



# ecology and environment, inc.

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International Specialists in the Environment

## MEMORANDUM

Site:	KUHLMAN DIECASTING
ID #	KSD006325013
Break:	2.0
Other:	07GK 4/16/93

TO: ✓ Roy Crossland, Acting EPA/DPO

FROM: Hieu Q. Vu, E & E/ATATL (HRV)

THRU: Joe Chandler, E & E/TATL JCC

DATE: April 16, 1993

SUBJECT: Removal Funded: Kuhlman Diecasting Co., Stanley, Kansas  
Removal Assessment Phase II  
TDD: T07-9301-025  
PAN: EKS0331FCA  
EPA/OSC: Tim Curry

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## I. INTRODUCTION

The Ecology and Environment, Inc., Technical Assistance Team (TAT) was tasked by the U.S. Environmental Protection Agency (EPA) Region VII Emergency Planning and Response (EP&R) Branch, under TDD T07-9301-025, to conduct Phase II of the removal assessment at the Kuhlman Diecasting Company, Stanley, Kansas.

The primary objective for the Phase II Removal Assessment was to determine whether further removal activity is required at the site. This included collection of surface soil samples from within the property, utilizing the 95% upper confidence limit (UCL) sampling protocol.

TAT member Hieu Vu was the project manager for the site.

## II. BACKGROUND

### A. Site Location/Description

Kuhlman Diecasting Company (KDC) is located at 164th Street and Mission Road, near Stanley, Kansas. The 39-acre site is on a floodplain, 2 miles east and 1.5 miles south of Stanley in Johnson County, in a meander of the Blue River. The defunct electroplating facility consists of a 130,000-square-

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foot, single-story, concrete-block building and an assortment of waste treatment lagoons, storage ponds and tanks. KDC began electroplating operations at the site in 1964, after the property had previously been used by an oil refiner.

Land use within a 3-mile radius of the site includes residential, recreational, and agricultural. The nearest residences are approximately 1,000 feet northeast of the site; the Blue River is approximately 50 feet west of the site. It is believed that nearby residents are using a public water supply for drinking; however, information regarding the use of private wells (if any exist) for irrigation or other purposes was not readily available.

## **B. Site History/Previous Investigations and Actions**

KDC occupied the Stanley, Kansas facility from 1964 to 1990. Prior to 1964, the property had changed ownership several times for various productions, including an oil refinery in early 1900s (see Removal Funded: Kuhlman Diecasting Co., Stanley, Kansas - Final Report For Phase I Removal Action, TDD: T07-9210-031, for complete title search of the site). KDC had engaged in manufacturing of zinc diecastings for a variety of commercial and industrial customers, including automotive, small appliances, and telecommunications. The KDC operation also included buffing and polishing of aluminum diecastings. KDC had employed an electroplating process that utilized chromium, nickel, and copper platings on the zinc diecasting.

In 1972, the Kansas Department of Health and Environment (KDHE) ordered the facility's owner to upgrade wastewater treatment facilities. A National Pollutant Discharge Elimination System (NPDES) permit was issued for a new wastewater treatment system in 1973. In 1976, KDHE again ordered the facility's owner to upgrade the wastewater treatment system. KDHE continued with compliance inspections of the treatment plant through the 1980s.

In 1982, KDHE determined during a Resource Conservation and Recovery Act (RCRA) compliance inspection that hazardous wastes were being improperly stored at the site. Another RCRA inspection in 1986 led to documentation of illegal disposal of paint wastes and solvents at the site. EPA imposed a RCRA Administrative Penalty on the owners for those violations.

In November 1990, KDC, with its owner citing an ongoing economic recession as a cause, filed Chapter 11 bankruptcy. Subsequently, Congress Financial Corporation, Chicago, Illinois, a secured creditor with first mortgage rights on the facility initiated an auction of the property's equipment and some inventory, which occurred in March, 1991.

On March 24, 1991, EPA sent a notice letter to David E. Kuhlman, company president, under Section 107a of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), notifying him of potential financial liabilities associated with cleanup costs of the site. Kuhlman did not respond.

On April 16, 1991, individuals who had purchased inventory and equipment at the site ignited an unknown substance with sparks from a cutting torch, while cutting up a tank purchased for salvage. The local HazMat team and fire department, KDHE, and the John County Department of Environmental Control (JCDEC) responded to the fire. TAT, under EP&R's direction, also responded to the incident.

TAT provided technical assistance to the local HazMat team and fire department during the extinguishment of the fire. A followup inspection of the site was conducted by EPA and TAT personnel on April 23, 1991. The inspection revealed hundreds of drums, containers and vats containing incompatible electroplating wastes that were stored inside the facility's building (e.g., drums containing acids were stored adjacent to drums containing cyanide). Samples of liquid and sludge collected from some of the drums and from the floor at the plating area indicated cyanide and metals present at percentage levels. A complete removal assessment was conducted by TAT in June, 1991.

### **C. Phase I Removal Action Synopsis**

On July 15, 1991, an Action Memorandum, with a \$1.51-million ceiling, was signed for removal and stabilization of the site. Phase I removal activities began on July 22, 1991, and concluded on June 1, 1992. During that period, over 1 million gallons of water contaminated with metals and cyanide, including nearly 900,000 gallons that exceeded allowable discharge levels before treatment were treated on site. This included bulking and treating contents of approximately 960 drums and containers. Wastes exhibiting high metal concentrations or which, for other reasons, could not be treated on site, were transported off site for recycling and/or disposal facilities. All special waste [e.g., trash, debris, expended personal protective equipment (PPE), dust from HVAC system, etc.] was sent under a special permit to the Johnson County landfill. Once all wastes were removed from the site, the building was steam cleaned and the wash water treated. A complete report detailing removal activities was submitted to EPA on January 19, 1993 (Removal Funded: Kuhlman Diecasting Co., Stanley, Kansas - Final Report For Phase I Removal Action, TDD: T07-9210-031).

Following the completion of the phase I removal action, TAT conducted a phase II removal assessment of the site in June and July, 1992, under TDD: T07-9107-035D, to assist EPA in determining whether further removal activity would be required at the site. During this assessment, the 39-acre property was subdivided into eight strata for different sampling strategies (see Figure 1), and multimedia samples were collected, including concrete dust inside the building, sediment in lagoons, subsurface and surface soil, and ground water samples. A complete report detailing site activities and samples results was submitted to EPA on September 24, 1992 (Removal Funded: Kuhlman Diecasting Co., Stanley, Kansas - Phase II Removal Assessment, TDD: T07-9107-035D). During the Phase II removal assessment, TAT also utilized a site-specific model of the X-ray fluorescence (XRF) spectrophotometer to screen surface soil samples for chromium, copper, and nickel. Both XRF and laboratory confirmatory data indicated concentrations of metals above background in some areas within Area #7 and #3 (see Figure 1). Therefore, this sampling effort was to delineate the extent of the contamination of those areas.

## **III. ON-SITE ACTIVITIES**

March 15, 1993: The areas of concern within Area #7 and #3 were grided into 10 sections of approximately 5,000 square feet each (see Figure 1: Site Sketch of Sampling Strata), as described in the QAPjP (attached). Three replicate samples were collected from each section, in accordance with the 95% upper confidence limit (UCL) sampling protocol. Each sample was collected utilizing a new pie pan, spoon, and gloves to prevent cross-contamination. After the sample was homogenized in the pie pan, it was transferred into one 8 ounce glass jar. Sample management was performed in accordance with the

QAPjP. Thirty three replicate samples were collected (BGXGK001 - 030), including 3 duplicates (BGXGK025D, 026D, and 027D0. The samples were submitted to the Region VII EPA Laboratory on March 16, 1993, for total chromium, copper, nickel, and zinc analyses.

