UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

JUL 20 2007

MEMORANDUM

SUBJECT: Arkansas City Dump Third Five-Year Review Transmittal Addendum and Eratta

FROM: Steven Kinser, Remedial Project Manager
Missouri/Kansas Remedial Branch

THRU: Diane Easley, Chief
Missouri/Kansas Remedial Branch

TO: Cecilia Tapia, Director
Superfund Division

This memorandum is to transmit the third Five-Year Review on the Arkansas City Dump Site in Arkansas City, Kansas, which was produced by the Kansas Department of Health and Environment (KDHE). This report has been sent to the Environmental Protection Agency (EPA) National Headquarters for review and input. This transmittal is to serve as an Addendum in response to the questions and comments resulting from that review and to serve as Errata for the Five-Year Review itself. As such, this memorandum is to be considered as part of the Five-Year Review.

The Division Director's signature on this memorandum and the cover of the state's report is to serve as EPA approval and acceptance of the report.

Addendum:

There were eight specific items of concern expressed by EPA Headquarters' reviewers. The following addresses those eight concerns:

1. There was concern expressed the document lacked the Site Inspection Checklist. Although not included in the draft sent to EPA Headquarters, the actual document includes the Site Inspection Checklist as Appendix B.

2. A copy of the signature page from the second Five-Year Report was not included in the material sent to Headquarters for review. A copy is included in this Addendum.

8.0

3. The document forwarded was an advance copy and did not contain the Appendices. The final version being transmitted contains all Appendices.

4. The Institutional Controls consist of a Declaration of Covenants and Restrictions for the city of Arkansas City, AC Industries, and Robert White. All have been filed with the Cowley County Register of Deeds. A copy is attached to this Addendum.

5. Note the data generated in the production of this Five-Year Review appears in Tables 1 through 4 immediately following page 9 of the main body of the report. These data consist of the analyses of Water for pH, the analyses of soil for pH, the analyses of groundwater for metals, and the analyses of groundwater for Volatile Organic Compounds (VOCs).

6. In the next to the last paragraph in Section VI, subsection Site Inspection, on page 7, TPH stands for total petroleum hydrocarbons.

7. There appear to be no VOCs that are derived from nonpetroleum sources, nor do they appear to be in concentrations that exceed those expected to be derived from petroleum sources.

8. The response to Question B on page 8 of the report is accurate. All VOC concentrations are the result of nonCERCLA waste.

Errata:

The last line on page 4 and the first line on page 5 are identical. The first line on page 5 should be deleted.

Attachment

Accept

7-20-07
Date

Five-Year Review Report

Third Five-Year Review Report
for
Arkansas City Dump Site
Arkansas City, Kansas

May 2007

Prepared By:
Kansas Department of Health and Environment
Bureau of Environmental Remediation
Topeka, Kansas

Approved by:

Cecilia Tapia
Superfund Division Director
U.S. EPA, Region 7

Date:

7-20-07

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List of Acronyms

CERCLA	Comprehensive Environmental Response Compensation and Liability Act
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Difference
FY	Fiscal Year
KDHE/BER	Kansas Department of Health and Environment/Bureau of Environmental Remediation
KHEL	Kansas Health and Environmental Laboratories
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priority List
OU	Operable Unit
pH	Power of hydrogen (negative log base 10 of the hydrogen ion concentration)
RA	Remedial Action
RAOs	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SARA	Superfund Amendment Reauthorization Act
SSC	State Superfund Contract

Executive Summary

The remedy for the Arkansas City Dump Superfund Site in Arkansas City, Kansas, called for neutralization and stabilization of acid waste, covering the treated waste with a vegetative cap, and using institutional controls to prevent future disturbance of the waste. The site achieved construction completion on September 8, 1992. The first Five-Year Review report was signed by the EPA Superfund Division Director, Michael J. Sanderson, on August 22, 1997. The second Five-Year Review was initiated for completion within five years of the first Five-Year Review and signed by the EPA Superfund Division Director on September 24, 2002.

The assessment of this Five-Year Review reached the same conclusions as the previous Five-Year Reviews. That assessment is that the remedy was constructed in accordance with the requirements of the Record of Decision (ROD). A second Record of Decision was issued to express the determination that the remedy expressed in the ROD for Operable Unit 1 (OU 1) was sufficient to provide protectiveness for the entire site and no additional actions were required. Threats relative to CERCLA appear to have been remediated, although refinery-related waste has been left in place at the site. The site has been removed from the National Priority List (NPL). This document recommends that a fourth five-year review be completed in 2012. If after the fourth Five-Year Review, and confirmation through sampling that the acid waste is neutralized, it may be recommended that no additional Five-Year Reviews be conducted.

5-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Arkansas City Dump		
EPA ID (from WasteLAN): KSD980500789		
Region : 7	State: KS	City/County: Arkansas City/Cowley
SITE STATUS		
NPL status: ____Final __X Deleted _____ Other (specify)		
Remediation status (choose all that apply) ____Under Construction ____Operating __X Complete		
Multiple OUs? ___YES _X NO	Construction Completion Date 9 /08/1992	
Has site been put into reuse ____YES _X NO		
REVIEW STATUS		
Lead agency: ___ EPA _X State ___Tribe ___Other Federal Agency _____		
Author name: Maura O'Halloran		
Author title: Professional Geologist	Author affiliation: Kansas Dept. of Health and Env.	
Review Period: May 2002 to May 2007		
Date(s) of site inspection: 3/19/07, 3/20/07, and 4/05/07		
Type of review: __X Post-SARA ____Pre-SARA ___NPL-Removal Only ___Non-NPL Remedial Action Site ___NPL State/Tribe-lead ___Regional Discretion		
Review number: ___1 (first) __ 2 (second) X (third) ___Other (specify)		
Triggering Action: ___*Actual RA On-site Construction at OU #*__ ___*Actual RA Start at OU#* ___ ___Construction Completion _X Previous Five-Year Review Report ___Other (specify)		
Triggering action date(from WasteLAN) 9/24/2002		
Due date (five years after triggering action date): 9/24/2007		

Five-Year Review Summary Form, cont'd

Issues:

The site is well maintained and all posting is in place. A gravel drive that was present on as-built drawings is located over a portion of the northern cover, but no settling has been observed. The site has been mowed and is unused. The cover appears to be in good condition, though vegetation in a small portion of the western edge of the cap was observed to be sparse.

Recommendations and Follow-up Actions:

Hazards related to CERCLA at this site have been remediated. There are still remaining solid waste issues with the material buried at the site. The Restrictive Covenants currently in place will enable the city to deal with any continuing aesthetic or solid waste issues. Any future use of the site should be compatible with the final remedy. KDHE/BER will issue the city a letter transmitting these conclusions and recommendations and attach a copy of this Five-Year Review Report.

Given the treated sludge remaining in place, KDHE/BER recommends an additional Five-Year Review. At the time of the future Five-Year Review and assuming that the sludge is confirmed to be neutralized, a determination can be made whether or not to discontinue future Five-Year Reviews.

Protectiveness Statement(s):

Immediate threats at the site have been addressed and the remedy is protective of human health and the environment. The acid sludge waste has been neutralized via the remedial action. No additional threat from CERCLA acid sludge waste is known to be present.

Long-term Protectiveness:

The long-term protectiveness of the Remedial Action was demonstrated during the previous Five-Year Review. Conditions have not changed and the remedy appears to remain protective. There are no foreseeable conditions that will result in the Remedial Action failing. Remedial action objectives have been achieved and the long-term protectiveness of the site is assured for the CERCLA related waste.

Other Comments:

No other comments required.

Arkansas City Dump Superfund Site
Arkansas City, Kansas
Third Five-Year Review Report

I. Introduction

The purpose of the Five-Year Review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

This Five-Year Review report is prepared pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews.*

The U.S. Environmental Protection Agency (EPA) interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

In coordination with EPA, the Kansas Department of Health and Environment/Bureau of Environmental Remediation (KDHE/BER) conducted the third Five-Year Review of the remedy implemented at the Arkansas City Dump Superfund Site in Arkansas City, Kansas. This review was conducted by the state's project manager for the site from February through May 2007. This report documents the results of the review.

This is the third Five-Year Review of the Arkansas City Dump Site. The triggering action for this statutory review is the date of the previous Five-Year Review dated September 24, 2002.

II. Site Chronology

A chronology of site events is presented below in tabular format.

Event	Date
Milliken Company operated Oil Refinery on site	1916-1925
Fire destroyed much of the refinery	1925
Others continued using the refinery and cracking plant	1925-1931
Unregulated disposal of domestic and solid waste intermittently	1931-1981
Site proposed for NPL	12/30/1982
Final listing on NPL	09/08/1983
First Remedial Investigation completed	04/01/1983
Second Remedial Investigation completed	08/30/1986
Record of Decision OU 1	09/29/1988
Proposed Plan document prepared for OU 2 ROD	08/04/1989
Record of Decision OU 2 Final Decision	09/21/1989
Remedial Design complete	09/10/1991
Remedial Action commences	09/10/1991
Award of Contract - Start of Remedial Action - Five-Year Review trigger	09/10/1991
RA physical construction completed	08/12/1992
Pre-Final Inspection	08/19/1992
Close Out Report signed (Construction Completion Achieved)	09/08/1992
Site Deleted from NPL	03/01/1996
First Five-Year Review Completed	08/22/1997
Second Five-Year Review Completed	09/24/2002

III. Background

Physical Characteristics

The Arkansas City Dump site consists of approximately 200 acres. Only an area of approximately three acres required treatment. The site is in the western portion of Arkansas City, Kansas, adjacent to the Arkansas River and Highway 166 (also known as Madison Street). Figures 1 and 2 present the location of the site. Arkansas City is a city of about 12,500 residents located in Cowley County. Most of the site and all of the portion where remediation was required is located south of Madison Street. A small deposit of sludge that was not acidic and did not require treatment was found immediately north of Madison Street, also adjacent to the river. The parcels that contain the treated sludge are owned by the Sybrant Family Trust and Arkansas City Industries.

Land and Resource Use

From 1916 to 1931 the primary use of the site was as an oil refinery and cracking plant. From 1931 to 1981 the site was generally abandoned and the major activity was unregulated dumping of domestic and solid waste. Figure 3 presents the general historic features of the site. Some small businesses have occupied portions of the site, but the remediated waste cells are located in areas of the site that have not been used since its abandonment. Superfund regulated waste was treated during the remedial action. Figure 4 presents the areas of treated waste. Petroleum products including surface sludge remain at the site, but these are excluded from the regulatory authority of CERCLA. The cells where the acid waste was neutralized, *i.e.* where the remedial action took place, are covered with a vegetative cap and clearly posted with signs.

The acid waste subject to CERCLA authorities has been remediated. Ground water was not a CERCLA issue at this site. Petroleum products in soil and ground water within the site area are present and are yet to be addressed.

History of Contamination

The oil refinery operations at the Arkansas City Dump site resulted in two principal waste types. Only one of these waste types was subject to CERCLA regulations; the other relates to petroleum products which are specifically excluded from CERCLA authority. The refining operations generated acidic sludge wastes, which were buried on the site or simply abandoned at the ground surface. Some of the wastes were acidic enough to be classified as hazardous wastes under the Resource Conservation And Recovery Act (RCRA) because of their low pH. The Superfund remedial action addressed these types of releases.

Initial Response

Only one response action was undertaken at this site. The original plan was to initiate action to stabilize the acidic sludge under Operable Unit 1 (OU 1) and develop a final remedy to address

all issues at the site under Operable Unit 2 (OU 2). Once the initial action (OU 1) was completed it was determined that no action would be required for OU 2; therefore OU 2 was a "no action" Record of Decision (ROD).

Basis for Taking Action

The sole basis for taking action at this site under CERCLA authority was that the wastes on site were acidic enough to be classified as hazardous wastes under RCRA because of low pH. Exposure to soil from the site was associated with risk due to the low pH of the acidic waste at the site. Other risks at the site were attributable to substances which fall under the *petroleum exclusion* of CERCLA/SARA.

IV. Remedial Actions

Remedy Selection

The remedy for the site was selected in the ROD signed on September 29, 1988, by the EPA Regional Administrator, Morris Kay. An Explanation of Significant Difference (ESD) for the first ROD was implemented to accommodate a technical difficulty in executing the original ROD. This did not affect the remedy or the outcome of the remedy, only the technical and physical means of implementation. A subsequent Record of Decision for the remainder of the site, signed on September 19, 1989, was a no action ROD. The determination that no additional action was required was based on the limited authority under CERCLA/SARA to deal with contaminants designated under the *petroleum exclusion*. Thus the OU 1 remedial action is the only action involved with the Five-Year Review. The 1988 ROD did not specifically state the Remedial Action Objectives (RAO), but from context they are as follows:

- Neutralize acid sludge to render the sludge non-hazardous.
- Use a technique for neutralizing sludge to minimize or eliminate the release of sulfur dioxide gas.
- Cover treated sludge to prevent any contact with neutralized sludge in the case some hazard remains as a result of incomplete neutralization.
- Initiate institutional controls that prohibit actions that would impact the neutralized sludge in the future.

The institutional controls were initially required to ensure that the treated material was not disturbed. Additional study of the remainder of the site to determine if there was other CERCLA waste that required treatment made it prudent to restrict access. The subsequent determination was that there was no other CERCLA waste other than the acidic sludge. The institutional controls were not immediately lifted in order to ensure that all of the CERCLA waste had been neutralized.

not immediately lifted in order to ensure that all of the CERCLA waste had been neutralized. Investigations completed during the first two Five-Year Reviews demonstrated that CERCLA waste had been neutralized.

Remedy Implementation

This was an EPA fund-lead site. Once the execution of the site-specific State Superfund Contract (SSC) for the site was complete, the action was initiated. The SSC was completed on September 23, 1991, and remedial action began in December 1992. The selected remedy incorporated exposing small portions of the acid sludge and mixing a strong base, lime, with the sludge to neutralize the sludge. After mixing, the sludge was then covered and a new quantity of acid sludge was exposed for neutralization. This process greatly reduced the amount of sulfur dioxide released to the atmosphere and thus improved the quality from not only a health perspective but from an aesthetic one as well. Once the acidic sludge was neutralized, a cover to allow vegetation was placed over the treated area.

System Operation/Operation and Maintenance

There has been no need for an ongoing Operations and Maintenance function other than mowing and inspection of the cover. The city has maintained the site under an agreement with the State of Kansas.

V. Progress Since Last Five-Year Review

The cover remains effective, there is no evidence that there has been any change in the site since the last Five-Year Review, and the Restrictive Covenants are still in place. No additional activity has been performed at the site.

VI. Five-Year Review Process

Administrative Component

In the Spring of FY 2007 the site was reassigned to Maura O'Halloran of KDHE/BER, with the purpose of ensuring that the upcoming Five-Year Review was completed. The Five-Year Review was initiated with a file review and site visits on March 19 and 20 and April 5, 2007, and was completed with the signing of the Five-Year Review report with a signature page attached to this report.

Community Involvement

A notice was submitted through the KDHE Public Information Office to the local newspaper, The Arkansas City Traveler, which published the notice on March 12-14, 2007. The community was notified that a Five-Year Review was being conducted for the Arkansas City Dump.

A brief description and location of the site along with work to be performed was provided. Contact information was provided should any community members wish to obtain more information or participate in the Five-Year Review. A copy of the notice is attached as Appendix A.

Document Review

Documents reviewed for this Five-Year Review by EPA and KDHE/BER included the ROD for OU 1, the No Action ROD for OU2, the previous Five-Year Review reports, and the NPL deletion package for the site.

Data Review

No new data has been developed since the last Five-Year Review. Previous file data was reviewed to determine whether there was reason to believe that additional data was required. It was determined that ground water data would be collected during this Five-Year Review to supplement previous data collected to evaluate the neutralization of the treated waste.

Site Inspection

Site inspections were carried out on March 19 and 20 and April 5, 2007. A copy of the Five-Year Review Site Inspection Checklist is attached as Appendix B. During the first site inspection on March 19-20, 2007, the project manager visited the site to get a general overview of the location and determine the condition of the cover as well as the activities on and around the site. The site cover was intact and vegetated, with no evidence of significant erosion. One small area north and east of the impoundment lacks full vegetation, and one abandoned small animal burrow was noted. The site remains unoccupied. There does not appear to be any immediate likelihood for the site or its immediate area to undergo any significant land use change in the foreseeable future. There is no evidence that any of the institutional controls for the site have been violated. A second site inspection visit was performed on April 5, 2007, during soil and ground water sampling activities. The second site inspection confirmed the observations of the first site inspection.

During the first site visit, surface water samples were collected for onsite pH analysis. Whatman pH test strips were immersed in the surface water for one minute. The test strips were then removed and compared to a colorimetric guide for the appropriate pH value. Figure 5 presents the locations of surface water sampling. The pH analysis results were between 6 and 7 for each sample collected. Table 1 presents the results of surface water onsite analysis. No acidic surface waters were observed onsite.

During the second site visit, soil samples were collected for offsite laboratory analysis. A KDHE/BER Geoprobe 5400 drilling rig was used to advance a four-foot Macro core sampler with a single-use disposable acetate sample liner into the treated waste. The vertical soil profile was visually logged from ground surface to the total depth, 12 feet, of each boring. Soil boring logs are provided in Appendix C. Upon completion of soil sampling activities, the soil borings were plugged

with bentonite. Soil samples were collected from two intervals selected where visual observation indicated the greatest difference in color and texture. Samples were transferred from the acetate sample liner into laboratory-provided containers. The containers were labeled, placed into individual plastic bags, stored in a cooler with ice, and delivered to KDHE Laboratories (KHEL) within 24 hours under chain-of-custody protocol. Copies of the chain-of-custody forms are provided in Appendix D. The results of pH soil analysis indicate that the remedy is performing as designed. Values of pH in soil ranged from 7.9 to 12.0. RCRA guidelines consider wastes that have pH values of less than 2 or greater than 12.5 to be corrosive and hazardous. No samples collected for pH analyses exceeded these ranges. Table 2 and Appendix E present the results of soil pH analysis.

Ground water samples were collected during the second site visit. Two locations were chosen, one upgradient of the treated waste area and one directly downgradient of the treated waste area. At each sample location a mill-slotted well point sampler was advanced to ground water. Three rod volumes of water were purged using disposable tubing fitted with a stainless steel check valve. Water was collected in 40-ml vials for immediate pH analysis by Whatman pH test strips. Table 1 presents the results of ground water pH analysis. The value of pH was 7.0 for both ground water samples.

Ground water samples were collected into laboratory-supplied containers for VOC and SVOC analysis. The containers were labeled and placed on ice for delivery to KHEL/Pace Laboratories under chain-of-custody protocol. Copies of the chain-of-custody forms are provided in Appendix D. No VOCs were detected in sample P6, collected upgradient of the waste treatment area, though the laboratory comments indicated numerous petroleum type hydrocarbons were present. Table 4 summarizes VOC compounds detected in sample P5, collected immediately downgradient of the treatment area. No SVOCs were detected in sample P6. One compound, 2-methylnaphthalene, was detected in sample P5 at a concentration of 351 ug/L. SVOC detection limits were elevated for both samples. TPH analysis of product which collected on the surface of sample P5 indicated 14,500 mg/L TPH which did not match a profile of laboratory standards, though quantitation was achieved by using diesel fuel as a reference standard.

Ground water samples were also field-filtered and collected into laboratory-supplied preserved containers for metals analysis. The containers were labeled and placed on ice for delivery to KHEL Laboratories under chain-of-custody protocol. Copies of the chain-of-custody forms are provided in Appendix D. Table 3 presents the results of metals analysis. No metals were detected above Kansas Residential RSK values or laboratory detection limits.

Interviews

During the site inspections, the project manager interviewed Gary Baugher, Arkansas City Public Services Superintendent and site O & M manager. There was general agreement that the site had remained undisturbed. Mr. Baugher also indicated that the site would not be subject to pressure for use change in the near future. The community as a whole is not in a cycle of growth and there are additional more desirable lands for development if the trend shifts towards positive growth.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The neutralization of the acid sludge prescribed in the ROD for OU 1 was accomplished at the time of the remedial action. No additional activity is necessary to treat that contaminant and hazard. The ROD for OU 2 called for no additional action. The institutional controls were established in OU 1 until the actions expected to be prescribed in OU 2 could be implemented. The institutional controls are still in place and functioning.

Since no additional action is required at this site there is no opportunity for system optimization.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

There have been no changes in the physical conditions at the site that would affect the protectiveness of the remedy. Nor have there been any changes in the relative standards, exposure pathways, toxicity, or other contaminant characteristics that would change the decisions previously made.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

There has not been any information that has come to light that would call into question the protectiveness of the remedy for the CERCLA related contaminants.

Technical Assessment Summary

Based on the data reviewed, the site inspections, and interviews, the remedy is functioning as intended in the ROD. There have been no changes to the site that would affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

VIII. Issues

There are no issues concerning this remedy.

IX. Recommendations and Follow-Up Actions

KDHE/BER recommends performing an additional Five-Year Review prior to discontinuing the Five-Year Review process at the site. At the time of the future Five-Year Review, if no new findings are presented that determine the site to be unprotective of human health and the

environment, the site will be proposed to be removed from the Five-Year Review process. This decision will be based on the continued validity of the following findings.

- No CERCLA hazardous substance remains at this site.
- The site has been de-listed from the NPL.
- Previous Five-Year Review has not identified any potential for adverse effect on the public health or the environment, due to any contaminant subject to CERCLA authority.
- Current Five-Year Review has similar findings to previous Five-Year Reviews.

KDHE/BER recommends that City of Arkansas City retain institutional controls at site. This recommendation is based on the following.

- Solid waste is buried at the site.
  - Disturbing solid waste may result in odor problems.
  - Disturbing solid waste may result in aesthetic problems.
  - There may be some unknown hazardous components to the solid waste.
- Some petroleum product waste is still present.
  - Currently contained contaminants may be mobilized by disturbance.
  - Odor problems may result from disturbance.
  - Change in situation may result in greater infiltration.
  - Disruption of cap may result in a change of conditions that will disturb the natural attenuation process currently containing petroleum products on site.

