Pace Shipping Label Used?  Yes  No

Custody Seal on Cooler/Box Present:  Yes  No Seals intact:  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other ZIPIC

Thermometer Used: (-191) T-194 Type of Ice: (Vet) Blue None  Samples on Ice, cooling process has begun

Cooler Temperature: 3.0  
Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/15/12

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix:	SL	
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Exceptions: VOA, coliform, TOC, O&G, MI-DRO (water), Phenolics	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lot # of added preservative
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased):		
Headspace in VOA vials (>6mm).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State: NC

Client Notification/ Resolution: Copy COC to Client? (Y) (N) Field Data Required? (Y) (N)  
Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 10/8/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

# PERMEABILITY TEST REPORT

## PROJECT DATA

<b>PROJECT NAME:</b> Bourbon Co. Aluminum Site	<b>SITE LOCATION</b>	
<b>PROJECT NO:</b> 3751	<b>LEGAL:</b>	
<b>OWNER:</b> Bourbon County	<b>COUNTY:</b> Bourbon	<b>STATE:</b> KS

## SAMPLE DATA

Visual Description	black silty clay	Percent Compaction	NA
Sample Type	Recompacted	Liner Thickness	NA
Sample Location		Sampling Date	NA

## PERMEABILITY TEST SPECIMEN DATA

Specimen Parameters	Before Test	After Test	Specimen Parameters	Before Test	After Test	Note:
Wt of compacted soil (g)	444.53	446.80	Specimen length (in)	2.12	2.10	
Tare can number	GR3	GR1	Specimen diameter (in)	2.95	2.96	
Wt of tare can (g)	20.23	21.86	Specimen volume (cm <sup>3</sup> )	238.21	236.00	
Wt of wet sample + TC (g)	41.76	46.38	Dry density (g/cm <sup>3</sup> )	1.45	1.46	
Wt of dry sample + TC (g)	36.95	40.92	Specific gravity (g/cm <sup>3</sup> )	2.68	2.68	
Wt of water (g)	4.81	5.46	Void ratio	0.849	0.832	
Wt. of dry sample (g)	16.72	19.06	Porosity (0-1.0)	0.459	0.454	
Water content (%)	28.77	28.65	Saturation (%)	90.78	92.26	

## FALLING HEAD PERMEABILITY TEST DATA

Elapse time (sec.)	Gauge Pressure (psi)			Hydraulic Gradient	Burette Reading (cc)		Test Temp. (°C)	Permeability K <sub>20</sub> (cm/sec)
	Cell	In (P <sub>i</sub> )	Out (P <sub>o</sub> )		In (V <sub>i</sub> )	Out (V <sub>o</sub> )		
0	75.0	70.0	68.0	26	23.3	1.2	20	//
23715	75.0	70.0	68.0	26	23.0	1.5	20	1.33e-08
76393	75.0	70.0	67.9	27	22.5	2.0	20	6.64e-09
88802	75.0	70.0	68.0	26	22.2	2.1	20	2.27e-09
109779	75.0	69.9	68.0	25	22.0	2.3	20	1.94e-09
164368	75.0	70.0	68.1	25	21.8	2.8	20	2.33e-09
Average	75	69.98	67.98	26			20	5.30e-09

Test Cell No.:	D	Start Test Date:	April 23, 2013
Saturation Pressure (psi):		End Test Date:	April 25, 2013

## PERMEABILITY, DENSITY AND MOISTURE PARAMETERS

K <sub>20</sub> (cm/sec.)	K <sub>20</sub> (in/day)	Dry Density (lbs/ft <sup>3</sup> )	Moisture Content (dry wt. Basis)(%)
5.30e-09	1.80e-04	90.47	28.77

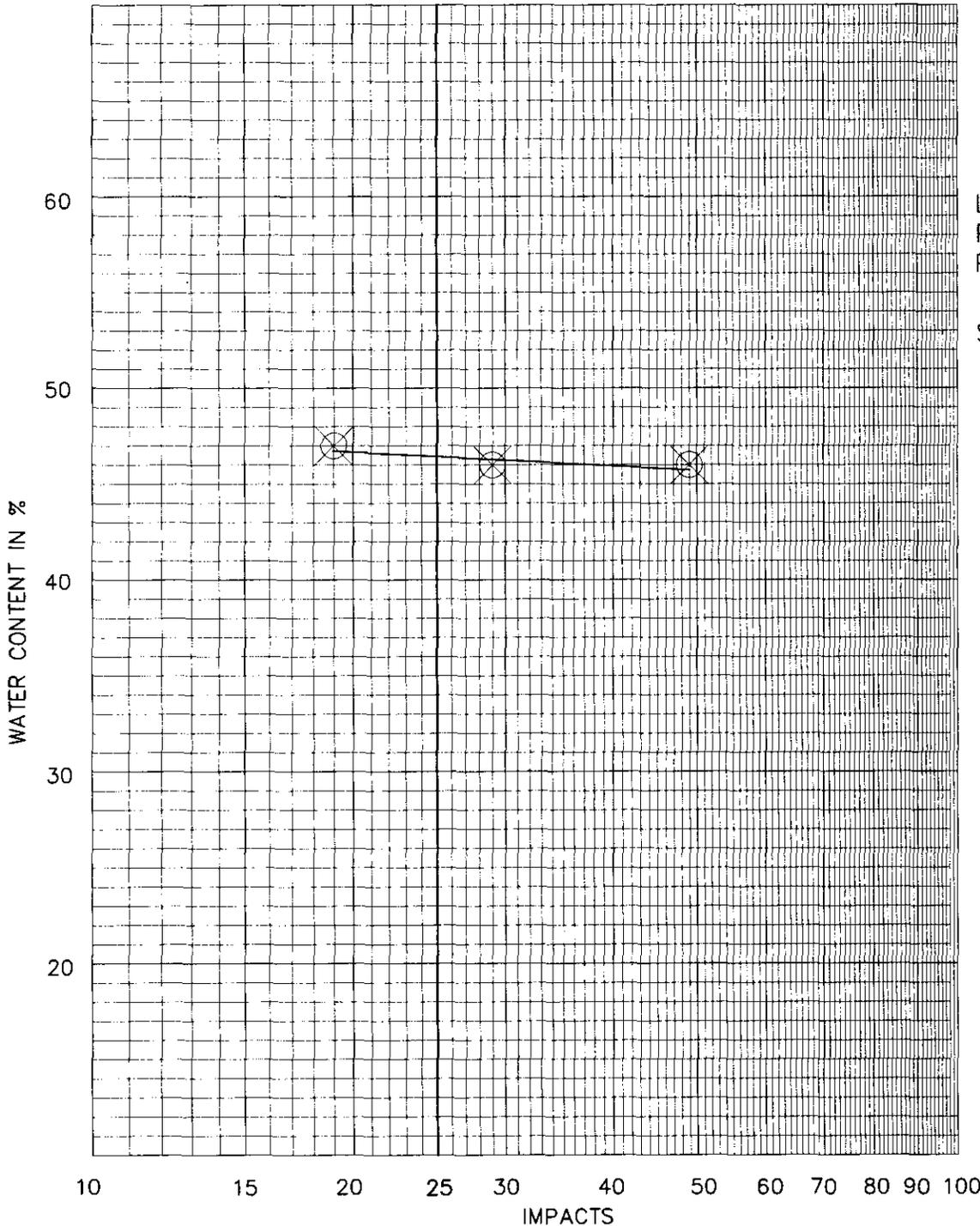
<b>Agricultural Engineering Associates</b> 1000 Promontory Drive, P O Box 4 Uniontown, KS 66779 Phone: (620) 756-1000 Fax: (620) 756-4600	Tested By: CF Checked By: KRN Test Date: 4/23/13 File No.:
---	---

# AGRICULTURAL ENGINEERING ASSOCIATES, INC.

## REPORT OF LIQUID LIMITS, PLASTIC LIMITS, PLASTIC INDEX

PROJECT: BBCO WADE'S ALUMINUM DISPOSAL OWNER: BOURBON COUNTY DATE: 4-24-13  
 TEST#: \_\_\_\_\_ BOREHOLE #: \_\_\_\_\_ DEPTH: \_\_\_\_\_ BY: FRANKLIN  
 DESCRIPTION: BLACK CLAY  
 (ASTM D-2487)

WEIGHT IN GRAMS	TARE PLUS WET SOIL	28.59	30.58	27.90	WEIGHT IN GRAMS	TARE PLUS WET SOIL	27.07	28.57	
	TARE PLUS DRY SOIL	26.00	27.73	25.86		TARE PLUS DRY SOIL	25.96	27.74	
	WATER $W_w$	2.59	2.85	2.04		WATER $W_w$	1.11	1.13	
	TARE	20.53	21.58	21.46		TARE	20.22	21.65	
	DRY SOIL $W_s$	5.47	6.15	4.40		DRY SOIL $W_s$	5.74	5.79	
	WATER CONTENT $W$	0.47	0.46	0.46		WATER CONTENT $W$	0.19	0.20	
	NUMBER OF BLOWS	18	29	49		PLASTIC LIMIT	19	20	



LL 46  
 PL 20  
 PI 26

SOIL CLASS CL

# Ag Engineering

1000 Promontory Dr  
Uniontown, Kansas U.S.A

Phone: (620) 756-1000

Fax: (620) 756-4600

Email: chuck@agengineering.com

## Proctor

### Proctor Information

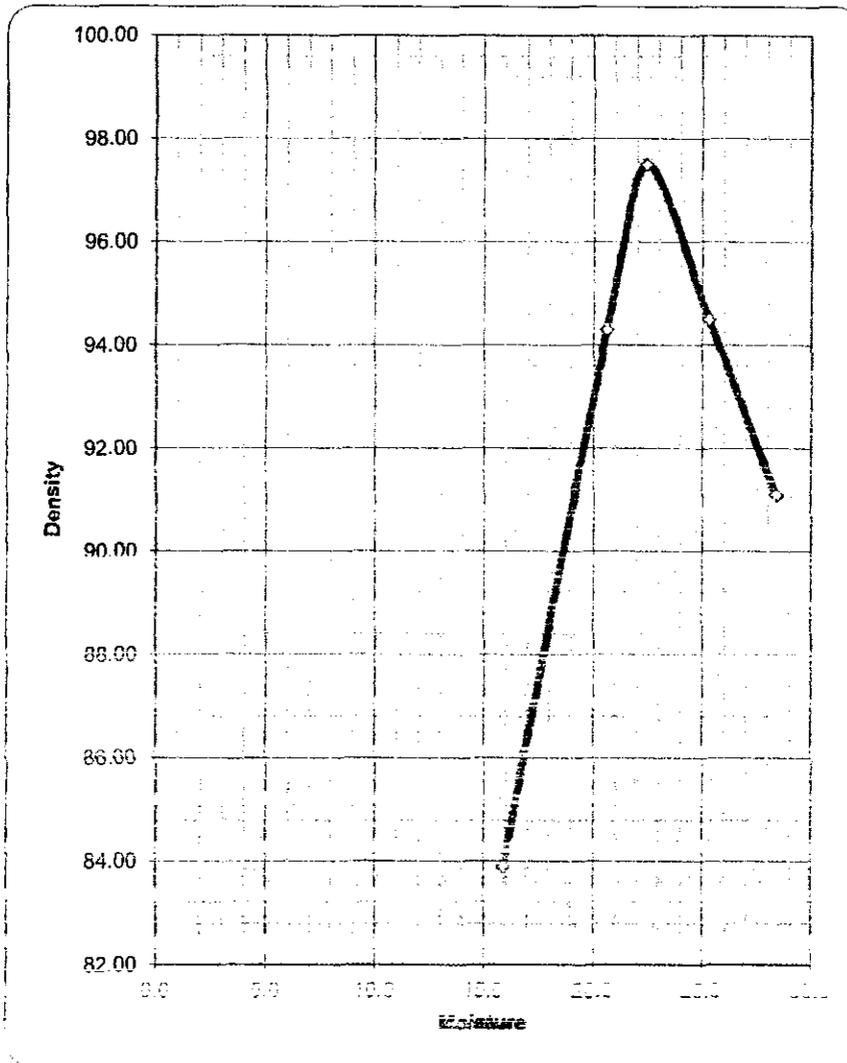
Proctor Name: Wade Al. Black Clay

Date Created: May 1, 2013

Maximum Density @ Optimum Moisture: 97.5 @ 22.4% Moisture

### Data

Dry Density	Percent Moisture
83.90	15.9
94.30	20.6
97.50	22.4
94.50	25.3
91.10	28.4





# Soil Sample Information Sheet

K-State Research and Extension  
 Soil Testing Laboratory  
 2308 Throckmorton Plant Sciences Center  
 Manhattan, KS 66506-5503  
 Tel: 785-532-7897 Fax: 785-532-7412  
 www.agronomy.ksu.edu/soiltesting/

Date Sent: 10-3-12

Grower: Frank Young - AEA

Address: Box 4

Uniontown, KS 66779

Phone: \_\_\_\_\_ County: BB

Email: \_\_\_\_\_

Submitted by:

**BB**

Package No./Name	Analysis Included	Cost
#1	pH, Buffer pH, P, K	\$6
#2	Package #1 + O.M. + NO3	\$10.50
#3	Package #1 + Zn	\$8
Irrigation	Package #1 + O.M., Zn, S, NO3, CEC	\$15.50
Environmental	Package #1 + Zn, Cu, NO3, Cl	\$14
Profile	NO3, S, Cl (0-24")	\$7

\*Individual test can be selected. For full listing of analysis offered please refer to the back of this sheet.