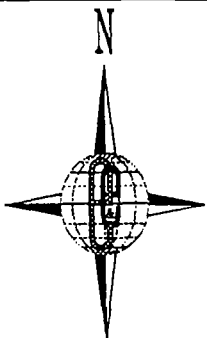
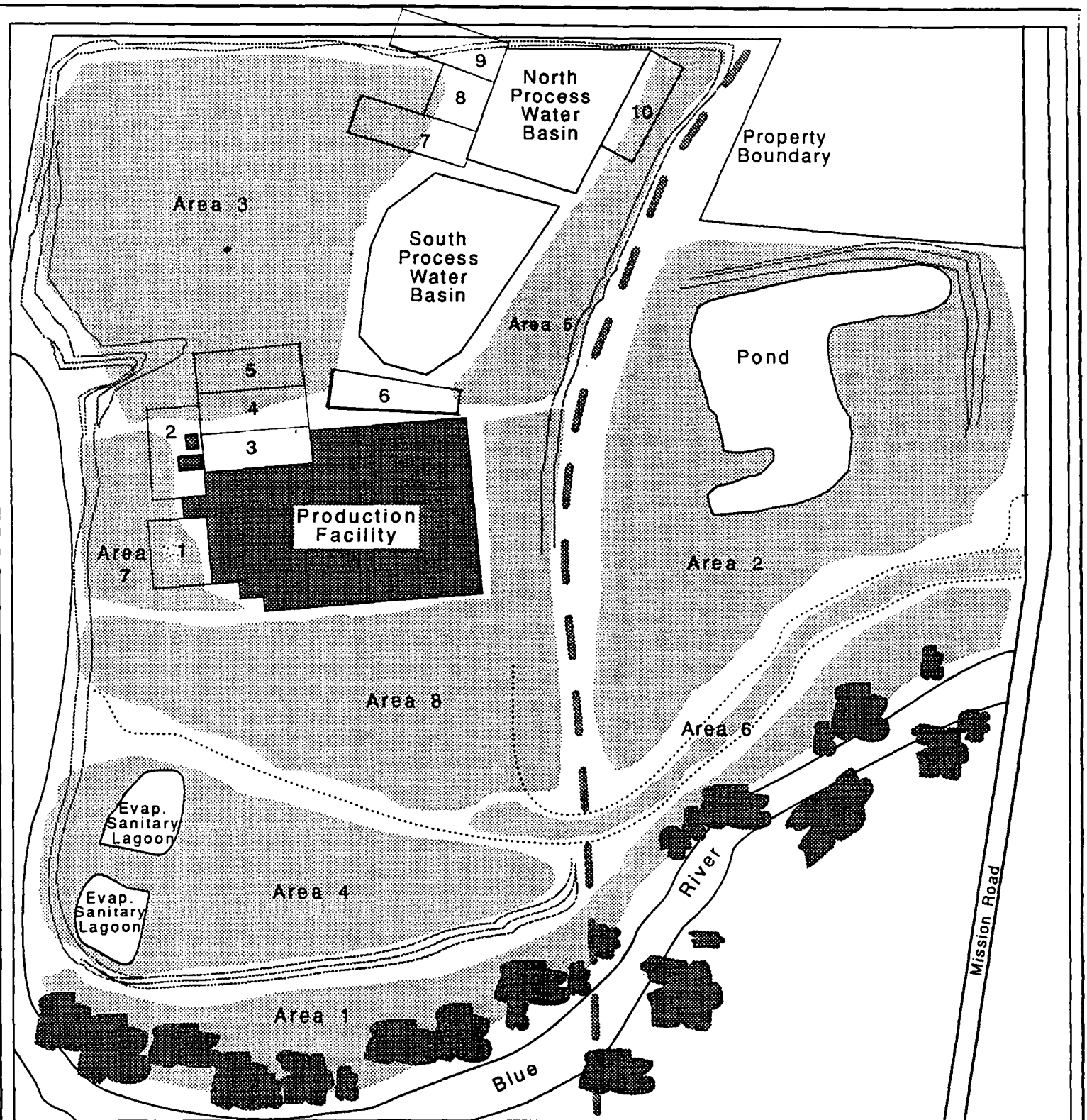
## **VI. RESULTS**

Analytical results were received by the TAT on April 12, 1993 (attached). A summary of sample results including calculated 95% UCL concentrations for each analyte is attached to this report. Of the four metals analyzed, only nickel and zinc were found exceeded their respective established action levels in 6 of the 10 sampled sections. Zinc was found exceeded its action level in five sections, 2 to 6, while nickel was found exceeded its action level in 2 sections, 1 and 3. These sections are adjacent to the building to the north and west. It is noted that soil samples collected from areas east and south of the building (gravel parking lot) during past activities at the site indicated metals' concentrations below the action limits. The remaining 4 sections (Section 7 to 10) were below the action levels. It is noted that soil background samples collected during past activities at the site exhibited similar metals' concentrations as those in Section 7 to 10.

Because 6 sections showed metals' concentrations above action levels, TAT's future involvement with the site may include further sampling to delineate the extent of the contamination to the north and west of the production facility.

## **ATTACHMENTS**

Figure 1: Site Sketch of Sampling Strata  
Quality Assurance Project Plan For Kuhlman Diecasting Site Removal Action, Stanley, Kansas,  
December 30, 1992.  
Summary of 95% UCL Soil Sampling, Kuhlman Diecasting Co.  
Analytical Results and Field Sheets and Chain-of-Custody



### Legend

Trees	
Berms	
Drive	
Railroad	

Not To Scale

## Kuhlman Diecasting Co. Stanley, Kansas

Prepared by Scott Hayes  
Ecology & Environment, Inc./TAT  
June 1992  
TDD # TO7-9301-025  
PAN # EKS0331FCA

Site Sketch of Sampling Strata

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SUMMARY OF 95% UCL SOIL SAMPLING  
KUHLMAN DIECASTING CO. SITE - PHASE II, STANLEY, KANSAS  
TDD#: T07-9301-025  
PAN#: EKS0331FCA

SAMPLE NUMBER (BGXGK)	CONCENTRATION (MG/KG)	95% UCL CONCENTRATION (MG/KG)	ACTION LEVEL (MG/KG)	COMMENT
*****	*****	*****	*****	*****
** ANALYTICAL PARAMETER: Cr				
001	1040.0	1231	2000	SECT 1 - NORTH
002	568.0			SECT 1 - SOUTH
003	874.0			SECT 1 - EAST
** ANALYTICAL PARAMETER: Cu				
001	813.0	930	10000	SECT 1 - NORTH
002	586.0			SECT 1 - SOUTH
003	775.0			SECT 1 - EAST
** ANALYTICAL PARAMETER: Ni				
001	3310.0	3453	1500	SECT 1 - NORTH
002	2970.0			SECT 1 - SOUTH
003	2830.0			SECT 1 - EAST
** ANALYTICAL PARAMETER: Zn				
001	4270.0	4953	5500	SECT 1 - NORTH
002	4520.0			SECT 1 - SOUTH
003	4780.0			SECT 1 - EAST
** ANALYTICAL PARAMETER: Cr				
001	176.0	205	2000	SECT 2 - NORTH
002	146.0			SECT 2 - SOUTH
003	187.0			SECT 2 - EAST
** ANALYTICAL PARAMETER: Cu				
001	1930.0	2412	10000	SECT 2 - NORTH
002	340.0			SECT 2 - SOUTH
003	379.0			SECT 2 - EAST
** ANALYTICAL PARAMETER: Ni				
001	670.0	784	1500	SECT 2 - NORTH
002	741.0			SECT 2 - SOUTH
003	610.0			SECT 2 - EAST
** ANALYTICAL PARAMETER: Zn				
001	1240.0	14762	5500	SECT 2 - NORTH
002	11600.0			SECT 2 - SOUTH
003	1340.0			SECT 2 - EAST
** ANALYTICAL PARAMETER: Cr				
001	180.0	306	2000	SECT 3 - NORTH
002	267.0			SECT 3 - SOUTH
003	243.0			SECT 3 - EAST

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SUMMARY OF 95% UCL SOIL SAMPLING  
KUHLMAN DIECASTING CO. SITE - PHASE II, STANLEY, KANSAS  
TDD#: T07-9301-025  
PAN#: EKS0331FCA

SAMPLE NUMBER (BGXGK)	CONCENTRATION (MG/KG)	95% UCL CONCENTRATION (MG/KG)	ACTION LEVEL (MG/KG)	COMMENT
*****	*****	*****	*****	*****
** ANALYTICAL PARAMETER: Cu				
001	485.0	1244	10000	SECT 3 - NORTH
002	1060.0			SECT 3 - SOUTH
003	728.0			SECT 3 - EAST
** ANALYTICAL PARAMETER: Ni				
001	986.0	2492	1500	SECT 3 - NORTH
002	1130.0			SECT 3 - SOUTH
003	2150.0			SECT 3 - EAST
** ANALYTICAL PARAMETER: Zn				
001	35700.0	45222	5500	SECT 3 - NORTH
002	4310.0			SECT 3 - SOUTH
003	5030.0			SECT 3 - EAST
** ANALYTICAL PARAMETER: Cr				
001	302.0	356	2000	SECT 4 - NORTH
002	319.0			SECT 4 - SOUTH
003	241.0			SECT 4 - EAST
** ANALYTICAL PARAMETER: Cu				
001	776.0	941	10000	SECT 4 - NORTH
002	689.0			SECT 4 - SOUTH
003	421.0			SECT 4 - EAST
** ANALYTICAL PARAMETER: Ni				
001	786.0	878	1500	SECT 4 - NORTH
002	814.0			SECT 4 - SOUTH
003	682.0			SECT 4 - EAST
** ANALYTICAL PARAMETER: Zn				
001	9470.0	18951	5500	SECT 4 - NORTH
002	16800.0			SECT 4 - SOUTH
003	10400.0			SECT 4 - EAST
** ANALYTICAL PARAMETER: Cr				
001	100.0	125	2000	SECT 5 - NORTH
002	119.0			SECT 5 - SOUTH
003	101.0			SECT 5 - EAST
** ANALYTICAL PARAMETER: Cu				
001	427.0	605	10000	SECT 5 - NORTH
002	565.0			SECT 5 - SOUTH
003	452.0			SECT 5 - EAST