X. Protectiveness Statement

The remedy is protective of human health and the environment. No CERCLA-regulated contaminants are known to remain on site. The threats that can be addressed by CERCLA have been removed and the RAOs have been met. Based on the additional soil and ground water samples collected for this Five-Year Review, no additional release or threat of release of hazardous substances, pollutants, or contaminants which would affect the selected remedy significantly were identified. No additional action is required. Therefore: "Because the remedial actions at all OUs are protective, the site is protective of human health and the environment." Petroleum products excluded by CERCLA remain at the site. KDHE is in the process of determining if any further action is needed for the remaining petroleum contamination.

XI. Next Review

The next Five-Year Review is to be completed five years after the signature date of this Five-Year Review.

Tables

Table 1
Results of Water pH Analysis
Five-Year Review
Arkansas City Dump Site, Arkansas City, Kansas

Sample ID	Date Collected	pH
SS1	3/20/2007	6.5
SS2	3/20/2007	6.5
P5	4/05/2007	7.0
P6	4/05/2007	7.0
P7.(P6 dup)	4/05/2007	7.0

Table 2
Results of Soil pH Analysis
Five-Year Review
Arkansas City Dump Site, Arkansas City, Kansas

Sample ID	Date Collected	Depth Interval	pH
P1– 4'-6'	4/05/2007	4'-6'	12
P1 – 10'-12'	4/05/2007	10'-12'	7.9
P2 – 7'-8'	4/05/2007	7'-8'	9.9
P2 – 10'-12'	4/05/2007	10'-12'	12
P3 – 6'-7'	4/05/2007	6'-7'	7.9
P3 – 10'-11'	4/05/2007	10'-11'	11
P4 – 6'-7'	4/05/2007	6'-7'	8.6
P4 – 10'-11'	4/05/2007	10'-11'	9.4
P4 – 11'-12' (P4 – 10'-11' dup)	4/05/2007	10'-11'	11

Table 3
Results of Ground Water Metals Analysis
Five-Year Review
Arkansas City Dump Site, Arkansas City, Kansas

Metal	RSK value (mg/L)	P5 Results (mg/L)	P6 Results (mg/L)	P7 (P6 dup) Results (mg/L)
Arsenic	0.01	<0.05	<0.05	<0.05
Barium	2.0	0.90	0.2	0.2
Cadmium	0.005	<0.005	<0.005	<0.005
Chromium	0.1	<0.01	<0.01	<0.01
Lead	0.015	<0.05	<0.05	<0.05
Mercury	0.002	<0.5	<0.5	<0.5
Selenium	0.05	<0.05	<0.05	<0.05
Silver	0.1	<0.01	<0.01	<0.01

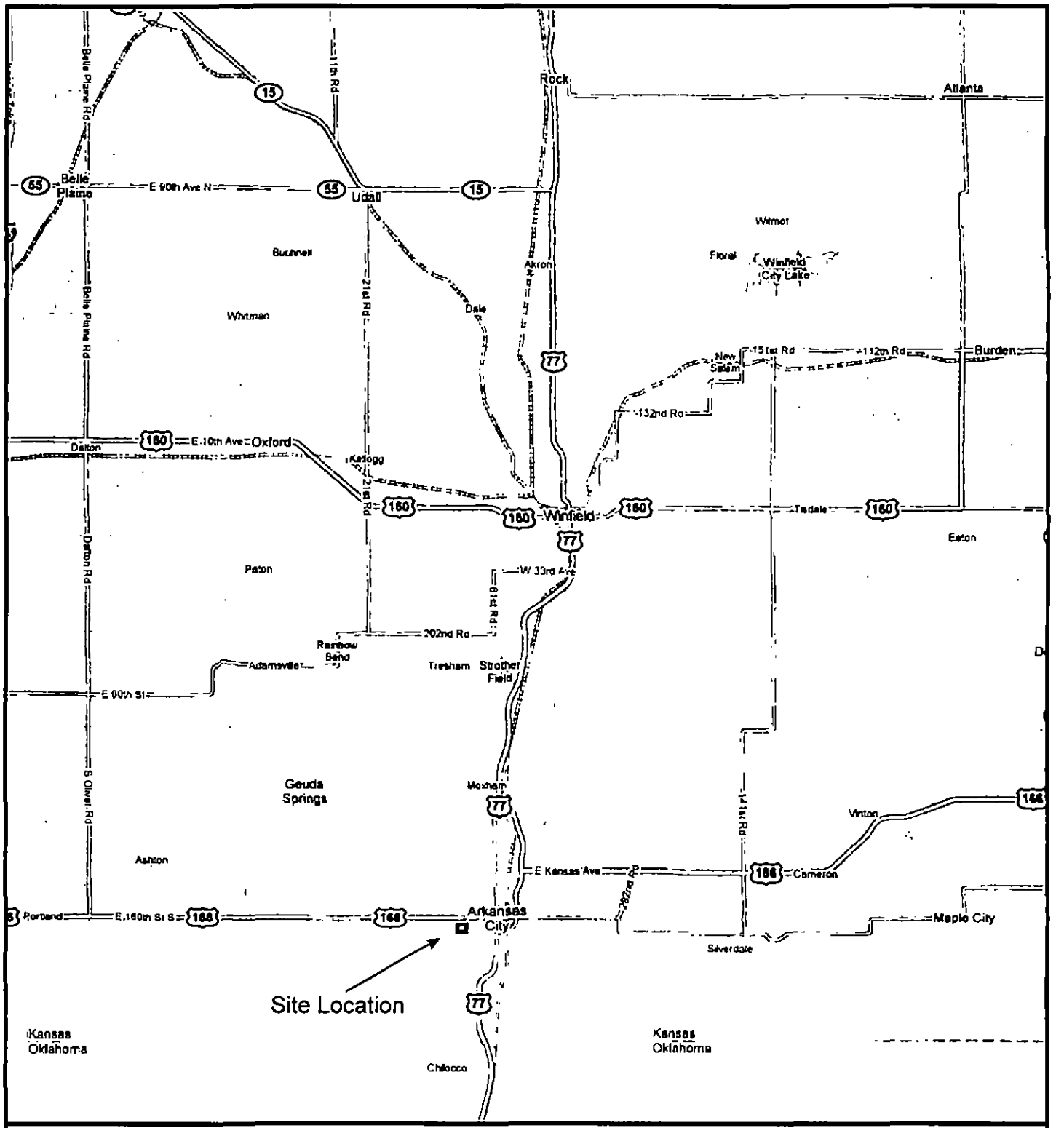
RSK = Kansas Residential Ground Water Pathway Risk-Based Standard

Table 4
Results of Ground Water VOC Analysis
Five-Year Review
Arkansas City Dump Site, Arkansas City, Kansas

VOC	RSK Value (ug/L)	P5 Results (ug/L)	P6 Results (ug/L)	P7 (P6 dup) Results (ug/L)
Benzene	5.0	**5.8**	<0.5	<0.5
n-Butylbenzene	21	**35.2**	<0.5	<0.5
Sec-Butylbenzene	20	**26.2**	<0.5	<0.5
n-propylbezene	20	**131**	<0.5	<0.5
Toluene	100	7.8	<0.5	<0.5
1,2,4-Trimethylbenzene	5.0	**12.2**	<0.5	<0.5

RSK = Kansas Residential Ground Water Pathway Risk-Based Standard
Bold type indicates values exceeding RSK values

Figures



Scale: 0 2 4
Scale in Miles

N

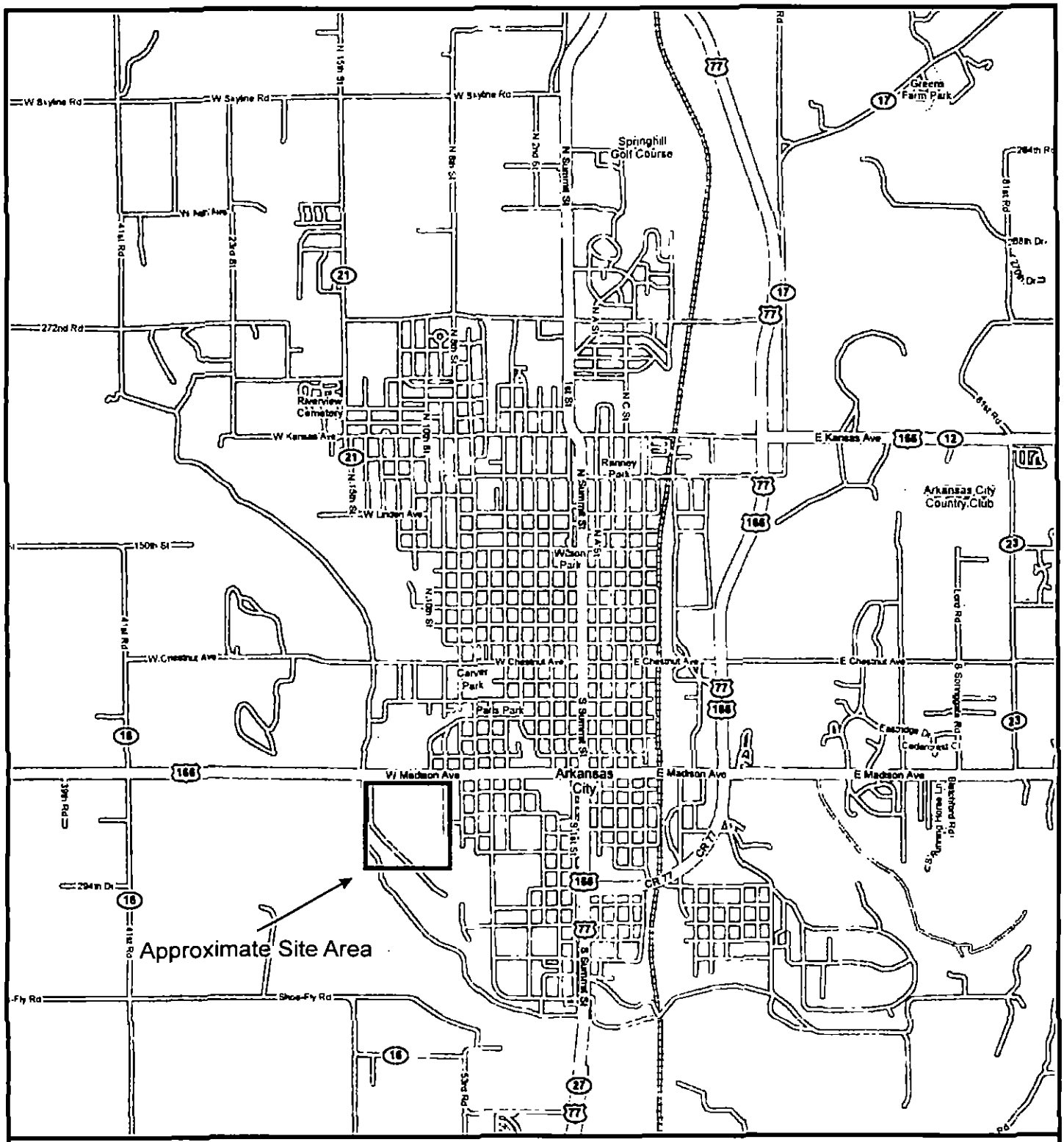
Cowley County

Map prepared by KDHE

FIGURE 1

Site Location Map
Five-Year Review
Arkansas City Dump Site
Arkansas City, Kansas

Project Manager: MO Drawn by: PBJ



Scale: 0 0.5 1

Scale in Miles

N

Cowley County

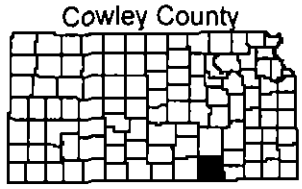
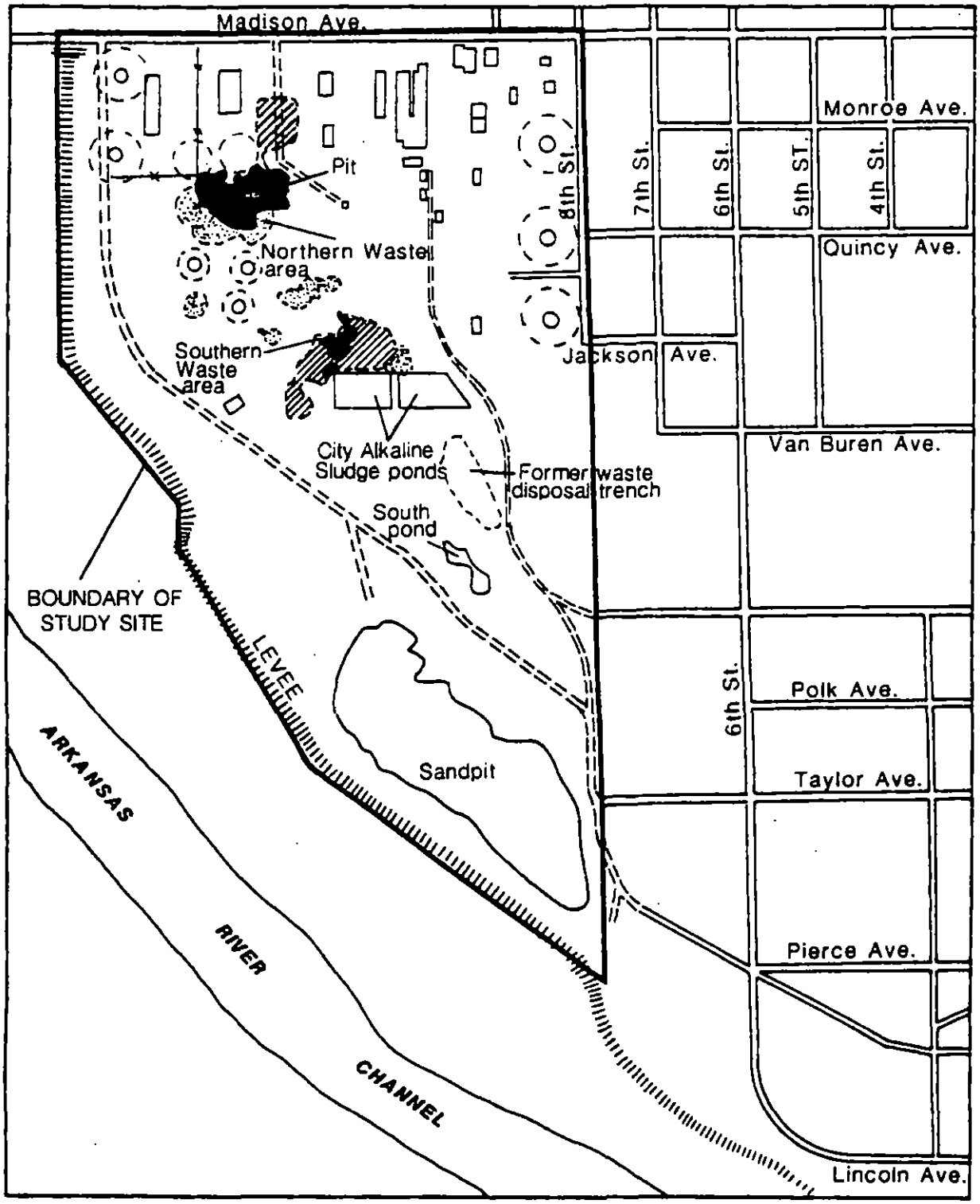


FIGURE 2

Site Area Map
Five-Year Review
Arkansas City Dump Site
Arkansas City, Kansas

Map prepared by KDHE

Project Manager: MO Drawn by: PBJ



Scale: 0 400 800 Feet

N

LEGEND

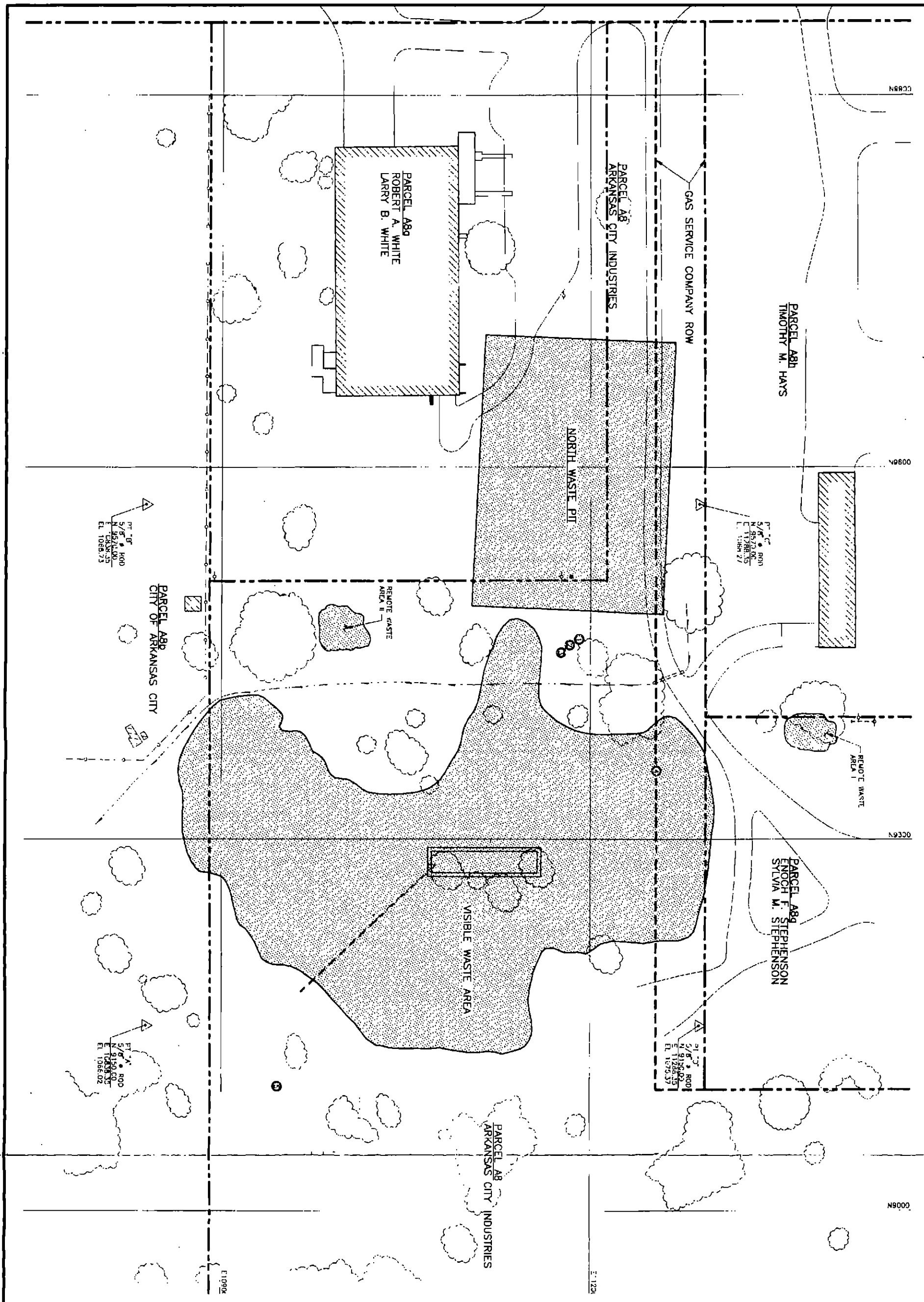
- LANDMARKS PRESENT IN 1938 or 1950
- PAST LOCATION OF STORAGE TANKS
- PAST LOCATION OF WASTE DISPOSAL PIT
- AREA LACKING VEGETATION

FIGURE 3

Historical Site Features Map
Five-Year Review
Arkansas City Dump Site
Arkansas City, Kansas

Map prepared by KDHE

Project Manager: MO Drawn by: PBJ



Scale: 0 60 120 feet

N

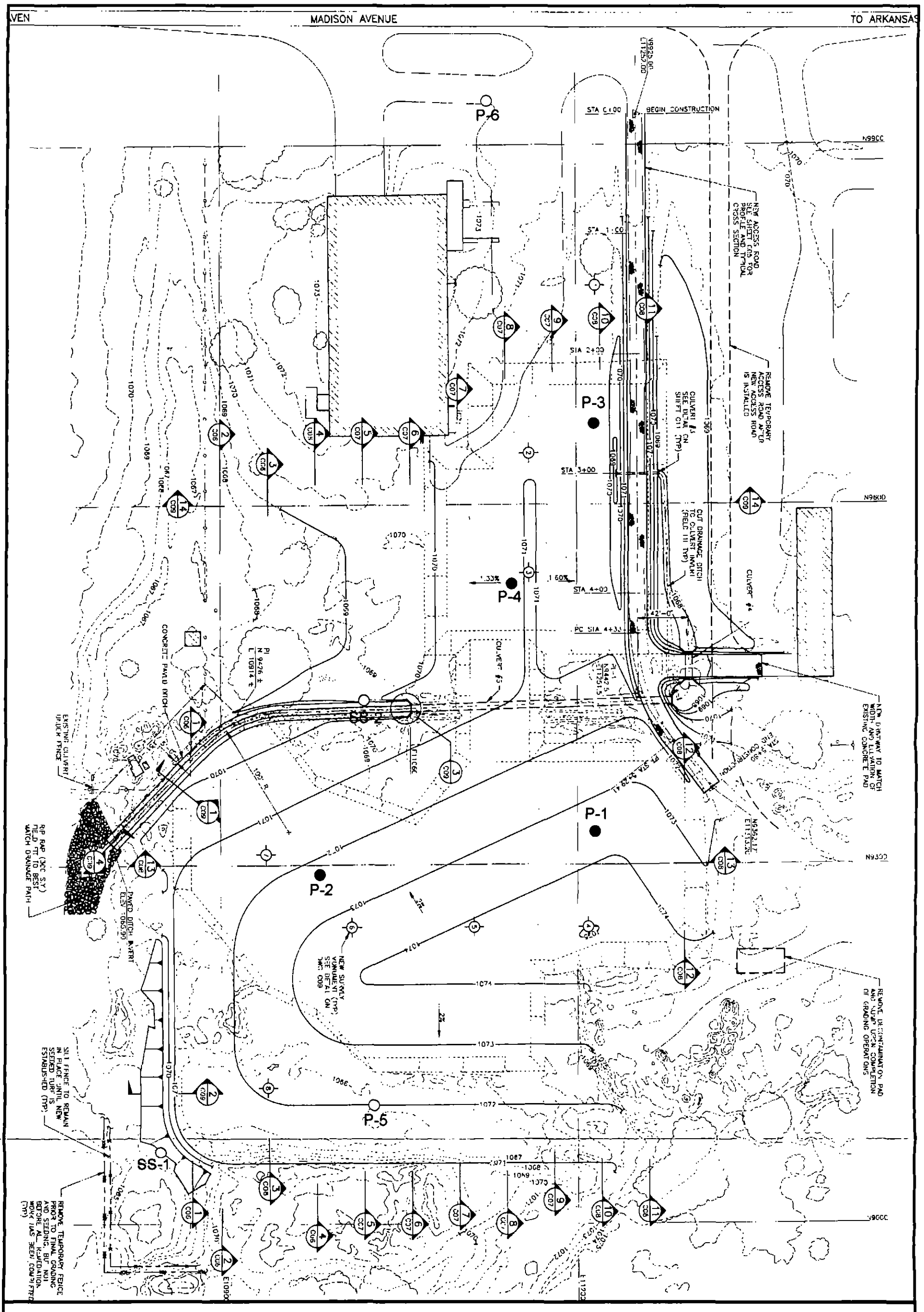
Map prepared by KDHE

Adapted from:
Finish Grading Plan, Co3, Final Remedial Action Completion Report North Waste Area Operable Unit, Arkansas City, Kansas, Volume I of Daniel, Inc. Dallas Texas for U.S. Environmental Protection Agency, Region VII, Kansas City, Kansas
Scale: Not To Scale

FIGURE 4

Soil Treatment Areas
Five-Year Review
Arkansas City Dump Site
Arkansas City, Kansas

Project Manager: MO Drawn by: PBJ



Scale: 0 60 120 feet

N

Adapted from:
Finish Grading Plan, Co3, Final Remedial Action Completion Report North Waste Area Operable Unit, Arkansas City, Kansas, Volume I of Daniel, Inc. Dallas Texas for U.S. Environmental Protection Agency, Region VII, Kansas City, Kansas
Scale: Not To Scale

LEGEND

- ○ Ground Water Samples
- ● Neutralized Sludge Samples
- ○ Surface Water Sample

FIGURE 5

Fire-Year Review Surface Water, Ground Water, and Soil Sampling Locations
Arkansas City Dump Site
Arkansas City, Kansas

Map prepared by KDHE

Project Manager: MO Drawn by: PBJ

Appendices

APPENDIX A

KDHE Public Information Office News Release Record

eals in the game. South Haven
17-7 in the third quarter.
it points in the quarter. She
with a three-point play to cut
25-22. She hit a three-pointer at
e she gave South Haven a 34-
ition basket less than three

e Cardinals became the 12th
A history to be crowned
mpions.
zing," Clausen said. "It is the
ut it."