For Lab Use	Sample ID	Sample Depth		First Crop Choice		Second Crop Choice		Tillage	Irrigated	Previous Crop	Soil Test Requested
		Top	Sub	Intended Crop	Yield Goal	Intended Crop	Yield Goal				
003678	140			<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input checked="" type="checkbox"/> <u>Native Grass</u>		<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____		<input type="checkbox"/> Conv. <input type="checkbox"/> No-Till	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input checked="" type="checkbox"/> <u>Weeds</u>	
				<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____		<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____		<input type="checkbox"/> Conv. <input type="checkbox"/> No-Till	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____	
				<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____		<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____		<input type="checkbox"/> Conv. <input type="checkbox"/> No-Till	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____	
				<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____		<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____		<input type="checkbox"/> Conv. <input type="checkbox"/> No-Till	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corn <input type="checkbox"/> Milo <input type="checkbox"/> Soybeans <input type="checkbox"/> Wheat <input type="checkbox"/> _____	

Type of Fertilizer Recommendation for P and K (Refer to back of sheet for explanation):

**Sufficiency** – Sufficiency recommendations are based upon meeting the intended crops nutrient requirements.  
 **Build** – Build-maintenance recommendations can be used to build soil test P and K within a certain number of years.

Number of years to build P and K: \_\_\_\_\_

Comments: #140 - Bourbon County Land fill

## Price List

Soil Analysis	Price
pH	\$3.00
Bray Phosphorus	\$4.00
Olsen Phosphorus (Bicarb)	\$4.00
Mehlich III Phosphorus	\$4.00
Cations K, Ca, Mg, or Na	\$3.00
Extractable Fe, Zn, Cu, or Mn	\$3.00
KCl Extractable NH <sub>4</sub> -N	\$3.00
KCl Extractable NO <sub>3</sub> -N	\$3.00
Soluble Salts (saturation paste conductivity)	\$6.00
Salt Alkali (sol. salts, exch, Na% and pH)	\$15.00
Texture	\$12.00
Cation Exchange Capacity (Displacement)	\$15.00
Cation Exchange Capacity (Summation)	\$12.00
Chloride (Includes surface and sub sample)	\$6.00
Sulfate (Includes surface and sub sample)	\$6.00
KCl Extractable Soil Aluminum	\$3.00
Extractable B	\$3.00
Calcium Carbonate Percentage	\$20.00
Total Nitrogen and Carbon (LECO)	\$10.00
Total Nitrogen and Phosphorus (Salicylic Digest)	\$10.00
Organic Matter	\$5.00

### Plant Analysis

Plant Preparation	\$1.50
Moisture	\$3.00
Sulfuric Acid Hydrogen Peroxide Digest	\$4.00
Nitrogen	\$3.00
Phosphorus	\$3.00
Potassium	\$3.00
Nitrogen and Phosphorus	\$5.00
Nitrogen and Potassium	\$6.00
Phosphorus and Potassium	\$6.00
Nitrogen, Phosphorus, and Potassium	\$8.00
Salicylic-Sulfuric Acid Digestion (Total N and P)	\$10.00
Nitric-Perchloric Digest	\$4.00
Ca, Mg, K, Zn, Fe, Cu, Mn, or SO <sub>4</sub>	\$3.00
Plant Nitrates	\$5.00

#### **Options for Fertilizer Recommendations:**

- 'Sufficiency' fertility programs are intended to estimate the long-term average amount of fertilizer phosphorus required to, on average, provide optimum economic return in the year of nutrient application while achieving about 90-95% of maximum yield. In some years greater amounts of nutrient are required for optimum yield and economic return, while in other years less than recommended amounts of nutrient would suffice. There is little consideration of future soil test values and soil test values will likely stabilize in the 'low', crop responsive range.

- 'Build-maintenance' recommendations are intended to apply enough phosphorus or potassium to build soil test values to a target soil test value over a planned timeframe (typically 4-8 years) and then maintain soil test values in a target range in future years. If soil test values exceed the target range, no phosphorus or potassium is recommended with the exception of low starter applied rates if desired. Build-maintenance fertility programs are not intended to provide optimum economic return in a given year, but rather attempt to minimize the probability of phosphorus or potassium limiting crop yields while providing for near maximum yield potential.

## Soil Test Report

K-State Research and Extension  
 Soil Testing Laboratory  
 2308 Throckmorton Plant Sciences Center  
 Manhattan, KS 66506-5503  
 Tel: (785) 532-7897 Fax: (785) 532-7412  
 www.agronomy.ksu.edu/SoilTesting/

Grower: **Frank Young**  
 Date Received: 10/11/2012  
 Date Reported: 10/12/2012  
 County: **Bourbon**

### Soil Test Results

METHODS USED:		1:1 Soil:Water	SMP	Mod. W.B.	Cd Reduction	Colorimetric Mehlich3	Ammonium Acetate					DTPA		Ca-P	CaNO <sub>3</sub>
Lab. Number	Sample ID	Soil pH	Buffer pH	Organic Matter	Nitrate Nitrogen ppm Surface	Phosphorus ppm P <sub>o</sub>	Potassium ppm K	Calcium ppm Ca	Magnesium ppm Mg	Sodium ppm Na	Zinc ppm Zn	Copper ppm Cu	Manganese ppm Mn	Iron ppm Fe	Chloride ppm Cl
3,678	140	6.8				7	304								

### Fertilizer Recommendations

### Pounds Actual Nutrient Per Acre

### Special Tests

Sample ID	Previous Crop	Intended Crop	Yield (bu/acre)	Lime (Tons/acre)	Nitrogen (lb/acre)	Phosphorus (lb/acre)	Potassium (lb/acre)	Zinc (lb/acre)	Sulfur (lb/acre)	Chloride (lb/acre)	Boron (lb/acre)
140	weeds	Native			0	30	0		new		
					30 <sup>0</sup>	10	0		established		
									hay meadow		

Soil Salinity (mmol/L)	Cation Exchange Capacity (meq/100g)	Aluminum (ppm Al)	Iron (ppm Fe)	Texture (Clay %)

Approved by: **RJF**

Comments: **0 lb a hay meadow, apply after May 1 and no more than 30<sup>0</sup>.**

Submitted By:

**Southwind Ext Dist Bourbon County**  
 210 S. National Avenue  
 Fort Scott, KS. 66701

# Soil Test Interpretation

## Soil pH

Soil pH is a measure of the active acidity or alkalinity. A pH less than or equal to 6.9 is considered an acid soil. Neutral are soils with results equal to 7.0. If the soil pH exceeds 7.0, the soil is considered alkaline or basic. Some crops require a soil pH greater than 6.0 for normal growing conditions.

Buffer pH is a test that is run on all samples with a soil pH less than 6.45 at no extra cost. Buffer pH is a value based to calculate the amount of lime required to increase a soils pH to a more productive level. Depending on the location in the state of Kansas and intended crop, one of three target pH values are used. The amount of lime application to reach the target pH can be calculated by referencing the Buffer pH Index, or by using the equation provided below.

Target pH of 6.8 =  $[(25620 - (6360 \times \text{Buffer pH}) + (\text{Buffer pH} \times \text{Buffer pH} \times 391))] \times \text{Incorporation Depth in Inches}$

Target pH of 6.0 =  $[(12810 - (3180 \times \text{Buffer pH}) + (\text{Buffer pH} \times \text{Buffer pH} \times 196))] \times \text{Incorporation Depth in Inches}$

Target pH of 5.5 =  $[(6405 - (1590 \times \text{Buffer pH}) + (\text{Buffer pH} \times \text{Buffer pH} \times 98))] \times \text{Incorporation Depth in Inches}$

## Cations

Ammonium acetate (NH<sub>4</sub>OAc) extractable cations provide an estimate of plant available potassium (K), calcium (Ca), magnesium (Mg), and sodium (Na). These values can be used to determine the CEC of the soil. CEC is the cation exchange capacity which represents the soils ability to retain cations.

## Phosphorus

Mehlich III extractant is used in both acid and alkaline soils to measure the plant available phosphorus.

## Nitrogen

Nitrogen requirements are dependent on crop choice, yield goal, and availability of soil nitrogen. Soils test results report nitrate nitrogen (NO<sub>3</sub>-N) levels in the soil that are available for plant uptake. Results for NO<sub>3</sub>-N are reported in parts per million (ppm). To obtain a profile NO<sub>3</sub>-N value, both surface and subsoil samples should be submitted. Listed below is an equation for converting ppm NO<sub>3</sub>-N into lb/ac actual nitrogen.

## Conversion Factors

**Pounds per acre to parts per million:**  
 $\text{lbs/ac} \times 0.5 = \text{ppm}$  or  $\text{ppm} \times 2 = \text{lbs/ac}$

**Converting ppm of Soluble Nutrients (NO<sub>3</sub>-N, SO<sub>4</sub>-S, and Cl) to pounds per profile:**  
 $\text{ppm} \times 0.3 \times \text{inches in each depth}$

## Sulfur and Chloride

Sulfur and chloride is reported in ppm and represents plant available sulfur and chloride. Sandy soils low in organic matter are most commonly deficient in sulfur. In order to make accurate sulfur fertilizer recommendations, organic matter percent and irrigation water should be tested to determine an accurate sulfur recommendation.

## Micronutrients

DTPA is used to extract elements such as Zinc (Zn), Iron (Fe), Manganese (Mn), and Copper (Cu) from the soil.

For further information refer to: *Soil Test Interpretations and Fertilizer Recommendations*, publication MF-2586. This publication is accessible on the KSU Soil Testing website, or any Kansas County KSU Research and Extension Office.

Soil Test Rating (based on 6 inch sample)					
Element	Very Low	Low	Medium	High	Very High
Phosphorus (ppm P) Mehlich III	0 - 10	10 - 20	20 - 30	30 - 50	50+
Potassium (ppm K)	0 - 40	41 - 80	81 - 130	131 - 160	161+
Zinc (ppm Zn)	0.0 - 0.2	0.3 - 0.5	0.6 - 1.0	1.1 - 2.0	2.0+
Iron (ppm Fe)	0.0 - 1.0	1.1 - 2.0	2.1 - 4.5	4.6 - 10.0	10.0+
Magnesium (ppm Mg)	0 - 25	26 - 50	51 - 100	101 - 200	200+
Copper (ppm Cu)	0.0 - 0.2	0.3 - 0.4	0.5 - 0.7	0.8 - 1.0	1.0+
Manganese (ppm Mn)	0.0 - 0.5	0.6 - 1.0	1.1 - 2.0	2.1 - 4.0	4.0+
Boron (ppm B)	0.0 - 0.1	0.2 - 0.3	0.4 - 0.5	0.5 - 1.0	1.0+

## **APPENDIX C: PHOTOS OF TCLP REMOVAL OPERATION**



PHOTO 1 DÉMANTÈMENT



Duke 30 1 2012



DILATO 2 1 DORINA WASTE



Photo 4 WASTE IN BARREL



PHOTO 5 CROSS PILE



PHOTO 1 - WASTE REMOVAL



PHOTO 7 WASTE DEMOLITION



DUETO 2 Damsils REMOVED

**APPENDIX D: TABLE 1; ARARs and TBCs**

**TABLE 1  
 ARARs AND TBCs PERTINENT TO THE WADE'S ALUMINUM SITE REMOVAL  
 ACTION**

<b>Citation</b>	<b>Description</b>	<b>Category</b>	<b>Summary</b>
<b>Action and/or Chemical-Specific ARARs</b>			
40 CFR 300	<b>National Oil and Hazardous Substances Pollution Contingency Plan</b>	Applicable	Applies to any remedial or removal action involving the off-site transfer of any hazardous substance, or pollutant or contaminant (CERCLA wastes) that is conducted by EPA, States, private parties, or other Federal agencies, if the action is Fund-financed or is taken pursuant to any CERCLA legal authority.
K.A.R. 28-29-1 to 28-29-121 and K.A.R. 28-29-2101 to 28-29-2113	<b>Solid Waste Management</b>	Applicable	Applicable if solid waste will be generated, stored, or disposed at the site.
40 CFR 268	<b>Land Disposal Restrictions</b>	Applicable	Applicable to any contaminated environmental media subject to RCRA.
K.A.R. 28-31-1 to 28-31-16	<b>Hazardous Waste Management Standards and Regulations</b>	Applicable	Applicable if hazardous wastes are generated at the site.
40 CFR 261	<b>Standards for Identification and Listing of Hazardous Waste</b>	Applicable	Applicable for identifying hazardous wastes.
40 CFR 262	<b>Standards Applicable to Generators of Hazardous Waste</b>	Applicable	Applicable if hazardous waste is generated at the site.
40 CFR 263	<b>Standards Applicable to Transporters of Hazardous Waste</b>	Applicable	Applicable if hazardous waste is disposed off site.
40 CFR 264.70 to 264.77	<b>Manifesting, Record Keeping, and Reporting Requirements</b>	Applicable	Applicable if site activities are analogous to hazardous waste facility activities.
40 CRF 122.26	<b>Storm Water Discharge Requirements (NPDES)</b>	Applicable	Applicable if the site has storm water that comes in contact with construction activity.
49 USC § 5101 et seq.	<b>Federal Hazardous Materials Transportation Law</b>	Relevant and appropriate	Applicable if hazardous materials are transported to or from the site.
29 CFR 1910	<b>Occupational Safety and Health Standards</b>	Applicable	Will be applicable to workers and workplaces, including remedial sites.
K.A.R. 66-6-1 through 66-14-12	<b>Kansas Board of Technical Professions</b>	Applicable	Will be applicable if the services of a geologist, engineer or land surveyor are required for site investigations or remediation.