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SUMMARY OF 95% UCL SOIL SAMPLING  
KUHLMAN DIECASTING CO. SITE - PHASE II, STANLEY, KANSAS  
TDD#: T07-9301-025  
PAN#: EKS0331FCA

SAMPLE NUMBER (BGXGK)	CONCENTRATION (MG/KG)	95% UCL CONCENTRATION (MG/KG)	ACTION LEVEL (MG/KG)	COMMENT
*****				
** ANALYTICAL PARAMETER: Ni				
001	391.0	801	1500	SECT 5 - NORTH
002	708.0			SECT 5 - SOUTH
003	466.0			SECT 5 - EAST
** ANALYTICAL PARAMETER: Zn				
001	6640.0	26775	5500	SECT 5 - NORTH
002	22000.0			SECT 5 - SOUTH
003	6240.0			SECT 5 - EAST
** ANALYTICAL PARAMETER: Cr				
001	77.5	144	2000	SECT 6 - NORTH
002	88.6			SECT 6 - SOUTH
003	129.0			SECT 6 - EAST
** ANALYTICAL PARAMETER: Cu				
001	150.0	191	10000	SECT 6 - NORTH
002	135.0			SECT 6 - SOUTH
003	178.0			SECT 6 - EAST
** ANALYTICAL PARAMETER: Ni				
001	413.0	830	1500	SECT 6 - NORTH
002	279.0			SECT 6 - SOUTH
003	703.0			SECT 6 - EAST
** ANALYTICAL PARAMETER: Zn				
001	9690.0	25130	5500	SECT 6 - NORTH
002	10700.0			SECT 6 - SOUTH
003	21600.0			SECT 6 - EAST
** ANALYTICAL PARAMETER: Cr				
001	113.0	158	2000	SECT 7 - NORTH
002	137.0			SECT 7 - SOUTH
003	143.0			SECT 7 - EAST
** ANALYTICAL PARAMETER: Cu				
001	124.0	144	10000	SECT 7 - NORTH
002	136.0			SECT 7 - SOUTH
003	136.0			SECT 7 - EAST
** ANALYTICAL PARAMETER: Ni				
001	22.0	23	1500	SECT 7 - NORTH
002	22.9			SECT 7 - SOUTH
003	21.5			SECT 7 - EAST



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SUMMARY OF 95% UCL SOIL SAMPLING  
KUHLMAN DIECASTING CO. SITE - PHASE II, STANLEY, KANSAS  
TDD#: T07-9301-025  
PAN#: EKS0331FCA

SAMPLE NUMBER (BGXGK)	CONCENTRATION (MG/KG)	95% UCL CONCENTRATION (MG/KG)	ACTION LEVEL (MG/KG)	COMMENT
*****	*****	*****	*****	*****
** ANALYTICAL PARAMETER: Zn				
001	317.0	377	5500	SECT 7 - NORTH
002	362.0			SECT 7 - SOUTH
003	312.0			SECT 7 - EAST
** ANALYTICAL PARAMETER: Cr				
001	162.0	356	2000	SECT 8 - NORTH
002	302.0			SECT 8 - SOUTH
003	247.0			SECT 8 - EAST
** ANALYTICAL PARAMETER: Cu				
001	147.0	358	10000	SECT 8 - NORTH
002	302.0			SECT 8 - SOUTH
003	233.0			SECT 8 - EAST
** ANALYTICAL PARAMETER: Ni				
001	12.0	20	1500	SECT 8 - NORTH
002	16.6			SECT 8 - SOUTH
003	16.6			SECT 8 - EAST
** ANALYTICAL PARAMETER: Zn				
001	167.0	268	5500	SECT 8 - NORTH
002	230.0			SECT 8 - SOUTH
003	227.0			SECT 8 - EAST
** ANALYTICAL PARAMETER: Cr				
001	263.0	425	2000	SECT 9 - NORTH
001D	294.0			SECT 9 - NORTH
002	382.0			SECT 9 - SOUTH
002D	422.0			SECT 9 - SOUTH
003	403.0			SECT 9 - EAST
003D	434.0			SECT 9 - EAST
** ANALYTICAL PARAMETER: Cu				
001	587.0	845	10000	SECT 9 - NORTH
001D	629.0			SECT 9 - NORTH
002	713.0			SECT 9 - SOUTH
002D	828.0			SECT 9 - SOUTH
003	764.0			SECT 9 - EAST
003D	926.0			SECT 9 - EAST
** ANALYTICAL PARAMETER: Ni				
001	23.8	29	1500	SECT 9 - NORTH
001D	24.8			SECT 9 - NORTH
002	25.0			SECT 9 - SOUTH

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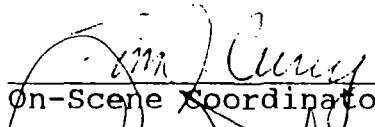
SUMMARY OF 95% UCL SOIL SAMPLING  
KUHLMAN DIECASTING CO. SITE - PHASE II, STANLEY, KANSAS  
TDD#: T07-9301-025  
PAN#: EKS0331FCA

SAMPLE NUMBER (BGXGK)	CONCENTRATION (MG/KG)	95% UCL CONCENTRATION (MG/KG)	ACTION LEVEL (MG/KG)	COMMENT
*****	*****	*****	*****	*****
002D	25.4			SECT 9 - SOUTH
003	26.3			SECT 9 - EAST
003D	32.1			SECT 9 - EAST
** ANALYTICAL PARAMETER: Zn				
001	247.0	276	5500	SECT 9 - NORTH
001D	254.0			SECT 9 - NORTH
002	250.0			SECT 9 - SOUTH
002D	258.0			SECT 9 - SOUTH
003	270.0			SECT 9 - EAST
003D	292.0			SECT 9 - EAST
** ANALYTICAL PARAMETER: Cr				
001	13.4	15	2000	SECT 10 - NORTH
002	14.3			SECT 10 - SOUTH
003	13.4			SECT 10 - EAST
** ANALYTICAL PARAMETER: Cu				
001	19.4	20	10000	SECT 10 - NORTH
002	19.5			SECT 10 - SOUTH
003	18.2			SECT 10 - EAST
** ANALYTICAL PARAMETER: Ni				
001	15.1	17	1500	SECT 10 - NORTH
002	16.9			SECT 10 - SOUTH
003	15.7			SECT 10 - EAST
** ANALYTICAL PARAMETER: Zn				
001	197.0	223	5500	SECT 10 - NORTH
002	202.0			SECT 10 - SOUTH
003	217.0			SECT 10 - EAST


QUALITY ASSURANCE PROJECT PLAN FOR  
KUHLMAN DIECASTING SITE REMOVAL ACTION  
STANLEY, KANSAS

December 30, 1992

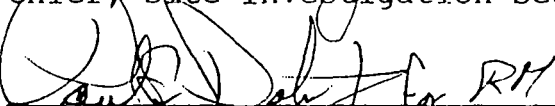
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On-Scene Coordinator

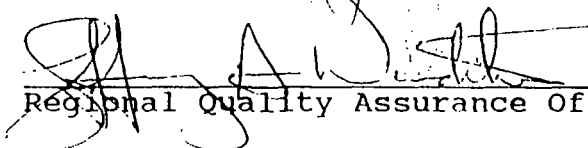
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Date

  
Chief, Site Investigation Section

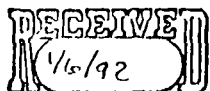
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Chief, Emergency Planning & Response Branch

12/31/92  
Date

  
Regional Quality Assurance Officer

1/7/93  
Date



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**KUHLMAN DIECASTING COMPANY  
STANLEY, KANSAS**

**QUALITY ASSURANCE PROJECT PLAN  
REMOVAL ACTION**

by

**Tim Curry  
Site Investigation Section  
Emergency Planning & Response Branch  
U.S. EPA Region VII**

**1.0 INTRODUCTION**

This document is the Quality Assurance Project Plan (QAPP) for sampling activities at the restart of the Kuhlman Diecasting Site Removal Action, Stanley, Kansas. This QAPP specifies procedures that will be implemented to assure that all areas of the site which exceed action levels in surficial soils and interior dusts are identified for removal actions. Additional objectives for this QAPP are to ensure that the post-excavation and collection of verification samples will document that the levels of the heavy metals of concern in residual soils and dusts were reduced to a level which will be protective of human health. This QAPP is being developed to ensure all sampling methods, handling, and documentation of sampling activities will be conducted according to U.S. Environmental Protection Agency (EPA) protocol.