	12	17	9	— 45
	17	7	9	— 41

Clausen 7-15 1-2 16; B.
S. Bryant 3-13 3-4 9; Meeker
ell 0-0 2-2 2; Yunker 0-1 2-2 2;
. Totals 16-64 11-17 45.
ldkamp 4-10 1-2 9;
9; Winkler 2-4 2-2 8; Sowers
np 1-6 2-2 5; Greene 0-3 2-2
Totals 13-37 7-8 41.
tralia 25, South Haven 19. 3
th Haven 2-9 (Meeker,
8-21 (Rosenbaum 3, Winkler
mp). **Rebounds** — South
t 14); Centralia: 31
sists — South Haven: 8 (Byers
eene 2, Ronnebaum 2,
). **Fouled out:** none.

THE KANSAS DEPARTMENT OF Health and Environment (KDHE) has begun a five-year environmental review at the site of the former Arkansas City Dump Site/Old Millken Refinery. The site is located north and south of Madison Avenue east of the Arkansas River in Arkansas City. The purpose of this five-year review is to determine if a previous cleanup is performing as designed. The focus of the review will be treated soil and surrounding areas located south of 1309 W. Madison Avenue. In 1992 the EPA neutralized acidic sludge from the former petroleum refinery with cement kiln dust and placed it into two containment areas. These areas were capped with clay soil and seeded with grass. The areas have been maintained with signs and regular mowing of the grass cover since completion in 1992. The second five-year review performed for the site by KDHE concluded that no acidic sludge was present. KDHE anticipates completing this third five-year review by June 30, 2007. For information regarding the five-year review process, please contact KDHE project manager Maura O'Halloran at (785) 296-0268 or mohallor@kdhe.state.ks.us

Lost, Found, Strayed 01

LOST: MALE ENGLISH Setter, white/w/tan spots, Sunday evening N.W. of town. 506-7007.

PLACE YOUR LOST & Found ads in The Traveler Classifieds! Ads for found items are FREE. There is a charge for lost ads.

hour depending on experience. If interested, call or email employer for interview at: 316-250-1737, or 316-688-0947 or 316-250-4679. email: PATAGWU@ATT.NET Note: Employer may be willing to hire 2 helpers to split weekly duties. Must have transportation and pass background security check. Extras: Lawn mowing is extra at $32/service (ground, 11.5K sq. ft.) Snow removal: $32, per service.

HELP WANTED
TWO RIVERS COOP
FULL TIME POSITION WITH BENEFITS
Accounts Payable Clerk
Salary commensrate with experience. Accounting, computer & people skills a must.
Apply in person to:
210 S. D St.
Ark City

benefits.
Apply in person to the Udall branch of
TWO RIVERS COOP
620-782-3621 OR 800-281-4221

Manufacturing
Central Plains is looking for individuals who want to learn a new trade. We are seeking applicants for entry-level positions in our finishing and bindery departments. Starting rate $7.00 per hour. Full-time, part-time and temporary positions available. Dependability and a good work history a must. Must be willing to work overtime and some weekends. If you are interested, please apply at:
Central Plains Book Mfg.
22234 C Street
Strother Field
Winfield, KS 67156
Ph 620-221-0526
Drug Free Workplace/EOE

SouthWind will conduct EVENING INTERVIEWS on Thursday, March 15, 2007 from 5:00PM-7:00PM. You may also apply and interview Monday through Friday 8:30AM-4:00PM.
Stop by 317 Viking Blvd. in Winfield to see if you would like to join our team.
We have the following positions open in the Human Services Field to fit every schedule:

APPENDIX B

Five-Year Review Site Inspection Checklist

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program.

Five-Year Review Site Inspection Checklist (Template)

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable.")

I. SITE INFORMATION

Site name: Arkansas City Dump **Date of inspection:**
Location and Region: Arkansas City, KS **EPA ID:** KSD 980 500 789
Agency, office, or company leading the five-year review: KDHE / BER **Weather/temperature:**
Remedy Includes: (Check all that apply)

- ☑ Landfill cover/containment
- ☑ Access controls
- ☑ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other _____
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ☐ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Gary Baugher (Name) Public Services Supt (Title) 3/20/07 (Date)
   Interviewed ☒ at site ☐ at office ☐ by phone Phone no. 620-441-4460
   Problems, suggestions; ☐ Report attached _____

2. **O&M staff** N/A (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ☐ Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency N/A - not Applicable
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

4. **Other interviews** (optional) ☐ Report attached.

N/A

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**
   - ☐ O&M manual — ☑ Readily available — ☐ Up to date — ☐ N/A
   - ☐ As-built drawings — ☑ Readily available — ☐ Up to date — ☐ N/A
   - ☐ Maintenance logs — ☑ Readily available — ☐ Up to date — ☐ N/A

   Remarks_____

2. **Site-Specific Health and Safety Plan** — ☐ Readily available — ☑ Up to date — ☐ N/A
   - ☐ Contingency plan/emergency response plan — ☐ Readily available — ☑ Up to date — ☐ N/A

   Remarks_____

3. **O&M and OSHA Training Records** — ☐ Readily available — ☐ Up to date — ☑ N/A

   Remarks_____

4. **Permits and Service Agreements**
   - ☐ Air discharge permit — ☐ Readily available — ☐ Up to date — ☑ N/A
   - ☐ Effluent discharge — ☐ Readily available — ☐ Up to date — ☑ N/A
   - ☐ Waste disposal, POTW — ☐ Readily available — ☐ Up to date — ☑ N/A
   - ☐ Other permits_____ — ☐ Readily available — ☐ Up to date — ☑ N/A

   Remarks_____

5. **Gas Generation Records** — ☐ Readily available — ☐ Up to date — ☑ N/A

   Remarks_____

6. **Settlement Monument Records** — ☐ Readily available — ☐ Up to date — ☑ N/A

   Remarks_____

7. **Groundwater Monitoring Records** — ☐ Readily available — ☐ Up to date — ☑ N/A

   Remarks_____

8. **Leachate Extraction Records** — ☐ Readily available — ☐ Up to date — ☑ N/A

   Remarks_____

9. **Discharge Compliance Records**
   - ☐ Air — ☐ Readily available — ☐ Up to date — ☑ N/A
   - ☐ Water (effluent) — ☐ Readily available — ☐ Up to date — ☑ N/A

   Remarks_____

10. **Daily Access/Security Logs** — ☐ Readily available — ☐ Up to date — ☑ N/A

    Remarks_____

IV. O&M COSTS

1. **O&M Organization**
   - ☑ State in-house — ☐ Contractor for State
   - ☐ PRP in-house — ☐ Contractor for PRP
   - ☐ Federal Facility in-house — ☐ Contractor for Federal Facility
   - ☐ Other City of Arkansas City

2. **O&M Cost Records** N/A
□ Readily available □ Up to date
□ Funding mechanism/agreement in place
Original O&M cost estimate_____ □ Breakdown attached

Total annual cost by year for review period if available

From_____ To_____ _____ □ Breakdown attached
Date Date Total cost

From_____ To_____ _____ □ Breakdown attached
Date Date Total cost

From_____ To_____ _____ □ Breakdown attached
Date Date Total cost

From_____ To_____ _____ □ Breakdown attached
Date Date Total cost

From_____ To_____ _____ □ Breakdown attached
Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**
Describe costs and reasons: N/A

V. ACCESS AND INSTITUTIONAL CONTROLS ☑ Applicable □ N/A

A. Fencing

1. **Fencing damaged** □ Location shown on site map □ Gates secured ☑ N/A
Remarks_____

B. Other Access Restrictions

1. **Signs and other security measures** ☑ Location shown on site map □ N/A
Remarks signs are posted around perimeter of fenced area

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☑ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☑ No ☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) _____

Frequency _____

Responsible party/agency City of Arkansas City

Contact Gary Baner City of Arkansas City Public Services Dept

Name Title Date Phone no.

Reporting is up-to-date ☑ Yes ☐ No ☐ N/A

Reports are verified by the lead agency ☑ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ☑ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☐ No ☑ N/A

Other problems or suggestions: ☐ Report attached

N/A

2. **Adequacy** ☑ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks _____

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ☑ No vandalism evident

Remarks _____

2. **Land use changes on site** ☑ N/A

Remarks _____

3. **Land use changes off site** ☑ N/A

Remarks _____

VI. GENERAL SITE CONDITIONS

A. Roads ☑ Applicable ☐ N/A

1. **Roads damaged** ☐ Location shown on site map ☑ Roads adequate ☐ N/A

Remarks _____

B. Other Site Conditions

Remarks N/A

VII. LANDFILL COVERS ☑ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ☑ Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Cracks** ☐ Location shown on site map ☑ Cracking not evident
   Lengths_____ Widths_____ Depths_____
   Remarks_____

3. **Erosion** ☐ Location shown on site map ☐ Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Holes** ☐ Location shown on site map ☐ Holes not evident
   Areal extent_____ Depth_____
   Remarks_____

5. **Vegetative Cover** ☐ Grass ☑ Cover properly established ☐ No signs of stress
   ☐ Trees/Shrubs (indicate size and locations on a diagram)
   Remarks_____

6. **Alternative Cover (armored rock, concrete, etc.)** ☑ N/A
   Remarks_____

7. **Bulges** ☐ Location shown on site map ☑ Bulges not evident
   Areal extent_____ Height_____
   Remarks_____

8. **Wet Areas/Water Damage** ☑ Wet areas/water damage not evident
   ☐ Wet areas ☐ Location shown on site map Areal extent_____
   ☐ Ponding ☐ Location shown on site map Areal extent_____
   ☐ Seeps ☐ Location shown on site map Areal extent_____
   ☐ Soft subgrade ☐ Location shown on site map Areal extent_____
   Remarks_____

9. **Slope Instability** ☐ Slides ☐ Location shown on site map ☑ No evidence of slope instability
   Areal extent_____
   Remarks_____

B. Benches ☐ Applicable ☑ N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐ Location shown on site map ☑ N/A or okay
   Remarks_____

2. **Bench Breached** ☐ Location shown on site map ☑ N/A or okay
   Remarks_____

3. **Bench Overtopped** ☐ Location shown on site map ☑ N/A or okay
   Remarks_____

C. Letdown Channels ☑ Applicable ☐ N/A

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** ☐ Location shown on site map ☑ No evidence of settlement
   Areal extent_____ Depth_____
   Remarks_____

2. **Material Degradation** ☐ Location shown on site map ☑ No evidence of degradation
   Material type_____ Areal extent_____
   Remarks_____

3. **Erosion** ☐ Location shown on site map ☑ No evidence of erosion
   Areal extent_____ Depth_____
   Remarks_____

4. **Undercutting** ☐ Location shown on site map ☑ No evidence of undercutting
   Areal extent_____ Depth_____
   Remarks_____

5. **Obstructions** Type_____ ☑ No obstructions
   ☐ Location shown on site map Areal extent_____
   Size_____
   Remarks_____

6. **Excessive Vegetative Growth** Type_____
   ☑ No evidence of excessive growth
   ☐ Vegetation in channels does not obstruct flow
   ☐ Location shown on site map Areal extent_____
   Remarks_____

D. Cover Penetrations ☐ Applicable ☑ N/A

1. **Gas Vents** ☐ Active ☐ Passive
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs Maintenance
   ☑ N/A
   Remarks_____

2. **Gas Monitoring Probes**
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs Maintenance ☑ N/A
   Remarks_____

3. **Monitoring Wells** (within surface area of landfill)
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs Maintenance ☑ N/A
   Remarks_____

4. **Leachate Extraction Wells**
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs Maintenance ☑ N/A
   Remarks_____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☑ N/A
   Remarks_____

E. Gas Collection and Treatment ☐ Applicable ☑ N/A

1. **Gas Treatment Facilities**
   ☐ Flaring ☐ Thermal destruction ☐ Collection for reuse
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____

2. ***Gas Collection Wells, Manifolds and Piping***
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
   ☐ Good condition ☐ Needs Maintenance ☐ N/A
   Remarks_____

F. Cover Drainage Layer ☑ Applicable ☐ N/A

1. **Outlet Pipes Inspected** ☑ Functioning ☐ N/A
   Remarks_____

2. **Outlet Rock Inspected** ☑ Functioning ☐ N/A
   Remarks_____

G. Detention/Sedimentation Ponds ☑ Applicable ☐ N/A

1. **Siltation** Areal extent_____ Depth_____ ☐ N/A
   ☑ Siltation not evident
   Remarks_____

2. **Erosion** Areal extent_____ Depth_____
   ☑ Erosion not evident
   Remarks_____

3. **Outlet Works** ☑ Functioning ☐ N/A
   Remarks_____

4. **Dam** ☑ Functioning ☐ N/A
   Remarks_____

H. Retaining Walls ☐ Applicable ☑ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident
   Horizontal displacement_____ Vertical displacement_____
   Rotational displacement_____
   Remarks_____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident
   Remarks_____

I. Perimeter Ditches/Off-Site Discharge ☑ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ☑ Siltation not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A
   ☑ Vegetation does not impede flow
   Areal extent_____ Type_____
   Remarks_____

3. **Erosion** ☐ Location shown on site map ☑ Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Discharge Structure** ☑ Functioning ☐ N/A
   Remarks_____

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☑ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Performance Monitoring** Type of monitoring_____
   ☐ Performance not monitored
   Frequency_____ ☐ Evidence of breaching
   Head differential_____
   Remarks_____

IX. GROUNDWATER/SURFACE WATER REMEDIES ☑ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ☑ N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
   ☐ Good condition ☐ All required wells properly operating ☐ Needs Maintenance ☐ N/A
   Remarks_____

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____

3. **Spare Parts and Equipment**
   ☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
   Remarks_____

B. Surface Water Collection Structures, Pumps, and Pipelines ☑ Applicable ☐ N/A

1. **Collection Structures, Pumps, and Electrical**
   ☑ Good condition ☐ Needs Maintenance
   Remarks_____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   ☑ Good condition ☐ Needs Maintenance
   Remarks_____

3. **Spare Parts and Equipment**
   ☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
   Remarks N/A

C. Treatment System □ Applicable ✓ N/A

1. **Treatment Train** (Check components that apply)
   - □ Metals removal □ Oil/water separation □ Bioremediation
   - □ Air stripping □ Carbon adsorbers
   - □ Filters_____
   - □ Additive (*e.g.*, chelation agent, flocculent)_____
   - □ Others_____
   - □ Good condition □ Needs Maintenance
   - □ Sampling ports properly marked and functional
   - □ Sampling/maintenance log displayed and up to date
   - □ Equipment properly identified
   - □ Quantity of groundwater treated annually_____
   - □ Quantity of surface water treated annually_____
   - Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
   - □ N/A □ Good condition □ Needs Maintenance
   - Remarks_____

3. **Tanks, Vaults, Storage Vessels**
   - □ N/A □ Good condition □ Proper secondary containment □ Needs Maintenance
   - Remarks_____

4. **Discharge Structure and Appurtenances**
   - □ N/A □ Good condition □ Needs Maintenance
   - Remarks_____

5. **Treatment Building(s)**
   - □ N/A □ Good condition (esp. roof and doorways) □ Needs repair
   - □ Chemicals and equipment properly stored
   - Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
   - □ Properly secured/locked □ Functioning □ Routinely sampled □ Good condition
   - □ All required wells located □ Needs Maintenance □ N/A
   - Remarks_____

D. Monitoring Data N/A

1. Monitoring Data
   - □ Is routinely submitted on time □ Is of acceptable quality
2. Monitoring data suggests:
   - □ Groundwater plume is effectively contained □ Contaminant concentrations are declining

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

□ Properly secured/locked □ Functioning □ Routinely sampled □ Good condition
□ All required wells located □ Needs Maintenance ☑ N/A

Remarks_____

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

N/A

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

N/A

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ All required wells located ☐ Needs Maintenance ☑ N/A

Remarks

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The remedy is to neutralize acid waste and to cover the neutralized waste to prevent contact with or exposure to the neutralized waste & to place institutional controls on the site to prohibit actions that may impact the neutralized sludge in the future. The remedy is effective & functional. Water is effectively drained from the site via culverts & ditches and no low spots or erosion was observed on the covers. Riprap remains in place & the retention pond is intact.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The city maintains the site through regular mowing and verification that signs remain posted. The city ensures that institutional controls are enforced.

C. **Early Indicators of Potential Remedy Problems**

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

N/A

D. **Opportunities for Optimization**

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

N/A

APPENDIX C

Soil Boring Logs

Field Drilling Log

HOLE NO: P1 | SHEET 1 OF 1 SHEETS

PROJECT NAME: Arkansas City Dump Site	DRILLING SUBCONTRACTOR: KDHE/BER
PROJECT NUMBER: C2-018-00009	NAME OF DRILLER(S): Mike LaBuda
LOCATION: 1309 W. Madison	MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 5400
SURFACE ELEVATION: N/A	SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT:
OVERBURDEN THICKNESS: N/A	
BEDROCK FOOTAGE: N/A	DRILLING START DATE: 4/05/2007 — DRILLING END DATE: 4/05/2007
DEPTH GROUNDWATER ENCOUNTERED: N/A	TOTAL NUMBER OF CORE BOXES: — TOTAL NUMBER OF SAMPLES: 2
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	LOGGED BY: Maura O'Halloran

DEPTH	DESCRIPTION OF MATERIALS	CLASS	BLOW COUNTS	RECOVERY	SAMPLE NO	FIELD SCREENING RESULTS	REMARKS
0	0"-12" reddish-brown clay						
	12-24" brown clay w/ silt						
2'	24"-28" crushed LS						
	28"-48" dark brown, stiff, odor						
4'	4'-8' dark brown, dry, fissile, uniform odor				P1 4'-6'		@ 8:45, sample packed easily.
6'							
8'	8'-10' as above						
10'	10'-12' very dark gray, light sandy texture, strong petroleum odor				P1 10-12'		@ 8:50, sample packed easily
12'	TD						

PROJECT NAME: Ark City Dump Site | HOLE NO: P1

Field Drilling Log

HOLE NO: PZ | SHEET 1 OF 1 SHEETS

PROJECT NAME: Arkansas City Dump Site	DRILLING SUBCONTRACTOR: KDHE/BER
PROJECT NUMBER: CZ-018-00009	NAME OF DRILLER(S): Mike LaRuda
LOCATION: 1309 W. Madison	MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 5400
SURFACE ELEVATION: NA	SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT:
OVERBURDEN THICKNESS: N/A	
BEDROCK FOOTAGE: N/A	DRILLING START DATE: 4/05/2007 — DRILLING END DATE: 4/05/2007
DEPTH GROUNDWATER ENCOUNTERED: N/A	TOTAL NUMBER OF CORE BOXES: — TOTAL NUMBER OF SAMPLES: 2
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	LOGGED BY: Maura O'Halloran

DEPTH	DESCRIPTION OF MATERIALS	CLASS	BLOW COUNTS	RECOVERY	SAMPLE NO	FIELD SCREENING RESULTS	REMARKS
1'	0"-6" topsoil 6"-20" reddish-brown clay 20"-23" crushed LS 2'-4' dark brown, fissile, sweet chemical odor						
4'	4'-5' dark brown, loose						
	5'-6.5' dark brown, fissile						
	6.5'-7' light brown, sandy						
8'	7'-8' dark brown, firm, sweet chemical odor, waxy				PZ, 7'-8'		@ 9:20 packed easily
	8-8.5' lgt brown to gray very sandy						
10'	8.5-9.5' dark brown, fissile w/ 2" band of gray sandy textured material						
	9.5'-12' dark brown, firm, sweet chemical odor				PZ, 10'-12'		@ 9:30 packed easily
12'	TD						