**TABLE 1 (CONTINUED)****Location-Specific ARARs**

<b>Citation</b>	<b>Description</b>	<b>Category</b>	<b>Summary</b>
K.S.A. 65-1, 221 to 1,235	<b>Environmental Use Controls</b>	Applicable	Legal mechanism and associated application process for imposing restrictions, prohibitions and conditions on land use for property with residual contamination at levels prohibiting unrestricted use.
7 U.S.C. § 136; 16 U.S.C. § 460 et seq.	<b>Endangered Species Act of 1973</b>	Potentially Applicable	Applicable if threatened or endangered species or their habitats are present at or near a site.
K.A.R. 115-15-1 to 115-15-4	<b>Non-Game, Threatened or Endangered Species</b>	Potentially Applicable	Will be applicable if any of the identified species are present at a site.
16 USC § 470 et seq.	<b>National Historic Preservation Act of 1966</b>	Potentially Applicable	Will be applicable if a site is listed on historic registry and if activities requiring permitting are initiated at a site.
K.A.R. 118-3 to 118-3-16	<b>Kansas Historic Preservation Act</b>	Potentially Applicable	Will be applicable if a site or building is listed on the state or federal historic registry and if activities requiring permitting are initiated at a site.
40 CFR 131	<b>Federal Water Quality Standards</b>	Potentially Applicable	May be indirectly applicable to surface water remediation and is directly applicable to surface water discharges
<b>To Be Considered (TBC)</b>			
#BER-RS-031	<b>Removal Site Evaluation (RSE)/Removal Action Design (RAD)/Removal Action (RA)</b>	To Be Considered	Establishes a management strategy and general framework for implementation of removal action activities at sites under various state cleanup programs.
#BER-RS-033	<b>Considerations for Remedial Standards</b>	To Be Considered	Identifies remedial standards and situations where they should be used.
#BER-RS-048	<b>Consideration and Selection of Borrow Sites</b>	To Be Considered	Provides guidance for the evaluation of conditions and suitability of borrow materials.
RSK Manual	<b>KDHE-Bureau of Environmental Remediation (BER), Risk Based Standards for Kansas, 5<sup>th</sup> version, October 2010</b>	To Be Considered	Compiles risk-based cleanup screening goals for contaminants in soil and groundwater.
#EPA530-F-98-026, October 1998	<b>Management of Remediation Waste under RCRA</b>	To Be Considered	Describes management of contaminated environmental media, among other issues.
#EPA530-R-97-007, May 1997	<b>Best Management Practices (BMPs) for Soils Treatment Technologies</b>	To Be Considered	Describes various BMPs during remedy implementation (e.g., fugitive dust control).
#EPA832-R-92-005, October 1992	<b>Storm Water Management for Construction Activities</b>	To Be Considered	Describes storm water pollution prevention measures.

## **APPENDIX E: SWPPP**



See Attached Sheet for Instructions

**NOTICE OF INTENT (NOI)**  
 For Authorization to Discharge Stormwater Runoff from Construction Activities  
 In accordance with the Kansas Water Pollution Control General Permit  
 Under the National Pollutant Discharge Elimination System

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form requests authorization for coverage under the Kansas Water Pollution Control general permit, or KDHE issued successor permits, issued for stormwater runoff from construction activities in the State of Kansas. Becoming a permittee obligates the discharger to comply with the terms and conditions of the general permit. **Completion of this NOI does not provide automatic coverage under the general permit. Coverage is provided and discharge permitted when the Kansas Department of Health and Environment (KDHE) authorizes the discharge of stormwater runoff from the construction activities identified on the NOI and supporting documentation. A signed and dated copy of the first page of the NOI indicating the Authorization will be provided to the owner or operator, or all three pages for Conditional Authorizations.** Upon authorization of the construction activity discharge, a Kansas permit number and a Federal permit number will be assigned to the construction project. A complete request for Authorization for coverage under the general permit must be submitted or the request will not be processed (see listing on Page 3 of this NOI). KDHE will notify owners or operators whose Notice of Intent (NOI) and supporting documentation for Authorization of stormwater runoff associated with construction activities are incomplete, deficient, or denied. **Please Print or Type.**

**I. OWNER OR OPERATOR ADDRESS & RECORD LOCATION INFORMATION**

Owner or Operator's Name: Bourbon County Commissioners  
 Company Name: Bourbon County KS  
 Owner or Operator's Phone: 620-224-6631  
 Mailing Address: 210 S National Ave  
 City: Fort Scott State: KS Zip Code: 66701  
 Billing Contact Name: Same  
 Billing Address (if different): \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Contact Name: Marty Pearson  
 Company Name: Bourbon County Public Works Dept  
 Contact Phone: 620-224-6631  
 Mailing Address: 210 S National Ave  
 E-mail Address: boss-norton@yahoo.com  
 Address where records will be kept (if not on site):  
 Records Address: 210 S National Ave  
 City: Fort Scott State: KS Zip Code: 66701

**II. SITE INFORMATION**

**A. LOCATION**

Project Name: Wade's Aluminum Smelter Cleanup  
 Street Address: 2263 Noble Rd  
 City: Fort Scott State: KS Zip Code: 66701

**B. LEGAL SITE DESCRIPTION**

SE SW NW4 17  
QTR, QTR, QTR, Section  
25 South 25  E;  W;  
 Township Range  
 County: Bourbon

For Official Use Only:

Received	Paid	Authorized <input type="checkbox"/> Y; <input type="checkbox"/> N
	Date:	Is Authorization Conditional? <input type="checkbox"/> Y; <input type="checkbox"/> N (if yes see page 3 of NOI for conditions)
	Initials:	
	Check No:	
_____ Secretary, Kansas Department of Health and Environment		Reviewer
_____ KS Permit No. _____ Federal Permit No. _____		Date

To receive a hard copy of the general permit packet, check yes:  Y;  N

Send completed 3 page NOI form with original signature to:

KDHE Contact Information:

Kansas Department of Health and Environment  
 Bureau of Water, Industrial Programs Section  
 1000 SW Jackson, Suite 420  
 Topeka, KS 66612 - 1367

Phone: (785) 296-5545  
 E-mail: stormwater@kdhe.state.ks.us

C. EXISTING CONDITIONS/USES

Is any part of the project located on Indian Country land?  Y;  N  
If yes, contact EPA regarding discharging stormwater runoff from industrial activities on Indian Country land.

If stormwater runoff drains to or through a Municipal Separate Storm Sewer System (MS4); MS4 Name: N/A

Name of the first receiving water; stream; or lake: Wolverine Creek River Basin: Marmaton

Are contaminated soils present on the site or is there groundwater contamination located within the site boundary?  Y;  N  
If yes, on separate paper please explain in detail the locations, contaminants and concentrations.

Are there any contaminated soils that will be disturbed or any contaminated groundwater that will be pumped by the proposed construction activity? If yes, on separate paper please explain the special erosion and sediment control measures to be utilized.  Y;  N

Are there any surface water intakes for public drinking water supplies located within 1/2 mile of the site discharge points?  Y;  N

Has the Kansas State Historical Society been contacted to determine if there are any known historical or archeological sites present within the site boundary or any historical structures located within 1000 feet of the project site?  Y;  N  
Please include documentation of project site coordination with KSHS.

Has the Kansas Department of Wildlife and Parks been contacted to determine if any threatened or endangered species habitat is located within the site boundary or in the receiving water body? Please include documentation of coordination with KDWP.  Y;  N

Will the project impact the line or grade of a stream or does it include dredge or fill of a potential jurisdictional water body or wetlands? If yes, please include documentation of project site coordination with the Corps of Engineers.  Y;  N

Are any Critical Water Quality Management Areas, Special Aquatic Life Use Waters, or Outstanding National Resource Waters located within 1/2 mile of the facility boundary?  Y;  N

D. PROJECT DESCRIPTION

Project Description: Abandoned aluminum foundry site cleanup under KDHE direction

Does this NOI include all proposed soil disturbing activities associated with the entire common plan of development?  Y;  N

If no, explain what areas of the site and contact information, if available, that this NOI does not apply to. \_\_\_\_\_

Anticipated project Start Date: March 2013 and Completion Date: September 2013

Estimated total area to be disturbed: 20 Acres Total area of the site: 20 Acres

Do you plan to disturb ten or more acres that are within a common drainage area?  Y;  N

If yes, will a sedimentation basin be installed in that drainage area? (Attach design calculations for all proposed sediment basins)  Y;  N

If no, on a separate sheet, indicate why the sediment basin is not feasible and explain what similarly effective erosion and sediment control measures will be implemented in lieu of a sedimentation basin.

E. MAPS

Include an area map showing the outline of the construction site and the general topographic features of the area at least one mile beyond the project site boundary.

F. EROSION CONTROL PLAN AND BEST MANAGEMENT PRACTICES

Provide a site plan showing the existing contour, proposed contour, the erosion control measures and the locations of stormwater management or pollution control features including BMPs. Incorporate details and notes as necessary to describe the erosion control plans and BMPs.

Provide a description of the best management practices which will be utilized to control erosion, sedimentation and other pollutants in stormwater runoff during construction.

Summarize the sequence of major soil disturbing activities and the corresponding erosion control measures or BMPs.

Provide the name and License or Certification Number of the engineer, geologist, architect, landscape architect, or certified erosion and sediment control specialist under which the construction stormwater pollution prevention plan has been developed.

<u>L. Frank Young</u>	<u>KS 8671</u>	<u>Engineer</u>
Name	License/Certification Number	Profession or Field (Engineer, Architect, etc.)

**III. ANNUAL FEE**

Enclose a check for the first year of the annual permit fee specified in K.A.R. 28-16-56 et seq. as amended. Make the check payable to "KDHE". Per K.A.R. 28-16-56, as amended, the current annual permit fee for this general permit is \$60. An invoice for the annual permit fee will be sent to the contact person requesting a permit until such time as the permittee submits a Notice of Termination (NOT).

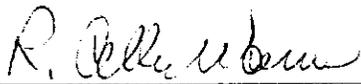
Failure to pay the annual fee will result in termination of the construction stormwater discharge Authorization.

**IV. OWNER OR OPERATOR CERTIFICATIONS**

I, the undersigned, certify that a Stormwater Pollution Prevention Plan (SWP2 Plan) will be or has been developed for the construction site described in this NOI and supporting documentation. I further certify that the plan will be implemented at the time construction begins, and, as required by the NPDES general permit for Stormwater Runoff from Construction Activity, will revise the SWP2 plan if necessary.

I understand that continued coverage under the NPDES general permit for Stormwater Runoff from Construction Activities is contingent upon maintaining eligibility as provided for in the requirements and conditions of the general permit, and paying the annual fee.

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.



\_\_\_\_\_  
Signature (owner or operator)

3/5/2013

\_\_\_\_\_  
Date

Allen Warren, Chairman, Bourbon County Commission  
Name and Official Title (Please Print)

**Conditions of Authorization - For Official Use Only**

When indicated, Conditions of Authorization are as follows:

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A complete request for Authorization for coverage under the general permit must be submitted or the request will not be processed. A complete request for Authorization includes:

- An NOI form (construction stormwater) with an original authorized signature;
- The annual permit fee for the first year; (\$60.)
- An area map showing the outline of the construction site and the general topographic features of the area at least one mile beyond the project site boundary;
- A detailed site plan showing the existing contours, proposed contours, erosion and sediment control features, locations where stormwater runoff leaves the construction site;
- A narrative summary of the additional erosion and sediment control and other best management practices that will be utilized to prevent or reduce contamination of stormwater runoff from the construction activities;
- Design calculations for any proposed sedimentation basin; and
- Copies of letters or e-mails documenting coordination with appropriate local, state or federal agencies.

Additional Information:

Section C:

Locations of contaminated soils are shown in the KDHE report C3-006-03010 dated December 2011 prepared by the Bureau of Environmental Remediation. Contamination consists of approximately 2600 CY of lead contaminated aluminum dross piles with contamination above the Tier 2 level and approximately 7000 to 10,500 CY of lead contaminated aluminum dross that tested below the Tier 2 level of 1000 mg/kg.

Contaminated soils that will be disturbed will be disposed of in accordance with the Remedial Action Plan dated December 20<sup>th</sup>, 2012, as approved by KDHE. Measures will be taken to haul the contaminated soils and dross to the disposal area with trucks and not to distribute the material off site. Special measures will be taken to clean trucks after use and keep contaminated waste products on site. No contaminated groundwater will be disturbed.

Section D:

A sediment basin is not practical as this site covers a large, relatively flat area that has been subjected to decades of industrial use, first as the Ft. Scott Hydraulic Cement Company, then later as the Wade Aluminum Foundry recycling operation. Many piles of old gravel are intermixed with aluminum dross piles that divert drainage to small puddles and low spots. Once the area is cleared and graded, some form of common outlet may be determined, but for now, topographic information shows a confusing array of drainage patterns with no one area that a sediment basin could serve. The proposed plan will address runoff concentration areas as they are developed by removal of obstacles in the form of gravel and dross piles.

# The University of Kansas

Kansas Biological Survey

February 25, 2013

Frank Young  
Agricultural Engineering Associates  
P.O. Box 4  
Uniontown, KS 66779

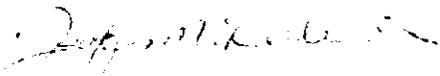
RE: Wades Aluminum Smelter Site

Dear Mr. Young:

I have conducted a database search for rare species at the referenced site. The Kansas Natural Heritage Inventory database contains no records of rare plant or animal species at the site. No rare species surveys have been conducted at the site so absence of records is no assurance that rare species do not occur there. However, previously disturbed sites are not likely to provide habitat for protected species.