**2.0 PROJECT DESCRIPTION**

**2.1 Objectives and Approach**

The primary objective of this QAPP is the identification of all surficial soils which exceed the site specific action levels. A previous sampling activity has identified dusts inside the building that will require a removal action. Soils and dusts which exceed the action levels will be excavated, collected, containerized and shipped off-site for disposal. The identification of material to be removed has been facilitated through an intensive X-Ray Fluorescence (XRF) survey. An X-Met 880, XRF instrument was used to identify soil areas which may exceed the action levels. The secondary objective of this sampling activity is to conduct confirmation sampling utilizing the 95 percent Upper Confidence Level (95% UCL) sampling methodology for soils and High-Volume air samples for the dusts. Confirmation sampling will be conducted after removal of soils and dusts to verify the attainment of the Removal Action Levels (RALs).

## 2.2. Site Background

The Kuhlman Diecasting Company (KDC) site is located two miles southeast of Stanley, Kansas in Johnson County at 16400 Mission Road. This is a mixed rural residential and agricultural area.

KDC is located on approximately 39 acres bounded on the west and south by the Blue River, by farmland to the north, a small residential area of approximately six residences at the northeast corner and by Mission Road to the east. Approximately twenty five acres are protected from flooding events by an agricultural style levee. The site is bisected by a main rail of the Burlington Northern Railroad Company. Most of KDC's business operations occurred on the west side of the tracks where all manufacturing buildings and structures are located.

The buildings and structures are located within a meander of the Blue River in the alluvial plain. The Blue River flows in a southerly direction adjacent to KDC's wastewater treatment system then turns westerly along the southern border of the property. On site soils are a mixture of fill material and alluvial deposits of clays, silts and sands. Groundwater is encountered at a depth of about six to ten feet.

This site has previously been addressed by site investigations and a removal action conducted between July 1991 and July 1992. Results of the second phase assessment investigation identified four surface soil areas where heavy metal contamination is suspected to be present at levels that pose a health threat to the public. The areas immediately north, west and south of the west end of manufacturing building have been identified as having elevated levels of the heavy metals chromium, copper, nickel and zinc. A fourth area found at the northwest corner of the northern process water basin was also identified as containing elevated levels of copper and chromium. These areas are targeted for additional sampling to identify the nature and extent of contamination and to develop work plans and disposal options.

## 2.3 Rationale for Sampling Activities

The rationale for the sampling activities proposed in this QAPP is to conduct 95% UCL sampling to delineate surface soil areas exceeding the RALs, verify cleanup utilizing the same methods and conduct aggressive air sampling methods for verifying cleanup of interior dusts that pose a threat to human health.

Following the delineation sampling, surface soil areas exceeding the RALs will undergo excavation, containerization and off-site disposal. An XRF instrument, calibrated with site specific soils, will be used as an aid in determining when RALs have been achieved. Following excavation the surface soils will be 95% UCL sampled to verify cleanup.

Interior air samples will be collected following the removal of dusts to verify that no health threat remains from exposures to dusts contaminated with heavy metals inside the building. Air samples will be collected utilizing a modification of 40 CFR Part 50, Appendix B, "Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method)". The modifications include enhancing air and dust movement inside the building utilizing air blowing equipment and eliminating the collection of unnecessary meteorological data. The samples collected will be analyzed for the heavy metals of concern, chromium, copper, nickel, and zinc. The results will be compared to OSHA Permissible Exposure Limits to determine if cleanup actions have been effective.

#### 2.4 Anticipated Project Schedule

Within two weeks of approval of this QAPP 95% UCL samples to delineate the surface soil contamination will be collected. The results of these samples will be reviewed and selected samples will be resubmitted for TCLP analyses for disposal. Upon receipt of TCLP results the ERCS contractor will be tasked to begin making transport and disposal arrangements. Excavation of soils and dust removal will be scheduled to coincide with finalization of transport and disposal agreements. Following excavation, verification samples will be collected. Once cleanup has been verified the ERCS contractor will demobilize from the site.

#### 3.0 KEY PERSONNEL

The following personnel are expected to be required to complete the pre-removal and post-removal sampling activities:

- Tim Curry - EPA/EP&R, On-Scene Coordinator/Project Leader
- 1 E&E/TAT member for site safety and sample documentation
- 2 E&E/TAT members for sampling.

#### 4.0 DATA QUALITY OBJECTIVES

The quality assurance objective for this project is to provide valid data of known and documented quality for use in determining that all levels of heavy metals in surface soils and interior dusts remaining on site after the removal action are below the RALs.

Soil and air samples submitted to EPA or to a CLP laboratory will undergo Level 2 minimal data review as defined in the EPA Standard Operating Procedure (SOP) #1610.2A. The measurement method (Field, analytical, and data reduction) for all samples submitted to EPA for analysis should give data with precision and accuracy for quality assurance level 3 (QA3) objectives in accordance with OSWER Directive 9360.4-01. Definitive identification, quantitation and analytical error will be determined on all samples submitted to the lab. Analytical error will be determined by calculating the precision, accuracy and coefficient of variation. Precision, accuracy, and bias for the

analytical component of the measurement process will be computed for each performance evaluation (PE) sample concentration range. PE samples will be requested from EPA Region VII Quality Assurance Management Office (QAMO) for soil matrices. At a minimum a PE sample representing heavy metal concentrations slightly below and above the Removal Action Levels will be submitted with the post-excavation samples. Data comparability will be achieved by requiring all data generated for the project be expressed in common units and by using standard analytical procedures/methods. Data completeness, for the purpose of this project, is considered as a minimum of three valid replicate sample analyses be achieved for each 95% UCL exposure unit that is sampled. Data reported to the project leader by the laboratory branch in accordance with the LAST system is considered valid.

## 5.0 ACTION LEVELS

The following action levels are proposed for the surface soils (0" to 24") found at the Kuhlman Diecasting site. The soil action levels are based on future use of the site as an industrial/commercial facility. Should the action level be exceeded in soils found below 24" in an exposure unit, the health risks of that concentration of metal will be evaluated by the EPA and the Agency for Toxic Substances and Disease Registry (ATSDR). A request has been sent to ATSDR for written concurrence of the proposed action levels. A table of action levels follows:

**Table 1: Action Levels for Soils and Interior Dusts**

Parameter	Soil Depth	Total Concentration in mg/kg	OSHA PELs in mg/m <sup>3</sup>
Chromium	0" to 24"	2000	0.5
Copper	0" to 24"	10000	1.0
Nickel	0" to 24"	1500	1.0
Zinc	0" to 24"	5500	5.0

## 6.0 SAMPLING AND ANALYSIS SUMMARY

All soil samples will be analyzed for total metals. Selected soil samples will be analyzed for TCLP metals for disposal purposes. All samples will be analyzed in conformance to CLP protocols.

The proposed number of samples for the delineation sampling activity for the site are located in Table 2. During verification sampling a 24-hour turn-around time is requested on all total metals samples. The quick turn-around is necessary in order to facilitate the progress of removal activities and prevent the removal contractor from waiting on "stand-by" for the reporting of

sample results. Verbal laboratory results for the total metals analyses collected during confirmation sampling are requested within 24 hours after the Region VII Laboratory has received the samples. During all aspects of the Remvoal Action, the EPA Project Leader will communicate directly with personnel from the Region VII Lab notifying them of anticipated sample delivery dates. An Analytical Services Request form is attached.

**Table 2: Proposed Delineation Samples**

MGP Code	Compound	EPA Method	Turnaround	Total No.
SM	Chromium	6010	2-week	45
SM	Copper	6010	2-week	45
SM	Nickel	6010	2-week	45
SM	Zinc	6010	2-week	45

It is anticipated that approximately eight to ten samples will be resubmitted for TCLP metals analysis following receipt of the total metals results.

## 7.0 SAMPLING PROCEDURES

### 7.1 Surficial Soil Sampling

The surface soils will be subdivided into sampling grids according to Region VII EPA SOP #2230.1A. The size and boundaries of specific sample grids will be based upon location, surface obstructions, topography and physical appearance. The areas of the sample grids will be in the range of 2,000 to 5,000 square feet. The boundaries of each grid will be clearly marked in case future actions are warranted. The precise location, size and configuration of the soil-sample grids cannot be specified at this time but will be determined in the field based on the above-described considerations. It will require a maximum of twelve to fourteen sample grids to cover the representative study area. All sample grids will be analyzed for total metals. Following receipt of the total metals results selected samples may be re-submitted for TCLP metals analyses.

Three replicate samples consisting of a mimimum of 36 and a maximum of 50 equidistantly spaced aliquots, 0 to 2 inches in depth, will be collected from each grid area. The upper 95 percent confidence level (UCL) concentration of the total metals chromium, copper, nickel and zinc for each grid area will be statistically calculated based on the three replicate sample results in accordance with Region VII SOP #2230.1A. Replicate results will be compared and outliers will be determined according to Region VII SOP #2210.1A.