PROJECT NAME	HOLE NO
Arkansas City Dump Site	PZ

Field Drilling Log

HOLE NO: P3 | SHEET 1 OF 1 SHEETS

PROJECT NAME: Arkansas City Dump Site	DRILLING SUBCONTRACTOR: KDHE/BER
PROJECT NUMBER: C2-018-00009	NAME OF DRILLER(S): Mike LaBryda
LOCATION: 309 W. Madison	MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 5400
SURFACE ELEVATION: N/A	SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT:
OVERBURDEN THICKNESS: N/A	
BEDROCK FOOTAGE: N/A	DRILLING START DATE: 4/05/2007 — DRILLING END DATE: 4/05/2007
DEPTH/GROUNDWATER ENCOUNTERED: N/A	TOTAL NUMBER OF CORE BOXES: — TOTAL NUMBER OF SAMPLES: 2
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	LOGGED BY: Mama OHalloran

DEPTH	DESCRIPTION OF MATERIALS	CLASS.	BLOW COUNTS	RECOVERY	SAMPLE NO	FIELD SCREENING RESULTS	REMARKS
	0"-6" topsoil						
	6"-24" light orange/brown sl silty clay						
2'	24"-26" crusted LS						
	26"-4' dark brown, fissile, slight sweet chemical odor						
4'	4'-7' same as above						
					P3 6-7'		@ 10:15
	7'-8' dark brown, firm, slightly waxy						
8'	8'-9' NR						8'-12' sample expanded in sampler, ~75% recovery, bottom dripping petroleum-product @ 10:20
	9'-10' dark brown, fissile						
10'	10'-11' dark brown, waxy				P3 10-11'		
	11'-12' uncon mix of (? lime? CKD?) w/sludge						
12'	TD						

PROJECT NAME: Arkansas City Dump Site | HOLE NO: P3

Field Drilling Log

HOLE NO: P4 | SHEET 1 OF 1 SHEETS

PROJECT NAME: Arkansas City Dump Site	DRILLING SUBCONTRACTOR: KDHE/BER
PROJECT NUMBER: C2-018-00009	NAME OF DRILLER(S): Mike LaBuda
LOCATION: 1309 W. Madison	MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 5400
SURFACE ELEVATION: N/A	SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT:
OVERBURDEN THICKNESS: N/A	
BEDROCK FOOTAGE: N/A	DRILLING START DATE: 4/05/2007 — DRILLING END DATE: 4/05/2007
DEPTH GROUNDWATER ENCOUNTERED: N/A	TOTAL NUMBER OF CORE BOXES: — TOTAL NUMBER OF SAMPLES: 2
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	LOGGED BY: Maura O'Halloran

DEPTH	DESCRIPTION OF MATERIALS	CLASS	BLOW COUNTS	RECOVERY	SAMPLE NO	FIELD SCREENING RESULTS	REMARKS
0'	2' of light orange/brown clay						0'-4' ~75% recovery
	2" crushed LS						
1'	1' dark brown, fissile, clay w/ sweet chemical odor						
4'	4'-4.5' same as preceding 1'						
	4.5-5' inclusion of light orange/brown clay						
5'	5'-8' dark brown, fissile, waxier toward 8' w/ increasing sweet chemical odor				P4 6'-7'		@ 10:45
8'	6" light orange/brown clay						8'-12' ~75% recovery, sample expanded in sampler @ 10:00
	12" dark brown, fissile, slight sweet odor				P4 10'-11'		
10'	18" dark brown, waxy on surface but fissile, slightly harder, sweet chemical odor						
12'	TD						

PROJECT NAME: Arkansas City Dump Site | HOLE NO: P4

APPENDIX D

Chain-of-Custody Forms

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical®

Page: of

1053162

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: KS Dept Health & Environment	Report To: Maureen Halloran	Attention: Teresa Hattan
Address: 1000 SW Jackson Ste 410	Copy To:	Company Name: KDHE / BER
Topeka KS 66612		Address: 1000 SW Jackson Ste
Email To: mohalloran@kdhe.state.ks.us	Purchase Order No.:	Pace Quote Reference: 41[illegible]
Phone: 785 2961268 Fax: 785 2961030	Project Name: Arkansas City Dump	Pace Project Manager:
Requested Due Date/TAT: 7-day	Project Number: [illegible]	Pace Profile #:

REGULATORY AGENCY		
☐ NPDES	☐ GROUND WATER	☐ DRINKING WATER
☐ UST	☐ RCRA	☐ Other

SITE LOCATION					
☐ GA	☐ IL	☐ IN	☐ MI	☐ MN	☐ NC
☐ OH	☐ SC	☐ WI	☐ OTHER		

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / .-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N) / Requested Analysis: 8260	8270	OA-2	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	P5 OTHR 2 VG4H	WT	G	4/5/17		4/5/17	11:30		2	X								✓	✓			001
2	Product-P5 VG4U	P	G			4/5/17	11:30		1	X										✓		002
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Additional Comments:

40 ml sample developed air bubbles after collection. Oil sheen.
Limited quantity of product available for analysis

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITION			
[illegible] / KDHE	4/11/17		[illegible] / Pace	4/11/17	[illegible]	[illegible]	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
						Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Maureen Halloran

SIGNATURE of SAMPLER: [illegible]

DATE Signed (MM / DD / YY): [illegible]

SEE REVERSE SIDE FOR INSTRUCTIONS

Kansas Department of Health and Environment
Division of Health and Environmental Laboratorie
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488898 PT

Lab Number:
Date Received:
Analysis Code:

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site PI - 10'-12'
Legal Project Code Name PWS Acct. No.

Site ID Number: Collection Depth: 10'-12' Feet

Sample Type: Water Soil Sediment * (Sludge) Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 0850
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem_____ DO_____ NUT_____ HM_____ CN_____ O&G_____ Phenol_____

Check Desired Analysis: ☑ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: *This sample is petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

2007 APR -5 AM 9:29

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488899 PT

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site (Legal / Project Code / Name) P1-4'-6' (PWS Acct No.) 4/6/07

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 4'-6' Feet

Sample Type: Water Soil Sediment (Sludge)* Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran (Name) BER (Agency (Abbr)) Date: 4-5-07 (Mo Day Yr) Time: 08:45 (24 Hour)

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☑ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: * this sample is petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By [signature] Received By [signature]

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

P3 - 10' - 11'

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488900 PT

Lab Number: _____
Date Received: _____
Analysis Code: Urgent

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site P3 - 10'-11'
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 10' - 11' Feet

Sample Type: Water Soil Sediment *Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 10:20
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☑ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: *petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

P3-6'-7'

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Lab No. 0488901 PT

Date Received: _____

Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site P3-6'-7'
Legal Project Code Name PWS Acct No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 6-7 Feet

Sample Type: Water Soil Sediment (Sludge) Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 10:15
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☑ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: *petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

2007 APR -6 A 9:30

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

PL - 6'-7'

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488902 PT

Lab No: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site PL 6'-7'
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 6 - 7' Feet

Sample Type: Water Soil Sediment *Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 1045
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code: EA EB EC ED EE EF EG EH EK EL EM EN (EP) ET EW EX EZ
ES FK LM SC SE SG SN SP SW PC PD PE PG PI PL PP PT
PU PV WE WI HD HF HL HS RP AR GS KC US AQ RT WC

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☑ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: *petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

2007 APR -5 AM 9:30

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

P4- 10'-11'

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488903 PT

La. Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site P4 - 10'-11'
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 10-11' Feet

Sample Type: Water Soil Sediment (Sludge) Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 1100
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☒ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: *petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address. _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environme
Division of Health and Environmental Laborato
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488904 PT

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Mama OHallaran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site P2-7'-8'
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Collection Depth: 7-8 Feet

Sample Type: Water Soil Sediment (Sludge) Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHallaran BER Date: 4-5-01 Time: 09:20
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem_____ DO_____ NUT_____ HM_____ CN_____ O&G_____ Phenol_____

Check Desired Analysis: ☒ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/01 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratorie
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488905 PT

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site PZ-10'-12'
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 10'-12' Feet

Sample Type: Water Soil Sediment (Sludge) Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 09:30
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☑ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: * petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

DH 11' 12'

Kansas Department of Health and Environn
Division of Health and Environmental Labora
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488924 PT

Lab Number: _____
Date Received: _____
Analysis Code: UTAH80

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site (P4-11'-12')
Legal Project Code Name PWS Acct No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 11'-12' Feet

Sample Type: Water Soil Sediment *Sludge Air Oil Solid Liquid Wipe Priority: Regular Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 11:15
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code: EA EB EC ED EE EF EG EH EK EL EM EN EP ET EW EX EZ
ES FK LM SC SE SG SN SP SW PC PD PE PG PI PL PP PT
PU PV WE WI HD HF HL HS RP AR GS KC US AQ RT WC

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO ✓ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☑ Other pH

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: *petroleum sludge neutralized w/ kiln dust

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488892 PT

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site P7 4FM80
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 16 Feet

Sample Type: (Water) Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran Name BER Agency (Abbr) Date: 4-5-07 Mo Day Yr Time: 14:00 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☒ Volatiles Method: ☐ 624 ☒ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem_____ DO_____ NUT_____ HM_____ CN_____ O&G_____ Phenol_____

Check Desired Analysis: ☐ Other _____

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: _____

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratorie
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488892 BE

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site (P 7) 4/EM80
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: __ __ 1 62 Feet

Sample Type: (Water) Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4 - 5 - 07 Time: 14:00
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☒ Base/Neutrals Method: ☐ 625 ☒ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☐ Other _____

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: _____

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

2007 APR -6 AM 9:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488892 VG

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site P7 4EM8
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Collection Depth: 16 Feet

Sample Type: Water Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 14:00
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem_____ DO_____ NUT_____ HM_____ CN_____ O&G_____ Phenol_____

Check Desired Analysis: ☐ Other _____

☒ Metals ☒ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: _____

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488893 BE

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site (P6) 4EM80
Legal Project Code Name PWS Acct No./

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: __ __ 16 Feet

Sample Type: (Water) Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 1330
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☒ Base/Neutrals Method: ☐ 625 ☒ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☐ Other _____

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: _____

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratorie
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488894 VG

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura OHalloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site (P6) 4/EM80
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: 16 Feet

Sample Type: (Water) Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 13:30
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☒ Volatiles Method: ☐ 624 ☒ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

2

Inorganic Chemistry Laboratory

Bottle Nos.: Chem_____ DO_____ NUT_____ HM_____ CN_____ O&G_____ Phenol_____

Check Desired Analysis: ☐ Other _____

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: _____

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

2007 APR -5 AM 8:42

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

0488895 PT

Lab Number: _____
Date Received: _____
Analysis Code: _____

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site (P6) 4Kms
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: __ __ 1 6 Feet

Sample Type: Water Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: OHalloran BER Date: 4-5-07 Time: 1330
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other _____ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem _____ DO _____ NUT _____ HM _____ CN _____ O&G _____ Phenol _____

Check Desired Analysis: ☐ Other _____

☒ Metals ☒ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other _____

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: _____

Chain of Custody:

Date 4/6/07 Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Date _____ Relinquished By _____ Received By _____

Additional Reports Routed To:

Name _____ Address _____

Name _____ Address _____

Name _____ Address _____

DHEL-01/2001

Instructions for this form are printed on the reverse side

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Lab No. 0488896 VG

Date Received:

Analysis Code:

Sample Submission Form

Report To: Mama [illegible] Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site TRIP BLANK 40180
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐☐☐☐☐☐☐☐ Collection Depth: ___ ___ Feet

Sample Type: (Water) Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: Regular Moderate Urgent

Sample Collector: Name Agency (Abbr) Date: 4 - 6 - 07 (Mo Day Yr) Time: ___ ___ (24 Hour)

Program Code:

EA	EB	EC	ED	EE	EF	EG	EH	EK	EL	EM	EN	(EP)	ET	EW	EX	EZ
ES	FK	LM	SC	SE	SG	SN	SP	SW	PC	PD	PE	PG	PI	PL	PP	PT
PU	PV	WE	WI	HD	HF	HL	HS	RP	AR	GS	KC	US	AQ	RT	WC	

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other ___ VOC Sample Acidified: ☐

☒ Volatiles Method: ☐ 624 ☒ 8260 ☐ 524.2

☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270

☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil

☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem ___ DO ___ NUT ___ HM ___ CN ___ O&G ___ Phenol ___

Check Desired Analysis: ☐ Other ___

☐ Metals ☐ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other ___

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: ___

Chain of Custody:

Date 4/6/07 Relinquished By [signature] Received By [signature]

Date ___ Relinquished By ___ Received By ___

Date ___ Relinquished By ___ Received By ___

Additional Reports Routed To:

Name ___ Address ___

Name ___ Address ___

Name ___ Address ___

DHEL-01.2001

Instructions for this form are printed on the reverse side

0488897 PT

Kansas Department of Health and Environmer
Division of Health and Environmental Laborator...
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Lab Number: ______
Date Received: ______
Analysis Code: ______

Sample Submission Form

Report To: Maura O'Halloran Address: 1000 SW Jackson Ste 410

Collection Site: Ark City Dump Site (PS) 4EM80
Legal Project Code Name PWS Acct. No.

Site ID Number: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Collection Depth: 162' Feet

Sample Type: (Water) Soil Sediment Sludge Air Oil Solid Liquid Wipe Priority: (Regular) Moderate Urgent

Sample Collector: O'Halloran BER Date: 4-5-07 Time: 12:30
Name Agency (Abbr) Mo Day Yr 24 Hour

Program Code: EA ES PU EB FK PV EC LM WE ED SC WI EE SE HD EF SG HF EG SN HL EH SP HS EK SW RP EL PC AR EM PD GS EN PE KC (EP) PG US ET PI AQ EW PL RT EX PP WC EZ PT

Organic Chemistry Laboratory

Check Desired Analysis: ☐ Other ______ VOC Sample Acidified: ☐

☐ Volatiles Method: ☐ 624 ☐ 8260 ☐ 524.2 ☐ Pesticides Method: ☐ 608 ☐ 8080 ☐ 507/8

☐ Acids Method: ☐ 625 ☐ 8270 ☐ Base/Neutrals Method: ☐ 625 ☐ 8270 ☐ 525.2

☐ PCB's Method: ☐ 608 ☐ 8080 ☐ Oil ☐ Herbicides Method: ☐ 615 ☐ 8150 ☐ 515.1

Inorganic Chemistry Laboratory

Bottle Nos.: Chem ____ DO ____ NUT ____ HM ____ CN ____ O&G ____ Phenol ____

Check Desired Analysis: ☐ Other ______

☒ Metals ☒ Mercury ☐ Mineral ☐ TCLP

Radiation Chemistry Laboratory

Check Desired Analysis: ☐ Other ______

☐ Gross Alpha ☐ Gross Uranium ☐ Ra-226 ☐ Ra-228

Sample Comments: VERY STRONG PETROLEUM ODOR!!

Chain of Custody:

Date 4/6/07 Relinquished By [signature] Received By [signature]

Date ______ Relinquished By ______ Received By ______

Date ______ Relinquished By ______ Received By ______

2007 APR -6 AM 9:

Additional Reports Routed To:

Name ______ Address ______

Name ______ Address ______

Name ______ Address ______

DHEL-01/2001 *Instructions for this form are printed on the reverse side*

APPENDIX E

Laboratory Analytical Reports

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488897

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P5
Collector: Maura O'Halloran
Matrix: Water
Collect Depth: 16'
Date/Time Collected: 04/05/07 11:30
Date/Time Received: 04/06/07 09:27

Sample Comments: VERY STRONG PETROLEUM ODOR!!

Parameter	Analytical Result	Units	Analysis Date	Analytical Method
Aluminum	< 0.050	mg/L	04/18/07	EPA 200.7
Antimony	< 0.050	mg/L	04/18/07	EPA 200.7
Arsenic	< 0.050	mg/L	04/18/07	EPA 200.7
Barium	0.90	mg/L	04/18/07	EPA 200.7
Beryllium	< 0.0010	mg/L	04/18/07	EPA 200.7
Boron	0.091	mg/L	04/18/07	EPA 200.7
Cadmium	< 0.0050	mg/L	04/18/07	EPA 200.7
Calcium	150	mg/L	04/18/07	EPA 200.7
Chromium	< 0.010	mg/L	04/18/07	EPA 200.7
Cobalt	< 0.010	mg/L	04/18/07	EPA 200.7
Copper	< 0.010	mg/L	04/18/07	EPA 200.7
Iron	15	mg/L	04/18/07	EPA 200.7
Lead	< 0.050	mg/L	04/18/07	EPA 200.7
Magnesium	21	mg/L	04/18/07	EPA 200.7
Manganese	1.2	mg/L	04/18/07	EPA 200.7
Mercury	< 0.50	ug/L	04/20/07	EPA 245.1
Molybdenum	< 0.020	mg/L	04/18/07	EPA 200.7
Nickel	0.049	mg/L	04/18/07	EPA 200.7
Potassium	7.2	mg/L	04/18/07	EPA 200.7
Selenium	< 0.050	mg/L	04/18/07	EPA 200.7
Silica	26	mg/L	04/18/07	EPA 200.7
Silver	< 0.010	mg/L	04/18/07	EPA 200.7
Sodium	27	mg/L	04/18/07	EPA 200.7
Strontium	0.52	mg/L	04/18/07	EPA 200.7
Thallium	< 0.050	mg/L	04/18/07	EPA 200.7
Vanadium	< 0.0050	mg/L	04/18/07	EPA 200.7
Zinc	0.0097	mg/L	04/18/07	EPA 200.7

Reporting Analyst: JAB
Date Reported: 04/24/07
Copies To: File

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

Duane R. Boline, Ph.D., Director
Laboratory Customer Service - (785) 296-1620
Laboratory Fax - (785) 296-1641
CLIA No. 17D0648254

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488895

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P6
Collector: Maura O'Halloran
Matrix: Water
Collect Depth: 16'
Date/Time Collected: 04/05/07 13:30
Date/Time Received: 04/06/07 09:26

Sample Comments:

Parameter	Analytical Result	Units	Analysis Date	Analytical Method
Aluminum	< 0.050	mg/L	04/18/07	EPA 200.7
Antimony	< 0.050	mg/L	04/18/07	EPA 200.7
Arsenic	< 0.050	mg/L	04/18/07	EPA 200.7
Barium	0.20	mg/L	04/18/07	EPA 200.7
Beryllium	< 0.0010	mg/L	04/18/07	EPA 200.7
Boron	0.29	mg/L	04/18/07	EPA 200.7
Cadmium	< 0.0050	mg/L	04/18/07	EPA 200.7
Calcium	130	mg/L	04/18/07	EPA 200.7
Chromium	< 0.010	mg/L	04/18/07	EPA 200.7
Cobalt	< 0.010	mg/L	04/18/07	EPA 200.7
Copper	< 0.010	mg/L	04/18/07	EPA 200.7
Iron	1.0	mg/L	04/18/07	EPA 200.7
Lead	< 0.050	mg/L	04/18/07	EPA 200.7
Magnesium	12	mg/L	04/18/07	EPA 200.7
Manganese	0.32	mg/L	04/18/07	EPA 200.7
Mercury	< 0.50	ug/L	04/20/07	EPA 245.1
Molybdenum	< 0.020	mg/L	04/18/07	EPA 200.7
Nickel	0.039	mg/L	04/18/07	EPA 200.7
Potassium	5.3	mg/L	04/18/07	EPA 200.7
Selenium	< 0.050	mg/L	04/18/07	EPA 200.7
Silica	16	mg/L	04/18/07	EPA 200.7
Silver	< 0.010	mg/L	04/18/07	EPA 200.7
Sodium	20	mg/L	04/18/07	EPA 200.7
Strontium	0.54	mg/L	04/18/07	EPA 200.7
Thallium	< 0.050	mg/L	04/18/07	EPA 200.7
Vanadium	< 0.0050	mg/L	04/18/07	EPA 200.7
Zinc	0.013	mg/L	04/18/07	EPA 200.7

Reporting Analyst: JAB
Date Reported: 04/24/07
Copies To: File

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

Duane R. Boline, Ph.D., Director
Laboratory Customer Service - (785) 296-1620
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DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488892

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P7 (P6 dup)
Collector: Maura O'Halloran Matrix: Water Collect Depth: 16'
Date/Time Collected: 04/05/07 14:00 Date/Time Received: 04/06/07 09:19

Sample Comments:

Paramecer	*Analytical Result*	*Units*	*Analysis Date*	*Analytical Method*
Aluminum	< 0.050	mg/L	04/18/07	EPA 200.7
Antimony	< 0.050	mg/L	04/18/07	EPA 200.7
Arsenic	< 0.050	mg/L	04/18/07	EPA 200.7
Barium	0.20	mg/L	04/18/07	EPA 200.7
Beryllium	< 0.0010	mg/L	04/18/07	EPA 200.7
Boron	0.29	mg/L	04/18/07	EPA 200.7
Cadmium	< 0.0050	mg/L	04/18/07	EPA 200.7
Calcium	130	mg/L	04/18/07	EPA 200.7
Chromium	< 0.010	mg/L	04/18/07	EPA 200.7
Cobalt	< 0.010	mg/L	04/18/07	EPA 200.7
Copper	< 0.010	mg/L	04/18/07	EPA 200.7
Iron	1.0	mg/L	04/18/07	EPA 200.7
Lead	< 0.050	mg/L	04/18/07	EPA 200.7
Magnesium	12	mg/L	04/18/07	EPA 200.7
Manganese	0.32	mg/L	04/18/07	EPA 200.7
Mercury	< 0.50	ug/L	04/20/07	EPA 245.1
Molybdenum	< 0.020	mg/L	04/18/07	EPA 200.7
Nickel	0.043	mg/L	04/18/07	EPA 200.7
Potassium	5.2	mg/L	04/18/07	EPA 200.7
Selenium	< 0.050	mg/L	04/18/07	EPA 200.7
Silica	16	mg/L	04/18/07	EPA 200.7
Silver	< 0.010	mg/L	04/18/07	EPA 200.7
Sodium	20	mg/L	04/18/07	EPA 200.7
Strontium	0.53	mg/L	04/18/07	EPA 200.7
Thallium	< 0.050	mg/L	04/18/07	EPA 200.7
Vanadium	< 0.0050	mg/L	04/18/07	EPA 200.7
Zinc	0.013	mg/L	04/18/07	EPA 200.7

Reporting Analyst: JAB
Date Reported: 04/24/07
Copies To: File

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

Duane R. Boline, Ph.D., Director
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DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

ORGANIC CHEMISTRY

Report To: BUREAU OF ENV REMEDIATION Analysis Code: BE Lab Number: 488893
Address: ATTN: MAURA O'HALLORAN, CURTIS SOB SUITE 410 Date Rec'd: 04/06/07
TOPEKA, KS 66612 Report Date: 04/27/07