Please feel free to call me at 785-864-1538 if I can be of further assistance.

Sincerely,



Jennifer M. Delisle  
Information Manager  
Kansas Natural Heritage Inventory

6425 SW 6<sup>th</sup> Avenue  
Topeka, KS 66615



KSR&C No. 13-02-155

phone: 785-272-8681  
fax: 785-272-8682  
cultural\_resources@kshs.org

Kansas Historical Society

Sam Brownback, Governor  
Jennie Chinn, Executive Director

February 27, 2013

Frank Young, PE  
Agricultural Engineering Associates  
PO Box 4  
Uniontown KS 66779

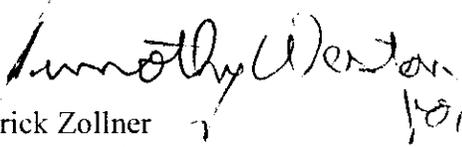
RE: Cleanup Operations  
Wades Aluminum Smelter Site  
Bourbon County

Dear Mr. Young:

The Kansas State Historic Preservation Office has reviewed the materials received February 20, 2013, in accordance with the Kansas Department of Health and Environment's requirement for a Notice of Intent for Stormwater Runoff from Industrial Activity. According to our records there are no historic properties within the boundaries of the above-referenced project site. Our office has no objection to the implementation of the project. If, however, any federal funds are to be used or if any federal permits might ultimately be required, the applicant will be required to comply with Section 106 of the National Historic Preservation Act (36 CFR 800).

Please refer to the Kansas State Review & Compliance number (KSR&C#) listed above on any future correspondence. If you have any questions regarding this review, please contact Tim Weston at 785-272-8681, ext. 214 or via e-mail at [tweston@kshs.org](mailto:tweston@kshs.org).

Sincerely,  
Jennie Chinn  
State Historic Preservation Officer

  
Patrick Zollner  
Director, Cultural Resources Division  
Deputy State Historic Preservation Officer



Operations Office  
512 SE 25<sup>th</sup> Ave.  
Pratt, KS 67124-8174

Phone: (620) 672-5911  
Fax: 620-672-6020  
www.kdwp.state.ks.us

Robin Jennison, Secretary

Sam Brownback, Governor

April 8, 2013

Frank Young  
Agricultural Engineering Associates  
1000 Promontory Drive  
Uniontown, Kansas 66779

Ref: D5.0607  
Boubon  
Track: 20130299

Ref: Wades Aluminum Smelter Site

Dear Mr. Young:

We have reviewed the expanded the Wades Aluminum Smelter Site reclamation in Section 17, Township 25 South, Range 25 East in Bourbon County. The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered species and species in need of conservation, and Kansas Department of Wildlife, Parks, and Tourism managed areas for which this agency has administrative authority.

We note that the project will remove piles of aluminum waste and deposit in an approved waste site. The Broadhead Skink, *Eumeces laticeps*, has critical habitat in Bourbon County; however, due to the previous impacts additional permits will not be required. We do request that replanting measures include native vegetation including hardwood Oak *Quercus* sp., Hickory *Carya* sp., and forbs in the plan.

Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, nor could we document any potential impacts to currently listed threatened or endangered species or species in need of conservation. No Department of Wildlife and Parks permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Since the Department's recreational land obligations and the State's species listings periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

Thank you for the opportunity to provide these comments and recommendations.

Sincerely,

David Bender, Ecologist  
Ecological Services Section

## **APPENDIX F: HEALTH AND SAFETY PLAN**

## TAILGATE SAFETY MEETING FORM

**Instructions**

To be completed by supervisor prior to beginning of new job, when changes in work procedures occur, or when additional hazards are present. Reference related Job Hazard Analysis, Health & Safety Code Handbook direction, and ensure this form is maintained for the record.

**NAME ,TYPE, LOCATION OF PROJECT OR WORK ACTIVITY:**

**RMW(s) REFERENCED:**

Wade's Aluminum Site Clean-up Bourbon County Public Works Department	
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**TOPICS/HAZARDS DISCUSSED:**

<b>Mobile Equipment :</b> Discuss exclusion zones and how to keep personnel away from machinery work areas. Truck loading and unloading zones, work patterns, etc.
<b>Lifting:</b> Discuss proper lifting techniques
<b>Heavy Equipment Operation:</b> Check safety equipment on machines (back-up alarms, clean windshields Defrosters, heaters, cooling, ventilation filters, mirrors, etc.)
<b>Personal Protection Equipment (PPE):</b> Gloves, inhalation masks, hearing protection, steel toe shoes, safety glasses, hard hats
<b>Slip, Trip and Fall Hazards:</b> Wet surfaces, oil spills, uneven ground, roots, brush and thorns.
<b>Other: (list)</b>

**INFORMAL TRAINING CONDUCTED (Name, topics):**


**NAMES OF EMPLOYEES:**


**Supervisors Signature/Date:** \_\_\_\_\_

This sample report form can help document the findings of a preliminary investigation into an accident or incident in your workplace. You can copy and use this form or make your own. Fill out an investigation report as soon as possible after an accident or incident.

Employee(s) name(s): \_\_\_\_\_  
\_\_\_\_\_

Time & date of accident/incident: \_\_\_\_\_

Job title(s) and department(s): \_\_\_\_\_  
\_\_\_\_\_

Supervisor/lead person: \_\_\_\_\_

Witnesses: \_\_\_\_\_  
\_\_\_\_\_

Brief description of the accident or incident: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Indicate body part affected:

Did the injured employee(s) see a doctor?  Yes  No

If yes, did you file an employer's portion of a worker's compensation form?  Yes  No

Did the injured employee(s) go home during their work shift?  Yes  No

If yes, list the date and time injured employee(s) left job(s): \_\_\_\_\_  
\_\_\_\_\_

Supervisor's Comments: \_\_\_\_\_  
\_\_\_\_\_

What could have been done to prevent this accident/incident? \_\_\_\_\_  
\_\_\_\_\_

Have the unsafe conditions been corrected?  Yes  No

If yes, what has been done? \_\_\_\_\_  
\_\_\_\_\_

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If no, what needs to be done? \_\_\_\_\_

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Employer or Supervisor's signature: \_\_\_\_\_

Date: \_\_\_\_\_

Additional comments/notes: \_\_\_\_\_

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**Reporting Near Miss Form**

Department \_\_\_\_\_

Date \_\_\_\_\_

Name of the employee \_\_\_\_\_

Name of the departmental supervisor \_\_\_\_\_

Nature of incident \_\_\_\_\_

Why was this incident considered a "near miss"? \_\_\_\_\_

\_\_\_\_\_

Was the employee or contractor counseled/reprimanded?

\_\_\_\_\_

Why or why not? \_\_\_\_\_

Remedial activities or training recommended \_\_\_\_\_

\_\_\_\_\_

# OSHA's Form 301 Injury and Illness Incident Report

**Attention:** This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.



**U.S. Department of Labor**  
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary*, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by \_\_\_\_\_  
 Title \_\_\_\_\_  
 Phone (\_\_\_\_) \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

### Information about the employee

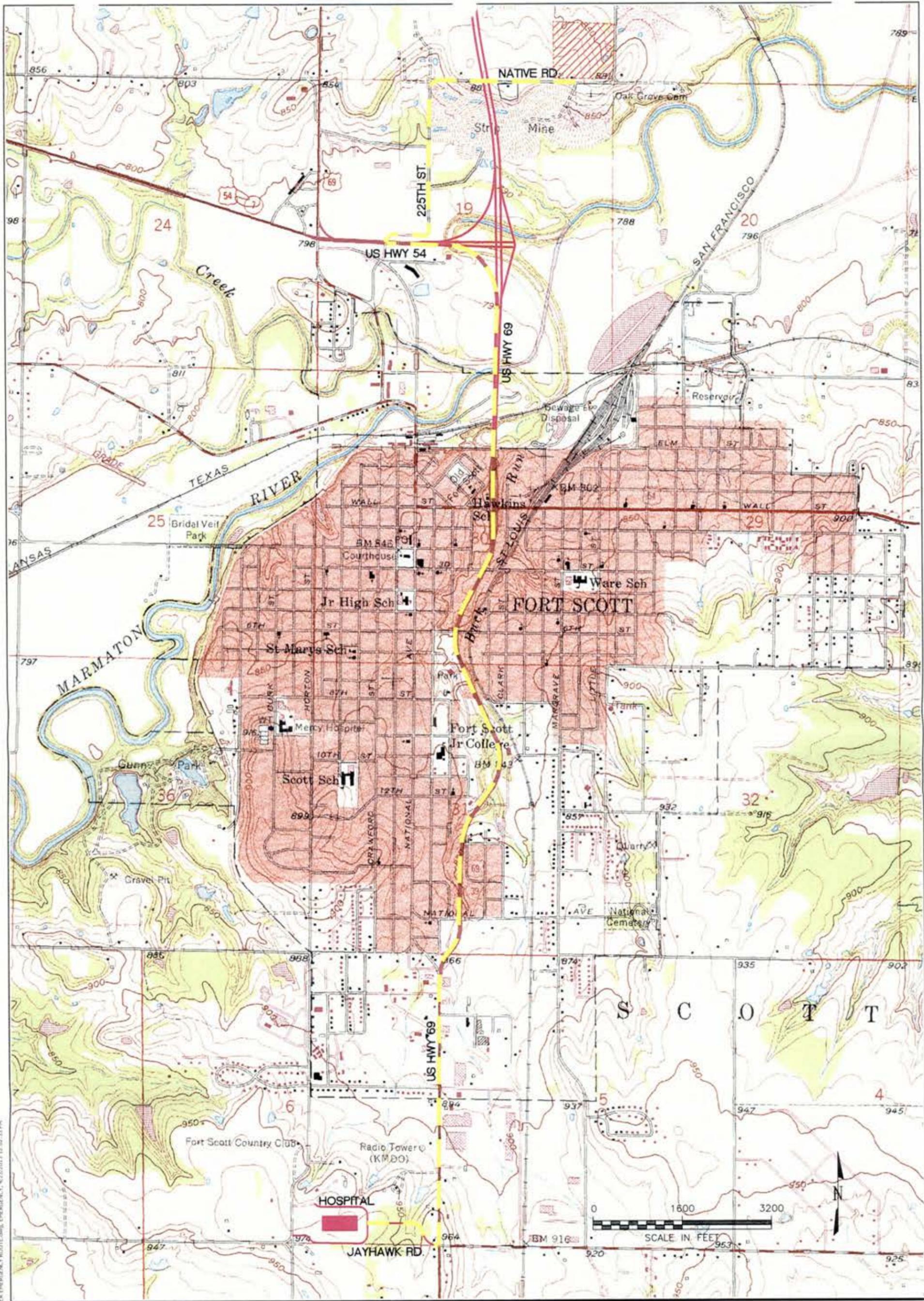
- 1) Full name \_\_\_\_\_
- 2) Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_
- 3) Date of birth \_\_\_\_/\_\_\_\_/\_\_\_\_
- 4) Date hired \_\_\_\_/\_\_\_\_/\_\_\_\_
- 5)  Male  
 Female

### Information about the physician or other health care professional

- 6) Name of physician or other health care professional \_\_\_\_\_  
 \_\_\_\_\_
- 7) If treatment was given away from the worksite, where was it given?  
 Facility \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_
- 8) Was employee treated in an emergency room?  
 Yes  
 No
- 9) Was employee hospitalized overnight as an in-patient?  
 Yes  
 No

### Information about the case

- 10) Case number from the Log \_\_\_\_\_ (Transfer the case number from the Log after you record the case.)
- 11) Date of injury or illness \_\_\_\_/\_\_\_\_/\_\_\_\_
- 12) Time employee began work \_\_\_\_\_ AM / PM
- 13) Time of event \_\_\_\_\_ AM / PM  Check if time cannot be determined
- 14) **What was the employee doing just before the incident occurred?** Describe the activity, as well as the tools, equipment, or material the employee was using. Be specific. *Examples:* "climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."
- 15) **What happened?** Tell us how the injury occurred. *Examples:* "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."
- 16) **What was the injury or illness?** Tell us the part of the body that was affected and how it was affected; be more specific than "hurt," "pain," or "sore." *Examples:* "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."
- 17) **What object or substance directly harmed the employee?** *Examples:* "concrete floor"; "chlorine"; "radial arm saw." *If this question does not apply to the incident, leave it blank.*
- 18) **If the employee died, when did death occur?** Date of death \_\_\_\_/\_\_\_\_/\_\_\_\_



S:\PROJECTS\BORD aluminum site\3751\WAGSSMELTER EMERGENCY ROUTE.dwg, EMERGENCY, 4/23/2013 12:02:31 PM

**Agricultural Engineering Associates**  
 1000 Promontory Dr.  
 Uniontown, KS 66779  
 Phone: 620-756-1000  
 Fax: 620-756-4600