## 7.2 Verification Air Sampling

Air samples will be collected inside the building office areas following removal of dusts. These samples are intended to show that the dust removal actions are completed and no further health threats are posed by the heavy metal contaminants inside the building. These samples will be collected in accordance with 40 CFR Part 50, Appendix B, "Reference Method for the Determination of Lead in Suspended Particulate Matter From Ambient Air". This method will be modified in order to collect a "worst case" indoor air sample by operating blowers inside the office areas during the sample collection. The blowers will agitate any remaining dust so that it is airborne and will be collected during the sampling. Meteorological data regarding wind speed and direction are not necessary for this activity. There will be three high volume samplers operated during the sample period of eight hours. Two of the samplers will be located together in order to obtain a duplicate sample for analysis. A blank sample will also be submitted with this activity for a total of four air samples. The samples will be analyzed for total metals. The sample results will be compared to the OSHA PELs.

## 8.0 REQUIRED EQUIPMENT

All expendable sampling equipment will be itemized in the Technical Assistance Team (TAT) Health and Safety Plan. The TAT will prepare a site specific H&S plan prior to initiation of sampling activities.

## 9.0 CALIBRATION PROCEDURES AND PREVENTIVE MAINTENANCE OF FIELD EQUIPMENT

Calibration and preventive maintenance of field equipment will be conducted prior to each sampling activity according to the manufacturers instructions.

## 10.0 SAMPLE HANDLING, CUSTODY, AND DOCUMENTATION PROCEDURES

### 10.1 Sample Containers/Preservation/Holding Times

All samples will be contained and preserved in accordance with EPA Region VII SOP #2130.4A. Soil samples will be collected in 8-ounce laboratory cleaned glass jars. Air samples will be collected on fiber glass filters which will be transported in plastic, zip-lock bags. All samples collected for metals analysis do not require preservatives and have a holding time of 6-months.

### 10.2 Chain-of-Custody/Field Documentation/Sample Shipment

Field documentation, sample shipment, and chain-of-custody will be carried out in accordance with EPA Region VII SOPs #2130.2A and #2130.3A.

During soil sampling the time of collection, location, sample depth, grid section, and other pertinent information will be documented on field sheets and in the sample teams field logbook. During air sampling the time of collection, location, sampler number, duration of operation and total air volume passing through the sampler will be documented on the field sheets and in the logbook. Samples being shipped off-site will be conveyed by the sampler to the laboratory as quickly as possible. Soil samples will be placed in plastic bags and stored in coolers. Chain-of-custody and field sheets will be taped to the bottom of the cooler lid.

#### 11.0 SITE SAFETY

Site safety is specifically addressed in the site-specific Health and Safety Plan. Each regional contractor working on the site will be required to have an approved Health and Safety Plan prior to commencing removal or sampling activities.

#### 12.0 DECONTAMINATION PROCEDURES

##### 12.1 Personnel Protective Gear

Non-disposable gear such as respirators will be washed in analconox solution and rinsed in potable water at the decontamination station. All other personnel protective gear, tyvek, booties, gloves, will be double-bagged and disposed of during the removal action. Personal protective equipment will be discussed in the contractors site specific health and safety plan.

##### 12.2 Sampling Equipment

During soil sampling, all equipment (aluminum pie pans, spoons, gloves, aliquot flags) will be considered expendable. After use, all sampling expendables will be double-bagged in plastic drum liners and disposed of with other removal derived waste. Surveyors tape used to measure out aliquot locations will be washed in an Alconox wash, and tap water rinsed.

#### 13.0 MANAGEMENT OF SITE-DERIVED WASTE MATERIALS

During the removal action, all site-derived waste materials will be double-bagged, labeled, and segregated on-site for disposal. Site-derived waste materials will not be transported back to the EPA Region VII Laboratory for disposal.

#### 14.0 ANALYTICAL METHODS

##### 14.1 Requested Analyses and Detection Limits

Soil and air samples will be analyzed for the total metals chromium, copper, nickel and zinc by inductively coupled plasma (ICP) atomic emission spectroscopy utilizing procedures comparable to EPA SW-846 method 6010. The normal detection limits

for these analyses will be sufficient for this QAPP. The field data regarding volume of air sampled will be used to calculate the ambient air concentration by the laboratory prior to reporting.

#### 14.2 Quality Control

The projects Quality Assurance (QA) program contains specific Quality Control (QC) practices designed to assess data precision and accuracy by detecting and measuring the degree of error in the measurement process. These QC practices include the use of field blanks (F), duplicates (D), and performance evaluation samples (PE). One duplicate soil sample will be submitted for every 20 soil samples collected. One collocated sample and one blank will be submitted with the air samples. For the purpose of determining precision a minimum of three duplicates will be collected during this activity. Two PE samples are anticipated to be available for submittal with the post-excavation verification samples.

#### 14.3 Data Review, Validation and Reporting

Data review, validation, and reporting procedures for samples submitted to the laboratory for analysis are included in EPA SOP #1610.3A. Preliminary data review is done by the analyst. The data are then reviewed and approved by the analytical section supervisor. Final review and approval is performed by the OSC.

#### ATTACHMENTS

1. Site Map
2. Analytical Services Request Form

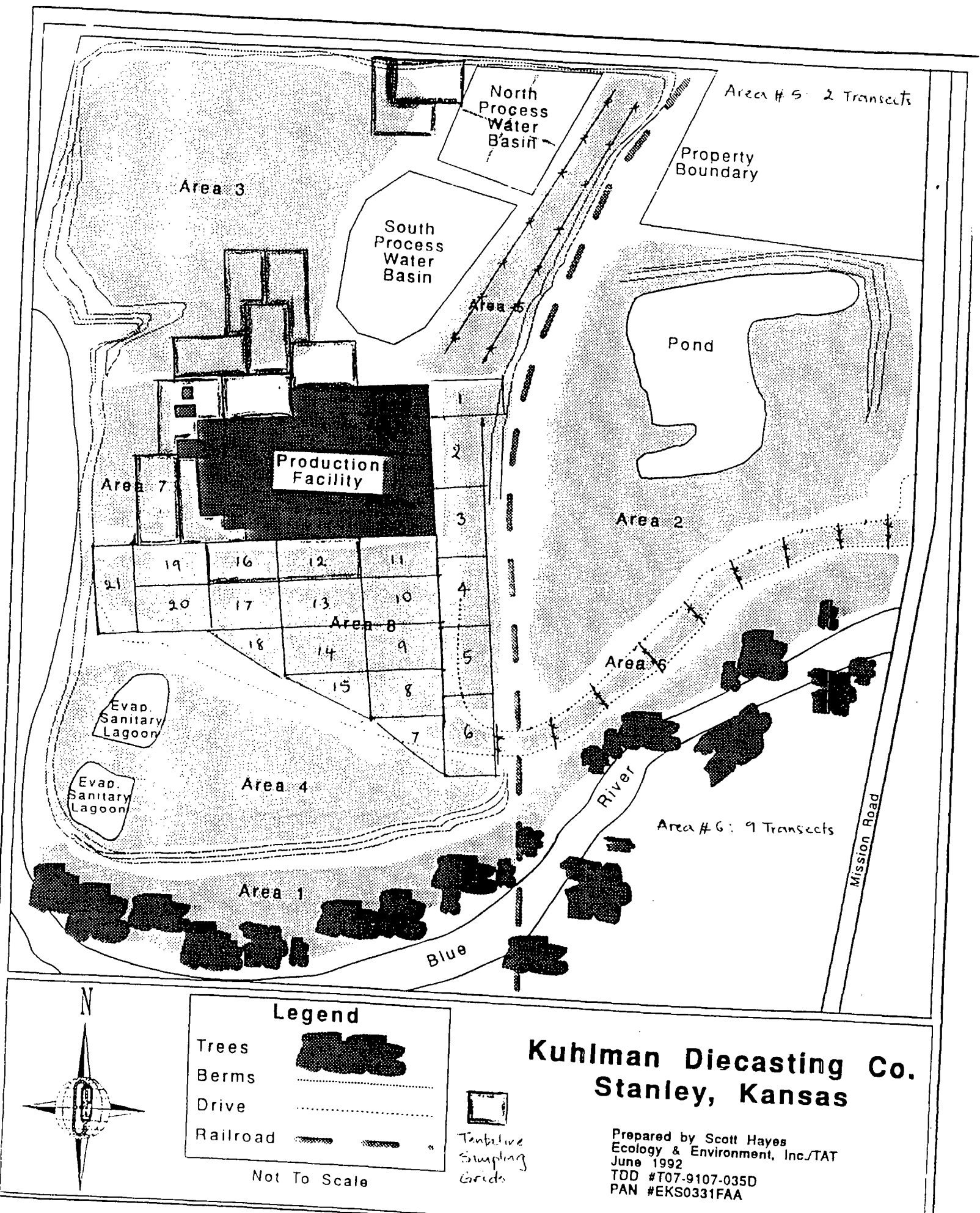


Figure 3: Site Sketch of Sampling Strata

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 001 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: ✓ North DATE TIME FROM REF PT  
LOCATION: Sec #1 KS BEG: 3/15/93 : EAST: \_ \_ \_  
CASE/BATCH/SMO: 1/1 LAB: \_ END: 3/15/93 16:40 NORTH: \_ \_ \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