Site ID No.:
Acct No: 4EM80 Sample Type: WATER Program Code: EP
Site: ARK CITY DUMP SITE - P6 No. Composited:
Collected By: MAURA O'HALLORAN - BER Depth: 16' Date: 04/05/07 Time: 13:30

SEMI-VOLATILE BASE NEUTRAL ORGANIC COMPOUNDS	*CONCENTRATION (ug/L)*	*Analysis Date*	*EPA Method*
Hexachloroethane	< 2.0	04/19/07	8270
Bis(2-chloroethyl)ether	< 2.0	04/19/07	8270
Bis(2-chloroisopropyl)ether	< 2.0	04/19/07	8270
N-Nitrosodi-n-propylamine	< 2.0	04/19/07	8270
Isophorone	< 2.0	04/19/07	8270
Nitrobenzene	< 2.0	04/19/07	8270
Hexachlorobutadiene	< 2.0	04/19/07	8270
1,2,4-Trichlorobenzene	< 2.0	04/19/07	8270
Naphthalene	< 2.0	04/19/07	8270
Bis(2-chloroethoxy)methane	< 2.0	04/19/07	8270
Hexachlorocyclopentadiene	< 2.0	04/19/07	8270
2-Chloronaphthalene	< 2.0	04/19/07	8270
Acenaphthylene	< 2.0	04/19/07	8270
Acenaphthene	< 2.0	04/19/07	8270
Dimethyl phthalate	< 2.0	04/19/07	8270
2,6-Dinitrotoluene	< 2.0	04/19/07	8270
Fluorene	< 2.0	04/19/07	8270
4-Chlorophenyl phenyl ether	< 2.0	04/19/07	8270
2,4-Dinitrotoluene	< 2.0	04/19/07	8270
Diethyl phthalate	< 2.0	04/19/07	8270
Hexachlorobenzene	< 2.0	04/19/07	8270
4-Bromophenyl phenyl ether	< 2.0	04/19/07	8270
Phenanthrene	< 2.0	04/19/07	8270
Anthracene	< 2.0	04/19/07	8270
Di-n-butyl phthalate	< 2.0	04/19/07	8270
Fluoranthene	< 2.0	04/19/07	8270
Pyrene	< 2.0	04/19/07	8270
Butyl benzyl phthalate	< 2.0	04/19/07	8270
Bis(2-ethylhexyl)phthalate	< 10	04/19/07	8270
Chrysene	< 2.0	04/19/07	8270
Benzo(a)anthracene	< 2.0	04/19/07	8270
Benzo(b)fluoranthene	< 2.0	04/19/07	8270
Benzo(k)fluoranthene	< 2.0	04/19/07	8270
Di-n-octyl phthalate	< 10	04/19/07	8270
Benzo(a)pyrene	< 2.0	04/19/07	8270
Indeno(1,2,3-c,d)pyrene	< 2.0	04/19/07	8270
Dibenzo(a,h)anthracene	< 2.0	04/19/07	8270
Benzo(g,h,i)perylene	< 2.0	04/19/07	8270
Benzyl alcohol	< 2.0	04/19/07	8270
4-Chloroaniline	< 10	04/19/07	8270
2-Nitroaniline	< 10	04/19/07	8270
3-Nitroaniline	< 10	04/19/07	8270
4-Nitroaniline	< 10	04/19/07	8270
Dibenzofuran	< 2.0	04/19/07	8270
2-Methylnaphthalene	< 2.0	04/19/07	8270

Comment: Numerous Petroleum Type Hydrocarbons are indicated as present.

Chemist: Dennis L. Dobson DLD

< - Not Detected at Indicated Level

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DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

ORGANIC CHEMISTRY

Report To: BUREAU OF ENV REMEDIATION Analysis Code: BE Lab Number: 488892
Address: ATTN: MAURA O'HALLORAN, CURTIS SOB SUITE 410 Date Rec'd: 04/06/07
TOPEKA, KS 66612 Report Date: 04/27/07

Site ID No.:

Acct No: 4EM80 Sample Type: WATER Program Code: EP
Site: ARK CITY DUMP SITE - P7 (P6 dup) No. Composited:
Collected By: MAURA O'HALLORAN - BER Depth: 16' Date: 04/05/07 Time: 14:00

SEMI-VOLATILE BASE NEUTRAL ORGANIC COMPOUNDS	*CONCENTRATION (ug/L)*	*Analysis Date*	*EPA Method*
Hexachloroethane	< 2.0	04/19/07	8270
Bis(2-chloroethyl)ether	< 2.0	04/19/07	8270
Bis(2-chloroisopropyl)ether	< 2.0	04/19/07	8270
N-Nitrosodi-n-propylamine	< 2.0	04/19/07	8270
Isophorone	< 2.0	04/19/07	8270
Nitrobenzene	< 2.0	04/19/07	8270
Hexachlorobutadiene	< 2.0	04/19/07	8270
1,2,4-Trichlorobenzene	< 2.0	04/19/07	8270
Naphthalene	< 2.0	04/19/07	8270
Bis(2-chloroethoxy)methane	< 2.0	04/19/07	8270
Hexachlorocyclopentadiene	< 2.0	04/19/07	8270
2-Chloronaphthalene	< 2.0	04/19/07	8270
Acenaphthylene	< 2.0	04/19/07	8270
Acenaphthene	< 2.0	04/19/07	8270
Dimethyl phthalate	< 2.0	04/19/07	8270
2,6-Dinitrotoluene	< 2.0	04/19/07	8270
Fluorene	< 2.0	04/19/07	8270
4-Chlorophenyl phenyl ether	< 2.0	04/19/07	8270
2,4-Dinitrotoluene	< 2.0	04/19/07	8270
Diethyl phthalate	< 2.0	04/19/07	8270
Hexachlorobenzene	< 2.0	04/19/07	8270
4-Bromophenyl phenyl ether	< 2.0	04/19/07	8270
Phenanthrene	< 2.0	04/19/07	8270
Anthracene	< 2.0	04/19/07	8270
Di-n-butyl phthalate	< 2.0	04/19/07	8270
Fluoranthene	< 2.0	04/19/07	8270
Pyrene	< 2.0	04/19/07	8270
Butyl benzyl phthalate	< 2.0	04/19/07	8270
Bis(2-ethylhexyl)phthalate	< 10	04/19/07	8270
Chrysene	< 2.0	04/19/07	8270
Benzo(a)anthracene	< 2.0	04/19/07	8270
Benzo(b)fluoranthene	< 2.0	04/19/07	8270
Benzo(k)fluoranthene	< 2.0	04/19/07	8270
Di-n-octyl phthalate	< 10	04/19/07	8270
Benzo(a)pyrene	< 2.0	04/19/07	8270
Indeno(1,2,3-c,d)pyrene	< 2.0	04/19/07	8270
Dibenzo(a,h)anthracene	< 2.0	04/19/07	8270
Benzo(g,h,i)perylene	< 2.0	04/19/07	8270
Benzyl alcohol	< 2.0	04/19/07	8270
4-Chloroaniline	< 10	04/19/07	8270
2-Nitroaniline	< 10	04/19/07	8270
3-Nitroaniline	< 10	04/19/07	8270
4-Nitroaniline	< 10	04/19/07	8270
Dibenzofuran	< 2.0	04/19/07	8270
2-Methylnaphthalene	< 2.0	04/19/07	8270

Comment: Numerous Petroleum Type Hydrocarbons are indicated as present.

Chemist: Dennis L. Dobson DLD < - Not Detected at Indicated Level

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Duane R. Bolline, Ph.D., Director
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DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

ORGANIC CHEMISTRY

Report To: BUREAU OF ENV REMEDIATION — Analysis Code: VG — Lab Number: 488894
Address: ATTN: MAURA O'HALLORAN, CURTIS SOB SUITE 410 — Date Rec'd: 04/06/07
TOPEKA, KS 66612 — Report Date: 04/16/07

Site ID No.:
Acct No: 4EM80 — Sample Type: WATER — Program Code: EP
Site: ARK CITY DUMP SITE - P6 — No. Composited:
Collected By: MAURA O'HALLORAN - BER — Depth: — Date: 04/05/07 — Time: 13:30

VOLATILE ORGANIC COMPOUNDS	CONCENTRATION (ug/L)	Analysis Date	EPA Method
Vinyl Chloride	< 0.50	04/12/07	8260
1,1-Dichloroethylene	< 0.50	04/12/07	8260
Dichloromethane	< 0.50	04/12/07	8260
trans 1,2-Dichloroethylene	< 0.50	04/12/07	8260
cis 1,2-Dichloroethylene	< 0.50	04/12/07	8260
1,1,1-Trichloroethane	< 0.50	04/12/07	8260
Tetrachloromethane	< 0.50	04/12/07	8260
Benzene	< 0.50	04/12/07	8260
1,2-Dichloroethane	< 0.50	04/12/07	8260
Trichloroethylene	< 0.50	04/12/07	8260
1,2-Dichloropropane	< 0.50	04/12/07	8260
Toluene	< 0.50	04/12/07	8260
1,1,2-Trichloroethane	< 0.50	04/12/07	8260
Tetrachloroethylene	< 0.50	04/12/07	8260
Chlorobenzene	< 0.50	04/12/07	8260
Ethylbenzene	< 0.50	04/12/07	8260
Xylene	< 0.50	04/12/07	8260
Styrene	< 0.50	04/12/07	8260
1,4-Dichlorobenzene	< 0.50	04/12/07	8260
1,2-Dichlorobenzene	< 0.50	04/12/07	8260
1,2,4-Trichlorobenzene	< 0.50	04/12/07	8260
Chloromethane	< 0.50	04/12/07	8260
Bromomethane	< 0.50	04/12/07	8260
Chloroethane	< 0.50	04/12/07	8260
1,1-Dichloroethane	< 0.50	04/12/07	8260
2,2-Dichloropropane	< 0.50	04/12/07	8260
Trichloromethane (THM)	< 0.50	04/12/07	8260
1,1-Dichloropropene	< 0.50	04/12/07	8260
Dibromomethane	< 0.50	04/12/07	8260
Bromodichloromethane (THM)	< 0.50	04/12/07	8260
1,3-Dichloropropane	< 0.50	04/12/07	8260
Dibromochloromethane (THM)	< 0.50	04/12/07	8260
1,1,1,2-Tetrachloroethane	< 0.50	04/12/07	8260
Bromoform (THM)	< 0.50	04/12/07	8260
1,1,2,2-Tetrachloroethane	< 0.50	04/12/07	8260
Bromobenzene	< 0.50	04/12/07	8260
1,2,3-Trichloropropane	< 0.50	04/12/07	8260
ortho-Chlorotoluene	< 0.50	04/12/07	8260
para-Chlorotoluene	< 0.50	04/12/07	8260
1,3-Dichlorobenzene	< 0.50	04/12/07	8260
Ethylene Dibromide (EDB)	< 0.010	04/12/07	8260
1,2-Dibromo-3-chloropropane	< 0.020	04/12/07	8260
Fluorotrichloromethane	< 0.50	04/12/07	8260
Dichlorodifluoromethane	< 0.50	04/12/07	8260
Isopropylbenzene	< 0.50	04/12/07	8260
n-Propylbenzene	< 0.50	04/12/07	8260
1,3,5-Trimethylbenzene	< 0.50	04/12/07	8260
tert-Butylbenzene	< 0.50	04/12/07	8260
1,2,4-Trimethylbenzene	< 0.50	04/12/07	8260
sec-Butylbenzene	< 0.50	04/12/07	8260
para-Isopropyltoluene	< 0.50	04/12/07	8260
n-Butylbenzene	< 0.50	04/12/07	8260
Naphthalene	< 0.50	04/12/07	8260
Methyl tert-butyl ether	< 0.50	04/12/07	8260

Chemist: Richard L. Pierce RLP

< - Not Detected at Indicated Level

Duane R. Bolline, Ph.D., Director
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DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

ORGANIC CHEMISTRY

Report To: BUREAU OF ENV REMEDIATION — Analysis Code: VG — Lab Number: 488892
Address: ATTN: M. O'HALLORAN, CURTIS SOB SUITE 410 — Date Rec'd: 04/06/07
TOPEKA, KS 66612 — Report Date: 04/16/07

Site ID No.:

Acct No: 4EM80 — Sample Type: WATER — Program Code: EP
Site: ARK CITY DUMP SITE - P7 (P6 dup) — No. Composited:
Collected By: MAURA O'HALLORAN - BER — Depth: 16' — Date: 04/05/07 — Time: 14:00

VOLATILE ORGANIC COMPOUNDS	CONCENTRATION (ug/L)	Analysis Date	EPA Method
Vinyl Chloride	< 0.50	04/12/07	8260
1,1-Dichloroethylene	< 0.50	04/12/07	8260
Dichloromethane	< 0.50	04/12/07	8260
trans 1,2-Dichloroethylene	< 0.50	04/12/07	8260
cis 1,2-Dichloroethylene	< 0.50	04/12/07	8260
1,1,1-Trichloroethane	< 0.50	04/12/07	8260
Tetrachloromethane	< 0.50	04/12/07	8260
Benzene	< 0.50	04/12/07	8260
1,2-Dichloroethane	< 0.50	04/12/07	8260
Trichloroethylene	< 0.50	04/12/07	8260
1,2-Dichloropropane	< 0.50	04/12/07	8260
Toluene	< 0.50	04/12/07	8260
1,1,2-Trichloroethane	< 0.50	04/12/07	8260
Tetrachloroethylene	< 0.50	04/12/07	8260
Chlorobenzene	< 0.50	04/12/07	8260
Ethylbenzene	< 0.50	04/12/07	8260
Xylene	< 0.50	04/12/07	8260
Styrene	< 0.50	04/12/07	8260
1,4-Dichlorobenzene	< 0.50	04/12/07	8260
1,2-Dichlorobenzene	< 0.50	04/12/07	8260
1,2,4-Trichlorobenzene	< 0.50	04/12/07	8260
Chloromethane	< 0.50	04/12/07	8260
Bromomethane	< 0.50	04/12/07	8260
Chloroethane	< 0.50	04/12/07	8260
1,1-Dichloroethane	< 0.50	04/12/07	8260
2,2-Dichloropropane	< 0.50	04/12/07	8260
Trichloromethane (THM)	< 0.50	04/12/07	8260
1,1-Dichloropropene	< 0.50	04/12/07	8260
Dibromomethane	< 0.50	04/12/07	8260
Bromodichloromethane (THM)	< 0.50	04/12/07	8260
1,3-Dichloropropane	< 0.50	04/12/07	8260
Dibromochloromethane (THM)	< 0.50	04/12/07	8260
1,1,1,2-Tetrachloroethane	< 0.50	04/12/07	8260
Bromoform (THM)	< 0.50	04/12/07	8260
1,1,2,2-Tetrachloroethane	< 0.50	04/12/07	8260
Bromobenzene	< 0.50	04/12/07	8260
1,2,3-Trichloropropane	< 0.50	04/12/07	8260
ortho-Chlorotoluene	< 0.50	04/12/07	8260
para-Chlorotoluene	< 0.50	04/12/07	8260
1,3-Dichlorobenzene	< 0.50	04/12/07	8260
Ethylene Dibromide (EDB)	< 0.010	04/12/07	8260
1,2-Dibromo-3-chloropropane	< 0.020	04/12/07	8260
Fluorotrichloromethane	< 0.50	04/12/07	8260
Dichlorodifluoromethane	< 0.50	04/12/07	8260
Isopropylbenzene	< 0.50	04/12/07	8260
n-Propylbenzene	< 0.50	04/12/07	8260
1,3,5-Trimethylbenzene	< 0.50	04/12/07	8260
tert-Butylbenzene	< 0.50	04/12/07	8260
1,2,4-Trimethylbenzene	< 0.50	04/12/07	8260
sec-Butylbenzene	< 0.50	04/12/07	8260
para-Isopropyltoluene	< 0.50	04/12/07	8260
n-Butylbenzene	< 0.50	04/12/07	8260
Naphthalene	< 0.50	04/12/07	8260
Methyl tert-butyl ether	< 0.50	04/12/07	8260

Chemist: Richard L. Pierce RLP

< - Not Detected at Indicated Level

Duane R. Boline, Ph.D., Director
Laboratory Customer Service - (785) 296-1620
Laboratory Fax - (785) 296-1641
CLIA No. 17D0648254

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

ORGANIC CHEMISTRY

Report To: BUREAU OF ENV REMEDIATION Analysis Code: VG Lab Number: 488896
Address: ATTN: MAURA O'HALLORAN, CURTIS SOB SUITE 410 Date Rec'd: 04/06/07
TOPEKA, KS 66612 Report Date: 04/16/07

Site ID No.:
Acct No: 4EM80 Sample Type: WATER Program Code: EP
Site: ARK CITY DUMP SITE - TRIP BLANK No. Composited:
Collected By: KDHE ORGANIC LAB Depth: Date: 04/06/07 Time:

VOLATILE ORGANIC COMPOUNDS	CONCENTRATION (ug/L)	Analysis Date	EPA Method
Vinyl Chloride	< 0.50	04/12/07	8260
1,1-Dichloroethylene	< 0.50	04/12/07	8260
Dichloromethane	< 0.50	04/12/07	8260
trans 1,2-Dichloroethylene	< 0.50	04/12/07	8260
cis 1,2-Dichloroethylene	< 0.50	04/12/07	8260
1,1,1-Trichloroethane	< 0.50	04/12/07	8260
Tetrachloromethane	< 0.50	04/12/07	8260
Benzene	< 0.50	04/12/07	8260
1,2-Dichloroethane	< 0.50	04/12/07	8260
Trichloroethylene	< 0.50	04/12/07	8260
1,2-Dichloropropane	< 0.50	04/12/07	8260
Toluene	< 0.50	04/12/07	8260
1,1,2-Trichloroethane	< 0.50	04/12/07	8260
Tetrachloroethylene	< 0.50	04/12/07	8260
Chlorobenzene	< 0.50	04/12/07	8260
Ethylbenzene	< 0.50	04/12/07	8260
Xylene	< 0.50	04/12/07	8260
Styrene	< 0.50	04/12/07	8260
1,4-Dichlorobenzene	< 0.50	04/12/07	8260
1,2-Dichlorobenzene	< 0.50	04/12/07	8260
1,2,4-Trichlorobenzene	< 0.50	04/12/07	8260
Chloromethane	< 0.50	04/12/07	8260
Bromomethane	< 0.50	04/12/07	8260
Chloroethane	< 0.50	04/12/07	8260
1,1-Dichloroethane	< 0.50	04/12/07	8260
2,2-Dichloropropane	< 0.50	04/12/07	8260
Trichloromethane (THM)	< 0.50	04/12/07	8260
1,1-Dichloropropene	< 0.50	04/12/07	8260
Dibromomethane	< 0.50	04/12/07	8260
Bromodichloromethane (THM)	< 0.50	04/12/07	8260
1,3-Dichloropropane	< 0.50	04/12/07	8260
Dibromochloromethane (THM)	< 0.50	04/12/07	8260
1,1,1,2-Tetrachloroethane	< 0.50	04/12/07	8260
Bromoform (THM)	< 0.50	04/12/07	8260
1,1,2,2-Tetrachloroethane	< 0.50	04/12/07	8260
Bromobenzene	< 0.50	04/12/07	8260
1,2,3-Trichloropropane	< 0.50	04/12/07	8260
ortho-Chlorotoluene	< 0.50	04/12/07	8260
para-Chlorotoluene	< 0.50	04/12/07	8260
1,3-Dichlorobenzene	< 0.50	04/12/07	8260
Ethylene Dibromide (EDB)	< 0.010	04/12/07	8260
1,2-Dibromo-3-chloropropane	< 0.020	04/12/07	8260
Fluorotrichloromethane	< 0.50	04/12/07	8260
Dichlorodifluoromethane	< 0.50	04/12/07	8260
Isopropylbenzene	< 0.50	04/12/07	8260
n-Propylbenzene	< 0.50	04/12/07	8260
1,3,5-Trimethylbenzene	< 0.50	04/12/07	8260
tert-Butylbenzene	< 0.50	04/12/07	8260
1,2,4-Trimethylbenzene	< 0.50	04/12/07	8260
sec-Butylbenzene	< 0.50	04/12/07	8260
para-Isopropyltoluene	< 0.50	04/12/07	8260
n-Butylbenzene	< 0.50	04/12/07	8260
Naphthalene	< 0.50	04/12/07	8260
Methyl tert-butyl ether	< 0.50	04/12/07	8260

Chemist: Richard L. Pierce RLP

< - Not Detected at Indicated Level

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Duane R. Bolline, Ph.D., Director
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Laboratory Fax - (785) 296-1641
CLIA No. 17D0648254

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488899

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P1- 4'-6'
Collector: Maura O'Halloran
Matrix: Sediment/Sludge Collect Depth:
Date/Time Collected: 04/05/07 08:45
Date/Time Received: 04/06/07 09:27

Sample Comments: This sample is petroleum sludge neutralized with kiln dust.

Parameter	*Analytical Result*		*Units*	*Analysis Date*	*Analytical Method*
pH	12	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
Copies To: File

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

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Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488898

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P1- 10-12'
Collector: Maura O'Halloran
Matrix: Sediment/Sludge Collect Depth:
Date/Time Collected: 04/05/07 08:50
Date/Time Received: 04/06/07 09:27

Sample Comments: This sample is petroleum sludge neutralized with kiln dust.

