Kansas
Department of Health and Environment

STATE COOPERATIVE DRAFT AGENCY DECISION STATEMENT
Kansas Department of Health and Environment
Bureau of Environmental Remediation

SITE NAME: **Wade's Aluminum Site (C3-006-03010)**

CITY/COUNTY: **Fort Scott, Bourbon County**

DATE: **January 6, 2014**

MEDIA IMPACTED: **Soil**

LAND USE (Current): **Vacant industrial**

SITE BACKGROUND: The Wade's Aluminum Site is an abandoned secondary aluminum smelter located in a rural area north of Fort Scott, Kansas in Section 17, Township 25 South, Range 25 East, Bourbon County (Figure 1). The address of the Site is 2263 Noble Road, Fort Scott, Kansas. The facility reclaimed aluminum from dross, which was brought in from surrounding aluminum smelters and stored on site.

Smelting operations began in December 1977 with two furnaces. In 1979, two more furnaces were added, one for the reclamation of aluminum dross and one for alloying aluminum. A fifth furnace was added in 1980 for alloying aluminum. In October, 1984, Wade's Aluminum Products discontinued processing of aluminum dross and began using aluminum scrap materials. Wade's Aluminum Products filed for bankruptcy in November 1985. The site was abandoned and acquired by Bourbon County in 2006 as part of a larger land purchase from Culler Properties, L.L.C. Bourbon County signed an agreement with Culler Properties which indemnified Culler Properties from any environmental issues existing on the property at the time. The site is currently being addressed through an Environmental Remediation Agreement between KDHE and Bourbon County.

KDHE completed a Preliminary Assessment of the property in 1995. The assessment included the collection of two dross (waste) samples and one soil sample. Analytical results indicated that waste at the Site was potential Resource Conservation and Recovery Act (RCRA) characteristic hazardous waste because of concentrations of cadmium, chromium and lead.

An integrated Removal Site Evaluation/Site Inspection (RSE/SI) was conducted by KDHE in 2005. Lead was the only Contaminant of Concern (COC) that exceeded its Tier 2 Level for non-residential soils established in KDHE's Risk-based Standards. Nine waste samples and four soil samples were submitted for Toxicity Characteristic Leaching Procedure (TCLP) analysis. Three of the waste samples failed TCLP for lead, indicating that some of the waste could be characteristically hazardous.

During KDHE's 2011 Removal Site Evaluation (RSE) lead was identified in surface soils at concentrations exceeding its Tier 2 Level for the soil pathway. TCLP analysis confirmed that some site waste was characteristically hazardous for lead. Chromium in soil did not exceed its calculated site-specific trivalent Tier 3 Level. Sediment samples collected from Wolverine Creek north of the site exceeded applicable Threshold Effects Concentrations (TECs) for arsenic and zinc in upstream and downstream samples, and cadmium exceeded its TEC in the downstream sample. No

samples exceeded the TEC for lead, indicating that the Site is not a significant source of additional environmental degradation of creek sediment. Data collected during the investigation were used to estimate that approximately 7,000 to 10,500 cubic yards of soil and waste at the site exceeded the Tier 2 Level for lead and that an estimated eight yards of waste exceeded the toxicity characteristic concentration for lead.

An Evaluation of Remedial Alternatives was conducted as part of the RSE to identify the most cost-effective way to address contamination at the Site. The proposed remedy was on-site consolidation and encapsulation of non-hazardous waste and contaminated soil. Waste determined to be characteristically hazardous for lead was removed from the site in 2012.

REMEDIAL PLAN:

The primary COC at the site is lead found in waste and surface soils. Remedial Action Objectives (RAOs) include: 1) preventing human exposure through direct contact with and/or ingestion of waste and contaminated soil with COCs in excess of KDHE's Tier 2 Levels for non-residential use; 2) precluding adverse impact from waste and contaminated soil to ecological receptors; and 3) preventing migration of waste and soil that contain COCs in excess of applicable standards that could result in greater environmental degradation of soils, sediment, and the adjacent environment.

The corrective action selected to achieve site RAOs includes consolidation and capping of non-hazardous waste and contaminated soil in excess of non-residential Tier 2 Levels in a consolidation cell in the former limestone quarry on the western edge of the site as shown on Figure 2. An Environmental Use Control (EUC) will be placed on the site to preclude the use of the property for residential use and to prohibit future intrusive activities that may damage the cap, among other restrictions. A long-term Operations and Maintenance plan will be developed which will include routine inspections, and repairs will be conducted as needed to ensure long-term effectiveness of the remedy.

Specific requirements of the remedial plan include the following:

(1) Approximately 7,000 to 10,500 cubic yards of contaminated soil and non-hazardous waste will be consolidated, graded, compacted and covered with an engineered cap consisting of six inches of compacted clay and 18 inches of topsoil. The encapsulation cell will be seeded and mulched to create a vegetative cap.

(2) A EUC and Long Term Care Agreement (LTCA) will be established to restrict future use of the site where there is residual contamination above residential Tier 2 Levels. An application to the EUC program must be submitted within 90 days of the date of the Final Agency Decision Statement.

(3) A Soil Waste Management Plan (SWMP) will be developed which will direct the handling of potentially contaminated soil or waste encountered during future use or development of the site. The SWMP will be part of the EUC and LTCA.

(4) A long-term Operations and Maintenance (O&M) plan will be developed which will include mowing and routine inspections of the consolidation cell, with repairs conducted as needed to ensure long-term effectiveness of the remedy.

RECOMMENDATION: On the basis of information available in the Administrative Record and summarized above, KDHE recommends implementation of the proposed remedial plan.

COMMUNITY INVOLVEMENT: Public notice of the availability of the Draft Agency Decision Statement (ADS) will be published in the *Fort Scott Tribune* and the Draft ADS will be made available for review at the Bourbon County Courthouse during a 15-day comment period held to solicit written comments from the public. KDHE will establish a webpage dedicated to the Wade's Aluminum site which will make available the Draft ADS and other site documents.

TABLES:
Table 1 – Contaminant Concentrations in Soil
Table 2 – Contaminant Concentrations in Sediment

FIGURES:
Figure 1 – Site Location Map
Figure 2 – Excavation Plan and Consolidation Cell Location Map

FINAL AGENCY APPROVAL:

_____ _____
Gary Blackburn, PG Date
Director, Bureau of Environmental Remediation

_____ _____
Rick Bean, PG Date
Remedial Section Chief

_____ _____
Chris Carey, PG Date
Site Restoration Unit Manager

_____ _____
Maura O'Halloran, PG Date
Site Project Manager

TABLE 1: CONTAMINANT CONCENTRATIONS IN SOIL

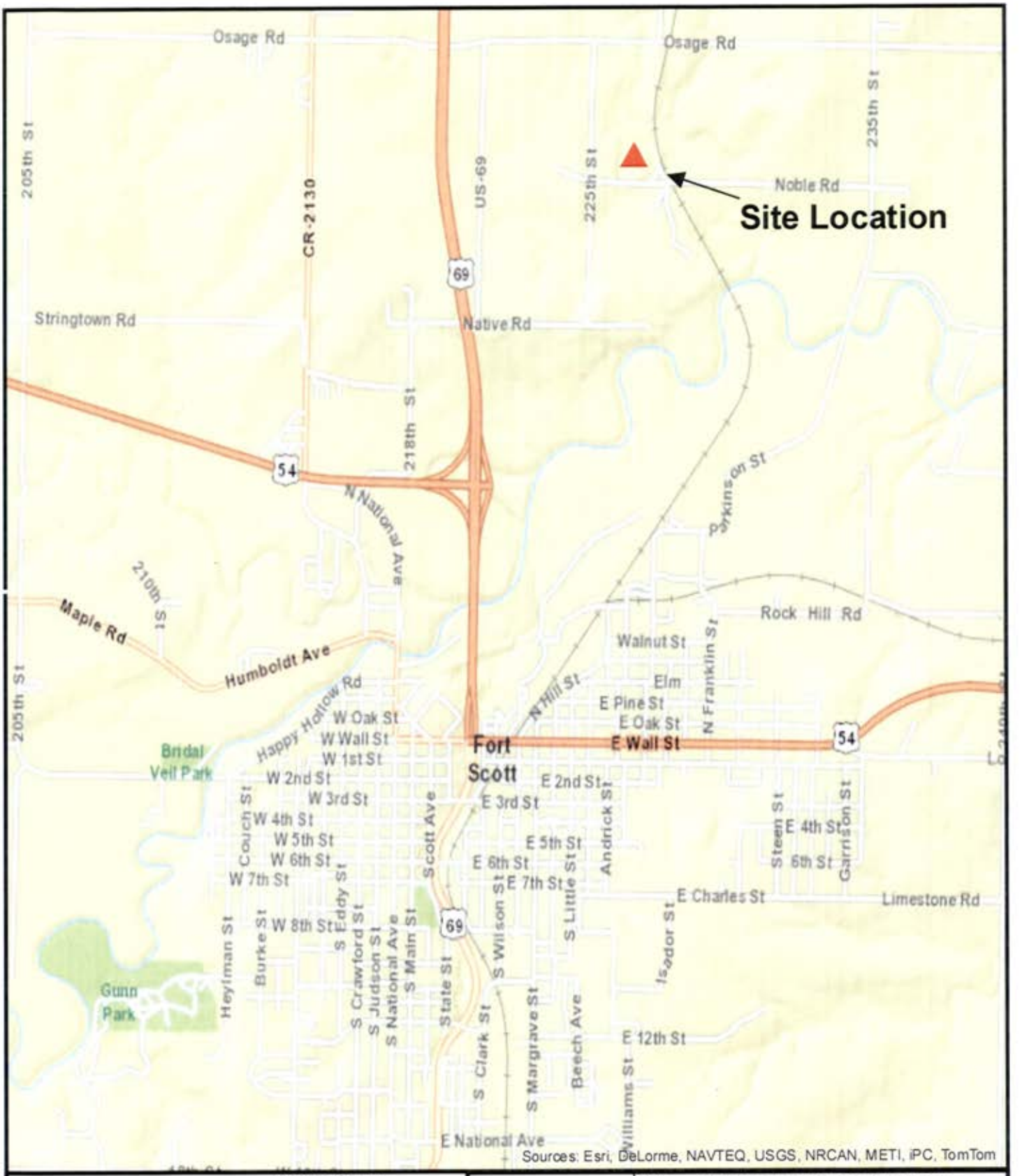
Contaminant of Concern	Non-Residential Tier 2 Level Soil Pathway (mg/kg)[1]	Maximum Concentration Detected (mg/kg)
Arsenic	63.2	19
Cadmium	965	29
Lead	1,000	**1,600**
Chromium	3,060,000[2]	590
Zinc	613,000	10,000

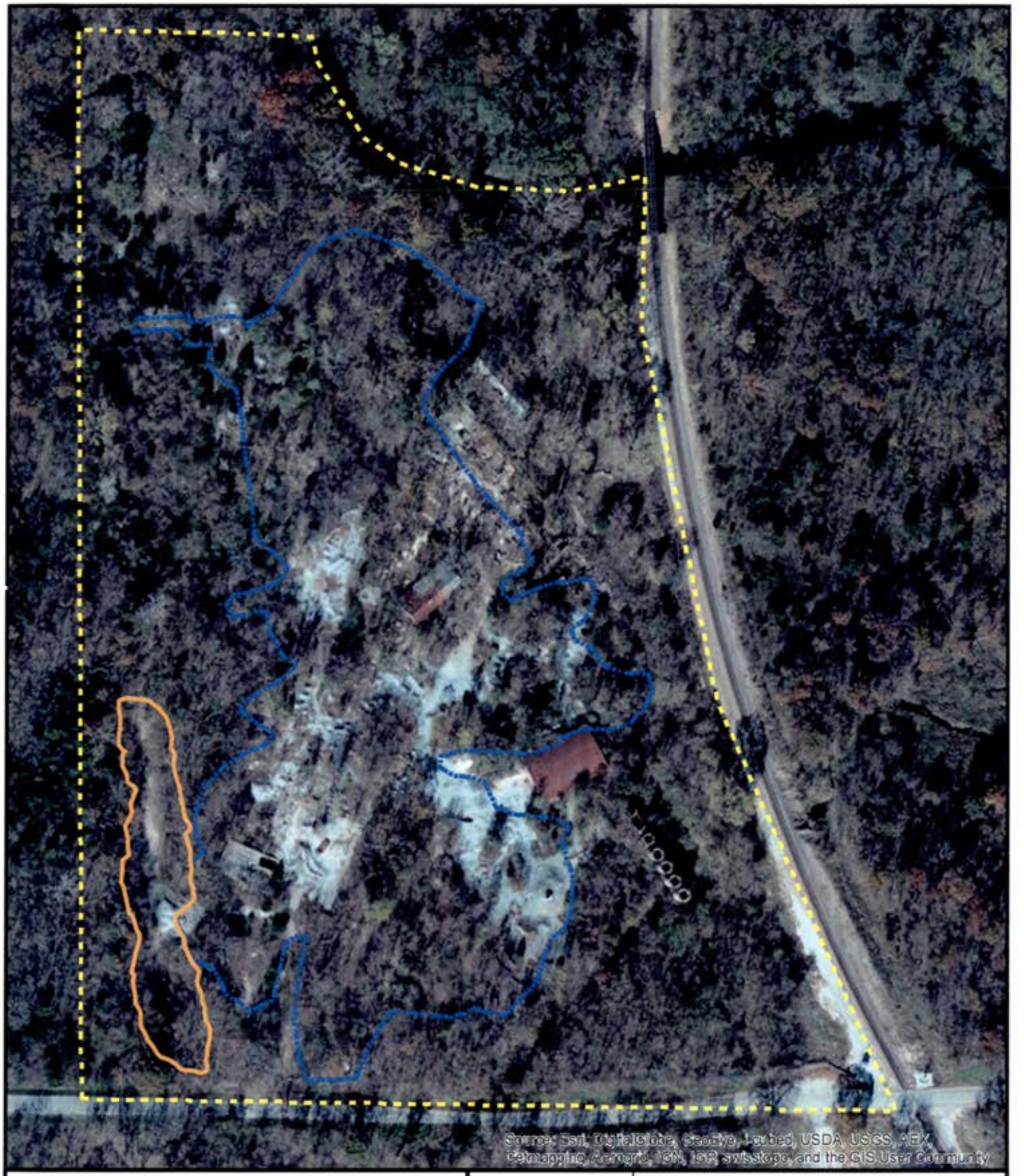
[1]KDHE's Risk Based Standards for Kansas (RSK) Manual, October, 2010.
[2]The specified concentration for chromium is the site-specific Tier 3 level
Bold Font indicates concentration exceeds specified threshold level, laboratory analysis only
mg/kg = milligrams per kilogram

TABLE 2: CONTAMINANT CONCENTRATIONS IN SEDIMENT

Contaminant of Concern	TECs (mg/kg)	Maximum Concentration Detected (mg/kg)	
		upstream	downstream
Arsenic	**9.79**	**9.8**	**10.0**
Cadmium	**0.99**	ND	**4.6**
Chromium	**43.4**	20	30
Lead	**35.8**	26	35
Zinc	**121**	**160**	**1,000**

Bold Font indicates concentration exceeds specified threshold level
mg/kg = milligrams per kilogram
ND = not detected
TEC = Threshold Effects Concentration


Site Location
Osage Rd
Osage Rd
205th St
CR-2130
US-69
225th St
235th St
Noble Rd
Stringtown Rd
Native Rd
69
54
218th St
N National Ave
Perkinson St
210th St
Maple Rd
Humboldt Ave
205th St
Rock Hill Rd
Walnut St
Elm
N Hill St
N Franklin St
E Pine St
E Oak St
Happy Hollow Rd
W Oak St
W Wall St
W 1st St
W 2nd St
W 3rd St
W 4th St
W 5th St
W 6th St
W 7th St
W 8th St
Bridal Veil Park
Fort Scott
E Wall St
E 2nd St
E 3rd St
E 4th St
E 5th St
E 6th St
E 7th St
E 6th St
Couch St
Scott Ave
Andrick St
Steen St
Garrison St
E Charles St
Limestone Rd
Isador St
S Eddy St
S Crawford St
S Judson St
S National Ave
S Main St
S Wilson St
S Little St
Heylman St
Burke St
State St
Gunn Park
S Clark St
S Margrave St
Beech Ave
E 12th St
Williams St
E National Ave
Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom
N
Bourbon County
0
0.25
0.5
1
Miles
Kansas
Department of Health and Environment
SITE: Wade's Aluminum Products
Fort Scott, KS
TITLE: Site Map
PROJECT PHASE: Remediation
DRAWN BY: KS
11/5/13
BASEMAP DATE: 2013
CHECKED BY: MO
11/5/13
Figure 1



Legend

- Site Boundary
- Total Removal Area
- Consolidation Cell

N

0 50 100 200

Feet

Kansas Department of Health and Environment

SITE:	Wade's Aluminum Products Fort Scott, KS			
TITLE:	Excavation Area and Consolidation Cell Location			
PROJECT PHASE:		Remediation		
DRAWN BY:	KS	11/4/13	BASEMAP DATE:	2013
CHECKED BY:	MO	11/4/13	Figure 2	