30 aliquots 0-2" depth

SAMPLE COLLECTED BY :

S. Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 002 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec #1 KS BEG: 3/15/93 : EAST: \_ \_ \_  
CASE/BATCH/SMO: 1/1 LAB: \_ END: 3/15/93 10:40 NORTH: \_ \_ \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

4 aliquots 0-2" depth  
30

SAMPLE COLLECTED BY :

B. Brooks

DRAFT

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U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 003 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec #1 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 10:46 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

30 aliquots 0-2" depth

SAMPLE COLLECTED BY :

R Clayton

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 004 QCC: MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE:  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE:

SAMPLE DES: North DATE TIME FROM REF PT  
LOCATION: Sec #2 KS BEG: / / : EAST:  
CASE/BATCH/SMO: / / LAB: END: 3/15/93 11:00 NORTH:  
STORET/AIRS NO: DOWN:

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: OPERABLE UNIT:

41 aliquots 0-2" depth

SAMPLE COLLECTED BY : S. Hayes



DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 005 QCC: MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec # 2 KS BEG:   /  /   : EAST: \_\_\_\_\_  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 11:00 NORTH: \_\_\_\_\_  
STORET/AIRS NO:    DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_\_\_\_\_ OPERABLE UNIT: \_\_\_\_\_

41 aliquots 0-2" depth

SAMPLE COLLECTED BY : B. Brooks

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 006 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec. # 2 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 11:00 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

41 aliquots 0-2" depth

SAMPLE COLLECTED BY :

R. Clapton

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 007 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: North DATE TIME FROM REF PT  
LOCATION: Sec #3 KS BEG:   /  /  : EAST:     
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/95 11:20 NORTH:     
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

40 aliquots 0-2" depth

SAMPLE COLLECTED BY : S. Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 008 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec # 3 KS BEG: / / : EAST: \_ \_ \_  
CASE/BATCH/SMO: / / LAB: \_ END: 3/15/93 11:20 NORTH: \_ \_ \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

40 aliquots 0-2" depth

SAMPLE COLLECTED BY :

B. Brooks

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 009 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec #3 KS BEG:   /  /  : EAST:     
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 11:20 NORTH:     
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

40 aliquots 0-2" depth

SAMPLE COLLECTED BY :

R Clayton

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 010 QCC: MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: North DATE TIME FROM REF PT  
LOCATION: Sec. #4 KS BEG:   /  /  : EAST: \_\_\_\_\_  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 13:00 NORTH: \_\_\_\_\_  
STORET/AIRS NO:    DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: OPERABLE UNIT:

36 aliquots

0-2" depth

SAMPLE COLLECTED BY : S. Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 011 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec # 4 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 13:00 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

36 aliquots 0-2" depth

SAMPLE COLLECTED BY : S Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 012 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec # 4 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 13:00 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

36 aliquots

0-2" depth

SAMPLE COLLECTED BY :

R Clayton



DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 013 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: North DATE TIME FROM REF PT  
LOCATION: Sec #5 KS BEG: 1/1/1 : EAST: \_ \_ \_  
CASE/BATCH/SMO: 1/1/1 LAB: \_ END: 3/15/93 13:30 NORTH: \_ \_ \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

44 aliquots 0-2" depth

SAMPLE COLLECTED BY :

S. Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 014 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec # 5 KS BEG:   /  /  : EAST:     
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 13:30 NORTH:     
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

44 aliquots

0-2" depth

SAMPLE COLLECTED BY :

B. Brooks

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 015 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec # 5 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: 1-7 LAB: \_ END: 3/15/93 12:30 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

44 aliquots 0-2" depth

SAMPLE COLLECTED BY :

R Clefard

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 016 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: 16th DATE TIME FROM REF PT  
LOCATION: Sec. # 6 KS BEG:   /  /  :    EAST:     
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 13:45 NORTH:     
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

12 aliquots 0-2" depth

SAMPLE COLLECTED BY : S. Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 017 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec # 6 KS BEG:   /  /  : EAST:     
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 13:45 NORTH:     
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

22 aliquots 0-2" depth

SAMPLE COLLECTED BY :

B Brooks

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 018 QCC: MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec. # 6 KS BEG:   /  /  : EAST: \_\_\_\_\_  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 13:45 NORTH: \_\_\_\_\_  
STORET/AIRS NO:    DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: OPERABLE UNIT:

22 aliquots

0-2' depth

SAMPLE COLLECTED BY :

R. Clepper

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 019 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: Nod 4 DATE TIME FROM REF PT  
LOCATION: Sec # 7 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 14:30 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

46 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

S Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 020 QCC: MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec. # 7 KS BEG:   /  /  : EAST: \_\_\_\_\_  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 14:30 NORTH: \_\_\_\_\_  
STORET/AIRS NO:    DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: OPERABLE UNIT:

46 Aliquots 0-2" depth

SAMPLE COLLECTED BY : B. Blanks



DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 021 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec #7 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 14:30 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

46 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

R. C. Ketchum

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 022 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: 16th DATE TIME FROM REF PT  
LOCATION: Sec # 8 KS BEG:   /  /  : EAST:     
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 14:45 NORTH:     
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

*50 Aliquots*

*0-2" depth*

SAMPLE COLLECTED BY :

*S. Hayes*

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 023 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: Soil DATE TIME FROM REF PT  
LOCATION: Sec #8 KS BEG:   /  /  : EAST:     
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 14:45 NORTH:     
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

50 - Aliquots

0-2" depth

SAMPLE COLLECTED BY : B. Blanks

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 024 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec # 8 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 14:45 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

*50 Aliquots*

*0-2" depth*

SAMPLE COLLECTED BY :

*R. Clayton*

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 025 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: North DATE TIME FROM REF PT  
LOCATION: Sec #9 KS BEG:   /  /  : EAST: \_ \_ \_  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 15:10 NORTH: \_ \_ \_  
STORET/AIRS NO:    DOWN:   

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ \_ \_ OPERABLE UNIT: \_ \_ \_

48 Aliquots 0-2" depth

SAMPLE COLLECTED BY : S Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: ~~843~~ <sup>845</sup> QCC: D MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: North DATE TIME FROM REF PT  
LOCATION: Sec # 9 KS BEG: /// : EAST: \_\_\_\_\_  
CASE/BATCH/SMO: /// LAB: \_\_\_\_\_ END: 3/15/93 15:10 NORTH: \_\_\_\_\_  
STORET/AIRS NO: \_\_\_\_\_ DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_\_\_\_\_ OPERABLE UNIT: \_\_\_\_\_

48 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

S Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 026 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec # 9 KS BEG: 1/1/93 : 15:10 EAST: \_ \_ \_  
CASE/BATCH/SMO: 1-1 LAB: \_ END: 3/15/93 NORTH: \_ \_ \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

48 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

B Brooks

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: ~~044~~<sup>036</sup> QCC: 0 MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: South DATE TIME FROM REF PT  
LOCATION: Sec # 2 KS BEG:   /  /  : EAST: \_\_\_\_\_  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 15:10 NORTH: \_\_\_\_\_  
STORET/AIRS NO:    DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_\_\_\_\_ OPERABLE UNIT: \_\_\_\_\_

48 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

B. Boots



DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 027 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec #9 KS BEG: \_/ \_/ \_ : \_ EAST: \_  
CASE/BATCH/SMO: \_/ \_/ \_ LAB: \_ END: 3/15/93 15:10 NORTH: \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

48 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

R Claford

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: ~~845~~ <sup>847</sup> QCC: D MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec # 9 KS BEG:    /   /    :     EAST: \_\_\_\_\_  
CASE/BATCH/SMO:    /   /    LAB:     END: 3/15/93 15:10 NORTH: \_\_\_\_\_  
STORET/AIRS NO:     DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_\_\_\_\_ OPERABLE UNIT: \_\_\_\_\_

48 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

R. Clayton

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 028 QCC: MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_\_\_\_\_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_\_\_\_\_

SAMPLE DES: N6274 DATE TIME FROM REF PT  
LOCATION: Sec 10 KS BEG:   /  /  : EAST: \_\_\_\_\_  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 15:30 NORTH: \_\_\_\_\_  
STORET/AIRS NO:    DOWN: \_\_\_\_\_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_\_\_\_\_ OPERABLE UNIT: \_\_\_\_\_

50 Aliquots

0-2" depth

SAMPLE COLLECTED BY : S Hayes

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 029 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: Soqth DATE TIME FROM REF PT  
LOCATION: Sec #10 KS BEG:   /  /  : EAST:   /  /  :  
CASE/BATCH/SMO:   /  /   LAB:    END: 3/15/93 15:30 NORTH:   /  /  :  
STORET/AIRS NO:    DOWN:   /  /  :

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

50 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

B Brooks

DRAFT

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 93 ACTNO: BGXGK SAMNO: 030 QCC: \_ MEDIA: SOIL PL: CURRY, T.