Parameter	*Analytical Result*		*Units*	*Analysis Date*	*Analytical Method*
pH	7.9	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488904

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P2-7'-8'
Collector: Maura O'Halloran Matrix: Sediment/Sludge Collect Depth:
Date/Time Collected: 04/05/07 09:20 Date/Time Received: 04/06/07 09:28

Sample Comments: Petroleum sludge neutralized with Kiln dust

Parameter	*Analytical Result*		*Units*	*Analysis Date*	*Analytical Method*
pH	9.9	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488905

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site P2-10'-12'
Collector: Maura O'Halloran-BER Matrix: Sediment/Sludge Collect Depth:
Date/Time Collected: 04/05/07 09:30 Date/Time Received: 04/06/07 09:29

Sample Comments: Petroleum sludge neutralized with kiln dust

Parameter	*Analytical Result*		*Units*	*Analysis Date*	*Analytical Method*
pH	12	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488901

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P3- 6'-7'
Collector: Maura O'Halloran
Matrix: Sediment/Sludge Collect Depth: 7
Date/Time Collected: 04/05/07 10:15
Date/Time Received: 04/06/07 09:28

Sample Comments: Petroleum sludge neutralized with Kiln dust

Parameter	*Analytical Result*		*Units*	*Analysis Date*	*Analytical Method*
pH	7.9	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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Laboratory Fax - (785) 296-1641
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REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488900

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P3- 10'-11'
Collector: Maura O'Halloran Matrix: Sediment/Sludge Collect Depth: 11
Date/Time Collected: 04/05/07 10:20 Date/Time Received: 04/06/07 09:28

Sample Comments: Petroleum sludge neutralized with Kiln dust

Parameter	*Analytical Result*		*Units*	*Analysis Date*	*Analytical Method*
pH	11	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488902

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P4- 6'-7'
Collector: Maura O'Halloran
Matrix: Sediment/Sludge Collect Depth:
Date/Time Collected: 04/05/07 10:45
Date/Time Received: 04/06/07 09:28

Sample Comments: Petroleum sludge neutralized with Kiln dust

Parameter	Analytical Result		Units	Analysis Date	Analytical Method
pH	8.6	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488903

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P4- 10'-11'
Collector: Maura O'Halloran Matrix: Sediment/Sludge Collect Depth:
Date/Time Collected: 04/05/07 11:00 Date/Time Received: 04/06/07 09:28

Sample Comments: Petroleum sludge neutralized with Kiln dust

Parameter	Analytical Result		Units	Analysis Date	Analytical Method
pH	9.4	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

INORGANIC CHEMISTRY

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

Analysis Code: PT Lab Number: 488924

4EM80
Site ID:
Account Code: EP

Collection Location: Ark City Dump Site - P4 - 11'-12'
Collector: Maura O'Halloran
Matrix: Sediment/Sludge Collect Depth: 12
Date/Time Collected: 04/05/07 11:15
Date/Time Received: 04/06/07 10:56

Sample Comments: Petroleum sludge neutralized with kiln dust.

Parameter	*Analytical Result*		*Units*	*Analysis Date*	*Analytical Method*
pH	11	*	pH unit	04/11/07	EPA 150.1

Reporting Analyst: JAB
Date Reported: 04/13/07
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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: (913)599-5665
Fax: (913)599-1759

April 20, 2007

Maura O'Halloran
KDHE
1000 SW Jackson
Suite 410
Topeka, KS 66612

RE: Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Dear Maura O'Halloran:
Enclosed are the analytical results for sample(s) received by the laboratory on April 11, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

A2LA Certification Number: 2456.01
Arkansas Certification Number: 05-008-0
California Certification Number: 02109CA
Illinois Certification Number: 001191
Iowa Certification Number: 118
Kansas/NELAP Certification Number: E-10116
Louisiana Certification Number: 03055
Oklahoma Certification Number: 9205/9935
Utah Certification Number: 9135995665

Enclosures

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REPORT OF LABORATORY ANALYSIS

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www.pacelabs.com

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Fax: (913)599-1759

SAMPLE SUMMARY

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6021206001	P5	Water	04/05/07 11:30	04/11/07 16:00
6021206002	PRODUCT-P5	Water	04/05/07 11:30	04/11/07 16:00

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Fax: (913)599-1759

SAMPLE ANALYTE COUNT

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Lab ID	Sample ID	Method	Analytes Reported
6021206001	P5	EPA 5030B/8260	71
		EPA 8270	72
6021206002	PRODUCT-P5	OA2	9

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Fax: (913)599-1759

ANALYTICAL RESULTS

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Sample: P5 **Lab ID: 6021206001** Collected: 04/05/07 11:30 Received: 04/11/07 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270 Preparation Method: EPA 3520							
Acenaphthene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	83-32-9	
Acenaphthylene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	208-96-8	
Anthracene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	120-12-7	
Benzo(a)anthracene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	56-55-3	
Benzo(a)pyrene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	207-08-9	
Benzoic acid	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	65-85-0	
Benzyl alcohol	ND	ug/L	200	10	04/12/07 00:00	04/19/07 19:09	100-51-6	
4-Bromophenylphenyl ether	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	101-55-3	
Butylbenzylphthalate	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	85-68-7	
Carbazole	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	200	10	04/12/07 00:00	04/19/07 19:09	59-50-7	
4-Chloroaniline	ND	ug/L	200	10	04/12/07 00:00	04/19/07 19:09	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	39638-32-9	
2-Chloronaphthalene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	91-58-7	
2-Chlorophenol	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	7005-72-3	
Chrysene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	53-70-3	
Dibenzofuran	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	132-64-9	
1,2-Dichlorobenzene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/L	200	10	04/12/07 00:00	04/19/07 19:09	91-94-1	
2,4-Dichlorophenol	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	120-83-2	
Diethylphthalate	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	84-66-2	
2,4-Dimethylphenol	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	105-67-9	
Dimethylphthalate	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	131-11-3	
Di-n-butylphthalate	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	534-52-1	
2,4-Dinitrophenol	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	606-20-2	
Di-n-octylphthalate	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	117-81-7	
Fluoranthene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	206-44-0	
Fluorene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	87-68-3	
Hexachlorobenzene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	77-47-4	
Hexachloroethane	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	193-39-5	
Isophorone	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	78-59-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
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Fax: (913)599-1759

ANALYTICAL RESULTS

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Sample: P5 **Lab ID: 6021206001** Collected: 04/05/07 11:30 Received: 04/11/07 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270 Preparation Method: EPA 3520							
2-Methylnaphthalene	**351**	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09		
Naphthalene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	91-20-3	
2-Nitroaniline	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	88-74-4	
3-Nitroaniline	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	99-09-2	
4-Nitroaniline	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	100-01-6	
Nitrobenzene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	98-95-3	
2-Nitrophenol	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	88-75-5	
4-Nitrophenol	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	86-30-6	
Pentachlorophenol	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	87-86-5	
Phenanthrene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	85-01-8	
Phenol	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	108-95-2	
Pyrene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	120-82-1	
2,4,5-Trichlorophenol	ND	ug/L	500	10	04/12/07 00:00	04/19/07 19:09	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	100	10	04/12/07 00:00	04/19/07 19:09	88-06-2	
Nitrobenzene-d5 (S)	0	%	37-147	10	04/12/07 00:00	04/19/07 19:09	4165-60-0	1e,D3
2-Fluorobiphenyl (S)	0	%	47-155	10	04/12/07 00:00	04/19/07 19:09	321-60-8	1e
Terphenyl-d14 (S)	0	%	16-148	10	04/12/07 00:00	04/19/07 19:09	1718-51-0	1e
Phenol-d6 (S)	0	%	41-112	10	04/12/07 00:00	04/19/07 19:09	13127-88-3	1e
2-Fluorophenol (S)	0	%	23-102	10	04/12/07 00:00	04/19/07 19:09	367-12-4	1e
2,4,6-Tribromophenol (S)	0	%	44-122	10	04/12/07 00:00	04/19/07 19:09	118-79-6	1e
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	50.0	5		04/16/07 18:28	67-64-1	
Benzene	**5.8**	ug/L	5.0	5		04/16/07 18:28	71-43-2	
Bromobenzene	ND	ug/L	5.0	5		04/16/07 18:28	108-86-1	
Bromochloromethane	ND	ug/L	5.0	5		04/16/07 18:28	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	5		04/16/07 18:28	75-27-4	
Bromoform	ND	ug/L	5.0	5		04/16/07 18:28	75-25-2	
Bromomethane	ND	ug/L	5.0	5		04/16/07 18:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	50.0	5		04/16/07 18:28	78-93-3	
tert-Butyl Alcohol	**66.8**	ug/L	50.0	5		04/16/07 18:28	75-65-0	
n-Butylbenzene	**35.2**	ug/L	5.0	5		04/16/07 18:28	104-51-8	
sec-Butylbenzene	**26.2**	ug/L	5.0	5		04/16/07 18:28	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	5		04/16/07 18:28	98-06-6	
Carbon disulfide	ND	ug/L	25.0	5		04/16/07 18:28	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	5		04/16/07 18:28	56-23-5	
Chlorobenzene	ND	ug/L	5.0	5		04/16/07 18:28	108-90-7	
Chloroethane	ND	ug/L	5.0	5		04/16/07 18:28	75-00-3	
Chloroform	ND	ug/L	5.0	5		04/16/07 18:28	67-66-3	
Chloromethane	ND	ug/L	5.0	5		04/16/07 18:28	74-87-3	
2-Chlorotoluene	ND	ug/L	5.0	5		04/16/07 18:28	95-49-8	
4-Chlorotoluene	ND	ug/L	5.0	5		04/16/07 18:28	106-43-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Sample: P5 **Lab ID: 6021206001** Collected: 04/05/07 11:30 Received: 04/11/07 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
1,2-Dibromo-3-chloropropane	ND	ug/L	12.5	5		04/16/07 18:28	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	5		04/16/07 18:28	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	5		04/16/07 18:28	106-93-4	
Dibromomethane	ND	ug/L	5.0	5		04/16/07 18:28	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	5		04/16/07 18:28	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	5		04/16/07 18:28	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	5		04/16/07 18:28	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	5		04/16/07 18:28	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	5		04/16/07 18:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	5		04/16/07 18:28	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	5.0	5		04/16/07 18:28	540-59-0	
1,1-Dichloroethene	ND	ug/L	5.0	5		04/16/07 18:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		04/16/07 18:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		04/16/07 18:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	5		04/16/07 18:28	78-87-5	
1,3-Dichloropropane	ND	ug/L	5.0	5		04/16/07 18:28	142-28-9	
2,2-Dichloropropane	ND	ug/L	5.0	5		04/16/07 18:28	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	5		04/16/07 18:28	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	5.0	5		04/16/07 18:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	5		04/16/07 18:28	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	5		04/16/07 18:28	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	5		04/16/07 18:28	87-68-3	
2-Hexanone	ND	ug/L	50.0	5		04/16/07 18:28	591-78-6	
Isopropylbenzene (Cumene)	**101**	ug/L	5.0	5		04/16/07 18:28	98-82-8	
p-Isopropyltoluene	**12.6**	ug/L	5.0	5		04/16/07 18:28	99-87-6	
Methylene chloride	ND	ug/L	5.0	5		04/16/07 18:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	5		04/16/07 18:28	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	5		04/16/07 18:28	1634-04-4	
Naphthalene	ND	ug/L	50.0	5		04/16/07 18:28	91-20-3	
n-Propylbenzene	**131**	ug/L	5.0	5		04/16/07 18:28	103-65-1	
Styrene	ND	ug/L	5.0	5		04/16/07 18:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5		04/16/07 18:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	5		04/16/07 18:28	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	5		04/16/07 18:28	127-18-4	
Toluene	**7.8**	ug/L	5.0	5		04/16/07 18:28	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	5		04/16/07 18:28	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	5		04/16/07 18:28	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	5		04/16/07 18:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	5		04/16/07 18:28	79-00-5	
Trichloroethene	ND	ug/L	5.0	5		04/16/07 18:28	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	5		04/16/07 18:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	12.5	5		04/16/07 18:28	96-18-4	
1,2,4-Trimethylbenzene	**12.2**	ug/L	5.0	5		04/16/07 18:28	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	5		04/16/07 18:28	108-67-8	
Vinyl chloride	ND	ug/L	5.0	5		04/16/07 18:28	75-01-4	
Xylene (Total)	ND	ug/L	15.0	5		04/16/07 18:28	1330-20-7	
4-Bromofluorobenzene (S)	105	%	78-122	5		04/16/07 18:28	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Sample: P5 **Lab ID: 6021206001** Collected: 04/05/07 11:30 Received: 04/11/07 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Dibromofluoromethane (S)	104	%	76-128	5		04/16/07 18:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	82-134	5		04/16/07 18:28	17060-07-0	
Toluene-d8 (S)	100	%	83-109	5		04/16/07 18:28	2037-26-5	D3
Preservation pH	**7.0**			5		04/16/07 18:28		pH

Sample: PRODUCT-P5 **Lab ID: 6021206002** Collected: 04/05/07 11:30 Received: 04/11/07 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	182	50	04/12/07 00:00	04/13/07 00:03	68334-30-5	
Fuel Oil	ND	mg/L	182	50	04/12/07 00:00	04/13/07 00:03	68553-00-4	
Jet Fuel	ND	mg/L	182	50	04/12/07 00:00	04/13/07 00:03	94114-58-6	
Kerosene	ND	mg/L	182	50	04/12/07 00:00	04/13/07 00:03	8008-20-6	
Mineral Spirits	ND	mg/L	182	50	04/12/07 00:00	04/13/07 00:03	8030-30-6	
Motor Oil	ND	mg/L	182	50	04/12/07 00:00	04/13/07 00:03	64742-65-0	
Total Petroleum Hydrocarbons	**14500**	mg/L	182	50	04/12/07 00:00	04/13/07 00:03		2e
p-Terphenyl (S)	0	%	64-117	50	04/12/07 00:00	04/13/07 00:03	92-94-4	S4
n-Tetracosane (S)	0	%	65-125	50	04/12/07 00:00	04/13/07 00:03	646-31-1	S4

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

QC Batch: OEXT/6024
QC Batch Method: OA2
Analysis Method: OA2
Analysis Description: OA2 GCS
Associated Lab Samples: 6021206002

METHOD BLANK: 168836
Associated Lab Samples: 6021206002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Diesel Fuel	mg/L	ND	0.40	
Fuel Oil	mg/L	ND	0.40	
Jet Fuel	mg/L	ND	0.40	
Kerosene	mg/L	ND	0.40	
Mineral Spirits	mg/L	ND	0.40	
Motor Oil	mg/L	ND	0.40	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	
n-Tetracosane (S)	%	78	65-125	
p-Terphenyl (S)	%	68	64-117	

LABORATORY CONTROL SAMPLE: 168837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	12.5	11.6	93	58-127	
n-Tetracosane (S)	%			86	65-125	
p-Terphenyl (S)	%			82	64-117	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

QC Batch: OEXT/6030
QC Batch Method: EPA 3520
Analysis Method: EPA 8270
Analysis Description: 8270 Water MSSV
Associated Lab Samples: 6021206001

METHOD BLANK: 168953
Associated Lab Samples: 6021206001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	10.0	
1,2-Dichlorobenzene	ug/L	ND	10.0	
1,3-Dichlorobenzene	ug/L	ND	10.0	
1,4-Dichlorobenzene	ug/L	ND	10.0	
2,4,5-Trichlorophenol	ug/L	ND	50.0	
2,4,6-Trichlorophenol	ug/L	ND	10.0	
2,4-Dichlorophenol	ug/L	ND	10.0	
2,4-Dimethylphenol	ug/L	ND	10.0	
2,4-Dinitrophenol	ug/L	ND	50.0	
2,4-Dinitrotoluene	ug/L	ND	10.0	
2,6-Dinitrotoluene	ug/L	ND	10.0	
2-Chloronaphthalene	ug/L	ND	10.0	
2-Chlorophenol	ug/L	ND	10.0	
2-Methylnaphthalene	ug/L	ND	10.0	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	
2-Nitroaniline	ug/L	ND	50.0	
2-Nitrophenol	ug/L	ND	10.0	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	
3-Nitroaniline	ug/L	ND	50.0	
4,6-Dinitro-2-methylphenol	ug/L	ND	50.0	
4-Bromophenylphenyl ether	ug/L	ND	10.0	
4-Chloro-3-methylphenol	ug/L	ND	20.0	
4-Chloroaniline	ug/L	ND	20.0	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	
4-Nitroaniline	ug/L	ND	50.0	
4-Nitrophenol	ug/L	ND	50.0	
Acenaphthene	ug/L	ND	10.0	
Acenaphthylene	ug/L	ND	10.0	
Anthracene	ug/L	ND	10.0	
Benzo(a)anthracene	ug/L	ND	10.0	
Benzo(a)pyrene	ug/L	ND	10.0	
Benzo(b)fluoranthene	ug/L	ND	10.0	
Benzo(g,h,i)perylene	ug/L	ND	10.0	
Benzo(k)fluoranthene	ug/L	ND	10.0	
Benzoic acid	ug/L	ND	50.0	
Benzyl alcohol	ug/L	ND	20.0	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	
bis(2-Chloroisopropyl) ether	ug/L	ND	10.0	
bis(2-Ethylhexyl)phthalate	ug/L	ND	10.0	
Butylbenzylphthalate	ug/L	ND	10.0	
Carbazole	ug/L	ND	10.0	

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QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

METHOD BLANK: 168953
Associated Lab Samples: 6021206001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Chrysene	ug/L	ND	10.0	
Di-n-butylphthalate	ug/L	ND	10.0	
Di-n-octylphthalate	ug/L	ND	10.0	
Dibenz(a,h)anthracene	ug/L	ND	10.0	
Dibenzofuran	ug/L	ND	10.0	
Diethylphthalate	ug/L	ND	10.0	
Dimethylphthalate	ug/L	ND	10.0	
Fluoranthene	ug/L	ND	10.0	
Fluorene	ug/L	ND	10.0	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	
Hexachlorobenzene	ug/L	ND	10.0	
Hexachlorocyclopentadiene	ug/L	ND	10.0	
Hexachloroethane	ug/L	ND	10.0	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	
Isophorone	ug/L	ND	10.0	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	
N-Nitrosodiphenylamine	ug/L	ND	10.0	
Naphthalene	ug/L	ND	10.0	
Nitrobenzene	ug/L	ND	10.0	
Pentachlorophenol	ug/L	ND	50.0	
Phenanthrene	ug/L	ND	10.0	
Phenol	ug/L	ND	10.0	
Pyrene	ug/L	ND	10.0	
2,4,6-Tribromophenol (S)	%	85	44-122	
2-Fluorobiphenyl (S)	%	92	47-155	
2-Fluorophenol (S)	%	88	23-102	
Nitrobenzene-d5 (S)	%	84	37-147	
Phenol-d6 (S)	%	95	41-112	
Terphenyl-d14 (S)	%	131	16-148	

LABORATORY CONTROL SAMPLE: 168954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.6	87	61-110	
1,2-Dichlorobenzene	ug/L	50	43.7	87	56-110	
1,3-Dichlorobenzene	ug/L	50	43.2	86	53-110	
1,4-Dichlorobenzene	ug/L	50	43.3	87	55-110	
2,4,5-Trichlorophenol	ug/L	50	44.9J	90	52-110	
2,4,6-Trichlorophenol	ug/L	50	49.2	98	59-105	
2,4-Dichlorophenol	ug/L	50	45.2	90	58-105	
2,4-Dimethylphenol	ug/L	50	24.6	49	29-105	
2,4-Dinitrophenol	ug/L	50	19.3J	39	29-137	
2,4-Dinitrotoluene	ug/L	50	47.2	94	64-106	
2,6-Dinitrotoluene	ug/L	50	47.4	95	64-105	
2-Chloronaphthalene	ug/L	50	44.8	90	57-105	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

LABORATORY CONTROL SAMPLE: 168954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Chlorophenol	ug/L	50	43.4	87	56-105	
2-Methylnaphthalene	ug/L	50	45.6	91	48-118	
2-Methylphenol(o-Cresol)	ug/L	50	38.5	77	40-105	
2-Nitroaniline	ug/L	50	48J	96	60-104	
2-Nitrophenol	ug/L	50	44.1	88	57-105	
3&4-Methylphenol(m&p Cresol)	ug/L	50	40.8	82	56-105	
3,3'-Dichlorobenzidine	ug/L	50	48.2	96	15-112	
3-Nitroaniline	ug/L	50	59.5	119	48-117	L3
4,6-Dinitro-2-methylphenol	ug/L	50	27.7J	55	34-138	
4-Bromophenylphenyl ether	ug/L	50	47.3	95	66-104	
4-Chloro-3-methylphenol	ug/L	50	47.8	96	62-105	
4-Chloroaniline	ug/L	50	54.7	109	38-114	
4-Chlorophenylphenyl ether	ug/L	50	47.5	95	65-105	
4-Nitroaniline	ug/L	50	46.2J	92	27-113	
4-Nitrophenol	ug/L	50	41.8J	84	40-110	
Acenaphthene	ug/L	50	44.7	89	60-109	
Acenaphthylene	ug/L	50	43.0	86	52-108	
Anthracene	ug/L	50	44.5	89	53-112	
Benzo(a)anthracene	ug/L	50	45.7	91	71-104	
Benzo(a)pyrene	ug/L	50	39.3	79	62-105	
Benzo(b)fluoranthene	ug/L	50	48.1	96	60-113	
Benzo(g,h,i)perylene	ug/L	50	43.8	88	28-127	
Benzo(k)fluoranthene	ug/L	50	49.3	99	55-125	
Benzoic acid	ug/L	50	31.6J	63	1-139	
Benzyl alcohol	ug/L	50	62.7	125	34-123	L3
bis(2-Chloroethoxy)methane	ug/L	50	44.4	89	57-101	
bis(2-Chloroethyl) ether	ug/L	50	42.4	85	32-105	
bis(2-Chloroisopropyl) ether	ug/L	50	43.3	87	54-105	
bis(2-Ethylhexyl)phthalate	ug/L	50	55.1	110	55-108	L3
Butylbenzylphthalate	ug/L	50	56.4	113	67-109	L3
Carbazole	ug/L	50	44.1	88	60-105	
Chrysene	ug/L	50	45.8	92	59-116	
Di-n-butylphthalate	ug/L	50	47.7	95	57-109	
Di-n-octylphthalate	ug/L	50	65.4	131	47-123	L3
Dibenz(a,h)anthracene	ug/L	50	45.6	91	47-118	
Dibenzofuran	ug/L	50	46.2	92	59-107	
Diethylphthalate	ug/L	50	48.6	97	63-105	
Dimethylphthalate	ug/L	50	48.8	98	65-103	
Fluoranthene	ug/L	50	40.4	81	64-113	
Fluorene	ug/L	50	46.2	92	67-103	
Hexachloro-1,3-butadiene	ug/L	50	43.4	87	55-105	
Hexachlorobenzene	ug/L	50	46.7	93	69-103	
Hexachlorocyclopentadiene	ug/L	100	11.5	11	1-105	
Hexachloroethane	ug/L	50	42.0	84	40-109	
Indeno(1,2,3-cd)pyrene	ug/L	50	42.8	86	41-116	
Isophorone	ug/L	50	46.4	93	61-105	
N-Nitroso-di-n-propylamine	ug/L	50	46.3	93	55-105	
N-Nitrosodiphenylamine	ug/L	50	39.7	79	48-105	

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: (913)599-5665
Fax: (913)599-1759

QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

LABORATORY CONTROL SAMPLE: 168954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	50	43.8	88	63-105	
Nitrobenzene	ug/L	50	43.2	86	53-104	
Pentachlorophenol	ug/L	50	35.4J	71	35-124	
Phenanthrene	ug/L	50	46.0	92	63-109	
Phenol	ug/L	50	43.3	87	52-105	
Pyrene	ug/L	50	55.7	111	59-123	
2,4,6-Tribromophenol (S)	%			101	44-122	
2-Fluorobiphenyl (S)	%			89	47-155	
2-Fluorophenol (S)	%			88	23-102	
Nitrobenzene-d5 (S)	%			85	37-147	
Phenol-d6 (S)	%			94	41-112	
Terphenyl-d14 (S)	%			120	16-148	

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QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

QC Batch: MSV/7631
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 6021206001

METHOD BLANK: 170043
Associated Lab Samples: 6021206001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	
1,1,1-Trichloroethane	ug/L	ND	1.0	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	
1,1,2-Trichloroethane	ug/L	ND	1.0	
1,1-Dichloroethane	ug/L	ND	1.0	
1,1-Dichloroethene	ug/L	ND	1.0	
1,1-Dichloropropene	ug/L	ND	1.0	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	
1,2,3-Trichloropropane	ug/L	ND	2.5	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	
1,2-Dichlorobenzene	ug/L	ND	1.0	
1,2-Dichloroethane	ug/L	ND	1.0	
1,2-Dichloroethene (Total)	ug/L	ND	1.0	
1,2-Dichloropropane	ug/L	ND	1.0	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	
1,3-Dichlorobenzene	ug/L	ND	1.0	
1,3-Dichloropropane	ug/L	ND	1.0	
1,4-Dichlorobenzene	ug/L	ND	1.0	
2,2-Dichloropropane	ug/L	ND	1.0	
2-Butanone (MEK)	ug/L	ND	10.0	
2-Chlorotoluene	ug/L	ND	1.0	
2-Hexanone	ug/L	ND	10.0	
4-Chlorotoluene	ug/L	ND	1.0	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	
Acetone	ug/L	ND	10.0	
Benzene	ug/L	ND	1.0	
Bromobenzene	ug/L	ND	1.0	
Bromochloromethane	ug/L	ND	1.0	
Bromodichloromethane	ug/L	ND	1.0	
Bromoform	ug/L	ND	1.0	
Bromomethane	ug/L	ND	1.0	
Carbon disulfide	ug/L	ND	5.0	
Carbon tetrachloride	ug/L	ND	1.0	
Chlorobenzene	ug/L	ND	1.0	
Chloroethane	ug/L	ND	1.0	
Chloroform	ug/L	ND	1.0	
Chloromethane	ug/L	ND	1.0	
cis-1,2-Dichloroethene	ug/L	ND	1.0	
cis-1,3-Dichloropropene	ug/L	ND	1.0	
Dibromochloromethane	ug/L	ND	1.0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: (913)599-5665
Fax: (913)599-1759

QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

METHOD BLANK: 170043
Associated Lab Samples: 6021206001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Dibromomethane	ug/L	ND	1.0	
Dichlorodifluoromethane	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	
Methyl-tert-butyl ether	ug/L	ND	1.0	
Methylene chloride	ug/L	ND	1.0	
n-Butylbenzene	ug/L	ND	1.0	
n-Propylbenzene	ug/L	ND	1.0	
Naphthalene	ug/L	ND	10.0	
p-Isopropyltoluene	ug/L	ND	1.0	
sec-Butylbenzene	ug/L	ND	1.0	
Styrene	ug/L	ND	1.0	
tert-Butyl Alcohol	ug/L	ND	10.0	
tert-Butylbenzene	ug/L	ND	1.0	
Tetrachloroethene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
trans-1,2-Dichloroethene	ug/L	ND	1.0	
trans-1,3-Dichloropropene	ug/L	ND	1.0	
Trichloroethene	ug/L	ND	1.0	
Trichlorofluoromethane	ug/L	ND	1.0	
Vinyl chloride	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	106	82-134	
4-Bromofluorobenzene (S)	%	97	78-122	
Dibromofluoromethane (S)	%	103	76-128	
Toluene-d8 (S)	%	99	83-109	

LABORATORY CONTROL SAMPLE: 170044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	10.9	109	86-118	
1,1,1-Trichloroethane	ug/L	10	10.8	108	83-127	
1,1,2,2-Tetrachloroethane	ug/L	10	10	100	64-133	
1,1,2-Trichloroethane	ug/L	10	10.3	103	76-132	
1,1-Dichloroethane	ug/L	10	10.7	107	86-126	
1,1-Dichloroethene	ug/L	10	11.4	114	80-145	
1,1-Dichloropropene	ug/L	10	11.3	113	85-128	
1,2,3-Trichlorobenzene	ug/L	10	9.0	90	60-144	
1,2,3-Trichloropropane	ug/L	10	8.7	87	54-124	
1,2,4-Trichlorobenzene	ug/L	10	9.4	94	74-130	
1,2,4-Trimethylbenzene	ug/L	10	10.4	104	80-130	
1,2-Dibromo-3-chloropropane	ug/L	10	10.4	104	53-143	
1,2-Dibromoethane (EDB)	ug/L	10	11.0	110	77-121	
1,2-Dichlorobenzene	ug/L	10	10.7	107	80-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

LABORATORY CONTROL SAMPLE: 170044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	10	11.1	111	80-130	
1,2-Dichloroethene (Total)	ug/L	20	21.6	108	89-126	
1,2-Dichloropropane	ug/L	10	10.4	104	78-126	
1,3,5-Trimethylbenzene	ug/L	10	10.7	107	83-126	
1,3-Dichlorobenzene	ug/L	10	10.1	101	80-123	
1,3-Dichloropropane	ug/L	10	10.0	100	83-125	
1,4-Dichlorobenzene	ug/L	10	10	100	81-121	
2,2-Dichloropropane	ug/L	10	10.2	102	49-154	
2-Butanone (MEK)	ug/L	20	22.8	114	32-150	
2-Chlorotoluene	ug/L	10	10.2	102	86-123	
2-Hexanone	ug/L	20	17.5	88	35-150	
4-Chlorotoluene	ug/L	10	10.5	105	82-124	
4-Methyl-2-pentanone (MIBK)	ug/L	20	17.6	88	54-140	
Acetone	ug/L	20	19.1	96	18-170	
Benzene	ug/L	10	10.0	100	78-123	
Bromobenzene	ug/L	10	10.1	101	83-122	
Bromochloromethane	ug/L	10	11.6	116	82-127	
Bromodichloromethane	ug/L	10	10.7	107	81-132	
Bromoform	ug/L	10	10.2	102	61-131	
Bromomethane	ug/L	10	8.2	82	58-136	
Carbon disulfide	ug/L	20	16.9	85	58-114	
Carbon tetrachloride	ug/L	10	11.1	111	83-130	
Chlorobenzene	ug/L	10	10.1	101	89-117	
Chloroethane	ug/L	10	10.4	104	75-119	
Chloroform	ug/L	10	11.1	111	84-124	
Chloromethane	ug/L	10	9.1	91	50-117	
cis-1,2-Dichloroethene	ug/L	10	10.7	107	89-121	
cis-1,3-Dichloropropene	ug/L	10	10.2	102	78-132	
Dibromochloromethane	ug/L	10	10.7	107	83-128	
Dibromomethane	ug/L	10	12.1	121	78-133	
Dichlorodifluoromethane	ug/L	10	8.8	88	12-134	
Ethylbenzene	ug/L	10	10.2	102	76-122	
Hexachloro-1,3-butadiene	ug/L	10	10.2	102	73-146	
Isopropylbenzene (Cumene)	ug/L	10	9.7	97	75-120	
Methyl-tert-butyl ether	ug/L	10	10.3	103	67-130	
Methylene chloride	ug/L	10	9.8	98	74-142	
n-Butylbenzene	ug/L	10	10.1	101	75-135	
n-Propylbenzene	ug/L	10	10.4	104	83-126	
Naphthalene	ug/L	10	9.7J	97	68-133	
p-Isopropyltoluene	ug/L	10	10	100	78-125	
sec-Butylbenzene	ug/L	10	10.3	103	76-131	
Styrene	ug/L	10	10.6	106	84-129	
tert-Butyl Alcohol	ug/L	50	45.1	90	22-181	
tert-Butylbenzene	ug/L	10	10.2	102	77-132	
Tetrachloroethene	ug/L	10	10.4	104	74-134	
Toluene	ug/L	10	9.9	99	79-120	
trans-1,2-Dichloroethene	ug/L	10	11.0	110	84-136	
trans-1,3-Dichloropropene	ug/L	10	9.4	94	77-133	

Date: 04/20/2007 11:53 AM

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone: (913)599-5665
Fax: (913)599-1759

QUALITY CONTROL DATA

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

LABORATORY CONTROL SAMPLE: 170044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	10	10.8	108	80-129	
Trichlorofluoromethane	ug/L	10	11.3	113	69-139	
Vinyl chloride	ug/L	10	10.3	103	59-120	
Xylene (Total)	ug/L	30	30.9	103	78-125	
1,2-Dichloroethane-d4 (S)	%			104	82-134	
4-Bromofluorobenzene (S)	%			99	78-122	
Dibromofluoromethane (S)	%			103	76-128	
Toluene-d8 (S)	%			98	83-109	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

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.

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

BATCH QUALIFIERS

Batch: MSV/7631

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

1e Surrogate diluted out.

2e The sample does not match a profile of laboratory standards. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ARKANSAS CITY DUMP
Pace Project No.: 6021206

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6021206002	PRODUCT-P5	OA2	OEXT/6024	OA2	GCSV/3081
6021206001	P5	EPA 3520	OEXT/6030	EPA 8270	MSSV/2747
6021206001	P5	EPA 5030B/8260	MSV/7631		

Five-Year Review Report

Second Five-Year Review Report
for
Arkansas City Dump Site
Arkansas City, Kansas

August 2002

Prepared By:
Kansas Department of Health and Environment
Bureau of Environmental Remediation
Topeka, Kansas

Approved by:

Michael J. Sanderson
Director
Superfund Division

Date:

9-24-02

CITY OF ARKANSAS CITY

September 14, 1995

Dave Crawford
Environmental Protection Agency
726 Minnesota Avenue
Kansas City, KS 66101

Dear Mr. Crawford,

Enclosed please find copies of the Declaration of Covenants and Restrictions for the City of Arkansas City, AC Industries, and Robert White. All of them have been filed with the Cowley County Register of Deeds.

If you have any questions, please call.

Sincerely yours,

Curtis Freeland
City Manager

CF/nc
enc.

STATE OF KANSAS }
COWLEY COUNTY } SS

FILED FOR RECORD AT
2:40 P M
SEP 12 1995 004474
NANCY C. HORST
REGISTER OF DEEDS

COMPARED ✓
NUMERICAL ✓
DIRECT ✓
INDIRECT ✓
REGISTRATION ✓

Declaration of Covenants and Restrictions

Arkansas City Industries, Inc.

Arkansas City Industries, Inc. hereinafter referred to as "Declarant" hereby submits the real property described below to the provisions of this Declaration and publishes and declares that all of the following terms, conditions, restrictions and obligations shall be deemed to affect and encumber all of the real property described below, shall run with the real property and shall be a burden and a benefit to the Declarant, its successors and assigns, and to all or any other persons acquiring or owning any interest whatsoever in any portion of the real property described below, and any improvements thereon, and such persons' grantees, successors, heirs, executors, administrators devisees and assigns.

WITNESSETH:

WHEREAS, Declarant is the owner of the following real property located in the City of Arkansas City, Cowley County, Kansas described in Attachment I which is attached and incorporated into this declaration, which real property is hereinafter referred to as "the Premises", and

WHEREAS, the U.S. Environmental Protection Agency EPA and the Kansas Department of Health and Environment KDHE have requested that the City execute a restrictive covenant ensuring that future uses of and activities on the property at the Premises be conducted in a manner so as to preserve the integrity of the remedial actions implemented at the Arkansas City Dump Site "Site" by the EPA and to ensure protection of human health, welfare and the environment.

WHEREAS, Declarant hereby grants to the United States and KDHE certain rights and powers to restrict the use of the Premises, as well as to have access to the Premises, in accordance with the terms and provisions of this Declaration.

NOW THEREFORE, Declarant hereby states and declares that the following actions or activities are prohibited and shall not be allowed on the Premises without the advance written permission of EPA and KDHE:

1. To remove waste material or hazardous substances left at the Site at the conclusion of EPA's remedial actions at the Site.

2. To transport to or dispose, abandon, or place waste material, hazardous substances, or solid wastes at the Site.

3. To remove, alter or damage the "No Dumping" signs installed by EPA at the Site.

4. To construct structures, permanent or otherwise, such as buildings through the soil cap installed by EPA as part of the remedial actions at the Site.

1480 City of Arkansas City, KS 67005

5. To change or alter drainage or surface water flow patterns onto or from the Site.

6. To cause, by pumping, extracting or injecting water, a drop or rise in the water table of more than 1.0 foot.

7. To extract ground water for domestic use or consumption or for use in food preparation or handling.

8. To remove or damage elevation monuments or monitoring wells left at the Site by EPA to monitor the continued effectiveness of the remedial actions implemented by EPA.

9. To produce food or crops at the Site for human or animal consumption, or to produce food or crops using water or soil from the site for human or animal consumption.

10. To alter, modify or remove the vegetative cover installed at the Site by EPA in the remedial actions.

11. To use herbicides, pesticides, fertilizers, or other agricultural chemicals which are not approved for use by EPA for this site or to use such products in a manner inconsistent with label instructions.

12. To bring heavy equipment vehicles onto the Premises.

13. To store commercial products or chemicals on the property in quantities other than those which are necessary for the day-to-day operations of any EPA and KDHE-approved occupants, if any.

14. To bring gravel or any small (1-inch or less in diameter) rock onto the site.

NOW THEREFORE, DECLARANT FURTHER states and declares the following with respect to the Premises:

1. Declarant agrees to provide the United States and KDHE and its representatives, including EPA and its contractors, access at all reasonable times to the Premises for the purposes of conducting any activity related to the remedial action implemented by EPA for the site.

2. Declarant shall give at least sixty (60) days written notice to EPA Region VII and the KDHE prior to any proposed conveyance of any interest in the Premises, including the name and address of the grantee, and the date of the proposed conveyance.

3. Declarant shall provide in any deed, title, or other instrument of conveyance for the Premises, a written notice stating that the Premises is subject to this Declaration.

4. Declarant and the United States and KDHE shall have the right to sue for and obtain an injunction, prohibitive or mandatory, to prevent the breach of or to enforce the observance of the provisions set forth above, in addition to any legal action for damages, and the costs of such actions, whether injunctive or legal, when incurred, shall be a charge on the Premises and a lien thereon. The failure of Declarant or the United States or KDHE to enforce any of the provisions set forth herein at the time of its violation shall in no event be deemed a waiver of the rights to do so later.

THIS DECLARATION shall continue in full force and effect until such time as a notice of termination of this Declaration, executed by Declarant and an authorized representative of the United States has been filed with the office of the Recorder of Deeds of Cowley County, Kansas.

IN WITNESS WHEREOF, Arkansas City Industries, Inc. has caused this instrument to be executed this 26th day of June, 1995.

ARKANSAS CITY INDUSTRIES, INC.

Robert A. Brown

Treasurer

Title Robert A. Brown

State of Kansas)

County of Cowley) SS

On this 26th day of June, 1995, before me, Pamela A. White, a Notary Public, appeared personally known to me to be the persons who executed the foregoing instrument on behalf of said Arkansas City Industries, Inc. and acknowledged the execution of the same to be the act and deed of said Arkansas City Industries, Inc..

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

PAMELA A. WHITE
State of Kansas
My Appt. Exp. March 1, 1998

Pamela A. White

Notary Public

My commission expires on 3/1/98.

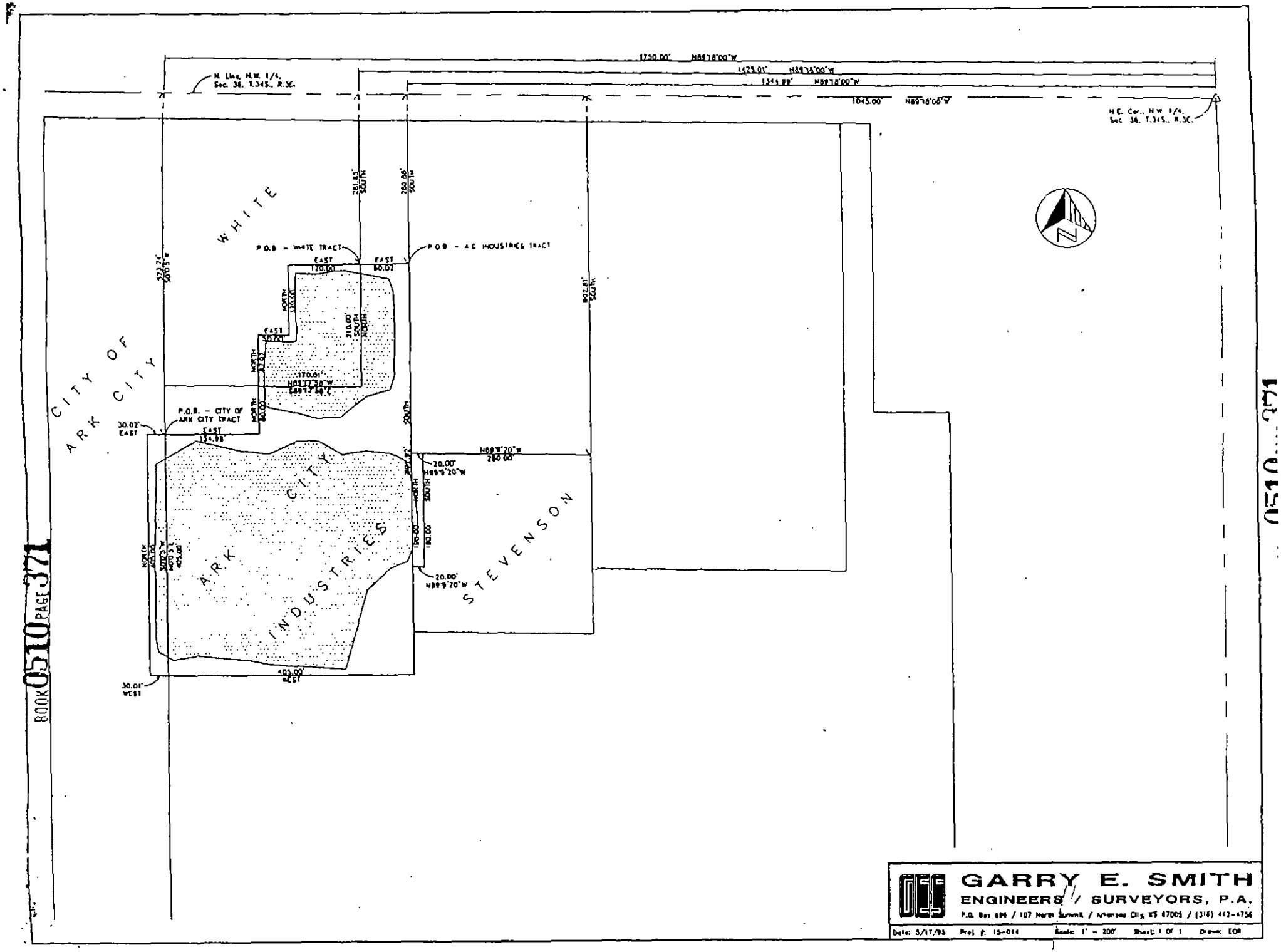
ATTACHMENT I

May 17, 1995

DESCRIPTION - ARK CITY INDUSTRIES:

A tract of land situated in the Northwest Quarter of Section 36, Township 34 South, Range 3 East of the 6th Principal Meridian, Cowley County, Kansas being more particularly described as follows:

Commencing at the Northeast Corner of the Northwest Quarter of Section 36, Township 34 South, Range 3 East of the 6th Principal Meridian, Cowley County, Kansas; thence North 89 degrees, 18 minutes, 00 seconds West along the North Line of said Quarter Section, a distance of 1344.99 feet; thence due South along the West Line of a tract of record filed in Book 408, Page 70 at the Register of Deeds Office, Cowley County Courthouse, a distance of 280.88 feet to the Point of Beginning; thence continuing due South along the West Line of said recorded tract, a distance of 692.92 feet; thence due West, a distance of 405.00 feet; thence North 00 degrees, 00 minutes 05 seconds East, a distance of 405.00 feet; thence due East, a distance of 154.98 feet; thence due North, a distance of 80.00 feet to a point on the South Line of a tract of record filed in Book 308, Page 91 at the Register of Deeds Office, Cowley County Courthouse; thence South 89 degrees, 17 minutes, 58 seconds East along the South Line of said recorded tract, a distance of 170.01 feet to the Southeast Corner of said recorded tract; thence due North along the East Line of said recorded tract, a distance of 210.00 feet; thence due East, a distance of 80.02 feet to the point of beginning, containing 4.60 Acre(s).



GARRY E. SMITH
ENGINEERS / SURVEYORS, P.A.
P.O. Box 696 / 107 North Summit / Arkansas City, KS 67005 / (316) 442-4756

Date: 5/17/95 Proj #: 15-044 Scale: 1" = 200' Sheet: 1 OF 1 Drawn: EGR

BOOK 0510 PAGE 371

0510 142

STATE OF KANSAS } SS
COWLEY COUNTY }

BOOK 0510 PAGE 372

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NANCY C. HORST
REGISTER OF DEEDS

COMPARED ✓
NUMERICAL ✓
DIRECT ✓
INDIRECT ✓
REGISTRATION ✓

Declaration of Covenants and Restrictions

Robert A. White and the Estate of Larry B. White

Robert A. White and the Estate of Larry B. White hereinafter referred to as "Declarant" hereby submits the real property described below to the provisions of this Declaration and publishes and declares that all of the following terms, conditions, restrictions and obligations shall be deemed to affect and encumber all of the real property described below, shall run with the real property and shall be a burden and a benefit to the Declarant, its successors and assigns, and to all or any other persons acquiring or owning any interest whatsoever in any portion of the real property described below, and any improvements thereon, and such persons' grantees, successors, heirs, executors, administrators devisees and assigns.

WITNESSETH:

WHEREAS, Declarant is the owner of the following real property located in the City of Arkansas City, Cowley County, Kansas described in Attachment I which is attached and incorporated into this declaration, which real property is hereinafter referred to as "the Premises", and

WHEREAS, the U.S. Environmental Protection Agency EPA and the Kansas Department of Health and Environment KDHE have requested that the City execute a restrictive covenant ensuring that future uses of and activities on the property at the Premises be conducted in a manner so as to preserve the integrity of the remedial actions implemented at the Arkansas City Dump Site "Site" by the EPA and to ensure protection of human health, welfare and the environment.

WHEREAS, Declarant hereby grants to the United States and KDHE certain rights and powers to restrict the use of the Premises, as well as to have access to the Premises, in accordance with the terms and provisions of this Declaration.

NOW THEREFORE, Declarant hereby states and declares that the following actions or activities are prohibited and shall not be allowed on the Premises without the advance written permission of EPA and KDHE:

1. To remove waste material or hazardous substances left at the Site at the conclusion of EPA's remedial actions at the Site.

2. To transport to or dispose, abandon, or place waste material, hazardous substances, or solid wastes at the Site.

3. To remove, alter or damage the "No Dumping" signs installed by EPA at the Site.

4. To construct structures, permanent or otherwise, such as buildings through the soil cap installed by EPA as part of the remedial actions at the Site.

City of Arkansas City
(3) 14.00

5. To change or alter drainage or surface water flow patterns onto or from the Site.

6. To cause, by pumping, extracting or injecting water, a drop or rise in the water table of more than 1.0 foot.

7. To extract ground water for domestic use or consumption or for use in food preparation or handling.

8. To remove or damage elevation monuments or monitoring wells left at the Site by EPA to monitor the continued effectiveness of the remedial actions implemented by EPA.

9. To produce food or crops at the Site for human or animal consumption, or to produce food or crops using water or soil from the site for human or animal consumption.

10. To alter, modify or remove the vegetative cover installed at the Site by EPA in the remedial actions.

11. To use herbicides, pesticides, fertilizers, or other agricultural chemicals which are not approved for use by EPA for this site or to use such products in a manner inconsistent with label instructions.

12. To bring heavy equipment vehicles onto the Premises.

13. To store commercial products or chemicals on the property in quantities other than those which are necessary for the day-to-day operations of any EPA and KDHE-approved occupants, if any.

14. To bring gravel or any small (1-inch or less in diameter) rock onto the site.

NOW THEREFORE, DECLARANT FURTHER states and declares the following with respect to the Premises:

1. Declarant agrees to provide the United States and KDHE and its representatives, including EPA and its contractors, access at all reasonable times to the Premises for the purposes of conducting any activity related to the remedial action implemented by EPA for the site.

2. Declarant shall give at least sixty (60) days written notice to EPA Region VII and the KDHE prior to any proposed conveyance of any interest in the Premises, including the name and address of the grantee, and the date of the proposed conveyance.

3. Declarant shall provide in any deed, title, or other instrument of conveyance for the Premises, a written notice stating that the Premises is subject to this Declaration.

4. Declarant and the United States and KDHE shall have the right to sue for and obtain an injunction, prohibitive or mandatory, to prevent the breach of or to enforce the observance of the provisions set forth above, in addition to any legal action for damages, and the costs of such actions, whether injunctive or legal, when incurred, shall be a charge on the Premises and a lien thereon. The failure of Declarant or the United States or KDHE to enforce any of the provisions set forth herein at the time of its violation shall in no event be deemed a waiver of the rights to do so later.

THIS DECLARATION shall continue in full force and effect until such time as a notice of termination of this Declaration, executed by Declarant and an authorized representative of the United States has been filed with the office of the Recorder of Deeds of Cowley County, Kansas.

IN WITNESS WHEREOF, Robert A. White and the Estate of Larry B. White has caused this instrument to be executed this 7th day of July, 1995.

Robert A White

ROBERT A. WHITE

ESTATE OF LARRY B. WHITE

By: Jane White, Ind. Exec.
Jane White, Independent Executrix

State of Texas)

County of Tarrant) SS

On this 7th day of July, 1995, before me, S. C. Cocanower, a Notary Public, appeared personally known to me to be the persons who executed the foregoing instrument on behalf of said Robert A. White and acknowledged the execution of the same to be the act and deed of said Robert A. White.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

S. C. COCANOWER
Notary Public, State of Texas
My Commission Expires 9-2-96

S C Cocanower
Notary Public

My commission expires on _____.

State of Texas)

County of Tarrant) SS

On this 7th day of July, 1995, before me, S.C. Cocanower, a Notary Public, appeared personally known to me to be the persons who executed the foregoing instrument on behalf of said Estate of Larry B. White and acknowledged the execution of the same to be the act and deed of said Estate of Larry B. White.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

S. C. COCANOWER
Notary Public, State of Texas
My Commission Expires 9-2-96

S.C. Cocanower
Notary Public

My commission expires on _____.

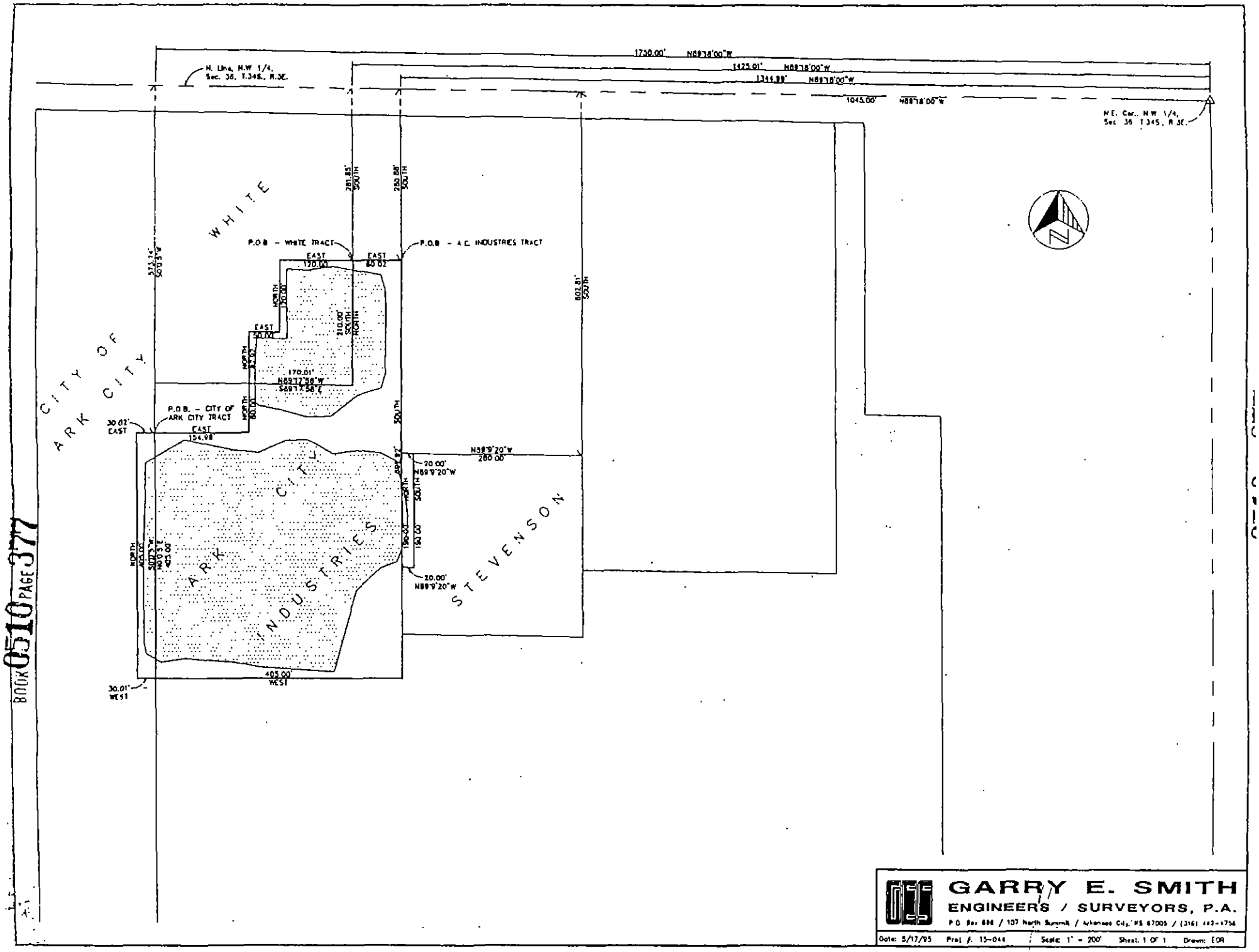
ATTACHMENT I

May 17, 1995

DESCRIPTION - WHITE:

A tract of land situated in the Northwest Quarter of Section 36, Township 34 South, Range 3 East of the 6th Principal Meridian, Cowley County, Kansas being more particularly described as follows:

Commencing at the Northeast Corner of the Northwest Quarter of Section 36, Township 34 South, Range 3 East of the 6th Principal Meridian, Cowley County, Kansas; thence North 89 degrees, 18 minutes, 00 seconds West along the North Line of said Quarter Section, a distance of 1425.01 feet; thence due South, a distance of 281.85 feet to a point on the East Line of a tract of record filed in Book 308 at Page 91 at the Register of Deeds Office, Cowley County Courthouse and the Point of Beginning; thence continuing due South along the East Line of said recorded tract, a distance of 210.00 feet to the Southeast Corner of said recorded tract; thence North 89 degrees, 17 minutes, 58 seconds West along the South Line of said recorded tract, a distance of 170.01 feet; thence due North, a distance of 87.92 feet; thence due East, a distance of 50.00 feet; thence due North, a distance of 120.00 feet; thence due East, a distance of 120.00 feet to the Point of Beginning containing 0.68 acre(s), more or less.



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GARRY E. SMITH
ENGINEERS / SURVEYORS, P.A.
P.O. Box 696 / 107 North Summit / Arkansas City, KS 67005 / (316) 442-4756

Date: 5/17/95 | Proj. # 15-044 | Scale: 1" = 200' | Sheet: 1 OF 1 | Drawn: EDR

STATE OF KANSAS } SS
COWLEY COUNTY }

BOOK 0510 PAGE 378

FILED FOR RECORD AT
2:44 P M
SEP 12 1995 004476
NANCY C. HORST
REGISTER OF DEEDS

COMPARED ✓
NUMERICAL ✓
DIRECT ✓
INDIRECT ✓
REGISTRATION ✓

Declaration of Covenants and Restrictions

The City of Arkansas City, Kansas

The City of Arkansas City, Kansas hereinafter referred to as "Declarant" hereby submits the real property described below to the provisions of this Declaration and publishes and declares that all of the following terms, conditions, restrictions and obligations shall be deemed to affect and encumber all of the real property described below, shall run with the real property and shall be a burden and a benefit to the Declarant, its successors and assigns, and to all or any other persons acquiring or owning any interest whatsoever in any portion of the real property described below, and any improvements thereon, and such persons' grantees, successors, heirs, executors, administrators devisees and assigns.

WITNESSETH:

WHEREAS, Declarant is the owner of the following real property located in the City of Arkansas City, Cowley County, Kansas described in Attachment I which is attached and incorporated into this declaration, which real property is hereinafter referred to as "the Premises", and

WHEREAS, the U.S. Environmental Protection Agency EPA and the Kansas Department of Health and Environment KDHE have requested that the City execute a restrictive covenant ensuring that future uses of and activities on the property at the Premises be conducted in a manner so as to preserve the integrity of the remedial actions implemented at the Arkansas City Dump Site "Site" by the EPA and to ensure protection of human health, welfare and the environment.

WHEREAS, Declarant hereby grants to the United States and KDHE certain rights and powers to restrict the use of the Premises, as well as to have access to the Premises, in accordance with the terms and provisions of this Declaration.

14.00 City of Arkansas City

NOW THEREFORE, Declarant hereby states and declares that the following actions or activities are prohibited and shall not be allowed on the Premises without the advance written permission of EPA and KDHE:

1. To remove waste material or hazardous substances left at the Site at the conclusion of EPA's remedial actions at the Site.

2. To transport to or dispose, abandon, or place waste material, hazardous substances, or solid wastes at the Site.

3. To remove, alter or damage the "No Dumping" signs installed by EPA at the Site.

4. To construct structures, permanent or otherwise, such as buildings through the soil cap installed by EPA as part of the remedial actions at the Site.

5. To change or alter drainage or surface water flow patterns onto or from the Site.

6. To cause, by pumping, extracting or injecting water, a drop or rise in the water table of more than 1.0 foot.

7. To extract ground water for domestic use or consumption or for use in food preparation or handling.

8. To remove or damage elevation monuments or monitoring wells left at the Site by EPA to monitor the continued effectiveness of the remedial actions implemented by EPA.

9. To produce food or crops at the Site for human or animal consumption, or to produce food or crops using water or soil from the site for human or animal consumption.

10. To alter, modify or remove the vegetative cover installed at the Site by EPA in the remedial actions.

11. To use herbicides, pesticides, fertilizers, or other agricultural chemicals which are not approved for use by EPA for this site or to use such products in a manner inconsistent with label instructions.

12. To bring heavy equipment vehicles onto the Premises.

13. To store commercial products or chemicals on the property in quantities other than those which are necessary for the day-to-day operations of any EPA and KDHE-approved occupants, if any.

14. To bring gravel or any small (1-inch or less in diameter) rock onto the site.

NOW THEREFORE, DECLARANT FURTHER states and declares the following with respect to the Premises:

1. Declarant agrees to provide the United States and KDHE and its representatives, including EPA and its contractors, access at all reasonable times to the Premises for the purposes of conducting any activity related to the remedial action implemented by EPA for the site.

2. Declarant shall give at least sixty (60) days written notice to EPA Region VII and the KDHE prior to any proposed conveyance of any interest in the Premises, including the name and address of the grantee, and the date of the proposed conveyance.

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3. Declarant shall provide in any deed, title, or other instrument of conveyance for the Premises, a written notice stating that the Premises is subject to this Declaration.

4. Declarant and the United States and KDHE shall have the right to sue for and obtain an injunction, prohibitive or mandatory, to prevent the breach of or to enforce the observance of the provisions set forth above, in addition to any legal action for damages, and the costs of such actions, whether injunctive or legal, when incurred, shall be a charge on the Premises and a lien thereon. The failure of Declarant or the United States or KDHE to enforce any of the provisions set forth herein at the time of its violation shall in no event be deemed a waiver of the rights to do so later.

THIS DECLARATION shall continue in full force and effect until such time as a notice of termination of this Declaration, executed by Declarant and an authorized representative of the United States has been filed with the office of the Recorder of Deeds of Cowley County,.Kansas.

IN WITNESS WHEREOF, The City of Arkansas City, Kansas has caused this instrument to be executed this 23rd day of May, 1995.

THE CITY OF ARKANSAS CITY, KANSAS

Bill Rice
Mayor
Title Bill Rice

State of Kansas)

County of Cowley) SS

On this 23rd day of May, 1995, before me, Nancy Crain, a Notary Public, appeared personally known to me to be the persons who executed the foregoing instrument on behalf of said The City of Arkansas City, Kansas and acknowledged the execution of the same to be the act and deed of said The City of Arkansas City, Kansas.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

NANCY CRAIN
State of Kansas
My Appt. Exp. 2/23/98

Nancy Crain
Notary Public

My commission expires on 2/23/98.

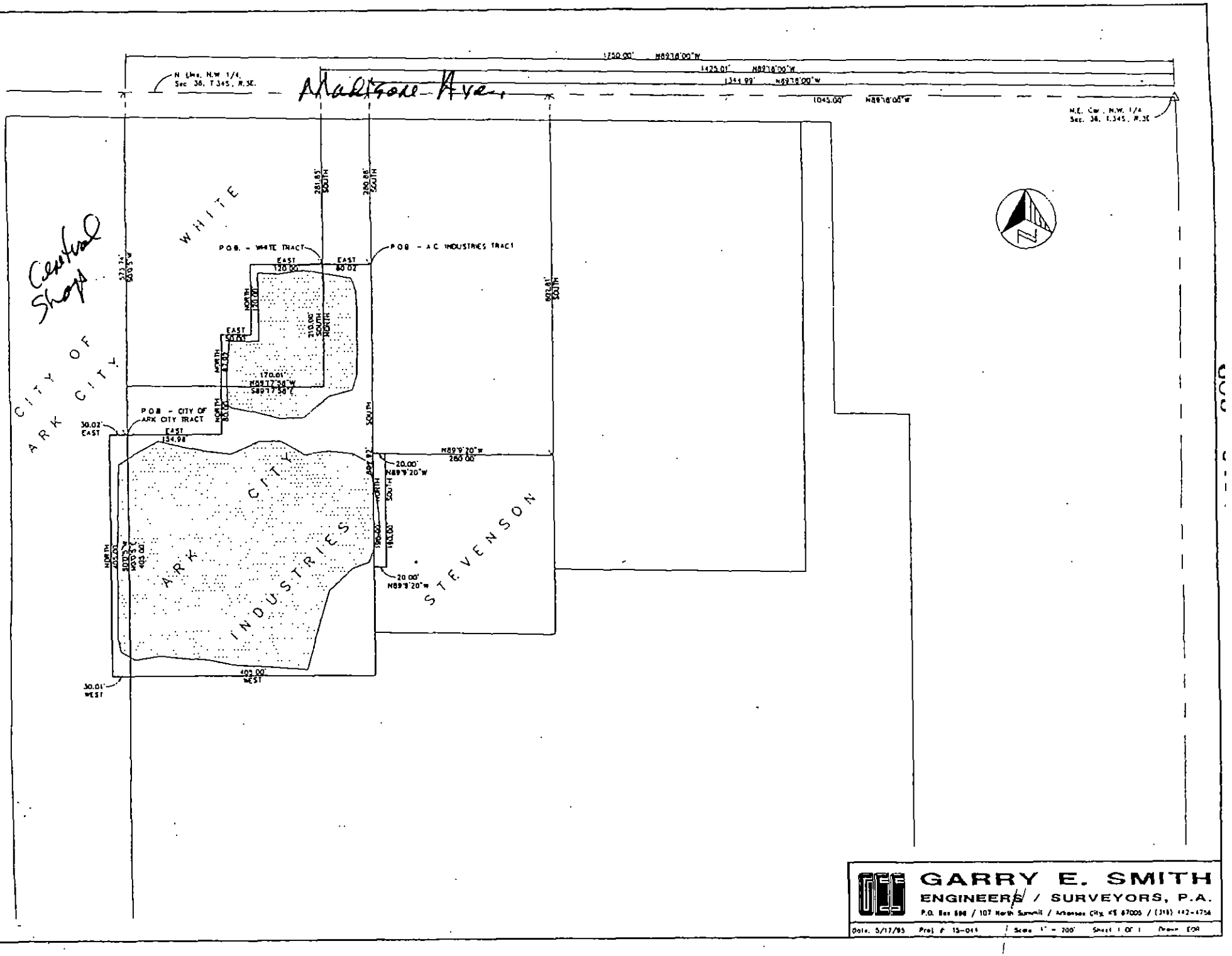
ATTACHMENT I

May 17, 1995

DESCRIPTION - CITY OF ARKANSAS CITY:

A tract of land situated in the Northwest Quarter of Section 36, Township 34 South, Range 3 East of the 6th Principal Meridian, Cowley County, Kansas being more particularly described as follows:

Commencing at the Northeast Corner of the Northwest Quarter of Section 36, Township 34 South, Range 3 East of the 6th Principal Meridian, Cowley County, Kansas; thence North 89 degrees, 18 minutes, 00 seconds West, a distance of 1750.00 feet; thence South 00 degrees, 00 minutes, 05 seconds West, a distance of 573.74 feet to a point on the East Line of a tract of record filed in Book 269, Page 186 at the Register of Deeds Office, Cowley County Courthouse and the Point of Beginning; thence continuing South 00 degrees, 00 minutes, 05 seconds West along the East line of said recorded tract, a distance of 405.00 feet; thence due West, a distance of 30.01 feet; thence due North, a distance of 405.00 feet; thence due East, a distance of 30.02 feet to the Point of Beginning containing 0.28 acre(s), more or less.



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GARRY E. SMITH
ENGINEERS / SURVEYORS, P.A.
P.O. Box 894 / 107 North Summit / Arkansas City, KS 67005 / (316) 442-4756

Date: 5/17/95 Proj. # 15-044 Scale: 1" = 200' Sheet 1 OF 1 Drawn: EGR

KANSAS

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

DEPARTMENT OF HEALTH
AND ENVIRONMENT

www.kdheks.gov

Division of Environment

RECEIVED
JUN 07 2007
SUPERFUND DIVISION

June 5, 2007

Ms. Diane Easley
U.S. Environmental Protection Agency
Region VII, Superfund Division
901 North Fifth Street
Kansas City, KS 66101

RE: Five-Year Review at Ark City Dump Site

Dear Ms. Easley:

The Kansas Department of Health and Environment (KDHE) has completed the Five-Year Review for the Ark City Dump Site in Arkansas City, Kansas. This review was conducted pursuant to the requirements of Section 300.430 (f)(4)(ii) of the National Oil and Hazardous Substances Pollution Control Plan (NCP). KDHE staff conducted an on-site assessment of the site including limited sampling in March and April of 2007.

Based on the findings of the assessment, KDHE concludes that remedy was constructed in accordance with the requirements of the Record of Decision. KDHE recommends that a fourth Five-Year Review be conducted in 2012. Petroleum related contaminants excluded under CERCLA remain at the site and will be evaluated by KDHE.

Please contact Ms. Maura O'Halloran at (785) 296-0268 or Mr. Randy Brown at (785) 296-8065 of my staff if you have questions related to this Five-Year Review.

Sincerely,

Rick L. Bean
Chief, Remedial Section
KDHE Bureau of Environmental Remediation

RLB
Cc: Maura O'Halloran → Randy Brown → file
Steven Kinser, EPA