Bourbon County  
 Ft. Scott, KS 66701

ENGINEER LFY  
 DATE 4-23-13  
 DRWN BY CRF  
 CHK'D BY LFY  
 DATE

BOURBON COUNTY  
 ABANDONED WADE  
 ALUMINUM SMELTER  
 DISPOSAL  
 EMERGENCY ROUTE MAP

REV#	DATE	DESCRIPTION

PROJECT NO. 3751	
DRAWING NO. 1 OF 1	
Rev. #	Date

# BOURBON COUNTY

## ABANDONED WADE ALUMINUM SMELTER WASTE DISPOSAL PLANS



CALL 1-800-DIG-SAFE  
PRIOR TO EXCAVATION

BOURBON COUNTY ALUMINUM  
HWY 60 S RR#2  
FORT SCOTT, KS 66701

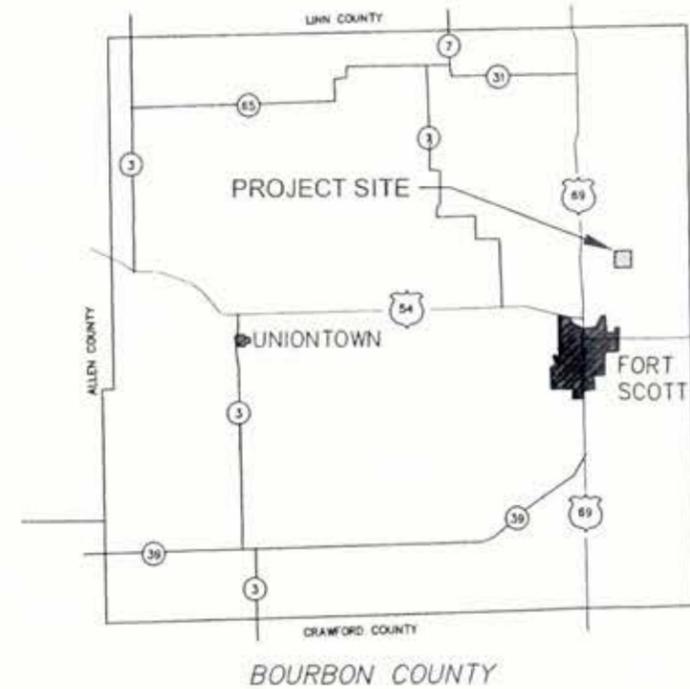
NW/4 OF SEC 17, T25S, R25E  
BOURBON COUNTY, KANSAS

6 MARCH, 2012

TABLE OF CONTENTS	
TITLE PAGE	
1. EXISTING TOPO	
2. LOCATION MAP	
3. SITE MAP	
4. PROPOSED SURFACE	
5. CROSS SECTIONS	
6. CROSS SECTIONS	
7. CROSS SECTION	



BOURBON COUNTY, KANSAS



REV #	DATE	DESCRIPTION



BOURBON COUNTY  
FORT SCOTT, KS 66701

BOURBON COUNTY  
ABANDONED WADE  
ALUMINUM SMELTER

TITLE

ENGINEER L.F.Y.  
DATE 3-6-12  
DRWN BY C.R.F.  
CHKD BY JAG  
DATE 3-6-12

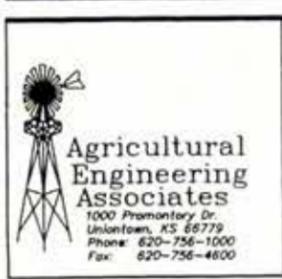
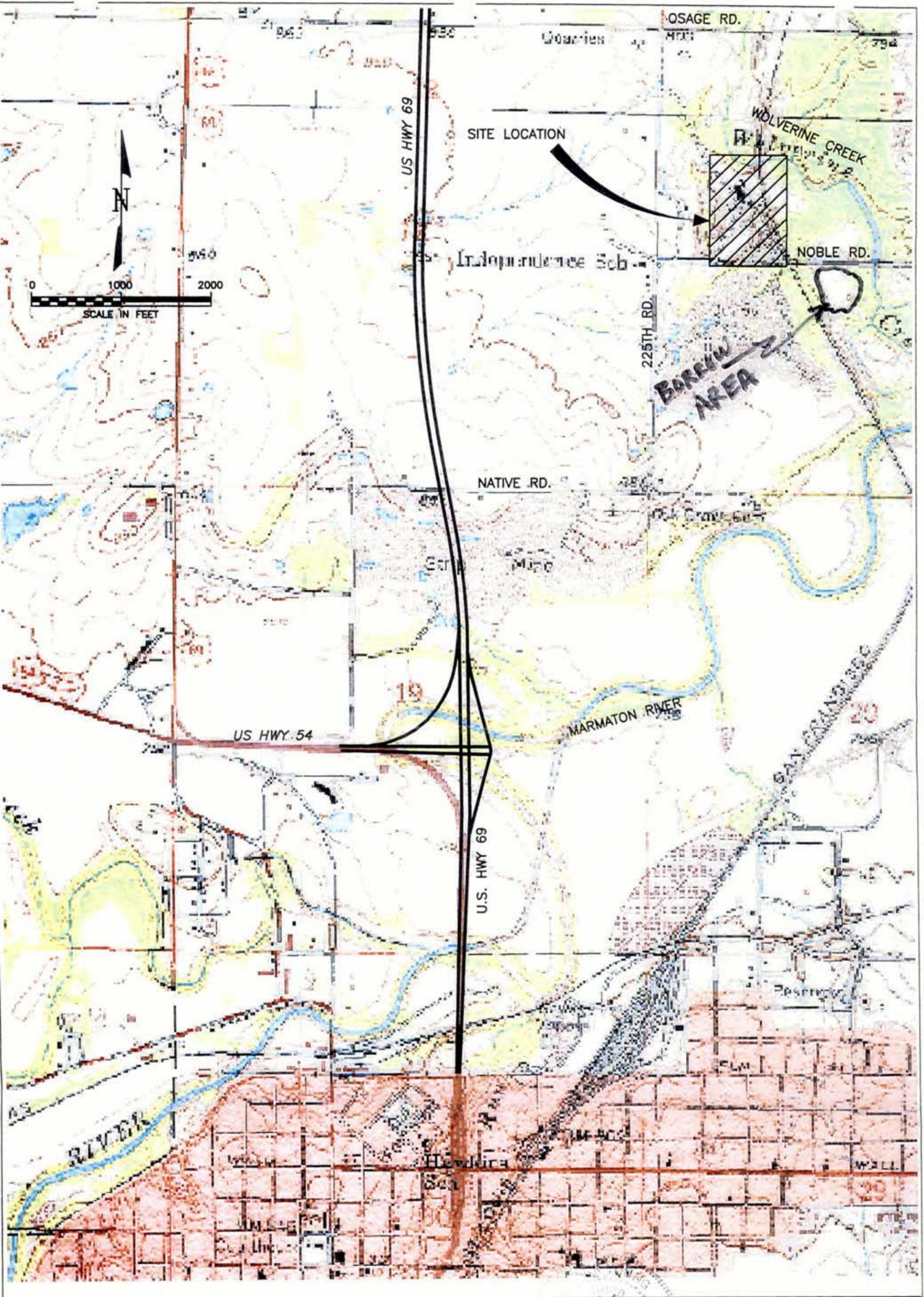
PROJECT NO.  
**3751**

DRAWING NO.  
TITLE

Rev. #      Date

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BOURBON COUNTY  
 FORT SCOTT, KS 66701

ENGINEER L.F.Y.  
 DATE 3-6-12  
 DRWN BY C.R.F.  
 CHK'D BY JAG  
 DATE 3-6-12

BOURBON COUNTY  
 ABANDONED WADE  
 ALUMINUM SMELTER  
 LOCATION MAP

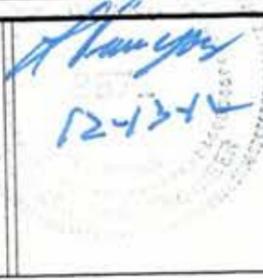
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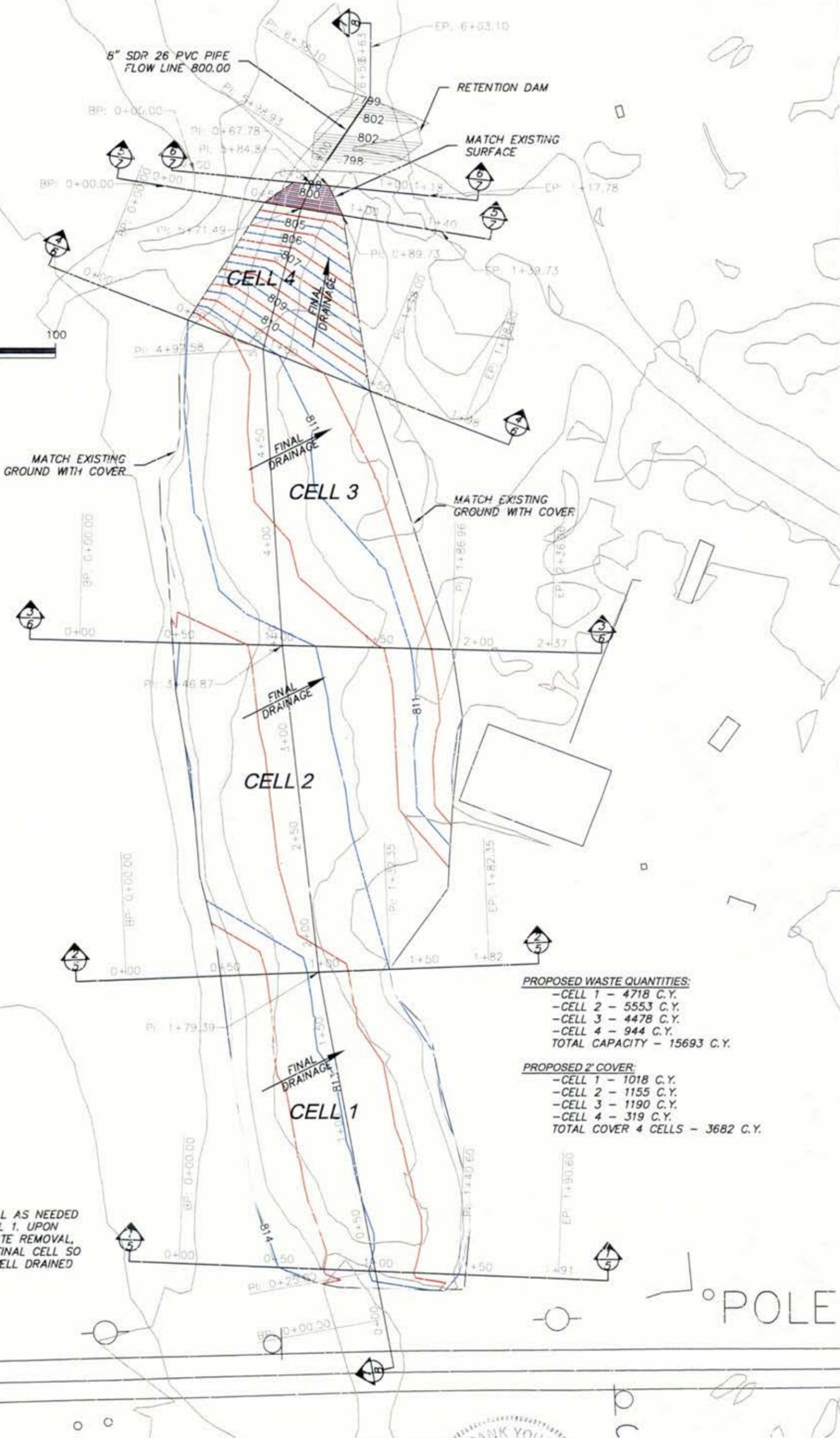
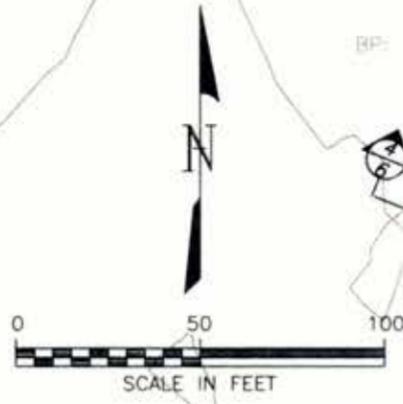
REV#	DATE	DESCRIPTION

PROJECT NO.  
 3751  
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S:\PROJECTS\BICO Aluminum 081 351\WACSSM\1181\1181\_001\_3 SITE MAP\_316/2012 2:49:54 PM

 <b>Agricultural Engineering Associates</b> 1000 Promontory Dr. Uniontown, KS 66779 Phone: 620-756-1000 Fax: 620-756-4600	BOURBON COUNTY FORT SCOTT, KS 66701	ENGINEER L.F.Y. DATE 3-6-12 DRWN BY C.R.F. CHK'D BY JAG DATE 3-6-12	BOURBON COUNTY ABANDONED WADE ALUMINUM SMELTER SITE MAP		<table border="1"> <thead> <tr> <th>REV#</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV#	DATE	DESCRIPTION													PROJECT NO. 3751 DRAWING NO. 3 Rev. #      Date
		REV#	DATE	DESCRIPTION																	



**PROPOSED WASTE QUANTITIES:**  
 -CELL 1 - 4718 C.Y.  
 -CELL 2 - 5553 C.Y.  
 -CELL 3 - 4478 C.Y.  
 -CELL 4 - 944 C.Y.  
**TOTAL CAPACITY - 15693 C.Y.**

**PROPOSED 2' COVER:**  
 -CELL 1 - 1018 C.Y.  
 -CELL 2 - 1155 C.Y.  
 -CELL 3 - 1190 C.Y.  
 -CELL 4 - 319 C.Y.  
**TOTAL COVER 4 CELLS - 3682 C.Y.**

**NOTE:**  
 COMPLETE EACH CELL AS NEEDED BEGINNING WITH CELL 1. UPON COMPLETION OF WASTE REMOVAL, GRADE AND FINISH FINAL CELL SO SITE IS LEFT IN A WELL DRAINED CONDITION.

POLE



BOURBON COUNTY  
 FORT SCOTT, KS 66701

ENGINEER L.F.Y.  
 DATE 4-26-13  
 DRWN BY C.R.F.  
 CHK'D BY JAG  
 DATE 4-26-13

BOURBON COUNTY  
 ABANDONED WADE  
 ALUMINUM SMELTER  
 PROPOSED SURFACE

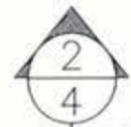
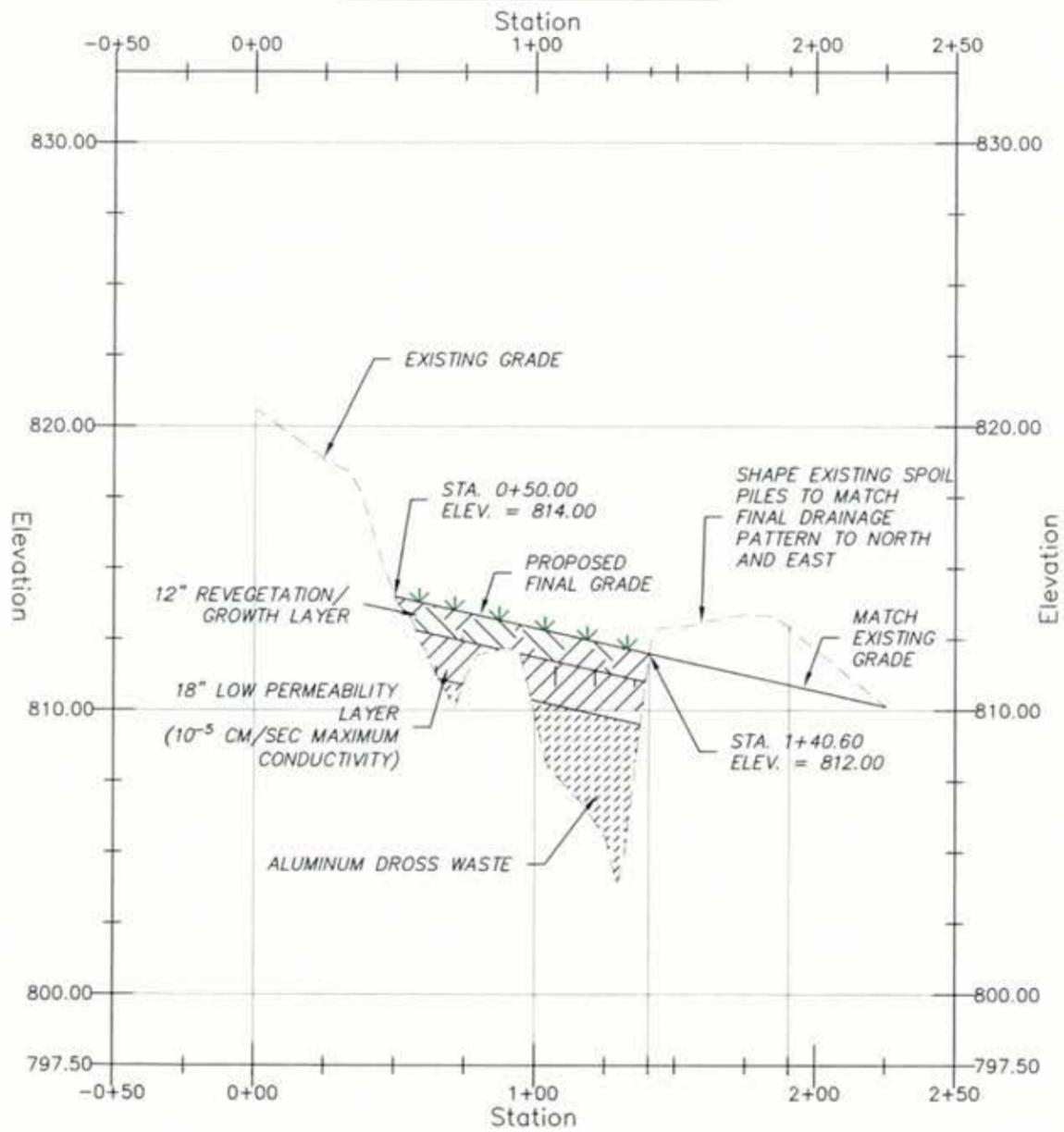


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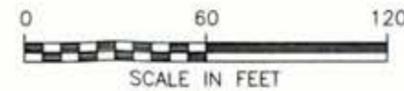
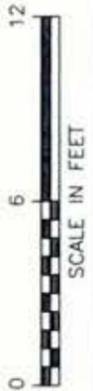
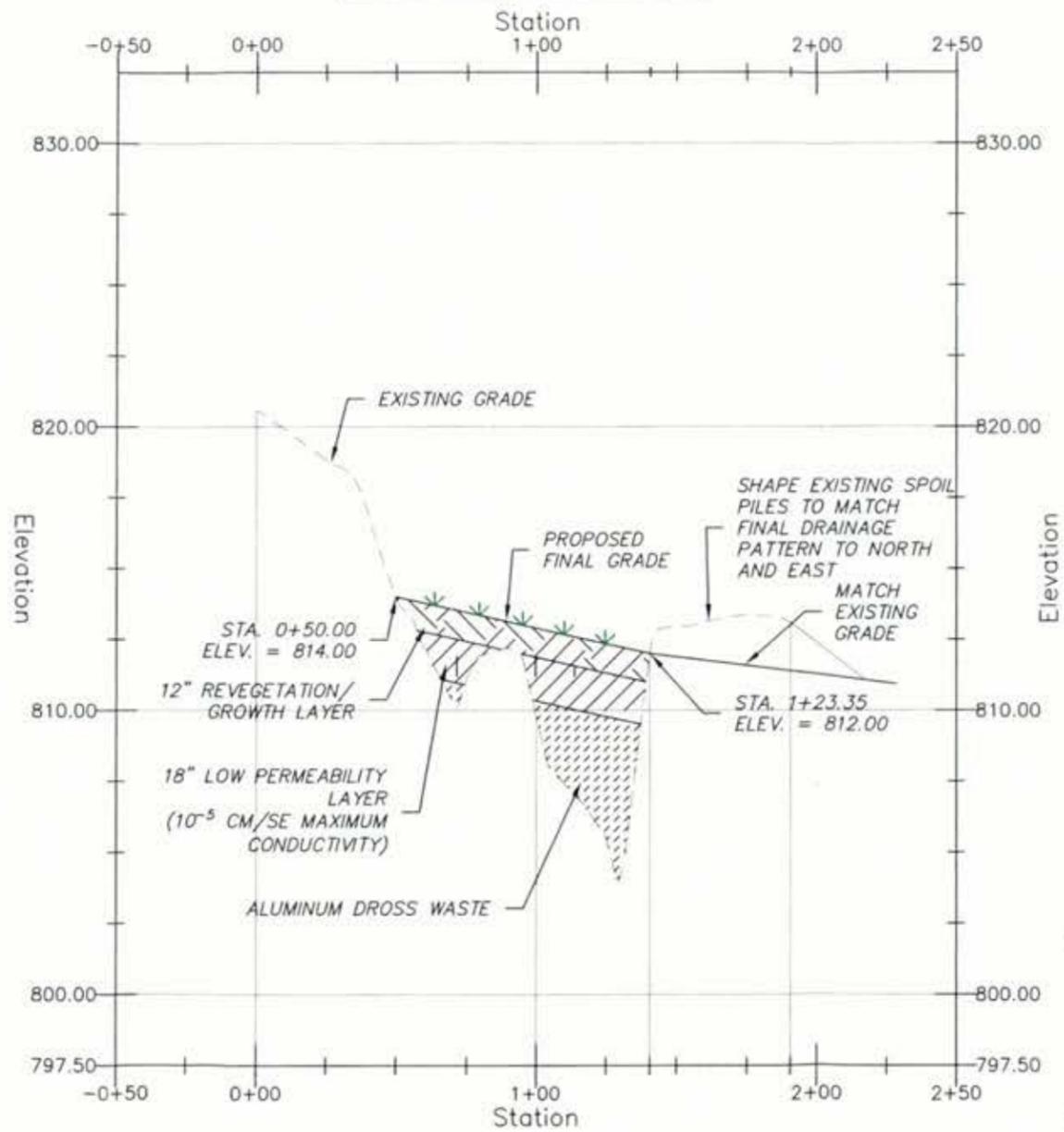
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DRAWING NO. 4	
Rev. #	Date



### CROSS SECTION 1



### CROSS SECTION 2



REV #	DATE	DESCRIPTION



BOURBON COUNTY  
FORT SCOTT, KS 66701

BOURBON COUNTY  
ABANDONED WADE  
ALUMINUM SMELTER

CROSS SECTION

ENGINEER L.F.Y.  
DATE 4-26-13  
DRWN BY C.R.F.  
CHK'D BY JAG  
DATE 4-26-13

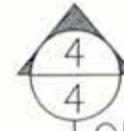
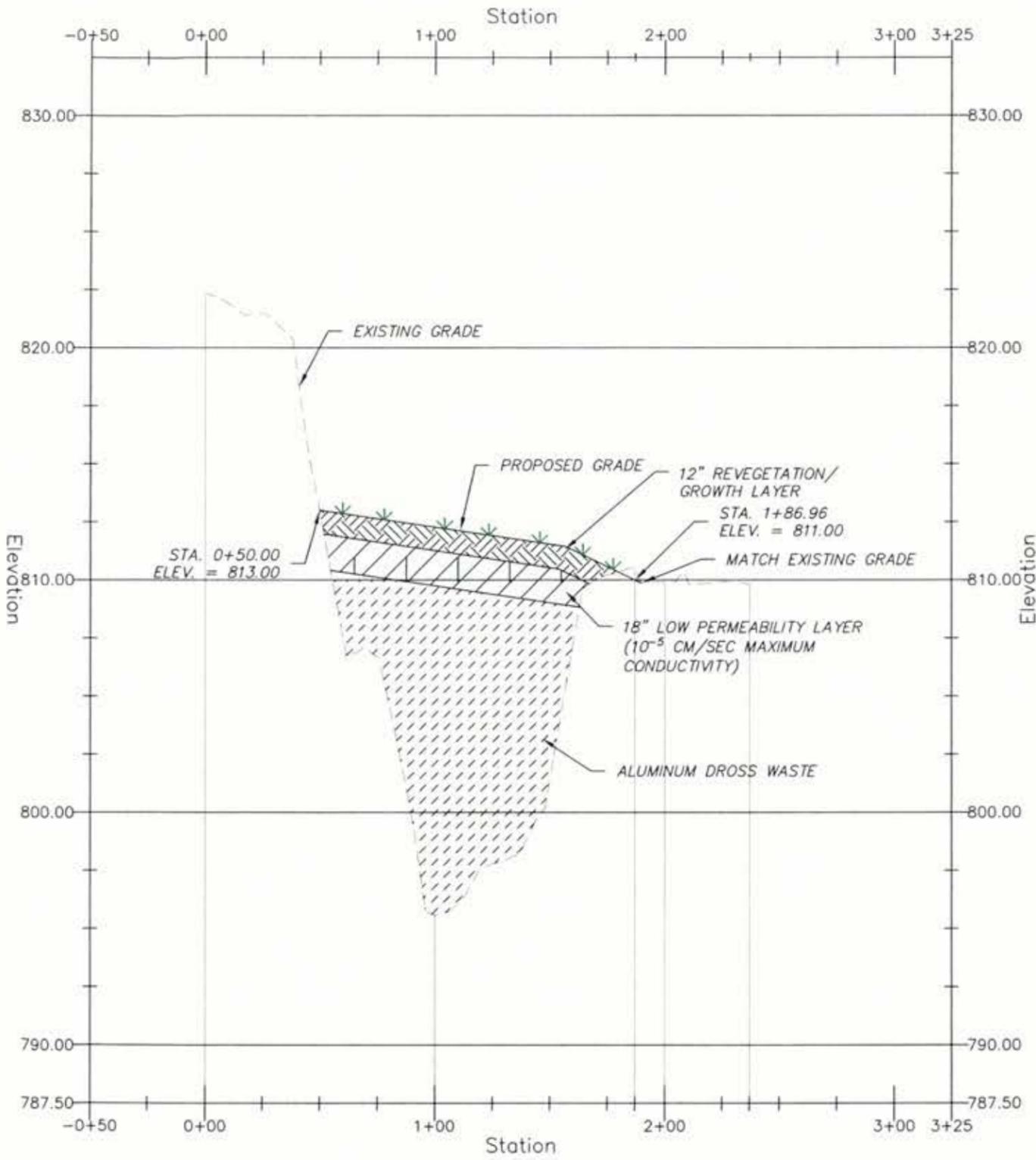
PROJECT NO.  
**3751**

DRAWING NO.  
**5**

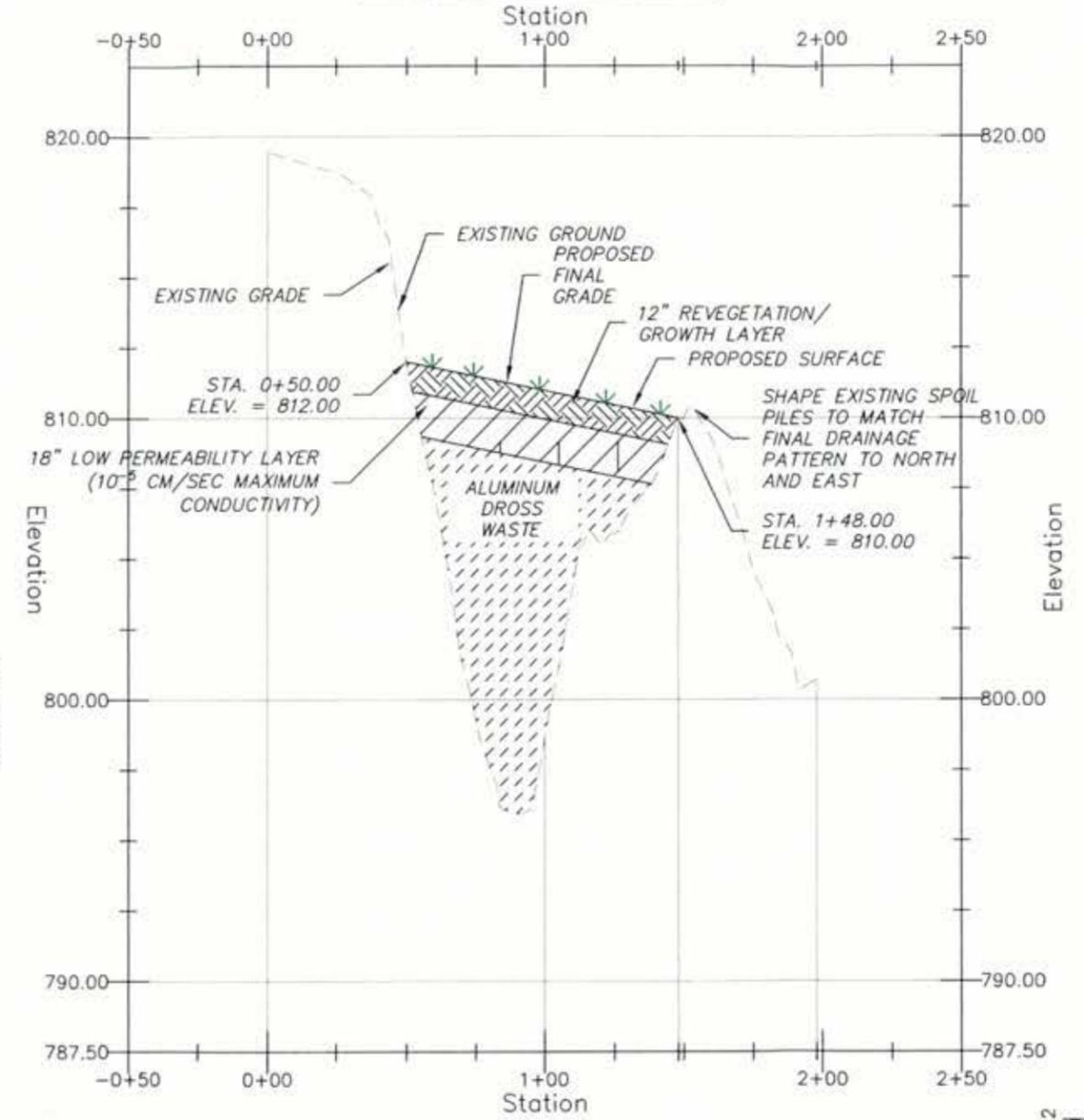
Rev. #      Date



### CROSS SECTION 3



### CROSS SECTION 4



REV #	DATE	DESCRIPTION



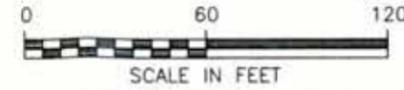
BOURBON COUNTY  
FORT SCOTT, KS 66701

BOURBON COUNTY  
ABANDONED WADE  
ALUMINUM SMELTER  
CROSS SECTION

ENGINEER L.F.Y.  
DATE 4-26-13  
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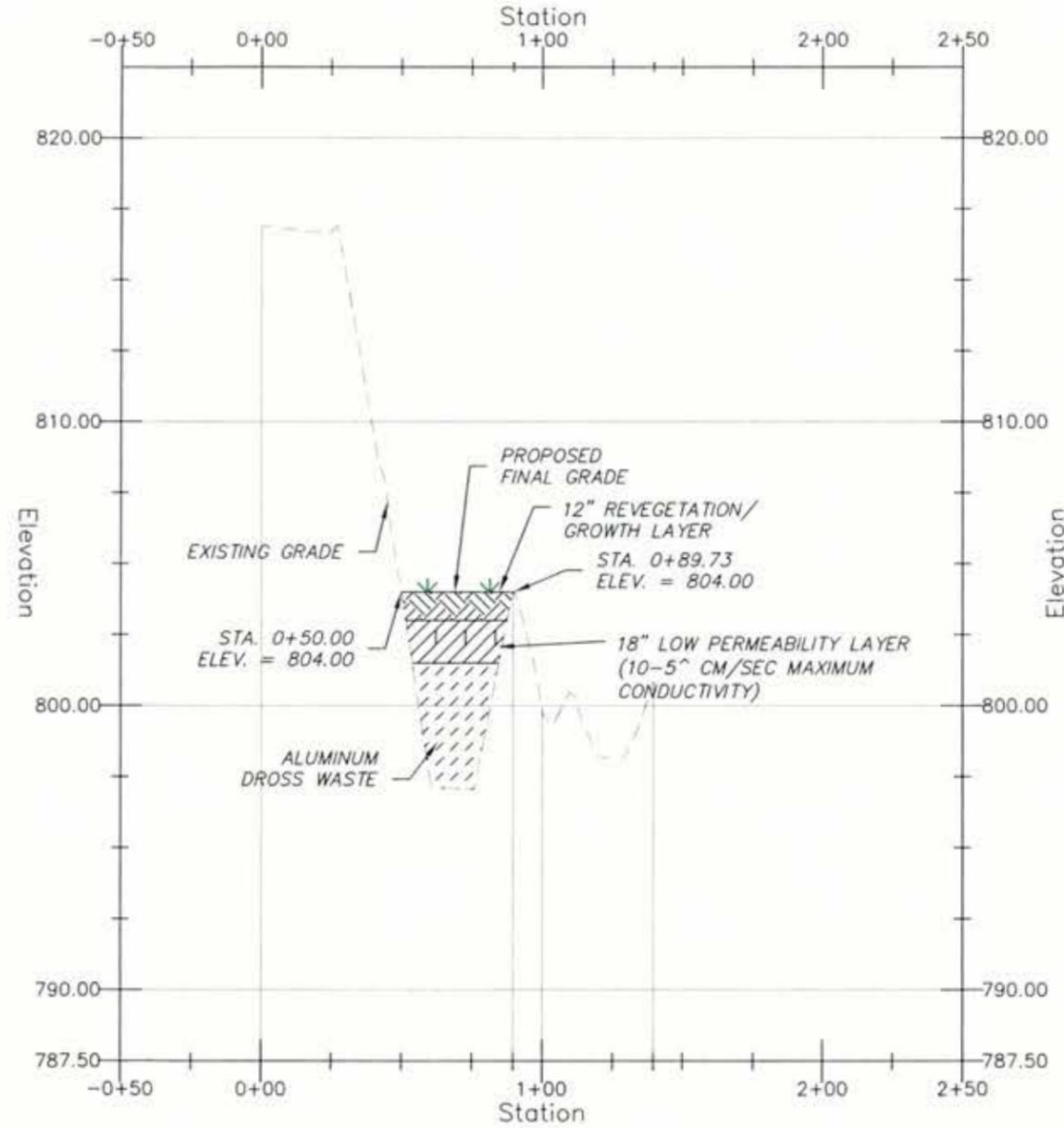
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**6**

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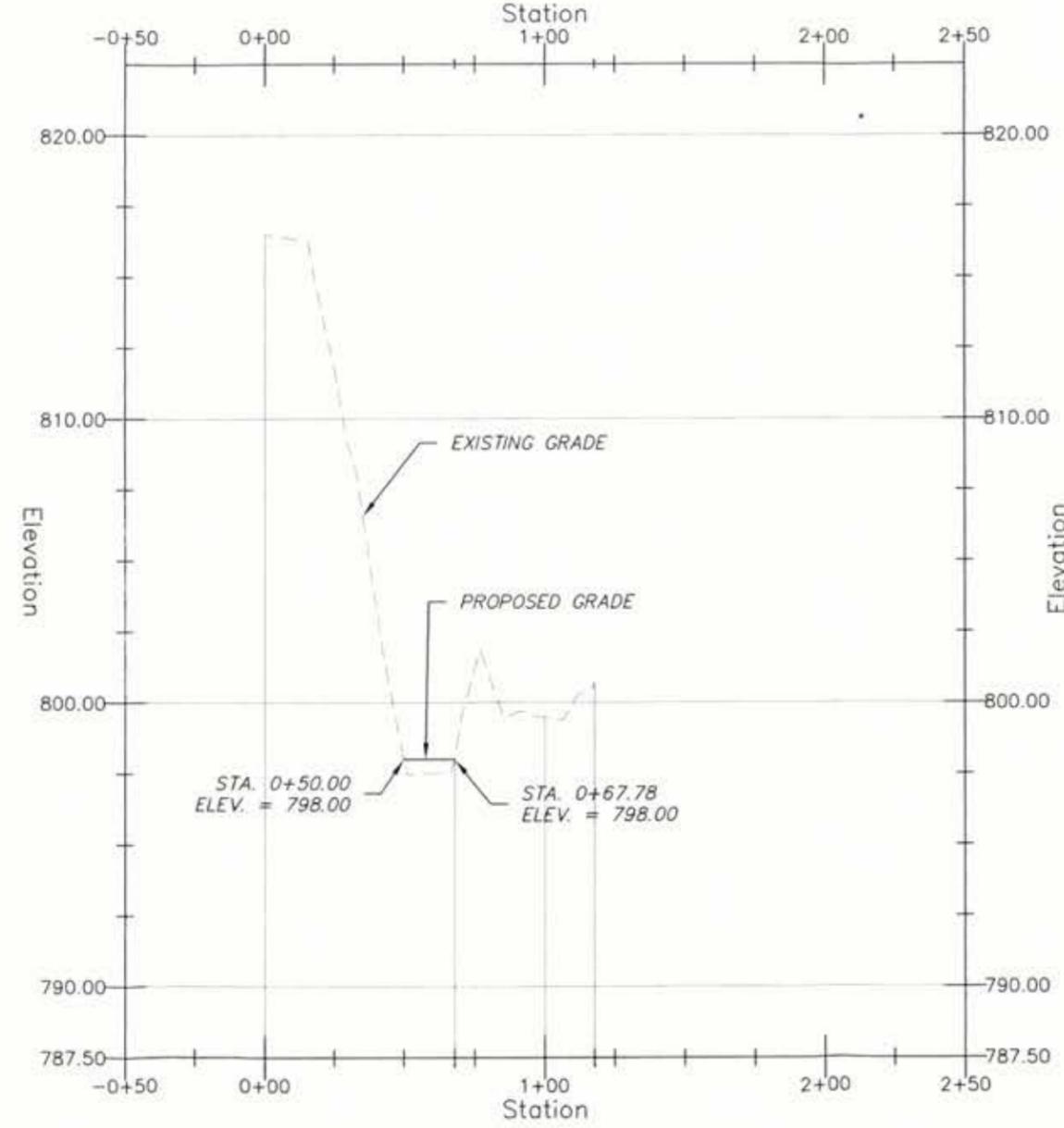




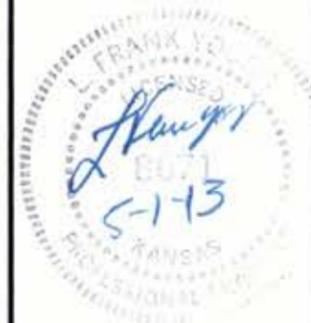
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### CROSS SECTION 6



REV #	DATE	DESCRIPTION



BOURBON COUNTY  
FORT SCOTT, KS 66701

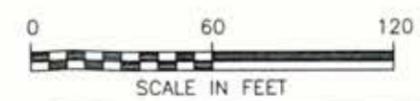
BOURBON COUNTY  
ABANDONED WADE  
ALUMINUM SMELTER  
CROSS SECTION

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**3751**

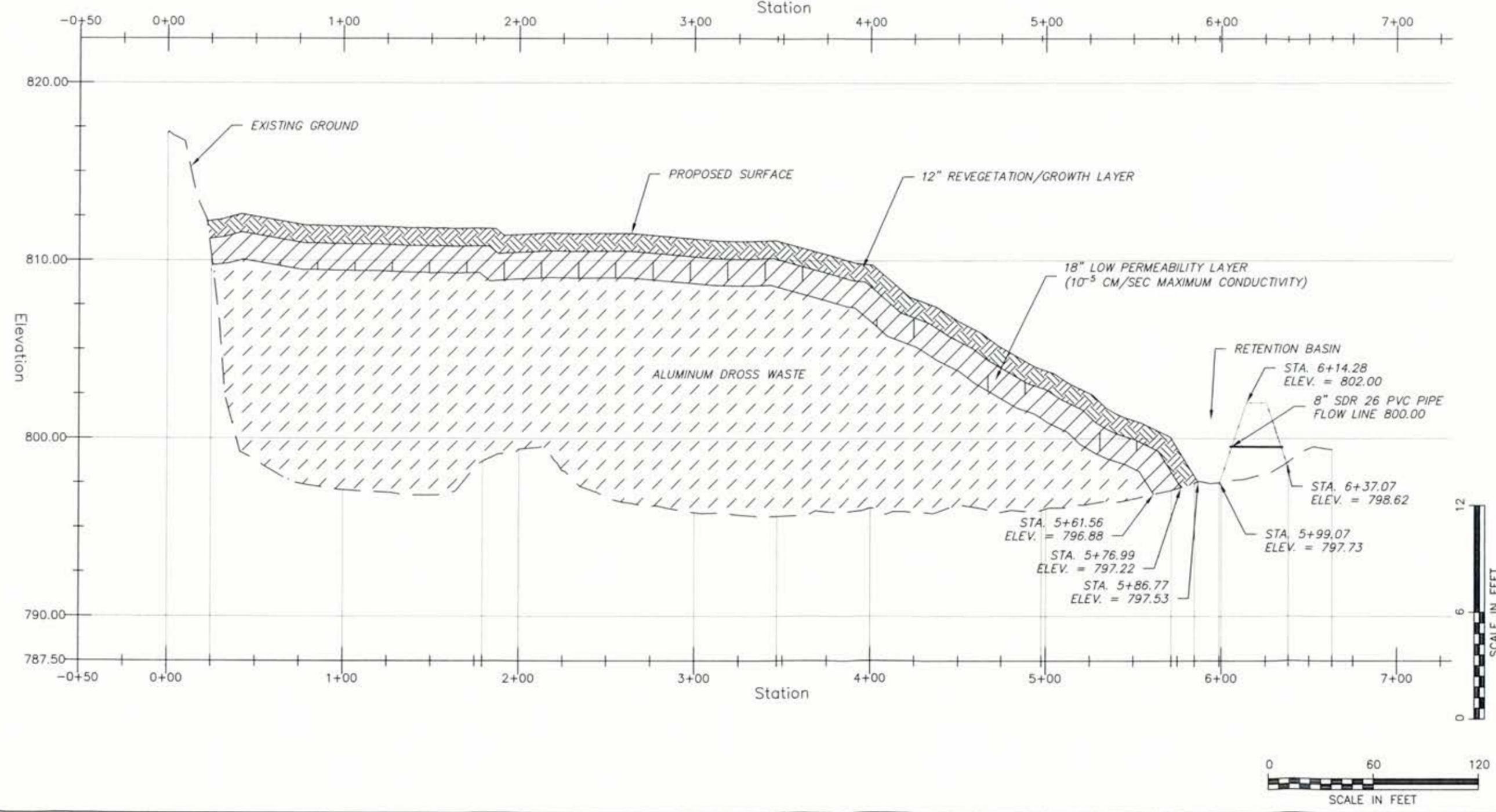
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**7**

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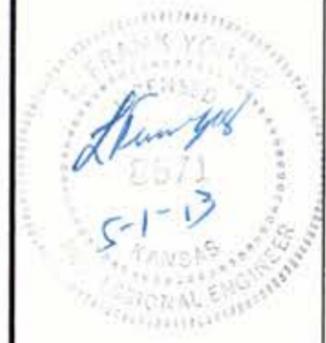


PROJECT NO. 3751 DRAWING NO. 7 DATE 4-26-13

  
**CROSS SECTION 7**



REV #	DATE	DESCRIPTION



BOURBON COUNTY  
FORT SCOTT, KS 66701

BOURBON COUNTY  
ABANDONED WADE  
ALUMINUM SMELTER

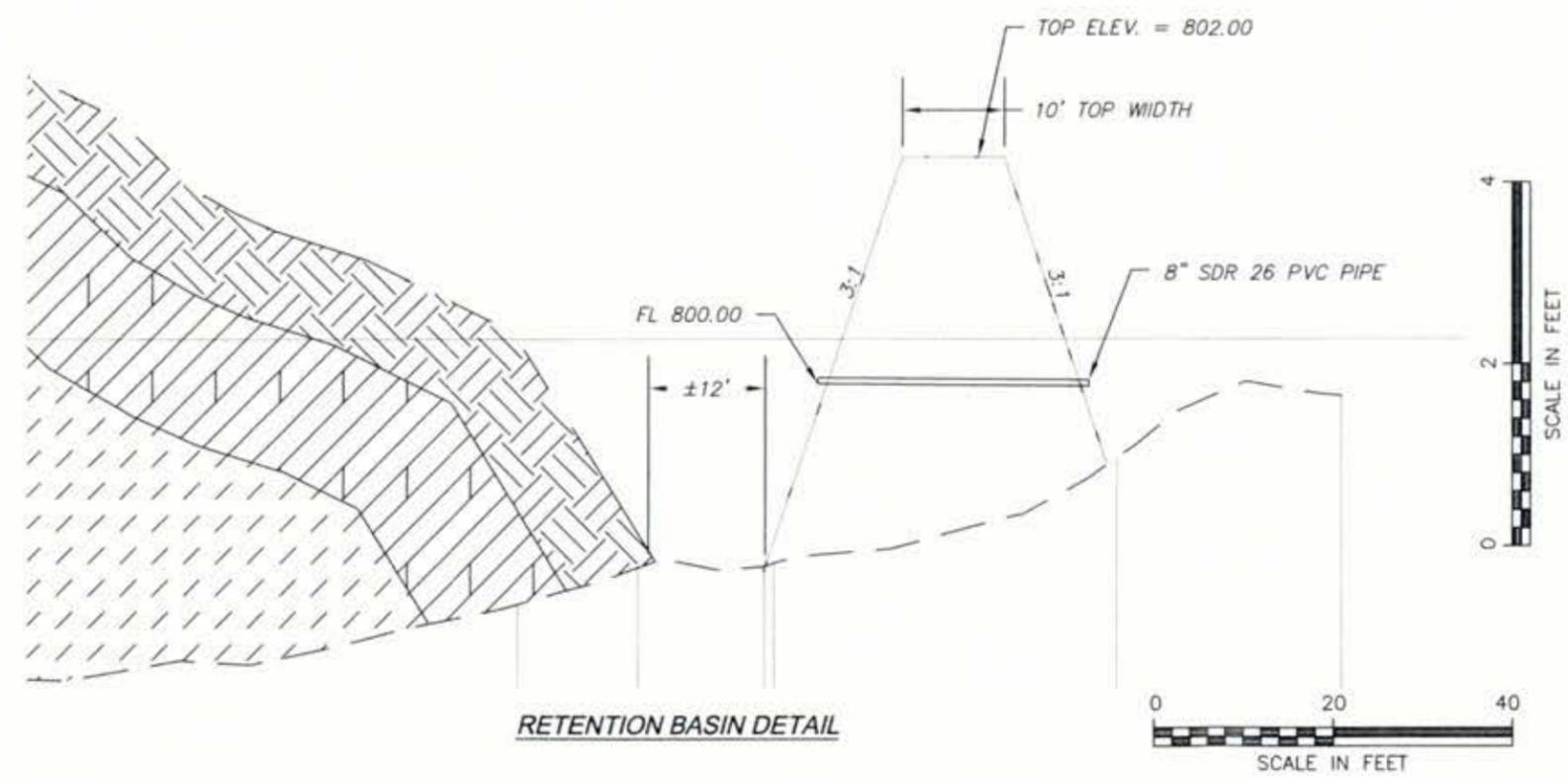
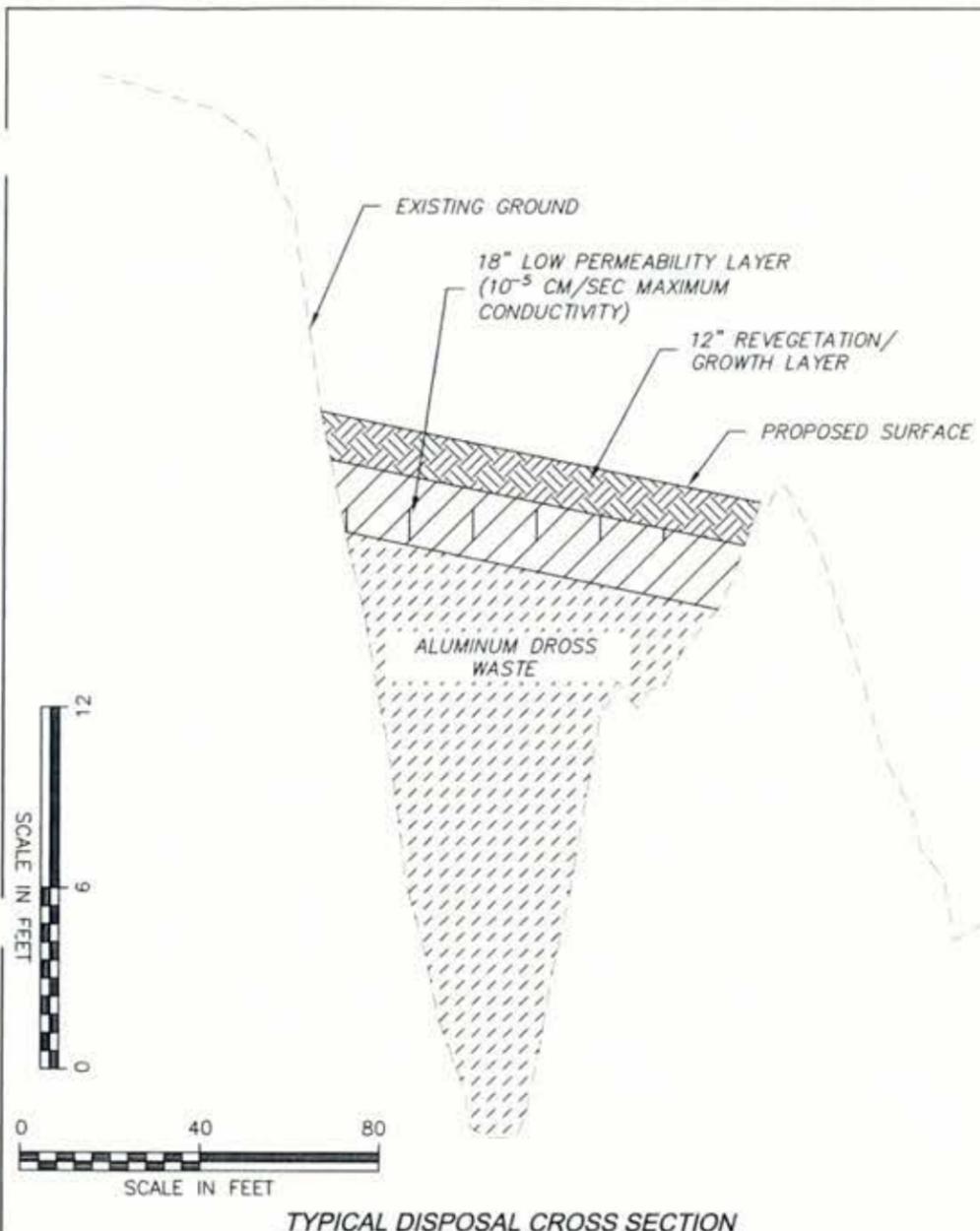
CROSS SECTION 7

ENGINEER	L.F.Y
DATE	4-26-13
DRWN BY	C.R.F.
CHKD BY	JAG
DATE	4-26-13

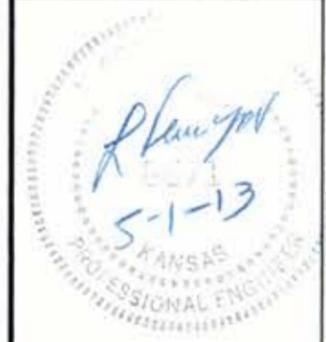
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BOURBON COUNTY  
FORT SCOTT, KS 66701

BOURBON COUNTY  
ABANDONED WADE  
ALUMINUM SMELTER  
DISPOSAL XSECT  
RETENTION DAM

ENGINEER L.F.Y.  
DATE 4-26-13  
DRWN BY C.R.F.  
CHK'D BY JAG  
DATE 4-26-13

PROJECT NO.  
**3751**

DRAWING NO.  
**9**

Rev. #	Date

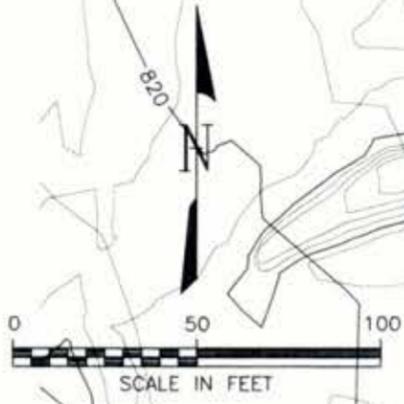
# SEEDING PLAN

Bourbon County Commissioners  
WADE ALUMINUM CLEANUP  
March 1, 2012

### MIX #1: Cover Layer, Permanent Seeding

Species	Variety	PLS Lbs/Ac	Acres	Total PLS Pounds
Big Bluestem	Kaw	1.2	1.36	1.6
Indiangrass	Osage	1.2	1.36	1.6
Little Bluestem	Aldous	1.6	1.36	2.2
Sideoats grama	El Reno	1.2	1.36	1.6
Switchgrass	Blackwell	1.2	1.36	1.6
Western Wheatgrass	Barton	4.0	1.36	5.5
Buffalograss	Improved	1.0	1.36	1.4
Kansas Big 10 Forb Mix		1.0	1.36	1.4

Total Acres to be seeded: 1.36 acres



BOURBON COUNTY  
FORT SCOTT, KS 66701

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BOURBON COUNTY  
ABANDONED WADE  
ALUMINUM SMELTER  
SEEDING PLAN



REV#	DATE	DESCRIPTION

PROJECT NO.  
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DRAWING NO.  
10  
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