ACTIVITY DES: KUHLMAN DIECASTING C/O REF LATITUDE: \_ \_ \_  
LOCATION: STANLEY KS PROJECT NUM: A31 PT: LONGITUDE: \_ \_ \_

SAMPLE DES: East DATE TIME FROM REF PT  
LOCATION: Sec #10 KS BEG: 3/15/93 15:30 EAST: \_ \_ \_  
CASE/BATCH/SMO: 1/1 LAB: \_ END: 3/15/93 15:30 NORTH: \_ \_ \_  
STORET/AIRS NO: \_ DOWN: \_

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	COOL (4 C)	SM08	CHROMIUM, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM09	COPPER, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM13	NICKEL, TOTAL, BY ICAP
GLASS	COOL (4 C)	SM20	ZINC, TOTAL, BY ICAP

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: \_ OPERABLE UNIT: \_

50 Aliquots

0-2" depth

SAMPLE COLLECTED BY :

R. Clifton

rec'd 4/12/93

ANALYSIS REQUEST REPORT

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

FOR ACTIVITY: BGXGK

CURRY, T.

03/29/93 16:32:01

ALL REAL SAMPLES AND FIELD O.C.

\* LABO APPROVED

FY: 93 ACTIVITY: BGXGK DESCRIPTION: KUHLMAN DIECASTING C/O LOCATION: STANLEY KANSAS  
STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: A31  
LABO DUE DATE IS 5/15/93. REPORT DUE DATE IS 3/15/94.  
INSPECTION DATE: 3/15/93 ALL SAMPLES RECEIVED DATE: 03/16/93  
ALL DATA APPROVED BY LABO DATE: 03/29/93 FINAL REPORT TRANSMITTED DATE: 00/00/00  
EXPECTED LABO TURNAROUND TIME IS 60 DAYS EXPECTED REPORT TURNAROUND TIME IS 365 DAYS  
ACTUAL LABO TURNAROUND TIME IS 13 DAYS ACTUAL REPORT TURNAROUND TIME IS 0 DAYS  
SITE CODE: SITE:

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	LAY- SECT	ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001	S		NORTH-SECTION 1	1	STANLEY	KANSAS				03/15/93	:	03/15/93	10:40
002	S		SOUTH-SECTION 1	1	STANLEY	KANSAS				03/15/93	:	03/15/93	10:40
003	S		EAST-SECTION 1	1	STANLEY	KANSAS				/	/	:	03/15/93 10:40
004	S		NORTH-SECTION 2	1	STANLEY	KANSAS				/	/	:	03/15/93 11:00
005	S		SOUTH-SECTION 2	1	STANLEY	KANSAS				/	/	:	03/15/93 11:00
006	S		EAST-SECTION 2	1	STANLEY	KANSAS				/	/	:	03/15/93 11:00
007	S		NORTH-SECTION 3	1	STANLEY	KANSAS				/	/	:	03/15/93 11:20
008	S		SOUTH-SECTION 3	1	STANLEY	KANSAS				/	/	:	03/15/93 11:20
009	S		EAST-SECTION 3	1	STANLEY	KANSAS				/	/	:	03/15/93 11:20
010	S		NORTH-SECTION 4	1	STANLEY	KANSAS				/	/	:	03/15/93 13:00
011	S		SOUTH-SECTION 4	1	STANLEY	KANSAS				/	/	:	03/15/93 13:00
012	S		EAST-SECTION 4	1	STANLEY	KANSAS				/	/	:	03/15/93 13:00
013	S		NORTH-SECTION 5	1	STANLEY	KANSAS				/	/	:	03/15/93 13:30
014	S		SOUTH-SECTION 5	1	STANLEY	KANSAS				/	/	:	03/15/93 13:30
015	S		EAST-SECTION 5	1	STANLEY	KANSAS				/	/	:	03/15/93 13:30
016	S		NORTH-SECTION 6	1	STANLEY	KANSAS				/	/	:	03/15/93 13:45
017	S		SOUTH-SECTION 6	1	STANLEY	KANSAS				/	/	:	03/15/93 13:45
018	S		EAST-SECTION 6	1	STANLEY	KANSAS				/	/	:	03/15/93 13:45
019	S		NORTH-SECTION 7	1	STANLEY	KANSAS				/	/	:	03/15/93 14:30
020	S		SOUTH-SECTION 7	1	STANLEY	KANSAS				/	/	:	03/15/93 14:30
021	S		EAST-SECTION 7	1	STANLEY	KANSAS				/	/	:	03/15/93 14:30
022	S		NORTH-SECTION 8	1	STANLEY	KANSAS				/	/	:	03/15/93 14:45
023	S		SOUTH-SECTION 8	1	STANLEY	KANSAS				/	/	:	03/15/93 14:45

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE STATUS	#	CITY	STATE	AIRS/ STORET LOC NO	LAY- SECT ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
024		S	EAST-SECTION 8	1		STANLEY	KANSAS			/	/	:	03/15/93 14:45
025		S	NORTH-SECTION 9	1		STANLEY	KANSAS			/	/	:	03/15/93 15:10
025	D	S	NORTH-SECTION 9/DUPLICATE OF 025	1		STANLEY	KANSAS			/	/	:	03/15/93 15:10
026		S	SOUTH-SECTION 9	1		STANLEY	KANSAS			/	/	:	03/15/93 15:10
026	D	S	SOUTH-SECTION 9/DUPLICATE OF 026	1		STANLEY	KANSAS			/	/	:	03/15/93 15:10
027		S	EAST-SECTION 9	1		STANLEY	KANSAS			/	/	:	03/15/93 15:10
027	D	S	EAST-SECTION 9/DUPLICATE OF 027	1		STANLEY	KANSAS			/	/	:	03/15/93 15:10
028		S	NORTH-SECTION 10	1		STANLEY	KANSAS			/	/	:	03/15/93 15:30
029		S	SOUTH-SECTION 10	1		STANLEY	KANSAS			/	/	:	03/15/93 15:30
030		S	EAST-SECTION 10	1		STANLEY	KANSAS			/	/	:	03/15/93 15:30

# EXPLANATION OF CODES AND INFORMATION ON ANALYSIS REQUEST DETAIL REPORT

## SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):

B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE

D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE

F = MEASURED VALUE FOR FIELD BLANK

G = MEASURED VALUE FOR METHOD STANDARD

H = TRUE VALUE FOR METHOD STANDARD

K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE

L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE

M = MEASURED VALUE FOR LAB BLANK

N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE

P = MEASURED VALUE FOR PERFORMANCE STANDARD

R = CALCULATED CONCENTRATION RESULTING FROM LAB SPIKE

S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE

T = TRUE VALUE OF PERFORMANCE STANDARD

W = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE

Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE

Z = CALCULATED CONCENTRATION RESULTING FROM FIELD SPIKE

1 = MEASURED VALUE OF FIRST SPIKED REPLICATE

2 = MEASURED VALUE OF SECOND SPIKED REPLICATE

3 = MEASURED VALUE OF THIRD SPIKED REPLICATE

4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE

5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE

6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE

7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):

A = AIR H = HAZARDOUS WASTE/OTHER

S = SOLID (SOIL, SEDIMENT, SLUDGE)

T = TISSUE (PLANT & ANIMAL)

W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STCRET LOC. NO. = THE SPECIFIC LOCATION ID NUMBER OF EITHER OF THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED

BEG. DATE = DATE SAMPLING WAS STARTED

BEG. TIME = TIME SAMPLING WAS STARTED

END DATE = DATE SAMPLING WAS COMPLETED

END TIME = TIME SAMPLING WAS COMPLETED

NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME

A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES

V = VALIDATED

## ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:

C = CENTIGRADE (CELSIUS) DEGREES

CFS = CUBIC FEET PER SECOND

GPM = GALLONS PER MINUTE

IN = INCHES

I.D. = SPECIES IDENTIFICATION

KG = KILOGRAM

L = LITER

LB = POUNDS

MG = MILLIGRAMS (1 X 10<sup>-3</sup> GRAMS)

MGD = MILLION GALLONS PER DAY

MPH = MILES PER HOUR

MV = MILLIVOLT

M/F = MALE/FEMALE

M2 = SQUARE METER

M3 = CUBIC METER

NA = NOT APPLICABLE

NG = NANOGRAMS (1 X 10<sup>-9</sup> GRAMS)

NTU = NEPHELOMETRIC TURBIDITY UNITS

PC/L = PICO (1 X 10<sup>-12</sup>) CURRIES PER LITER

PG = PICOGRAMS (1 X 10<sup>-12</sup> GRAMS)

P/CM2 = PICOGRAMS PER SQUARE CENTIMETER

SCM = STANDARD CUBIC METER (1 ATM. 25 C)

SQ FT = SQUARE FEET

SU = STANDARD UNITS (PH)

UG = MICROGRAMS (1 X 10<sup>-6</sup> GRAMS)

UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)

U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS

U/CM2 = MICROGRAMS PER SQUARE CENTIMETER

1000G = 1000 GALLONS

+/- = POSITIVE/NEGATIVE

# = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:

BLANK = IF FIELD IS BLANK, NO REMARKS OR QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.

I = INVALID SAMPLE DATA - VALUE NOT REPORTED

J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES

K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED

L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED

M = DETECTED BUT BELOW THE LEVEL OF REPORTED VALUE FOR ACCURATE QUANTIFICATION

O = PARAMETER NOT ANALYZED

U = ACTUAL VALUE OF SAMPLE IS < THE MEASUREMENT DETECTION LIMIT (REPORTED VALUE)



## ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: 3-BGXGK

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	001	002	003	004	005
SG07 SOLIDS, PERCENT	%	75.0	77.2	72.6	74.8	72.9
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	1040	568	874	176	146
SM09 COPPER, TOTAL, BY ICAP	MG/KG	813	586	775	1930	340
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	<del>3310</del>	<del>2970</del>	<del>2830</del>	670	741
SM20 ZINC, TOTAL, BY ICAP	MG/KG	4270	4520	4780	1240	<del>11600</del>
ZZ01 SAMPLE NUMBER	NA	001	002	003	004	005
ZZ02 ACTIVITY CODE	NA	BGXGK	BGXGK	BGXGK	BGXGK	BGXGK

## ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: 3-BGXGK

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	006	007	008	009	010
SG07 SOLIDS, PERCENT	%	71.8	74.6	77.6	73.8	75.6
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	187	180	267	243	302
SM09 COPPER, TOTAL, BY ICAP	MG/KG	379	485	1060	728	776
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	610	986	1130	2150	786
SM20 ZINC, TOTAL, BY ICAP	MG/KG	1340	35700	4310	5030	9470
ZZ01 SAMPLE NUMBER	NA	006	007	008	009	010
ZZ02 ACTIVITY CODE	NA	BGXGK	BGXGK	BGXGK	BGXGK	BGXGK

## ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: 3-BGXGK

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	011	012	013	014	015
SG07 SOLIDS, PERCENT	%	73.3	71.6	73.0	71.3	72.0
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	319	241	100	119	101
SM09 COPPER, TOTAL, BY ICAP	MG/KG	689	421	427	565	452
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	814	682	391	708	466
SM20 ZINC, TOTAL, BY ICAP	MG/KG	16800	10406	6640	22000	6240
ZZ01 SAMPLE NUMBER	NA	011	012	013	014	015
ZZ02 ACTIVITY CODE	NA	BGXGK	BGXGK	BGXGK	BGXGK	BGXGK

## ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: 3-BGXGK

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	016	017	018	019	020
SG07 SOLIDS, PERCENT	%	71.2	73.4	70.3	71.4	71.2
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	77.5	88.6	129	113	137
SM09 COPPER, TOTAL, BY ICAP	MG/KG	150	135	178	124	136
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	413	279	703	22.0	22.9
SM20 ZINC, TOTAL, BY ICAP	MG/KG	9396	10706	21626	317	362
ZZ01 SAMPLE NUMBER	NA	016	017	018	019	020
ZZ02 ACTIVITY CODE	NA	BGXGK	BGXGK	BGXGK	BGXGK	BGXGK

## ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: 3-BGXGK

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	021	022	023	024	025
SG07 SOLIDS, PERCENT	%	70.7	74.7	73.6	73.6	72.3
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	143	162	302	247	263
SM09 COPPER, TOTAL, BY ICAP	MG/KG	136	147	302	233	587
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	21.5	12.0	16.6	16.6	23.8
SM20 ZINC, TOTAL, BY ICAP	MG/KG	312	167	230	227	247
ZZ01 SAMPLE NUMBER	NA	021	022	023	024	025
ZZ02 ACTIVITY CODE	NA	BGXGK	BGXGK	BGXGK	BGXGK	BGXGK

## ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: 3-BGXGK

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	025D	026	026D	027	027D
SG07 SOLIDS, PERCENT	%	72.2	72.2	72.8	69.8	70.3
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	294	382	422	403	434
SM09 COPPER, TOTAL, BY ICAP	MG/KG	629	713	828	764	926
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	24.8	25.0	25.4	26.3	32.1
SM20 ZINC, TOTAL, BY ICAP	MG/KG	254	250	258	270	292
ZZ01 SAMPLE NUMBER	NA	025	026	026	027	027
ZZ02 ACTIVITY CODE	NA	BGXGK	BGXGK	BGXGK	BGXGK	BGXGK

## ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: 3-BGXGK

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	028	029	030		
SG07 SOLIDS, PERCENT	%	77.4	76.4	76.2		
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	13.4	14.3	13.4		
SM09 COPPER, TOTAL, BY ICAP	MG/KG	19.4	19.5	18.2		
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	15.1	16.9	15.7		
SM20 ZINC, TOTAL, BY ICAP	MG/KG	197	202	217		
ZZ01 SAMPLE NUMBER	NA	028	029	030		
ZZ02 ACTIVITY CODE	NA	BGXGK	BGXGK	BGXGK		

LABORATORY APPROVED DATA  
PROJECT LEADER APPROVAL PENDING

ACTIVITY BGXGK      KUHLMAN DIECASTING C/O

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE:      STORET      AIRS      ARCHIVE

DATA APPROVED BY LABO FOR TRANSMISSION TO PROJECT LEADER ON 03/29/93 16:32:01 BY

\_\_\_\_\_



ACTIVITY LEADER(Print) T. CURRY	NAME OF SURVEY OR ACTIVITY Kuhlman Diacastino	DATE OF COLLECTION 15 DAY 03 MONTH 93 YEAR	SHEET 2 of 2
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[illegible]

MODE OF SHIPMENT

COMMERCIAL CARRIER: \_\_\_\_\_

           COURIER

4 SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

RELINQUISHED BY (SAMPLER) <i>[Signature]</i> <input type="checkbox"/> SEALED <input checked="" type="checkbox"/> UNSEALED	DATE 3/16/93	TIME 1348	RECEIVED BY <i>[Signature]</i> <input type="checkbox"/> SEALED <input checked="" type="checkbox"/> UNSEALED	REASON FOR CHANGE OF CUSTODY Transport to Lab
RELINQUISHED BY  <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED	DATE	TIME	RECEIVED BY  <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY  <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED	DATE	TIME	RECEIVED BY  <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED	REASON FOR CHANGE OF CUSTODY

**CHAIN OF CUSTODY RECORD  
ENVIRONMENTAL PROTECTION AGENCY REGION VII**

ACTIVITY LEADER(Print) <u>T. Curry</u>	NAME OF SURVEY OR ACTIVITY <u>Kuhlman Diecasting</u>	DATE OF COLLECTION <u>15</u> <u>07</u> <u>93</u> DAY MONTH YEAR	SHEET <u>1</u> of <u>2</u>
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**CONTENTS OF SHIPMENT**

SAMPLE NUMBER	TYPE OF CONTAINERS				SAMPLED MEDIA					RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)	
	CUBITAINER	203	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	water	soil	sediment	dust		other
		BOTTLE									
NUMBERS OF CONTAINERS PER SAMPLE NUMBER											
RGYGGK001		1					✓				Cu, Cd, Al, Zn
002		1					✓				"
003		1					✓				"
004		1					✓				"
005		1					✓				"
006		1					✓				"
007		1					✓				"
008		1					✓				"
009		1					✓				"
010		1					✓				"
011		1					✓				"
012		1					✓				"
013		1					✓				"
014		1					✓				"
015		1					✓				"
016		1					✓				"
017		1					✓				"
018		1					✓				"
019		1					✓				"
020		1					✓				"
021		1					✓				"
022		1					✓				"
023		1					✓				"
024		1					✓				"

**DESCRIPTION OF SHIPMENT**

**MODE OF SHIPMENT**

☒ 21 PIECE(S) CONSISTING OF 9 BOX(ES)  
☐ ICE CHEST(S); OTHER \_\_\_\_\_

☐ COMMERCIAL CARRIER: \_\_\_\_\_  
☐ COURIER  
☒ SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER) \_\_\_\_\_

**PERSONNEL CUSTODY RECORD**

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
<u>Regina...</u>	<u>3/16/93</u>	<u>1348</u>	<u>...</u>	<u>Transport to Lab</u>
<input type="checkbox"/> SEALED <input checked="" type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input checked="" type="checkbox"/> UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED	