CDM Camp Dresser & McKee

Report

Indiana Department of Environmental Management

Continental Steel Superfund Site Remedial Investigation

Volume V
-Appendix A
ERIIS Property Record Report
-Appendix B
Data Useability

October 15, 1996

EPA Region 5 Records Ctr.
381457

Draft Final
Project Number: 2673

APPENDIX A

ERIIS Property Record Report for the Continental Steel Superfund Site

RECEIVED
JAN 16 1996
CAMP DRESSER & McKEE
Columbus, Ohio

The EDR-Radius Map
with GeoCheck™

Continental Steel Superfund
West Markland Ave
Kokomo, IN 46902

Inquiry Number: 0103388.1r

January 11, 1996

Environmental
Data
Resources, Inc.

Creators of Toxicheck/®

The Source
For Environmental
Risk Management
Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Topographic Map	2
GeoCheck Summary	3
Overview Map	4
Detail Map	5
Map Summary - All Sites	6
Map Summary - Sites with higher or the same elevation as the Target Property	7
Map Findings	8
Orphan Summary	63

APPENDICES

GeoCheck Version 2.1	A1
EPA Waste Codes	A2
Government Records Searched / Data Currency Tracking Addendum	A8

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer

This Report contains information obtained from a variety of public sources and EDR makes no representation or warranty regarding the accuracy, reliability, quality, or completeness of said information or the information contained in this report. The customer shall assume full responsibility for the use of this report.
No warranty of merchantability or of fitness for a particular purpose, expressed or implied, shall apply and EDR specifically disclaims the making of such warranties. In no event shall EDR be liable to anyone for special, incidental, consequential or exemplary damages.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The search met the specific requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-94, or custom distances requested by the user.

The address of the subject property for which the search was intended is:

WEST MARKLAND AVE
KOKOMO, IN 46902

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the subject property or within the ASTM E 1527-94 search radius around the subject property for the following Databases:

Delisted NPL:..... NPL Deletions
CERC-NFRAP:..... Comprehensive Environmental Response, Compensation, and Liability Information System
State LF:..... Permitted Solid Waste Facilities/Landfills Closed Prior to December 5, 1991
RAATS:..... RCRA Administrative Action Tracking System
HMIRS:..... Hazardous Materials Information Reporting System
ERNS:..... Emergency Response Notification System
NPL Liens:..... Federal Superfund Liens
TSCA:..... Toxic Substances Control Act
RODS:..... Records Of Decision
CONSENT:..... Superfund (CERCLA) Consent Decrees
Coal Gas:..... Former Manufactured gas (Coal Gas) Sites

Unmapped (orphan) sites are not considered in the foregoing analysis.

Search Results:

Search results for the subject property and the search radius, are listed below:

Subject Property:

The subject property was identified in the following government records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
CONTINENTAL STEEL CORP W MARKLAND AVE KOKOMO, IN 46901	RCRIS-SQG	INT190010991
CONTINENTAL STEEL DIXON RD. WEST MARKLAND AVENUE KOKOMO, IN 46902	CERCLIS	IND980503726
CONTINENTAL STEEL CORP W MARKLAND AVE KOKOMO, IN 46901	FINDS RCRIS-LQG CORRACTS	IND980503726

EXECUTIVE SUMMARY

Surrounding Properties:

Sites with an elevation equal to or higher than the subject property are in the left hand column; those with a lower elevation are in the right hand column. Page numbers refer to the EDR Radius Map report where detailed data on individual sites may be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 09/01/1995 has revealed that there is 1 NPL site within approximately 2 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
CONTINENTAL STEEL CORP	***34***		

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-TSD list, as provided by EDR, and dated 05/31/1995 has revealed that there are 2 RCRIS-TSD sites within approximately 2 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
HAYNES INTERNATIONAL INC	***22***		
GMC DELCO ELECTRONICS PLANT 1	***60***		

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already by listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data comes from the Department of Environmental Management's List of Hazardous Waste Response Sites Scored Using the Indiana Scoring Model.

A review of the State Haz. Waste list, as provided by EDR, and dated 12/10/1994 has revealed that there is 1 State Haz. Waste site within approximately 2 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
MIDWEST PLATING CORP	***61***		

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, persuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).
CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 08/31/1995 has revealed that there are 2

EXECUTIVE SUMMARY

CERCLIS sites within approximately 1.5 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
CHDD, INC	*12*		
CONTINENTAL STEEL CORP	*34*		

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 04/10/1995 has revealed that there are 2 CORRACTS sites within approximately 2 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
HAYNES INTERNATIONAL INC	*22*		
GMC DELCO ELECTRONICS PLANT 1	*60*		

LUST: N/A.

A review of the LUST list, as provided by EDR, and dated 07/01/1994 has revealed that there are 18 LUST sites within approximately 1.5 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
PUBLIC SERVICE INDIANA	16		
PUBLIC SERVICE INDIANA	16		
KOKOMO SCHOOL CORP (TRANSPORT)	23		
KOKOMO PUBLIC SCHOOL	23		
DECORATOR DEPOT	25		
VILLAGE PANTRY # 560	26		
SPEEDWAY UNIT 5149	26		
DURRELL CO	33		
LADOW PROPERTY	50		
HERB'S AUTO CENTER, INC.	51		
DIXON INVESTMENTS	53		
DELONG AUTO PARTS	56		
KOKOMO SPRING CO INC	*57*		
MARATHON	59		
C & C OIL CO	59		
KOKOMO PUBLIC SCHOOL	59		
DECORATOR DEPOT	59		
C & C OIL CO	60		

EXECUTIVE SUMMARY

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data comes from the Department of Environmental Management's Indiana Registered Underground Storage Tanks list.

A review of the UST list, as provided by EDR, and dated 10/10/1995 has revealed that there are 25 UST sites within approximately 1.25 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
CITY OF KOKOMO SANITATION	9		
CONRADT ENTERPRISES INC	9		
CENTRAL GARAGE	***10***		
MILLER PACKING CO INC	14		
HOWARD COUNTY JAIL & JDC BLDG CO	14		
KOKOMO PARK DEPT	15		
PUBLIC SERVICE CO OF INDIANA INC	16		
HAYES INTERNATIONAL INC	19		
TOWER PROPERTY	20		
TRANSPORTATION SERVICE CTR	24		
SPEEDWAY #5149	26		
KOKOMO READY MIXED CONCRETE CORP	29		
SAINT JOSEPH HOSPITAL&HEALTH CTR	30		
HANSELL COAL AND SUPPLY COMPANY	31		
WELDON & CLARK	32		
PARK AVE. CAR WASH	33		
CONTINENTAL STEEL CORP	***34***		
MURRAY & DAVIS INC	44		
GWYN WILLIAMS STANDARD SERVICE	***45***		
CLARK STORE #1432	47		
ORGANIZATIONAL MAINT SHOP # 18	49		
KOKOMO FIRE DEPT	50		
DIXON INVESTMENTS INC	52		
L ONEN BOLINGER	54		
DELONG PARTS & ACC. CO., INC	56		

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 05/31/1995 has revealed that there are 18 RCRIS-SQG sites within approximately 1.25 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
CARGILL INC	***13***		
PENSKE TRUCK LEASING CO LP	13		
HARSCO CORP HECKETT PLT NO 19	***23***		
CARRIES CLEANERS	***25***		
STITES DRY CLEANERS	***28***		
ST JOSEPH HOSPITAL	***29***		
SUNOCO SERVICE STATION	***31***		
HOBSON CLEANERS	***43***		
SUNRAY CLEANERS	***44***		
MERRYMAN CUSTOM PAINT AND BODY SH	***44***		
SPEEDWAY 5154	***46***		
CLARK OIL STATION 1432	***48***		

EXECUTIVE SUMMARY

Equal/Higher Elevation	Page	Lower Elevation	Page
CONTAMINATION STUDIES LAB	*49*		
IN STATE OF ORG MAINT SHOP 18 ARM	*49*		
FEDERAL EXPRESS CORP	*51*		
SUNOCO SERVICE STATION	*51*		
SUPERIOR CLEANERS	*53*		
H NAD H FURNITURE STRIPPING	*54*		

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-LQG list, as provided by EDR, and dated 05/31/1995 has revealed that there is 1 RCRIS-LQG site within approximately 1.25 Miles of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
HAYNES INTERNATIONAL INC	*22*		

PADS: The PCB Activity Database identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the United States Environmental Protection Agency of such activities. The source of this database is the U.S. EPA.

A review of the PADS list, as provided by EDR, and dated 10/14/1994 has revealed that there is 1 PADS site within approximately 1 Mile of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
HAYNES INTL INC	*23*		

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 07/27/1994 has revealed that there are 23 FINDS sites within approximately 1 Mile of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
KOKOMO MUNICIPAL WWTP	9		
KOKOMO SANITATION UTILITIES	9		
CENTRAL GARAGE	*10*		

EXECUTIVE SUMMARY

Equal/Higher Elevation	Page	Lower Elevation	Page
CHDD, INC	***12***		
CARGILL INC	***13***		
PENSKE TRUCK LEASING CO LP	13		
HOWARD COUNTY JAIL & JDC BLDG	14		
TENBROOK SALES INC	14		
KOKOMO PARK DEPT	16		
USED OIL RECYCLING	18		
HAYNES INTERNATIONAL INC	20		
HAYNES INTL	22		
HARSCO CORP HECKETT PLT NO 19	***23***		
HAYNES INTL INC	***23***		
SEASHORE SWIMMING POOL	25		
CARRIES CLEANERS	***25***		
VILLAGE PANTRY 560	25		
SPEEDWAY SERVICE STATION 5149	26		
STITES DRY CLEANERS	***28***		
ST JOSEPH HOSPITAL	***29***		
HANSELL COAL AND SUPPLY COOMPANY	31		
SUNOCO SERVICE STATION	***31***		
DURRELL CO	33		

TRIS: The Toxic Chemical Release Inventory System identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313. The source of this database is the U.S. EPA.

A review of the TRIS list, as provided by EDR, and dated 12/31/1992 has revealed that there is 1 TRIS site within approximately 1 Mile of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
HAYNES INTL INC	***23***		

MLTS: The Material Licensing Tracking System is maintained by the Nuclear Regulatory Commission and contains a list fo approximately 8,100 sites which possess or use radioactive materials and are subject to NRC licensing requirements.

A review of the MLTS list, as provided by EDR, and dated 08/01/1995 has revealed that there are 2 MLTS sites within approximately 1 Mile of the subject property.

Equal/Higher Elevation	Page	Lower Elevation	Page
HAYNES INTERNATIONAL INC.	19		
ST JOSEPH HOSPITAL	***29***		

EXECUTIVE SUMMARY

SPILLS: The List of Spills Incidents from The Department of Environmental Management.

A review of the IN Spills list, as provided by EDR, and dated 09/16/1995 has revealed that there are 7 IN Spills sites within approximately 1 Mile of the subject property.

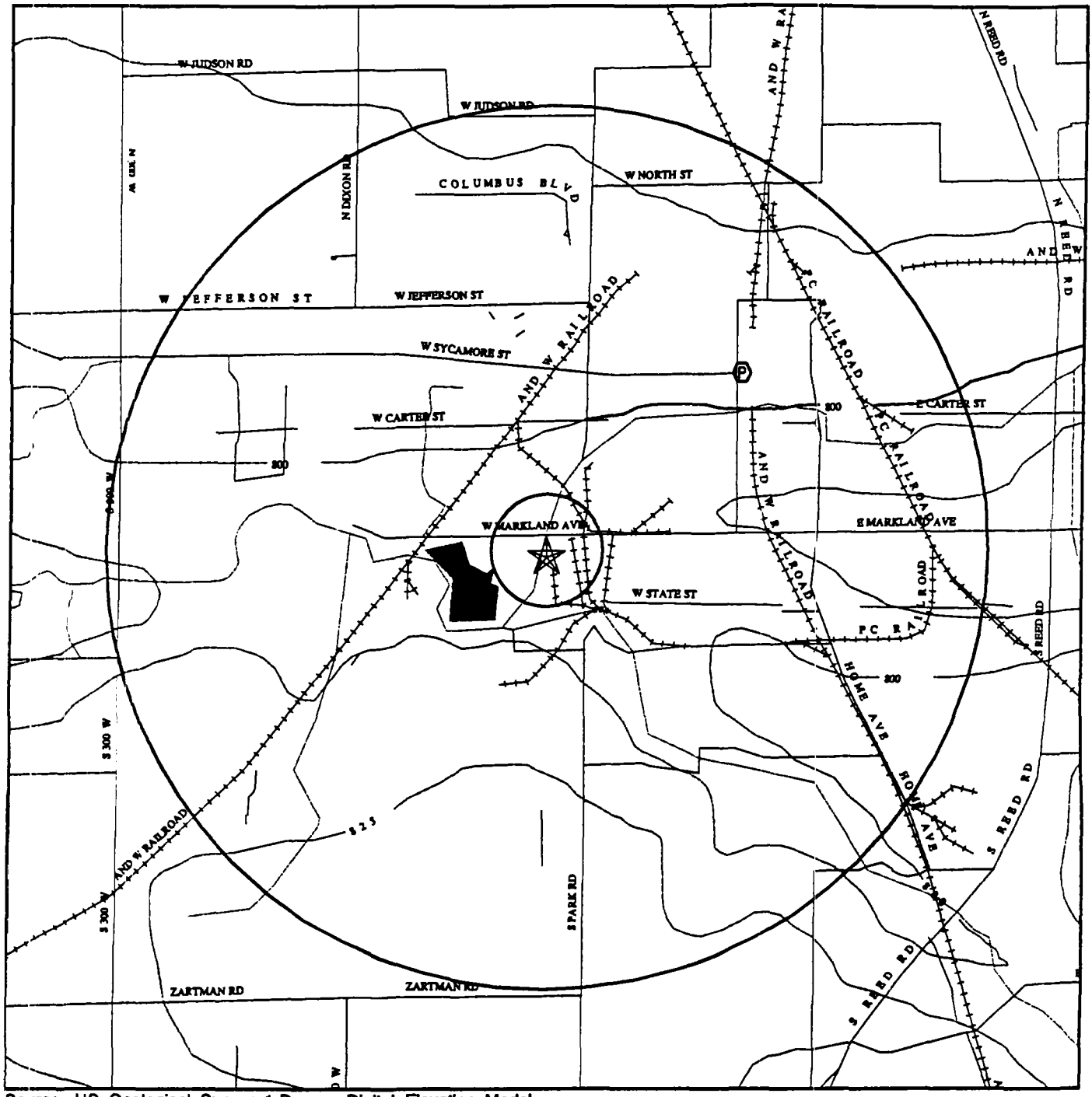
Equal/Higher Elevation	Page	Lower Elevation	Page
919 MILLBROOK LANE	11		
817 MILLBROOK LANE	12		
701 SOUTH BERKLEY ROAD	15		
1435 S PARK RD	18		
1435 SOUTH PARK ROAD	18		
2200 W MARKLAND	20		
2300 W CARTER	29		

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
MARKLAND ROAD QUARRY SITE	CERCLIS, FINDS
HIGH TECHNOLOGY MATERIALS DIV	RCRIS-SQG, FINDS, CERC-NFRAP
GREENTOWN LF	SWF/LF
FIVECOATE LF	SWF/LF
HAYES INTERNATIONAL	LUST
CONWAY CENTRAL EXPRESS	LUST
MUNDY REALTY	LUST
US POSTAL SERVICE (KOKOMO)	LUST
CLARK STORE #665	UST
EARTH STATION SITE	UST
KOKOMO UNIT	UST
GLENN DALE AIRPORT	UST
CHAS, CONKLE MTR CO INC	UST
H E MCGONIGAL	UST
DEFFENBAUGH STREET OPERATIONS	UST
FIRESTONE STORE #29Y7	UST
FIRESTONE DAVE EVANS TIRE	UST
CENTRAL TRANSPORT	UST
SPEEDWAY UNIT 5154	UST
VE VEC TRANSPORT	FINDS, UST
STAR BUILDING SUPPLY INC	UST
JIFFY LUBE	UST
VILLAGE PANTRY 560	FINDS, UST
KMART STORE 4014	FINDS, UST
GO FOR CORNER STORE	UST
MARATHON UNIT 1233	UST
MARATHON UNIT 1232	UST
SHELL SERVICE STATION	UST
MILK BARN	FINDS, UST
MASTER CIRCUITS INC	RCRIS-SQG, FINDS
FURROW BLDG MATERIALS	RCRIS-SQG, FINDS
PSI ENERGY	RCRIS-SQG, FINDS
KOKOMO SPRING CO INC	RCRIS-SQG
WILKERSON BODY SHOP	RCRIS-SQG, FINDS
CABOT CORP	RCRIS-SQG
SUNOCO SERVICE STATION	RCRIS-SQG, FINDS
INDIANA UNIVERSITY KOKOMO	FINDS, RCRIS-LQG
PENN-DIXIE STEEL CORP	TSCA

TOPOGRAPHIC MAP - 0103388.1r - Camp, Dresser & McKee, Inc.



Source: US Geological Survey 1-Degree Digital Elevation Model
Compiled 09/15/92

0 1/4 1/2 1 2
Miles

- Major Roads
- Contour lines (25 foot interval unless otherwise shown)
- Waterways
- Earthquake epicenter, Richter 5 or greater.
- (F)(S) - Closest well according to (F)ederal or (S)tate database in quadrant.
- (P) - Closest public water supply well.

TARGET PROPERTY:	Continental Steel Superfund	CUSTOMER:	Camp, Dresser & McKee, Inc.
ADDRESS:	West Markland Ave	CONTACT:	Mr. John A. Lengel
CITY/STATE/ZIP:	Kokomo IN 46902	INQUIRY #:	0103388.1r
LAT/LONG:	40.4753 / 86.1491	DATE:	January 11, 1996

GEOCHECK VERSION 2.1
SUMMARY

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:	S3
Era:	Paleozoic
System:	Silurian
Series:	Upper Silurian (Cayugan)

ROCK STRATIGRAPHIC UNIT†

Category:	Stratifed Sequence

GROUNDWATER FLOW INFORMATION

General Topographic Gradient:	General South
General Hydrogeologic Gradient:	no hydrogeologic data available.

Note: In a general way, the water table typically conforms to surface topography.‡

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:	2440086-D2 KOKOMO WEST, IN

FEDERAL DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP	LITHOLOGY	DEPTH TO WATER TABLE
NO WELLS FOUND			

STATE DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP
NO WELLS FOUND	

PUBLIC WATER SUPPLY SYSTEM INFORMATION (EPA-FRDS)

Searched by Nearest Well.

Location Relative to TP:	1 - 2 Miles East
PWS Name:	STATELY MANOR MOBILE HOME PARK L. BONTRAGER 250 EAST, 200 NORTH KOKOMO, IN 46901

Well currently has or has had major violation(s): No

AREA RADON INFORMATION

Zip Code: 46902

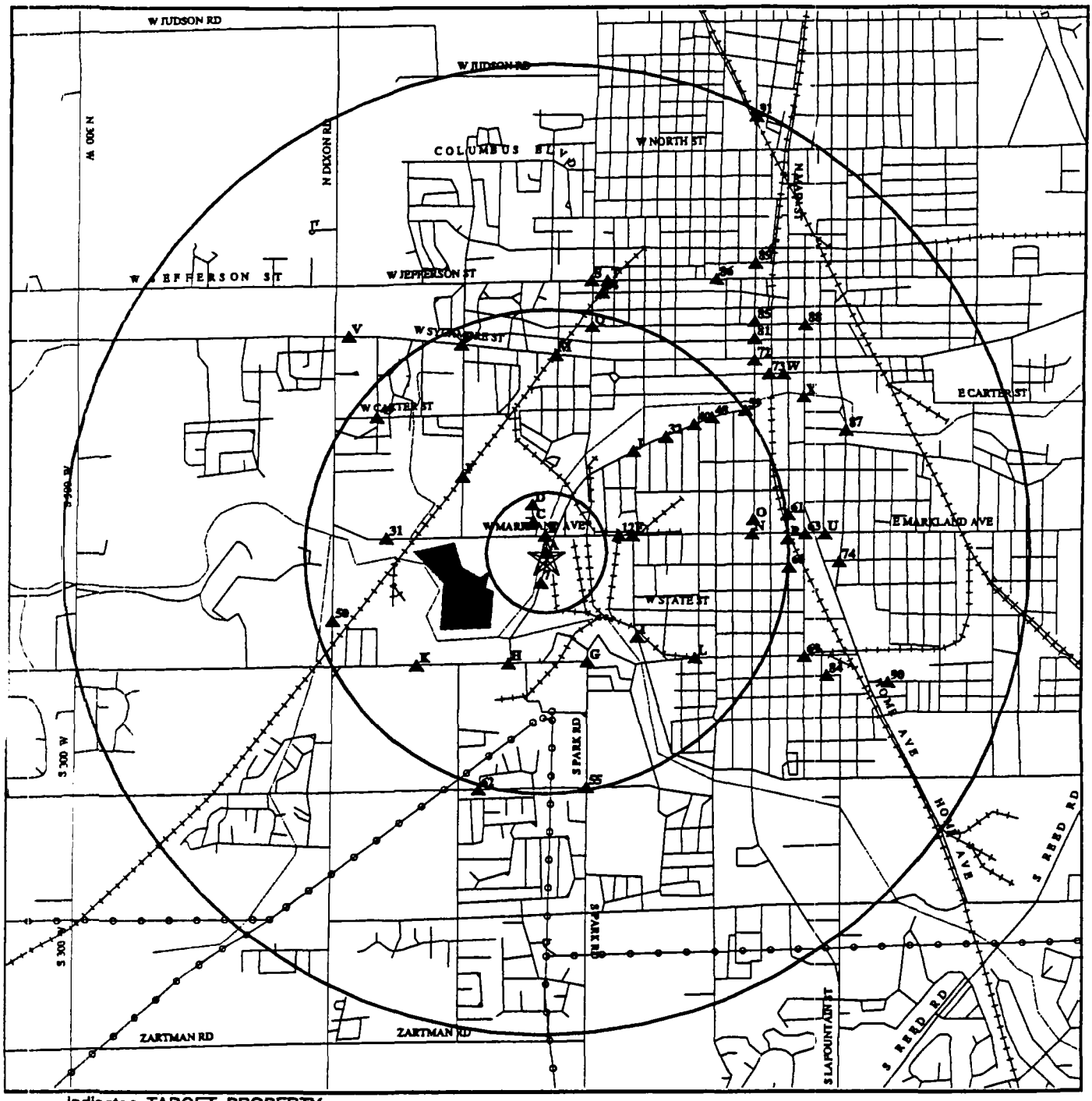
Number of sites tested: 5

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.320 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	5.400 pCi/L	50%	50%	0%

† Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec: Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

‡ U.S. EPA Ground Water Handbook, Vol I: Ground Water and Contamination, Office of Research and development EPA/625/6-90/016a,Chapter 4, page 78, September 1990.

OVERVIEW MAP - 0103388.1r - Camp, Dresser & McKee, Inc.



★ - Indicates TARGET PROPERTY.

▲ - Indicates sites at elevations higher than or equal to the target property.

◆ - Indicates sites at elevations lower than the target property.

- Coal Gasification Sites (if requested)

- National Priority List Sites

0 1/4 1/2 1 2

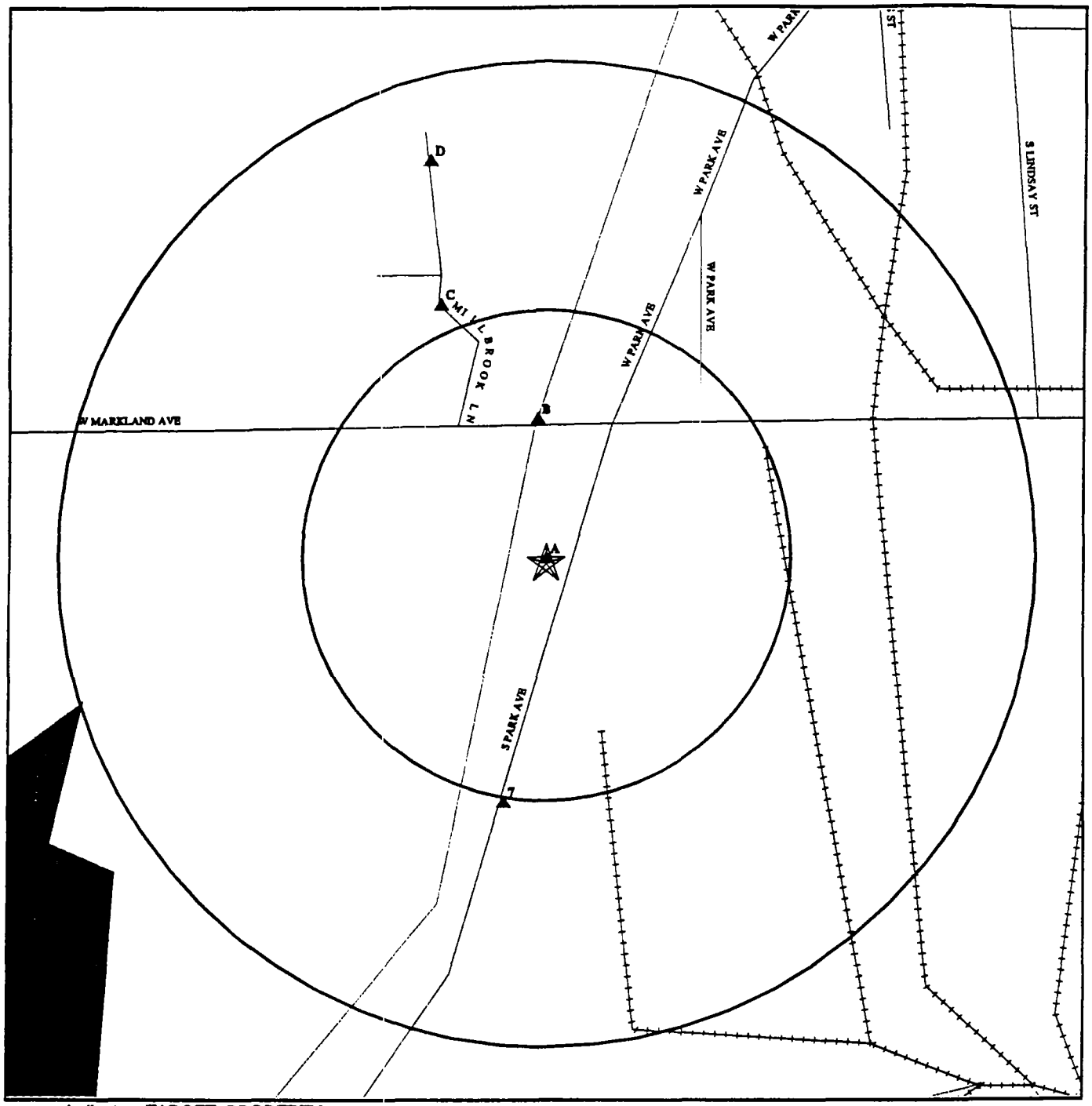
Miles

- Power transmission lines (USGS DLG, 1993)

- Oil & Gas pipelines (USGS DLG, 1993)

TARGET PROPERTY:	Continental Steel Superfund	CUSTOMER:	Camp, Dresser & McKee, Inc.
ADDRESS:	West Markland Ave	CONTACT:	Mr. John A. Lengel
CITY/STATE/ZIP:	Kokomo IN 46902	INQUIRY #:	0103388.1r
LAT/LONG:	40.4753 / 86.1491	DATE:	January 11, 1996

DETAIL MAP - 0103388.1r - Camp, Dresser & McKee, Inc.



★ - Indicates TARGET PROPERTY.

▲ - Indicates sites at elevations higher than or equal to the target property.

◆ - Indicates sites at elevations lower than the target property.

- Coal Gasification Sites (if requested)

- Sensitive Receptors

- National Priority List Sites

0 1/8 1/4

Miles

- Power transmission lines (USGS DLG, 1993)

- Oil & Gas pipelines (USGS DLG, 1993)

TARGET PROPERTY:	Continental Steel Superfund	CUSTOMER:	Camp, Dresser & McKee, Inc.
ADDRESS:	West Markland Ave	CONTACT:	Mr. John A. Lengel
CITY/STATE/ZIP:	Kokomo IN 46902	INQUIRY #:	0103388.1r
LAT/LONG:	40.4753 / 86.1491	DATE:	January 11, 1996

MAP FINDINGS SUMMARY SHOWING ALL SITES

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		2.000	0	0	0	0	1	1
Delisted NPL		1.000	0	0	0	0	NR	0
RCRIS-TSD		2.000	0	0	0	1	1	2
State Haz. Waste		2.000	0	0	0	0	1	1
CERCLIS	X	1.500	0	1	0	0	1	2
CERC-NFRAP		1.000	0	0	0	0	NR	0
CORRACTS	X	2.000	0	0	0	1	1	2
State Landfill		1.500	0	0	0	0	0	0
LUST		1.500	0	0	2	6	10	18
UST		1.250	1	2	4	8	11	26
RAATS		1.000	0	0	0	0	NR	0
RCRIS Sm. Quan. Gen.	X	1.250	0	0	2	5	11	18
RCRIS Lg. Quan. Gen.	X	1.250	0	0	0	1	0	1
HMIRS		1.000	0	0	0	0	NR	0
PADS		1.000	0	0	0	1	NR	1
ERNS		1.000	0	0	0	0	NR	0
FINDS	X	1.000	2	2	5	14	NR	23
TRIS		1.000	0	0	0	1	NR	1
NPL Liens		1.000	0	0	0	0	NR	0
TSCA		1.000	0	0	0	0	NR	0
MLTS		1.000	0	0	0	2	NR	2
IN Spills		1.000	0	2	1	4	NR	7
ROD		2.000	0	0	0	0	0	0
CONSENT		2.000	0	0	0	0	0	0
Coal Gas		1.000	0	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

MAP FINDINGS SUMMARY SHOWING ONLY SITES HIGHER THAN OR THE SAME ELEVATION AS TP

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		2.000	0	0	0	0	1	1
Delisted NPL		1.000	0	0	0	0	NR	0
RCRIS-TSD		2.000	0	0	0	1	1	2
State Haz. Waste		2.000	0	0	0	0	1	1
CERCLIS	X	1.500	0	1	0	0	1	2
CERC-NFRAP		1.000	0	0	0	0	NR	0
CORRACTS	X	2.000	0	0	0	1	1	2
State Landfill		1.500	0	0	0	0	0	0
LUST		1.500	0	0	2	6	10	18
UST		1.250	1	2	4	8	11	26
RAATS		1.000	0	0	0	0	NR	0
RCRIS Sm. Quan. Gen.	X	1.250	0	0	2	5	11	18
RCRIS Lg. Quan. Gen.	X	1.250	0	0	0	1	0	1
HMIRS		1.000	0	0	0	0	NR	0
PADS		1.000	0	0	0	1	NR	1
ERNS		1.000	0	0	0	0	NR	0
FINDS	X	1.000	2	2	5	14	NR	23
TRIS		1.000	0	0	0	1	NR	1
NPL Liens		1.000	0	0	0	0	NR	0
TSCA		1.000	0	0	0	0	NR	0
MLTS		1.000	0	0	0	2	NR	2
IN Spills		1.000	0	2	1	4	NR	7
ROD		2.000	0	0	0	0	0	0
CONSENT		2.000	0	0	0	0	0	0
Coal Gas		1.000	0	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

A3 Target Property	CONTINENTAL STEEL CORP W MARKLAND AVE KOKOMO, IN 46901	RCRIS-SQG	1000412595 INT190010991

A2 Target Property	CONTINENTAL STEEL DIXON RD. WEST MARKLAND AVENUE KOKOMO, IN 46902	CERCLIS	1000412600 IND980503726

CERCLIS Classification Data:

Site Incident Category:	Not reported	Federal Facility:	NO
Ownership Status:	UNKNOWN	NPL Status:	NOT ON NPL
EPA Notes:	Not reported		

CERCLIS Assessment History:

Assessment:	DISCOVERY	Completed:	02/10/1989
Assessment:	PRELIMINARY ASSESSMENT	Completed:	11/07/1989

CERCLIS Site Status:

This site is currently under investigation by the government to assess the extent of further action

CERCLIS Alias Name(s):

CONTINENTAL STEEL DIXON RD.

A1 Target Property	CONTINENTAL STEEL CORP W MARKLAND AVE KOKOMO, IN 46901	FINDS RCRIS-LQG CORRACTS	1000412593 IND980503726

CORRACTS Data:

Prioritization: High
Status: Not reported

RCRIS:

Owner: CONTINENTAL STEEL CORP
(317) 457-3211

Contact: P SCHREINER
(317) 459-6272

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D002	.00000 (N)	Notification
F002	.00000 (N)	Notification	K061	.00000 (N)	Notification
K062	.00000 (N)	Notification	K063	.00000 (N)	Notification
P049	.00000 (N)	Notification	P102	.00000 (N)	Notification
U013	.00000 (N)	Notification	F002	29.93700 (N)	Part A
K061	7076.16000 (N)	Part A	K062	29937.60000 (N)	Part A
P049	.04500 (N)	Part A	P102	.04500 (N)	Part A

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

There are 3 compliance/violation record(s) reported at this site:

Evaluation	Date	Violations
COMPLIANCE EVALUATION INSPECTION (CEI)	25-OCT-85	YES
COMPLIANCE EVALUATION INSPECTION (CEI)	17-JAN-84	YES
NON-FINANCIAL RECORD REVIEW (NRR)	19-JUL-83	YES

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
B4 North < 1/8 Higher	KOKOMO MUNICIPAL WWTP 1501 W MARKLAND KOKOMO, IN 46901	FINDS	1000752090 IND984967125
B5 North < 1/8 Higher	KOKOMO SANITATION UTILITIES 1501 W MARKLAND AVE KOKOMO, IN 46901	FINDS	1000508750 IND087042222

Other Pertinent Environmental Activity Identified at Site:
facility has active water discharge permits

B6 North < 1/8 Higher	CITY OF KOKOMO SANITATION 1501 W MARKLAND AVE KOKOMO, IN 46901	UST	U001959080 N/A

UST:

Facility ID:	019041	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	01
Facility Contact:	THOMAS J HIGH	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-5509	Year Installed:	Not reported
Owner Name:	CITY OF KOKOMO SANITATION UTIL	Age:	00
Owner Address:	1501 W MARKLAND AVE	Capacity:	11750
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	Not reported	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	15-AUG-94	Empty:	YES
User ID:	RDC	Substance:	DIESEL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	18-JUL-94	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

7 South 1/8-1/4 Higher	CONRADT ENTERPRISES INC 1435 S PARK AVE KOKOMO, IN 46901	UST	U001082511 N/A

CONRADT ENTERPRISES INC (Continued) — U001082511

UST:

Facility ID:	018326	Total Tanks:	01
Form Status:	Not Reported	Tank Number:	01
Facility Contact:	CHRIS CONRADT	Tank Status:	Perm Out of Use
Contact Tel.:	317-453-4447	Year Installed:	Not reported
Owner Name:	CONRADT ENTERPRISES INC	Age:	00
Owner Address:	1435 S PARK AVE	Capacity:	00000
City, State, Zip:	KOKOMO, IN 46901	Material:	UNKNOWN
Owner Tel.:	317-453-4447	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	Not Reported	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	UNKNOWN
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	INERT FILLED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

C8 NNW 1/8-1/4 Higher — CENTRAL GARAGE, 919 MILLBROOK LANE, KOKOMO, IN 46901 — FINDS 1000753360; UST IND984983981

UST:

Facility ID:	004958	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	TERRY WILSON	Tank Status:	Currently in Use
Contact Tel.:	317-456-7561	Year Installed:	1986
Owner Name:	CITY OF KOKOMO	Age:	00
Owner Address:	100 S UNION ST	Capacity:	01000
City, State, Zip:	KOKOMO, IN 46901	Material:	UNKNOWN
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	AMERICAN
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	28-JUL-95	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, Release Tank Tight, Release Tank Auto, Overfill-Shutoff		

CENTRAL GARAGE (Continued) 1000753360

Facility ID:	004958	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	TERRY WILSON	Tank Status:	Currently in Use
Contact Tel.:	317-456-7561	Year Installed:	1986
Owner Name:	CITY OF KOKOMO	Age:	00
Owner Address:	100 S UNION ST	Capacity:	01000
City, State, Zip:	KOKOMO, IN 46901	Material:	UNKNOWN
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	AMERICAN
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	DIESEL
Revise Date:	28-JUL-95	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, Release Tank Tight, Release Tank Auto, Overfill-Shutoff		

Facility ID:	004958	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	TERRY WILSON	Tank Status:	Currently in Use
Contact Tel.:	317-456-7561	Year Installed:	1986
Owner Name:	CITY OF KOKOMO	Age:	00
Owner Address:	100 S UNION ST	Capacity:	02500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	AMERICAN
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	USED OIL
Revise Date:	28-JUL-95	Other Petroleum:	Not reported
Install Date:	01-JAN-83	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual		

C9
NNW
1/8-1/4
Higher

919 MILLBROOK LANE
KOKOMO, IN 46901

IN Spills S101375093
N/A

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	(Continued)		S101375093

SPILL:

Facility ID:	9401201	Incident Date:	26-JAN-94
Release Date:	26-JAN-94	Type:	Spill
Segment No:	23	Water:	NONE
Reported By:	Responsible Party (RP)	Area:	100 SQ FT
Investigated By:	ERS Staff	Source:	CITY OF KOKOMO
Amount:	275 G	Material:	USED OIL
Contained:	Yes	Recovered:	275 G
Cinup Duration:	ONGOING	Circumstance:	Equipment Failure
Fish Killed:	0	Water Affected:	No
Consequence:	Minimal - Log Only	Action:	Cleaned Up
Responder:	DWD	Enforcement:	None
Source:	919 MILLBROOK KOKOMO, IN 46901		
Substance:	Acid and/or Base		
Source Type:	Municipality		

D10 NNW 1/8-1/4 Higher	CHDD, INC 817 MILLBROOK LANE KOKOMOO, IN 46901	CERCLIS FINDS	1000486182 IND173416876

CERCLIS Classification Data:

Site Incident Category:	Not reported	Federal Facility:	NO
Ownership Status:	UNKNOWN	NPL Status:	NOT ON NPL
EPA Notes:	Not reported		

CERCLIS Assessment History:

Assessment:	DISCOVERY	Completed:	01/07/1991
Assessment:	PRELIMINARY ASSESSMENT	Completed:	09/30/1994
Assessment:	REMOVAL ACTION	Completed:	06/05/1992
Assessment:	ADMINISTRATIVE RECORD	Completed:	Not reported
Assessment:	INTEGRATED ASSESSMENT	Completed:	09/30/1994

CERCLIS Site Status:

EPA has conducted a preliminary assessment on this site and has determined that no further action is necessary and no hazard was identified

Other Pertinent Environmental Activity Identified at Site:

facility has an emission permit under the Clean Air Act
civil judicial and administrative enforcement cases against facility

---

D11 NNW 1/8-1/4 Higher	817 MILLBROOK LANE KOKOMO, IN 46901	IN Spills	S101370520 N/A

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

(Continued) S101370520

SPILL:

Facility ID:	9106030	Incident Date:	01-JUN-91
Release Date:	01-JUN-91	Type:	Complaints & Other
Segment No:	23	Water:	NONE
Reported By:	Local Government Agency	Area:	48000 FT SQ
Investigated By:	ERS - Field Response	Source:	CHDD/DILLMAN FURNITURE
Amount:	60000 P	Material:	ASBESTOS
Contained:	Yes	Recovered:	60000 P
Clnup Duration:	9 HRS	Circumstance:	Intentional Discharge
Fish Killed:	0	Water Affected:	No
Consequence:	Air Release	Action:	Ongoing
Responder:	JBP	Enforcement:	Pending Additional Reports
Source:	817 MILLBROOK L KOKOMO, IN 46901		
Substance:	Acid and/or Base		
Source Type:	Other		

---

12 ENE 1/4-1/2 Higher — CARGILL INC, 1200 W MARKLAND AVE, KOKOMO, IN 46903 — RCRIS-SQG, FINDS — 1000451481, IND984879924

RCRIS:
Owner: ETTER N WAYNE
Contact: JIM JONASEN
(214) 416-2822

Waste	Quantity	Info Source
F001	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

E13 East 1/4-1/2 Higher — PENSKE TRUCK LEASING CO LP, 1108 W MARKLAND AVE, KOKOMO, IN 46901 — FINDS — 1000762994, IND985102508

E14 East 1/4-1/2 Higher — PENSKE TRUCK LEASING CO LP, 1108 W MARKLAND AVE, KOKOMO, IN 46901 — RCRIS-SQG — 1000863120, IND985102508

RCRIS:
Owner: PENSKE TRUCK LEASING CO LP
(215) 775-6000
Contact: BOB JOHNSON
(317) 457-2289

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D001	.00000 (N)	Notification	D018	.00000 (N)	Notification
D039	.00000 (N)	Notification			

TCE

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
F15 NW 1/4-1/2 Higher	HOWARD COUNTY JAIL & JDC BLDG 701 S BERKLEY ST KOKOMO, IN 46901	FINDS	1000939582 IN0000562710
F16 NW 1/4-1/2 Higher	TENBROOK SALES INC 700 S BERKLEY RD KOKOMO, IN 46901	FINDS	1000761761 IND985089804
F17 NW 1/4-1/2 Higher	MILLER PACKING CO INC 701 S BERKLEY RD KOKOMO, IN 46901	UST	U000186328 N/A

UST:

Facility ID:	005773	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	STEVE MILLER	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-3174	Year Installed:	1983
Owner Name:	MILLER PACKING CO., INC.	Age:	10
Owner Address:	421 MORNINGSIDE DR	Capacity:	02000
City, State, Zip:	KOKOMO, IN 46901-4275	Material:	STEEL
Owner Tel.:	317-459-3174	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	01-DEC-89	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	12/85
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-DEC-85		
Tank Features:	NONE		

F18 NW 1/4-1/2 Higher	HOWARD COUNTY JAIL & JDC BLDG CO 701 S BERKLEY RD KOKOMO, IN 46901	UST	U001543696 N/A

HOWARD COUNTY JAIL & JDC BLDG CO (Continued) — U001543696

UST:

Facility ID:	018730	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	LT. JAMES E. L. STITT, JR.	Tank Status:	Currently in Use
Contact Tel.:	317-456-2025	Year Installed:	1993
Owner Name:	HOWARD COUNTY JAIL & JDC BLDG CO	Age:	00
Owner Address:	701 S BERKLEY ST	Capacity:	10000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-2025	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	EUROPEAN
Entry Date:	12-AUG-93	Empty:	YES
User ID:	AMS	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	11-MAY-93	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Auto, Spill Basins, Overfill-Shutoff, Overfill-Valves, Install Manufacturer Certify, Install Agency Certify, Install Engineer Inspection, Install Checklist		

F19 — IN Spills — S101313832
NW — 701 SOUTH BERKLEY ROAD — N/A
1/4-1/2 — KOKOMO, IN 46901
Higher

SPILL:

Facility ID:	9204225	Incident Date:	Not reported
Release Date:	02-APR-92	Type:	Spill
Segment No:	23	Water:	UNKNOWN
Reported By:	Other	Area:	UNKNOWN
Investigated By:	ERS Staff	Source:	YOUTH CENTER / JAIL
Amount:	0 G	Material:	HEATING OIL
Contained:	No	Recovered:	0 G
Cinup Duration:	UNKNOWN	Circumstance:	Unknown
Fish Killed:	0	Water Affected:	Undetermined
Consequence:	Minimal - Log Only	Action:	Voluntary Remediation
Responder:	JAK	Enforcement:	None
Source:	701 S BERKLEY KOKOMO, IN 46901		
Substance:	Petroleum Products (Fuels, Lubricants, Crude Oil)		
Source Type:	Other		

G20 — KOKOMO PARK DEPT — UST — U000186076
SSE — 1402 W DEFFENBAUGH ST — N/A
1/4-1/2 — KOKOMO, IN 46902
Higher

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	KOKOMO PARK DEPT (Continued)		U000186076

UST:

Facility ID:	004960	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	MIKE KARICKHOFF	Tank Status:	Currently in Use
Contact Tel.:	317-456-PARK	Year Installed:	1968
Owner Name:	CITY OF KOKOMO	Age:	00
Owner Address:	100 S UNION ST	Capacity:	01000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	AMERICAN
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	24-FEB-95	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Other		

G21 SSE 1/4-1/2 Higher	KOKOMO PARK DEPT 1402 W DEFFENBAUGH ST KOKOMO, IN 46902	FINDS	1000755080 IND985013861

H22 SSW 1/4-1/2 Higher	PUBLIC SERVICE INDIANA 1619 W DEFFENBAUGH ST KOKOMO, IN 46902	LUST	S101139979 N/A

LUST:

Facility ID:	010388	Site No.:	9008569
Responsible Staff:	XXX	Priority:	Low

H23 SSW 1/4-1/2 Higher	PUBLIC SERVICE INDIANA 1619 W DEFFENBAUGH ST KOKOMO, IN 46902	LUST	S101139967 N/A

LUST:

Facility ID:	010388	Site No.:	8909040
Responsible Staff:	DIS	Priority:	Low

H24 SSW 1/4-1/2 Higher	PUBLIC SERVICE CO OF INDIANA INC 1619 W DEFFENBAUGH ST KOKOMO, IN 46902	UST	U001079121 N/A

PUBLIC SERVICE CO OF INDIANA INC (Continued) U001079121

UST:

Facility ID:	010388	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	JIM MEHRING	Tank Status:	Currently in Use
Contact Tel.:	317-457-8431	Year Installed:	1991
Owner Name:	PSI ENERGY INC	Age:	01
Owner Address:	1000 E MAIN ST	Capacity:	10000
City, State, Zip:	PLAINFIELD, IN 46168	Material:	STEEL
Owner Tel.:	317-838-2550	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	JLH	Substance:	GASOLINE
Revise Date:	10-APR-95	Other Petroleum:	Not reported
Install Date:	01-JAN-59	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

Facility ID:	010388	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	JIM MEHRING	Tank Status:	Currently in Use
Contact Tel.:	317-457-8431	Year Installed:	1991
Owner Name:	PSI ENERGY INC	Age:	01
Owner Address:	1000 E MAIN ST	Capacity:	10000
City, State, Zip:	PLAINFIELD, IN 46168	Material:	STEEL
Owner Tel.:	317-838-2550	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	Not Reported
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	JLH	Substance:	GASOLINE
Revise Date:	10-APR-95	Other Petroleum:	Not reported
Install Date:	01-JAN-83	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

PUBLIC SERVICE CO OF INDIANA INC (Continued) — U001079121

Facility ID:	010388	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	JIM MEHRING	Tank Status:	Currently in Use
Contact Tel.:	317-457-8431	Year Installed:	1991
Owner Name:	PSI ENERGY INC	Age:	01
Owner Address:	1000 E MAIN ST	Capacity:	00500
City, State, Zip:	PLAINFIELD, IN 46168	Material:	STEEL
Owner Tel.:	317-838-2550	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	JLH	Substance:	USED OIL
Revise Date:	10-APR-95	Other Petroleum:	Not reported
Install Date:	01-JAN-59	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

I25
SE
1/2-1
Higher

USED OIL RECYCLING
1435 S PARK RD
KOKOMO, IN 46901

FINDS — 1000513201 / IND984931410

I26
SE
1/2-1
Higher

1435 S PARK RD
KOKOMO, IN 46901

IN Spills — S101370538 / N/A

SPILL:

Facility ID:	9106176	Incident Date:	21-JUN-91
Release Date:	21-JUN-91	Type:	Complaints & Other
Segment No:	23	Water:	UNKNOWN
Reported By:	County Health Department	Area:	UNKNOWN
Investigated By:	ERS Staff	Source:	CLOSED USED OIL RECYCLING
Amount:	0 G	Material:	USED MOTOR OIL
Contained:	Yes	Recovered:	0 G
Cinup Duration:	ONGOING	Circumstance:	Unknown
Fish Killed:	0	Water Affected:	Undetermined
Consequence:	Undetermined	Action:	Ongoing
Responder:	AWL	Enforcement:	Pending Additional Reports
Source:	1435 S PARK RD KOKOMO, IN 46901		
Substance:	Acid and/or Base		
Source Type:	Other		

I27
SE
1/2-1
Higher

1435 SOUTH PARK ROAD
KOKOMO, IN 46902

IN Spills — S101371713 / N/A

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	(Continued)		S101371713

SPILL:

Facility ID:	9107194	Incident Date:	Not reported
Release Date:	24-JUL-91	Type:	Spill
Segment No:	23	Water:	UNKNOWN
Reported By:	Responsible Party (RP)	Area:	UNKNOWN
Investigated By:	ERS Staff	Source:	CHRISTOPHER CONRAT
Amount:	0 G	Material:	USED OIL
Contained:	No	Recovered:	0 G
Clnup Duration:	UNKNOWN	Circumstance:	Unknown
Fish Killed:	0	Water Affected:	Undetermined
Consequence:	Minimal - Log Only	Action:	Voluntary Remediation
Responder:	AWL	Enforcement:	None
Source:	3508 CHRISTOPHE KOKOMO, IN 46902		
Substance:	Acid and/or Base		
Source Type:	Industrial		

J28 NE 1/2-1 Higher	HAYNES INTERNATIONAL INC. 1020 WEST PARK AVE. KOKOMO, IN 46902	MLTS	1000478037 N/A

J29 NE 1/2-1 Higher	HAYES INTERNATIONAL INC 1020 W PARK AVENUE KOKOMO, IN 46904	UST	U001077263 N/A

UST:

Facility ID:	003029	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	JAMES A VAIANA	Tank Status:	Perm Out of Use
Contact Tel.:	317-456-7614	Year Installed:	1961
Owner Name:	HAYNES INTERNATIONAL INC	Age:	28
Owner Address:	1020 W PARK AVENUE	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	Not reported	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	01/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JAN-90		
Tank Features:	NONE		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

HAYES INTERNATIONAL INC (Continued) — U001077263

Facility ID:	003029	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	JAMES A VAIANA	Tank Status:	Perm Out of Use
Contact Tel.:	317-456-7614	Year Installed:	1961
Owner Name:	HAYNES INTERNATIONAL INC	Age:	28
Owner Address:	1020 W PARK AVENUE	Capacity:	00300
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	Not reported	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	Not Reported
Owner Descr.:	PRIVATE/CORP.	Piping:	Not Reported
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	DIESEL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	01/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JAN-90		
Tank Features:	NONE		

J30 NE 1/2-1 Higher — HAYNES INTERNATIONAL INC, 1020 W PARK AVE, KOKOMO, IN 46901 — FINDS — 1000758594, IND985055755

---

31 West 1/2-1 Higher — 2200 W MARKLAND, KOKOMO, IN 46901 — IN Spills — S101313840, N/A

SPILL:

Facility ID:	9208023	Incident Date:	Not reported
Release Date:	04-AUG-92	Type:	Complaints & Other
Segment No:	23	Water:	NONE
Reported By:	Private Citizen	Area:	5 ACRES
Investigated By:	ERS Staff	Source:	BOWYER EXCAVATING CO
Amount:	240000 P	Material:	DIESEL FUEL CONTAMTD SOIL
Contained:	Yes	Recovered:	240000 P
Cinup Duration:	ONGOING	Circumstance:	Miscellaneous
Fish Killed:	0	Water Affected:	No
Consequence:	Minimal - Log Only	Action:	Partial Cleanup
Responder:	CRP	Enforcement:	None
Source:	RR4 PERU, IN 46970		
Substance:	Petroleum Products (Fuels, Lubricants, Crude Oil)		
Source Type:	Commercial		

---

32 NE 1/2-1 Higher — TOWER PROPERTY, 800 W PARK AVE, KOKOMO, IN 46901 — UST — U001078328, N/A

TOWER PROPERTY (Continued) U001078328

UST:

Facility ID:	004962	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	JOSEPH	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-2636	Year Installed:	1976
Owner Name:	CITY OF KOKOMO	Age:	10
Owner Address:	100 S UNION ST	Capacity:	10000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	12/88
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-DEC-88		
Tank Features:	NONE		

Facility ID:	004962	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	JOSEPH	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-2636	Year Installed:	1971
Owner Name:	CITY OF KOKOMO	Age:	15
Owner Address:	100 S UNION ST	Capacity:	01000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	DIESEL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	12/88
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-DEC-88		
Tank Features:	NONE		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

TOWER PROPERTY (Continued) — U001078328

Facility ID:	004962	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	JOSEPH	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-2636	Year Installed:	1971
Owner Name:	CITY OF KOKOMO	Age:	15
Owner Address:	100 S UNION ST	Capacity:	01000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	12/88
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-DEC-88		
Tank Features:	NONE		

K33 SW 1/2-1 Higher — HAYNES INTL, 2000 W DEFFENBAUGH, KOKOMO, IN 46902 — FINDS — 1000751564, IND984881276

Other Pertinent Environmental Activity Identified at Site:
facility has an emission permit under the Clean Air Act

K34 SW 1/2-1 Higher — HAYNES INTERNATIONAL INC, 2000 W DEFFENBAUGH RD, KOKOMO, IN 46902 — RCRIS-LQG, RCRIS-TSD, CORRACTS — 1000994009, IND984867481

RCRIS:
Owner: HAYNES INTERNATIONAL
(312) 555-1212

Contact: CAROL WITT
(312) 555-1212

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D001	.00000 (N)	Notification
D002	.00000 (N)	Notification	D003	.00000 (N)	Notification
D005	.00000 (N)	Notification	D007	.00000 (N)	Notification
D010	.00000 (N)	Notification	F001	.00000 (N)	Notification
F002	.00000 (N)	Notification	D002	4.53600 (N)	Part A
F001	181.44000 (N)	Part A	D007	85828.37700 (N)	Part A

(P) = Pounds, (K) = Kilograms, (M) = Metric Tons, (T) = Tons, (N) = Not Reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	HAYNES INTERNATIONAL INC (Continued)		1000994009

There are 11 compliance/violation record(s) reported at this site:

Evaluation	Date	Violations
COMPLIANCE EVALUATION INSPECTION (CEI)	24-JUN-94	YES
FINANCIAL RECORD REVIEW (FRR)	20-SEP-91	YES
OPERATION AND MAINTENANCE INSPECTION (OAM)	16-APR-90	YES
NON-FINANCIAL RECORD REVIEW (NRR)	09-APR-90	YES
COMPLIANCE EVALUATION INSPECTION (CEI)	27-MAR-90	YES
COMPLIANCE EVALUATION INSPECTION (CEI)	02-MAR-89	YES
FINANCIAL RECORD REVIEW (FRR)	15-SEP-88	YES
COMPLIANCE EVALUATION INSPECTION (CEI)	03-MAR-88	YES
OTHER EVALUATION	03-MAR-88	YES
COMPLIACE MONITORING EVALUATION (CME)	08-DEC-86	YES

K35 SW 1/2-1 Higher	HARSCO CORP HECKETT PLT NO 19 2000 W DEFFENBAUGH ST KOKOMO, IN 46902	RCRIS-SQG FINDS	1000378257 IND981782204

RCRIS:
Owner: HARSCO CORP
(312) 555-1212

Contact: GENE INGRAM
(317) 459-8344

Waste	Quantity	Info Source
D001	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

K36 SW 1/2-1 Higher	HAYNES INTL INC 2000 W DEFFENBAUGH RD KOKOMO, IN 46902	PADS FINDS TRIS	1000751516 IND984867481

Other Pertinent Environmental Activity Identified at Site:
facility has an emission permit under the Clean Air Act
facility is a PCB generator, storer, transporter or permitted disposer

L37 SE 1/2-1 Higher	KOKOMO SCHOOL CORP (TRANSPORT) 620 W DEFFENBAUGH ST KOKOMO, IN 46902	LUST	S101139974 N/A

LUST:
Facility ID: 010355 Site No.: 9003541
Responsible Staff: XXX Priority: Low

L38 SE 1/2-1 Higher	KOKOMO PUBLIC SCHOOL 620 W DEFFENBAUGH ST KOKOMO, IN 46902	LUST	S101139972 N/A

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	KOKOMO PUBLIC SCHOOL (Continued)		S101139972

LUST:

Facility ID:	010355	Site No.:	9001547
Responsible Staff:	DIS	Priority:	Low

L39 SE 1/2-1 Higher	TRANSPORTATION SERVICE CTR 620 W DEFFENBAUGH ST KOKOMO, IN 46901	UST	U000187669 N/A

UST:

Facility ID:	010355	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	ROGER FAIN	Tank Status:	Perm Out of Use
Contact Tel.:	317-454-7110	Year Installed:	1971
Owner Name:	KOKOMO TOWNSHIP CONS SCHOOL CORP	Age:	15
Owner Address:	100 WEST LINCOLN RD	Capacity:	03600
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	317-453-5400	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	01-FEB-90	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

Facility ID:	010355	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	ROGER FAIN	Tank Status:	Perm Out of Use
Contact Tel.:	317-454-7110	Year Installed:	1971
Owner Name:	KOKOMO TOWNSHIP CONS SCHOOL CORP	Age:	15
Owner Address:	100 WEST LINCOLN RD	Capacity:	03600
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	317-453-5400	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	01-FEB-90	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

TRANSPORTATION SERVICE CTR (Continued) — U000187669

Facility ID:	010355	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	ROGER FAIN	Tank Status:	Perm Out of Use
Contact Tel.:	317-454-7110	Year Installed:	1971
Owner Name:	KOKOMO TOWNSHIP CONS SCHOOL CORP	Age:	15
Owner Address:	100 WEST LINCOLN RD	Capacity:	07200
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	317-453-5400	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	DIESEL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	01-FEB-90	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

---

40 NE 1/2-1 Higher — SEASHORE SWIMMING POOL, 625 PARK AVE, KOKOMO, IN 46901 — FINDS — 1000760595, IND985077635

M41 North 1/2-1 Higher — DECORATOR DEPOT, 1505 W SYCAMORE ST, KOKOMO, IN 46901 — LUST — S101139992, N/A

LUST:

Facility ID:	000000	Site No.:	9007588
Responsible Staff:	XXX	Priority:	Low

M42 North 1/2-1 Higher — CARRIES CLEANERS, 1505 W SYCAMORE, KOKOMO, IN 46901 — RCRIS-SQG, FINDS — 1000510878, IND984905950

RCRIS:

Owner: JOHNSON CARRIE
(317) 459-9512

Contact: CARRIE JOHNSON
(317) 459-9512

Waste	Quantity	Info Source
F002	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

N43 East 1/2-1 Higher — VILLAGE PANTRY 560, 301 W MARKLAND, KOKOMO, IN 46901 — FINDS — 1000762424, IND985096627

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
N44 East 1/2-1 Higher	VILLAGE PANTRY # 560 301 W MARKLAND AVE KOKOMO, IN 46901	LUST	S101140003 N/A

LUST:

Facility ID:	007049	Site No.:	9301509
Responsible Staff:	PKG	Priority:	High

O45 East 1/2-1 Higher	SPEEDWAY SERVICE STATION 5149 930 S WASHINGTON ST KOKOMO, IN 46901	FINDS	1000514522 IND984945360
O46 East 1/2-1 Higher	SPEEDWAY UNIT 5149 930 S WASHINGTON ST KOKOMO, IN 46901	LUST	S101139978 N/A

LUST:

Facility ID:	000634	Site No.:	9003518
Responsible Staff:	XXX	Priority:	Low

O47 East 1/2-1 Higher	SPEEDWAY #5149 930 S WASHINGTON KOKOMO, IN 46901	UST	U001076714 N/A

UST:

Facility ID:	000634	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	A E PETERSON	Tank Status:	Currently in Use
Contact Tel.:	317-872-3146	Year Installed:	1976
Owner Name:	EMRO MARKETING COMPANY	Age:	10
Owner Address:	5000 W 86TH ST	Capacity:	10000
City, State, Zip:	INDIANAPOLIS, IN 46268	Material:	FIBERGLASS
Owner Tel.:	317-872-3200	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	Not Reported
Invoice Date:	15-OCT-94	Piping Method:	PRESSURIZED
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	29-JUN-95	Other Petroleum:	Not reported
Install Date:	01-JAN-76	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Tight, Release Container, Release Line Auto, Spill Basins, Overfill-Valves, Install Agency Certify, Install Checklist		

SPEEDWAY #5149 (Continued) U001076714

Facility ID:	000634	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	A E PETERSON	Tank Status:	Currently in Use
Contact Tel.:	317-872-3146	Year Installed:	1976
Owner Name:	EMRO MARKETING COMPANY	Age:	10
Owner Address:	5000 W 86TH ST	Capacity:	10000
City, State, Zip:	INDIANAPOLIS, IN 46268	Material:	FIBERGLASS
Owner Tel.:	317-872-3200	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	Not Reported
Invoice Date:	15-OCT-94	Piping Method:	PRESSURIZED
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	29-JUN-95	Other Petroleum:	Not reported
Install Date:	01-JAN-76	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Tight, Release Container, Release Line Auto, Spill Basins, Overfill-Valves, Install Agency Certify, Install Checklist		

Facility ID:	000634	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	A E PETERSON	Tank Status:	Currently in Use
Contact Tel.:	317-872-3146	Year Installed:	1976
Owner Name:	EMRO MARKETING COMPANY	Age:	10
Owner Address:	5000 W 86TH ST	Capacity:	10000
City, State, Zip:	INDIANAPOLIS, IN 46268	Material:	FIBERGLASS
Owner Tel.:	317-872-3200	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	Not Reported
Invoice Date:	15-OCT-94	Piping Method:	PRESSURIZED
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	29-JUN-95	Other Petroleum:	Not reported
Install Date:	01-JAN-76	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Tight, Release Container, Release Line Auto, Spill Basins, Overfill-Valves, Install Agency Certify, Install Checklist		

SPEEDWAY #5149 (Continued) U001076714

Facility ID:	000634	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	04
Facility Contact:	A E PETERSON	Tank Status:	Currently in Use
Contact Tel.:	317-872-3146	Year Installed:	Not reported
Owner Name:	EMRO MARKETING COMPANY	Age:	00
Owner Address:	5000 W 86TH ST	Capacity:	04000
City, State, Zip:	INDIANAPOLIS, IN 46268	Material:	FIBERGLASS
Owner Tel.:	317-872-3200	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	Not Reported
Invoice Date:	Not reported	Piping Method:	PRESSURIZED
Entry Date:	29-JUN-95	Empty:	YES
User ID:	BCD	Substance:	DIESEL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	19-SEP-94	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Tight, Release Container, Release Line Auto, Spill Basins, Overfill-Valves, Install Agency Certify, Install Checklist		

Facility ID:	000634	Total Tanks:	03
Form Status:	COMPLETE	Tank Number:	05
Facility Contact:	A E PETERSON	Tank Status:	Currently in Use
Contact Tel.:	317-872-3146	Year Installed:	Not reported
Owner Name:	EMRO MARKETING COMPANY	Age:	00
Owner Address:	5000 W 86TH ST	Capacity:	04000
City, State, Zip:	INDIANAPOLIS, IN 46268	Material:	FIBERGLASS
Owner Tel.:	317-872-3200	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	Not Reported
Invoice Date:	Not reported	Piping Method:	PRESSURIZED
Entry Date:	29-JUN-95	Empty:	YES
User ID:	BCD	Substance:	KEROSENE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	19-SEP-94	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Tight, Release Container, Release Line Auto, Spill Basins, Overfill-Valves, Install Agency Certify, Install Checklist		

---

48 NE 1/2-1 Higher
STITES DRY CLEANERS
519 PARK AVE
KOKOMO, IN 46901

RCRIS-SQG 1000464097
FINDS IND016474546

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

STITES DRY CLEANERS (Continued) 1000464097

RCRIS:
Owner: STITES ROBERT
(312) 555-1212

Contact: ROBERT STITES
(317) 452-8238

Waste	Quantity	Info Source
F002	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

49
NW
1/2-1
Higher

2300 W CARTER
KOKOMO, IN

IN Spills S101640718
N/A

50
WSW
1/2-1
Higher

KOKOMO READY MIXED CONCRETE CORP
1315 SOUTH DIXON ROAD
KOKOMO, IN 46902

UST U000182540
N/A

UST:

Facility ID:	008583	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	CONRAD Y. SIKTBERG	Tank Status:	Perm Out of Use
Contact Tel.:	317-452-4044	Year Installed:	1978
Owner Name:	KOKOMO READY MIX CONCRETE CORP.	Age:	08
Owner Address:	1315 SOUTH DIXON ROAD	Capacity:	01000
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	317-452-4044	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	USED OIL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	12/87
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-DEC-87		
Tank Features:	NONE		

P51
NNW
1/2-1
Higher

ST JOSEPH HOSPITAL
1907 W SYCAMORE
KOKOMO, IN 46901

RCRIS-SQG 1000265670
FINDS IND982642423
MLTS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

ST JOSEPH HOSPITAL (Continued) 1000265670

RCRIS:
Owner: ST JOSEPH HOSPITAL
(312) 555-1212

Contact: CONNIE WALL
(317) 456-5341

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D001	.00000 (N)	Notification
D002	.00000 (N)	Notification	D003	.00000 (N)	Notification
F003	.00000 (N)	Notification	F005	.00000 (N)	Notification
P098	.00000 (N)	Notification			

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

Other Pertinent Environmental Activity Identified at Site:
facility has an emission permit under the Clean Air Act

P52 NNW 1/2-1 Higher — SAINT JOSEPH HOSPITAL&HEALTH CTR, 1907 W SYCAMORE ST, KOKOMO, IN 46901 — UST — U001079362 N/A

UST:

Facility ID:	016902	Total Tanks:	04
Form Status:	Not Reported	Tank Number:	02
Facility Contact:	STEVE LAUDENSCHLAGER	Tank Status:	Brought into Use after 5/8/86
Contact Tel.:	317-456-5177	Year Installed:	1987
Owner Name:	SAINT JOSEPH HOSPITAL&HEALTH CTR	Age:	03
Owner Address:	1907 W SYCAMORE ST	Capacity:	00500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-5177	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	FAB	Substance:	GASOLINE
Revise Date:	15-JUN-95	Other Petroleum:	Not reported
Install Date:	01-JAN-87	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, S.O. Other		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

SAINT JOSEPH HOSPITAL&HEALTH CTR *(Continued)* U001079362

Facility ID:	016902	Total Tanks:	04
Form Status:	Not Reported	Tank Number:	01
Facility Contact:	STEVE LAUDENSCHLAGER	Tank Status:	Brought into Use after 5/8/86
Contact Tel.:	317-456-5177	Year Installed:	1987
Owner Name:	SAINT JOSEPH HOSPITAL&HEALTH CTR	Age:	03
Owner Address:	1907 W SYCAMORE ST	Capacity:	00500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-5177	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	FAB	Substance:	DIESEL
Revise Date:	15-JUN-95	Other Petroleum:	Not reported
Install Date:	01-JAN-87	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, S.O. Other		

Q53 North 1/2-1 Higher — HANSELL COAL AND SUPPLY COMPANY, 1300 W MULBERRY ST, KOKOMO, IN 46901 — UST — U001829070, N/A

UST:

Facility ID:	018893	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	SHARON S. HANSELL	Tank Status:	Perm Out of Use
Contact Tel.:	317-452-9369	Year Installed:	Not reported
Owner Name:	HANSELL COAL & SUPPLY COMPANY	Age:	00
Owner Address:	1300 W MULBERRY ST	Capacity:	00250
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-452-9369	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	29-MAR-94	Empty:	YES
User ID:	AMS	Substance:	GASOLINE
Revise Date:	15-APR-94	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	01-MAR-94	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Install Agency Certify		

Q54 North 1/2-1 Higher — HANSELL COAL AND SUPPLY COMPANY, 1300 W MULBERRY ST, KOKOMO, IN 46901 — FINDS — 1000940193, IN0000787895

55 South 1/2-1 Higher — SUNOCO SERVICE STATION, 1101 W BLVD, KOKOMO, IN 46901 — RCRIS-SQG, FINDS — 1000330666, IND000714261

SUNOCO SERVICE STATION (Continued) 1000330666

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212

Contact: KARL BECKERS
(314) 878-4810

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D001	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

R56
East
1/2-1
Higher

WELDON & CLARK
1016 S MAIN ST
KOKOMO, IN

UST U000195105
N/A

UST:

Facility ID:	017245	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	02
Facility Contact:	CHARLES A DURRELL JR	Tank Status:	Perm Out of Use
Contact Tel.:	317-453-5236	Year Installed:	1900
Owner Name:	DURRELL CO INC DBA WELDON &CLARK	Age:	99
Owner Address:	4210 LANCE CT	Capacity:	04000
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	317-453-5236	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	UNKNOWN
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	11/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-NOV-90		
Tank Features:	NONE		

Facility ID:	017245	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	01
Facility Contact:	CHARLES A DURRELL JR	Tank Status:	Perm Out of Use
Contact Tel.:	317-453-5236	Year Installed:	1900
Owner Name:	DURRELL CO INC DBA WELDON &CLARK	Age:	99
Owner Address:	4210 LANCE CT	Capacity:	02000
City, State, Zip:	KOKOMO, IN 46902	Material:	STEEL
Owner Tel.:	317-453-5236	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	UNKNOWN
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	11/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-NOV-90		
Tank Features:	NONE		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
R57 East 1/2-1 Higher	DURRELL CO 1016 S MAIN KOKOMO, IN 46902	FINDS	1000762800 IND985100460

R58 East 1/2-1 Higher	DURRELL CO 1016 S MAIN ST KOKOMO, IN 46902	LUST	S101139980 N/A

LUST:

Facility ID:	000000	Site No.:	9009570
Responsible Staff:	XXX	Priority:	Low

59 NE > 1 Higher	PARK AVE. CAR WASH 340 W PARK AVE KOKOMO, IN 46901	UST	U000188102 N/A

UST:

Facility ID:	010297	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	R.T. WVNDERLICH SR.	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-0393	Year Installed:	1971
Owner Name:	R T WUNDERLICH SR DBA W OIL CO	Age:	15
Owner Address:	PO BOX 2855; 820 W MORGAN ST	Capacity:	10000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-459-0393	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	27-SEP-92	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	NOT APPLICABLE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	30-JUN-92	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	30-JUN-92		
Tank Features:	NONE		

PARK AVE. CAR WASH (Continued) U000188102

Facility ID:	010297	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	R.T. WVNDERLICH SR.	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-0393	Year Installed:	1971
Owner Name:	R T WUNDERLICH SR DBA W OIL CO	Age:	15
Owner Address:	PO BOX 2855 820 W MORGAN ST	Capacity:	10000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-459-0393	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	27-SEP-92	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	NOT APPLICABLE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	30-JUN-92	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	30-JUN-92		
Tank Features:	NONE		

---

60 East > 1 Higher — CONTINENTAL STEEL CORP, 1111 S MAIN ST, KOKOMO, IN 46902 — CERCLIS 1000412599; FINDS IND001213503; NPL; UST

CERCLIS Classification Data:

Site Incident Category:	Not reported	Federal Facility:	NO
Ownership Status:	OTHER	NPL Status:	CURRENTLY ON THE FINAL NPL
EPA Notes:	Not reported		

CERCLIS Assessment History:

Assessment:	DISCOVERY	Completed:	12/01/1983
Assessment:	PRELIMINARY ASSESSMENT	Completed:	09/17/1985
Assessment:	SCREENING SITE INSPECTION	Completed:	06/24/1988
Assessment:	HAZARD RANKING DETERMINED	Completed:	06/24/1988
Assessment:	PROPOSAL TO NPL	Completed:	06/24/1988
Assessment:	RMVL INVESTIGATION AT NPL	Completed:	08/09/1991
Assessment:	COMBINED RI/FS	Completed:	Not reported
Assessment:	RECORD OF DECISION	Completed:	Not reported
Assessment:	REMEDIAL ACTION	Completed:	Not reported
Assessment:	REMEDIAL DESIGN	Completed:	Not reported
Assessment:	RECORD OF DECISION	Completed:	Not reported
Assessment:	REMEDIAL DESIGN	Completed:	Not reported
Assessment:	REMEDIAL ACTION	Completed:	Not reported
Assessment:	COMBINED RI/FS	Completed:	Not reported
Assessment:	RECORD OF DECISION	Completed:	Not reported
Assessment:	REMEDIAL DESIGN	Completed:	Not reported
Assessment:	REMEDIAL ACTION	Completed:	Not reported
Assessment:	REMEDIAL COMMUNITY RELATIONS	Completed:	Not reported
Assessment:	RECORD OF DECISION	Completed:	Not reported
Assessment:	REMEDIAL DESIGN	Completed:	Not reported
Assessment:	REMEDIAL ACTION	Completed:	Not reported
Assessment:	COMBINED RI/FS	Completed:	Not reported
Assessment:	RECORD OF DECISION	Completed:	Not reported
Assessment:	REMEDIAL DESIGN	Completed:	Not reported
Assessment:	REMEDIAL ACTION	Completed:	Not reported
Assessment:	COMBINED RI/FS	Completed:	Not reported
Assessment:	RECORD OF DECISION	Completed:	Not reported

CONTINENTAL STEEL CORP (Continued) 1000412599

Assessment:	REMEDIAL DESIGN	Completed:	Not reported
Assessment:	REMEDIAL ACTION	Completed:	Not reported
Assessment:	COMBINED RI/FS	Completed:	Not reported
Assessment:	RECOFID OF DECISION	Completed:	Not reported
Assessment:	REMEDIAL DESIGN	Completed:	Not reported
Assessment:	REMEDIAL ACTION	Completed:	Not reported
Assessment:	COMBINED RI/FS	Completed:	Not reported
Assessment:	COMBINED RI/FS	Completed:	Not reported
Assessment:	REMEDIAL COMMUNITY RELATIONS	Completed:	Not reported
Assessment:	RMVL INVESTIGATION AT NPL	Completed:	05/16/1993
Assessment:	ADMINISTRATIVE RECORD	Completed:	Not reported
Assessment:	FINAL LISTING ON NPL	Completed:	03/31/1989
Assessment:	REMOVAL ACTION	Completed:	Not reported
Assessment:	RMVL INVESTIGATION AT NPL	Completed:	10/13/1989

CERCLIS Site Status:
This site is currently under investigation by the government to assess the extent of further action

CERCLIS Alias Name(s):
CONTINENTAL STEEL CORP

NPL:

ID:	05IN055
Date Listed:	3/31/89 (FINAL)
EPA/ID:	IND001213503
Haz. Rank Score:	31.85
Status:	LISTED ON NPL
Rank:	907
Group:	19
Ownership:	Private
Permit:	RCRA Interim Status
Site Activities:	Surface Impoundment
Site Activities:	Electroplating
Site Activities:	Other Manufacturing/Industrial
Site Condition:	Contam. Ground Water
Waste Type:	Metals
Waste Form:	Not reported

Contaminant:	Media Affected:
CHROMIUM AND COMPOUNDS, NOS (CR)	Ground Water
ARSENIC	Ground Water
NICKEL AND COMPOUNDS, NOS (NI)	Ground Water

Distance to nearest Population:	Not reported
Population within a 1 Mile Radius:	Not reported
Population within a 2 Mile Radius:	Not reported
Population within a 4 Mile Radius:	Not reported
Vertical Distance to Aquifer:	Not reported
Ground Water Use:	Used as Drinking Water, Alternative Source not Available
Distance to nearest Surface Water:	Not reported

Other Pertinent Environmental Activity Identified at Site:
facility has an emission permit under the Clean Air Act
civil judicial and administrative enforcement cases against facility

CONTINENTAL STEEL CORP (Continued) 1000412599

UST:

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	18
Facility Contact:	MATHEW GENTRY	Tank Status:	Currently in Use
Contact Tel.:	317-457-3356	Year Installed:	1968
Owner Name:	MATHEW GENTRY	Age:	18
Owner Address:	415 W BROADWAY	Capacity:	30000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	MATHEW GENTRY	Tank Status:	Temp Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1964
Owner Name:	MATHEW GENTRY	Age:	22
Owner Address:	415 W BROADWAY	Capacity:	04000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/86
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-86		
Tank Features:	NONE		

CONTINENTAL STEEL CORP (Continued) 1000412599

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	04
Facility Contact:	MATHEW GENTRY	Tank Status:	Temp Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1964
Owner Name:	MATHEW GENTRY	Age:	22
Owner Address:	415 W BROADWAY	Capacity:	04000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/86
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-86		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	05
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	15000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	INERT FILLED	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

CONTINENTAL STEEL CORP (Continued) 1000412599

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	06
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	15000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	INERT FILLED	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	07
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	15000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

CONTINENTAL STEEL CORP (Continued) 1000412599

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	08
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	15000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	09
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	12000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

CONTINENTAL STEEL CORP (Continued) 1000412599

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	10
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	12000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	11
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	10500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

CONTINENTAL STEEL CORP (Continued) 1000412599

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	12
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	10500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	13
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	10500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

CONTINENTAL STEEL CORP (Continued) 1000412599

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	14
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	10500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	15
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	10500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

CONTINENTAL STEEL CORP (Continued) 1000412599

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	16
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	10500
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	NONE
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

Facility ID:	015319	Total Tanks:	18
Form Status:	COMPLETE	Tank Number:	17
Facility Contact:	MATHEW GENTRY	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-3356	Year Installed:	1936
Owner Name:	MATHEW GENTRY	Age:	50
Owner Address:	415 W BROADWAY	Capacity:	15000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-457-3356	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	OTHER
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	19/60
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	31-DEC-60		
Tank Features:	NONE		

---

61 East > 1 Higher — HOBSON CLEANERS, 911 S MAIN ST, KOKOMO, IN 46901 — RCRIS-SQG 1000384488, FINDS IND061154092

RCRIS:
Owner: SHOLTY KRIS J
(312) 555-1212

Contact: KRIS SHOLTY
(317) 457-1821

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	F002	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
62 SSW > 1 Higher	SUNRAY CLEANERS 1706 W BLVD KOKOMO, IN 46902	RCRIS-SQG FINDS	1000354074 IND981782667

RCRIS:
Owner: JJPS ENTERPRISES INC
(312) 555-1212

Contact: JOYCE HEADY
(317) 453-3848

Waste	Quantity	Info Source
F002	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

63 East > 1 Higher	MURRAY & DAVIS INC 204 E MARKLAND AVE KOKOMO, IN 46901	UST	U001321824 N/A

UST:

Facility ID:	010302	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	JERRY OUSLEY	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-3185	Year Installed:	1961
Owner Name:	MURRAY AND DAVIS INC	Age:	25
Owner Address:	204 E MARKLAND	Capacity:	00550
City, State, Zip:	KOKOMO, IN 46901	Material:	UNKNOWN
Owner Tel.:	317-459-3185	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	Not Defined	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	USED OIL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

---

64 NNE > 1 Higher	MERRYMAN CUSTOM PAINT AND BODY SHOP 1218 W JACKSON ST KOKOMO, IN 46901	RCRIS-SQG FINDS	1000372840 IND982420192

RCRIS:
Owner: MERRYMAN RUDY
(312) 555-1212

Contact: RUDY MERRYMAN
(317) 457-6050

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D001	.00000 (N)	Notification
F003	.00000 (N)	Notification	F005	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
S65 North > 1 Higher	GWYN WILLIAMS STANDARD SERVICE 1304 W JEFFERSON ST KOKOMO, IN 46901	FINDS UST	1000754502 IND985003458

UST:

Facility ID:	015682	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	GAS STATION	Tank Status:	Perm Out of Use
Contact Tel.:	317-453-0728	Year Installed:	1962
Owner Name:	RICHARD L FAYL ETAL	Age:	29
Owner Address:	522 BELVEDERE	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-453-0728	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	UNKNOWN
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	08/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-AUG-90		
Tank Features:	NONE		

Facility ID:	015682	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	04
Facility Contact:	GAS STATION	Tank Status:	Currently in Use
Contact Tel.:	317-453-0728	Year Installed:	1962
Owner Name:	RICHARD L FAYL ETAL	Age:	27
Owner Address:	522 BELVEDERE	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-453-0728	Internal Prot.:	Not Reported
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	USED OIL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

GWYN WILLIAMS STANDARD SERVICE (Continued) 1000754502

Facility ID:	015682	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	GAS STATION	Tank Status:	Perm Out of Use
Contact Tel.:	317-453-0728	Year Installed:	1962
Owner Name:	RICHARD L RAYL ETAL	Age:	29
Owner Address:	522 BELVEDERE	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-453-0728	Internal Prot.:	Not Reported
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	UNKNOWN
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	08/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-AUG-90		
Tank Features:	NONE		

Facility ID:	015682	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	GAS STATION	Tank Status:	Perm Out of Use
Contact Tel.:	317-453-0728	Year Installed:	1962
Owner Name:	RICHARD L RAYL ETAL	Age:	29
Owner Address:	522 BELVEDERE	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-453-0728	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	UNKNOWN
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	08/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-AUG-90		
Tank Features:	NONE		

S66 North > 1 Higher — SPEEDWAY 5154, 1301 W JEFFERSON, KOKOMO, IN 46901 — RCRIS-SQG / FINDS — 1000464677 / IND984890764

RCRIS:
Owner: EMRO MARKETING CO
Contact: DOUG BONK
(317) 243-7500

Waste	Quantity	Info Source
D001	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
T67 NNE > 1 Higher	CLARK STORE #1432 1231 W JEFFERSON ST KOKOMO, IN 46901	UST	U001077559 N/A

UST:

Facility ID:	002925	Total Tanks:	04
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	Not reported	Tank Status:	Currently in Use
Contact Tel.:	317-452-2283	Year Installed:	1960
Owner Name:	CLARK REFINING & MARKETING INC	Age:	00
Owner Address:	1307 BUTTERFIELD STE 424	Capacity:	06000
City, State, Zip:	DOWNERS GROVE, IL 60515	Material:	STEEL
Owner Tel.:	708-434-5300	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	Not Reported
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	PRESSURIZED
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	03-FEB-95	Other Petroleum:	Not reported
Install Date:	01-JUN-60	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, Release Tank Tight, Spill Basins, Overfill-Alarms		

Facility ID:	002925	Total Tanks:	04
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	Not reported	Tank Status:	Currently in Use
Contact Tel.:	317-452-2283	Year Installed:	1960
Owner Name:	CLARK REFINING & MARKETING INC	Age:	00
Owner Address:	1307 BUTTERFIELD STE 424	Capacity:	06000
City, State, Zip:	DOWNERS GROVE, IL 60515	Material:	STEEL
Owner Tel.:	708-434-5300	Internal Prot.:	Not Reported
Owner Type:	CURRENT	External Prot.:	Not Reported
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	PRESSURIZED
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	03-FEB-95	Other Petroleum:	Not reported
Install Date:	01-JUN-60	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, Release Tank Tight, Spill Basins, Overfill-Alarms		

CLARK STORE #1432 (Continued) U001077559

Facility ID:	002925	Total Tanks:	04
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	Not reported	Tank Status:	Currently in Use
Contact Tel.:	317-452-2283	Year Installed:	1960
Owner Name:	CLARK REFINING & MARKETING INC	Age:	00
Owner Address:	1307 BUTTERFIELD STE 424	Capacity:	06000
City, State, Zip:	DOWNERS GROVE, IL 60515	Material:	STEEL
Owner Tel.:	708-434-5300	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	Not Reported
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	PRESSURIZED
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	03-FEB-95	Other Petroleum:	Not reported
Install Date:	01-JUN-60	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, Release Tank Tight, Spill Basins, Overfill-Alarms		

Facility ID:	002925	Total Tanks:	04
Form Status:	COMPLETE	Tank Number:	04
Facility Contact:	Not reported	Tank Status:	Currently in Use
Contact Tel.:	317-452-2283	Year Installed:	1960
Owner Name:	CLARK REFINING & MARKETING INC	Age:	00
Owner Address:	1307 BUTTERFIELD STE 424	Capacity:	06000
City, State, Zip:	DOWNERS GROVE, IL 60515	Material:	STEEL
Owner Tel.:	708-434-5300	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	Not Reported
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	PRESSURIZED
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	DIESEL
Revise Date:	03-FEB-95	Other Petroleum:	Not reported
Install Date:	01-JUN-60	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, Release Tank Tight, Spill Basins, Overfill-Alarms		

T68 NNE > 1 Higher — CLARK OIL STATION 1432, 1231 W JEFFERSON ST, KOKOMO, IN 46901 — RCRIS-SQG 1000511455, FINDS IND984912725

RCRIS:
Owner: CLARK OIL
(314) 524-5100

Contact: ED PEEK
(314) 524-5100

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D001	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
69 ESE > 1 Higher	CONTAMINATION STUDIES LAB 201 E DEFFENBAUGH KOKOMO, IN 46902	RCRIS-SQG FINDS	1000689437 IND984973164

RCRIS:
Owner: FORTUNE MANAGEMENT
(317) 457-1700
Contact: PATRICIA BARKER
(317) 457-8095

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D001	.00000 (N)	Notification	D002	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

U70 East > 1 Higher	IN STATE OF ORG MAINT SHOP 18 ARMY NG 315 E MARKLAND AVE KOKOMO, IN 46902	RCRIS-SQG FINDS	1000388121 IND981187875

RCRIS:
Owner: INDIANA STATE OF
(312) 555-1212
Contact: JACK LAMBERSON
(317) 456-3079

Waste	Quantity	Info Source	Waste	Quantity	Info Source
F001	.00000 (N)	Notification	F003	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

U71 East > 1 Higher	ORGANIZATIONAL MAINT SHOP # 18 315 E MARKLAND AVE KOKOMO, IN 46902	UST	U000191368 N/A

UST:

Facility ID:	012028	Total Tanks:	02
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	JACK C LAMBERSON	Tank Status:	Currently in Use
Contact Tel.:	317-456-3079	Year Installed:	1989
Owner Name:	MILITARY DEPARTMENT OF INDIANA	Age:	00
Owner Address:	2002 S HOLT RD	Capacity:	02000
City, State, Zip:	INDIANAPOLIS, IN 46241-4839	Material:	FIBERGLASS
Owner Tel.:	317-247-3105	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	DIESEL
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

ORGANIZATIONAL MAINT SHOP # 18 (Continued) — U000191368

Facility ID:	012028	Total Tanks:	02
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	JACK C LAMBERSON	Tank Status:	Perm Out of Use
Contact Tel.:	317-456-3079	Year Installed:	1963
Owner Name:	MILITARY DEPARTMENT OF INDIANA	Age:	26
Owner Address:	2002 S HOLT RD	Capacity:	02000
City, State, Zip:	INDIANAPOLIS, IN 46241-4839	Material:	STEEL
Owner Tel.:	317-247-3105	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/89
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-89		
Tank Features:	NONE		

Facility ID:	012028	Total Tanks:	02
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	JACK C LAMBERSON	Tank Status:	Currently in Use
Contact Tel.:	317-456-3079	Year Installed:	1960
Owner Name:	MILITARY DEPARTMENT OF INDIANA	Age:	29
Owner Address:	2002 S HOLT RD	Capacity:	01000
City, State, Zip:	INDIANAPOLIS, IN 46241-4839	Material:	UNKNOWN
Owner Tel.:	317-247-3105	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	NONE		

---

72 NE > 1 Higher — LADOW PROPERTY, 107 S WASHINGTON ST, KOKOMO, IN 46901 — LUST — S101139999 / N/A

LUST:

Facility ID:	000000	Site No.:	9208524
Responsible Staff:	XXX	Priority:	Low

---

73 NE > 1 Higher — KOKOMO FIRE DEPT, 215 W SUPERIOR ST, KOKOMO, IN 46901 — UST — U001078329 / N/A

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

KOKOMO FIRE DEPT (Continued) U001078329

UST:

Facility ID:	004963	Total Tanks:	01
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	LARRY E LAIRD	Tank Status:	Currently in Use
Contact Tel.:	317-457-2636	Year Installed:	1978
Owner Name:	CITY OF KOKOMO	Age:	00
Owner Address:	100 S UNION ST	Capacity:	10000
City, State, Zip:	KOKOMO, IN 46901	Material:	STEEL
Owner Tel.:	317-456-7444	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	STATE/LOCAL GOVT.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	24-FEB-95	Other Petroleum:	Not reported
Install Date:	01-MAR-78	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	00/00
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Release Tank Manual, Release Ground, Cathodic Tank, Install Manufacturer Certify, Install Agency Certify, Install Engineer Inspection, Install Agency Inspection, Install Checklist		

---

74 East > 1 Higher — FEDERAL EXPRESS CORP, 1102 S APPERSON WAY, KOKOMO, IN 46902 — RCRIS-SQG 1000213160, FINDS IND984876615

RCRIS:

Owner: TIGNOR STERLING

Contact: MIKE SULKIN
(317) 459-3329

Waste	Quantity	Info Source
D001	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

V75 NW > 1 Higher — HERB'S AUTO CENTER, INC., 2340 W SYCAMORE ST, KOKOMO, IN 46901 — LUST S101139987, N/A

LUST:

Facility ID:	004428	Site No.:	9108545
Responsible Staff:	XXX	Priority:	Medium

V76 NW > 1 Higher — SUNOCO SERVICE STATION, 2340 W SYCAMORE ST, KOKOMO, IN 46901 — RCRIS-SQG 1000330665, FINDS IND000714253

SUNOCO SERVICE STATION (Continued) 1000330665

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212

Contact: KARL BECKERS
(314) 878-4810

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D001	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

V77 NW > 1 Higher — DIXON INVESTMENTS INC, 2340 W SYCAMORE ST, KOKOMO, IN 46901 — UST — U001077878 / N/A

UST:

Facility ID:	004428	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1966
Owner Name:	DIXON INVESTMENTS INC	Age:	20
Owner Address:	522 BELUEDERE DR	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46904	Material:	STEEL
Owner Tel.:	317-457-7573	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	28-MAR-95	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	22-MAR-93	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Install Agency Certify		

Facility ID:	004428	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	02
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1966
Owner Name:	DIXON INVESTMENTS INC	Age:	20
Owner Address:	522 BELUEDERE DR	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46904	Material:	STEEL
Owner Tel.:	317-457-7573	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	28-MAR-95	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	23-MAR-93	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Install Agency Certify		

DIXON INVESTMENTS INC (Continued) U001077878

Facility ID:	004428	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	03
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1966
Owner Name:	DIXON INVESTMENTS INC	Age:	20
Owner Address:	522 BELUEDERE DR	Capacity:	06000
City, State, Zip:	KOKOMO, IN 46904	Material:	STEEL
Owner Tel.:	317-457-7573	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	GASOLINE
Revise Date:	28-MAR-95	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	23-MAR-93	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Install Agency Certify		

Facility ID:	004428	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	04
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1966
Owner Name:	DIXON INVESTMENTS INC	Age:	20
Owner Address:	522 BELUEDERE DR	Capacity:	00550
City, State, Zip:	KOKOMO, IN 46904	Material:	STEEL
Owner Tel.:	317-457-7573	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	15-OCT-94	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	BCD	Substance:	USED OIL
Revise Date:	28-MAR-95	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	23-MAR-93	Last Used:	00/00
Closure Status:	REMOVED	Substance Removal:	00000
Last Used Date:	Not reported		
Tank Features:	Install Agency Certify		

V78 NW > 1 Higher — DIXON INVESTMENTS, 2340 W SYCAMORE ST, KOKOMO, IN 46901 — LUST — S101140008, N/A

LUST:

Facility ID:	004428	Site No.:	9309506
Responsible Staff:	XXX	Priority:	Medium

W79 NE > 1 Higher — SUPERIOR CLEANERS, 124 W SUPERIOR, KOKOMO, IN 46901 — RCRIS-SQG, FINDS — 1000215612, IND982069171

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

SUPERIOR CLEANERS (Continued) 1000215612

RCRIS:
Owner: CANDLISH FRED
(317) 452-4115

Contact: VICKIE CANDLISH
(317) 452-4115

Waste	Quantity	Info Source
F002	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
W80 NE > 1 Higher	H NAD H FURNITURE STRIPPING 226 1/2 S MAIN ST KOKOMO, IN 46901	RCRIS-SQG FINDS	1000510249 IND984898700

RCRIS:
Owner: HOUGH HARRY
(317) 459-9110

Contact: HARRY HOUGH
(317) 459-9110

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D001	.00000 (N)	Notification	D002	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

---

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
81 NE > 1 Higher	L ONEN BOLINGER 215 N WASHINGTON ST KOKOMO, IN 46901	UST	U001078502 N/A

UST:

Facility ID:	005705	Total Tanks:	04
Form Status:	INCOMPLETE	Tank Number:	01
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1961
Owner Name:	MARTIN OIL MARKETING OF INDIANA	Age:	25
Owner Address:	4501 W. 127TH STREET	Capacity:	06000
City, State, Zip:	ALSIP, IL 60658	Material:	STEEL
Owner Tel.:	708-385-6500	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/81
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-81		
Tank Features:	NONE		

L ONEN BOLINGER (Continued) U001078502

Facility ID:	005705	Total Tanks:	04
Form Status:	INCOMPLETE	Tank Number:	02
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1961
Owner Name:	MARTIN OIL MARKETING OF INDIANA	Age:	25
Owner Address:	4501 W. 127TH STREET	Capacity:	06000
City, State, Zip:	ALSIP, IL 60658	Material:	STEEL
Owner Tel.:	708-385-6500	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/81
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-81		
Tank Features:	NONE		

Facility ID:	005705	Total Tanks:	04
Form Status:	INCOMPLETE	Tank Number:	03
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1961
Owner Name:	MARTIN OIL MARKETING OF INDIANA	Age:	25
Owner Address:	4501 W. 127TH STREET	Capacity:	04000
City, State, Zip:	ALSIP, IL 60658	Material:	STEEL
Owner Tel.:	708-385-6500	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/81
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-81		
Tank Features:	NONE		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	L ONEN BOLINGER (Continued)		U001078502

Facility ID:	005705	Total Tanks:	04
Form Status:	INCOMPLETE	Tank Number:	04
Facility Contact:	Not reported	Tank Status:	Perm Out of Use
Contact Tel.:	Not reported	Year Installed:	1961
Owner Name:	MARTIN OIL MARKETING OF INDIANA	Age:	25
Owner Address:	4501 W. 127TH STREET	Capacity:	12000
City, State, Zip:	ALSIP, IL 60658	Material:	STEEL
Owner Tel.:	708-385-6500	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	Not reported	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/81
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-81		
Tank Features:	NONE		

X82 ENE > 1 Higher	DELONG AUTO PARTS 315 S UNION ST KOKOMO, IN 46901	LUST	S101139975 N/A

LUST:

Facility ID:	008787	Site No.:	9003513
Responsible Staff:	NFA	Priority:	Low

X83 ENE > 1 Higher	DELONG PARTS & ACC. CO., INC 315 S. UNION STREET KOKOMO, IN 46901	UST	U001321816 N/A

UST:

Facility ID:	008787	Total Tanks:	00
Form Status:	COMPLETE	Tank Number:	01
Facility Contact:	JOHN F. DELONG	Tank Status:	Perm Out of Use
Contact Tel.:	317-457-4433	Year Installed:	1940
Owner Name:	JOHN F DELONG	Age:	46
Owner Address:	PO BOX 849	Capacity:	01000
City, State, Zip:	KOKOMO, IN 46903-0849	Material:	STEEL
Owner Tel.:	317-457-4433	Internal Prot.:	CATHODIC PROT.
Owner Type:	Not Reported	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	01-DEC-89	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	04/90
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-APR-90		
Tank Features:	NONE		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
84 ESE > 1 Higher	KOKOMO SPRING CO INC 329 E FIRMIN ST KOKOMO, IN 46902	FINDS UST LUST	1000751253 IND053727426

Other Pertinent Environmental Activity Identified at Site:
facility has an emission permit under the Clean Air Act

LUST:

Facility ID:	000000	Site No.:	8908525
Responsible Staff:	DIS	Priority:	Low

UST:

Facility ID:	016511	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	05
Facility Contact:	CHRIS RIFFE	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-5156	Year Installed:	1989
Owner Name:	HOWARD L ULEESNER	Age:	00
Owner Address:	524 W MAIN	Capacity:	12000
City, State, Zip:	CAMBRIDGE CITY, IN 47327	Material:	STEEL
Owner Tel.:	317-478-4030	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	NOT APPLICABLE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/89
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-89		
Tank Features:	NONE		

Facility ID:	016511	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	04
Facility Contact:	CHRIS RIFFE	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-5156	Year Installed:	1974
Owner Name:	HOWARD L ULEESNER	Age:	15
Owner Address:	524 W MAIN	Capacity:	12000
City, State, Zip:	CAMBRIDGE CITY, IN 47327	Material:	STEEL
Owner Tel.:	317-478-4030	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	NOT APPLICABLE
Revise Date:	Not reported	Other Petroleum:	FUEL OIL
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/89
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-89		
Tank Features:	NONE		

KOKOMO SPRING CO INC (Continued) 1000751253

Facility ID:	016511	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	01
Facility Contact:	CHRIS RIFFE	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-5156	Year Installed:	1989
Owner Name:	HOWARD L ULEESNER	Age:	00
Owner Address:	524 W MAIN	Capacity:	08000
City, State, Zip:	CAMBRIDGE CITY, IN 47327	Material:	STEEL
Owner Tel.:	317-478-4030	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	YES
User ID:	Not reported	Substance:	NOT APPLICABLE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/89
Closure Status:	Not Defined	Substance Removal:	00009
Last Used Date:	01-JUN-89		
Tank Features:	NONE		

Facility ID:	016511	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	03
Facility Contact:	CHRIS RIFFE	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-5156	Year Installed:	1964
Owner Name:	HOWARD L ULEESNER	Age:	25
Owner Address:	524 W MAIN	Capacity:	10000
City, State, Zip:	CAMBRIDGE CITY, IN 47327	Material:	STEEL
Owner Tel.:	317-478-4030	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/89
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-89		
Tank Features:	NONE		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

KOKOMO SPRING CO INC (Continued) — 1000751253

Facility ID:	016511	Total Tanks:	00
Form Status:	Not Reported	Tank Number:	02
Facility Contact:	CHRIS RIFFE	Tank Status:	Perm Out of Use
Contact Tel.:	317-459-5156	Year Installed:	1974
Owner Name:	HOWARD L ULEESNER	Age:	15
Owner Address:	524 W MAIN	Capacity:	01000
City, State, Zip:	CAMBRIDGE CITY, IN 47327	Material:	STEEL
Owner Tel.:	317-478-4030	Internal Prot.:	CATHODIC PROT.
Owner Type:	CURRENT	External Prot.:	CATHODIC PROT.
Owner Descr.:	PRIVATE/CORP.	Piping:	BARE STEEL
Invoice Date:	12-DEC-90	Piping Method:	Not Reported
Entry Date:	Not reported	Empty:	NO
User ID:	Not reported	Substance:	GASOLINE
Revise Date:	Not reported	Other Petroleum:	Not reported
Install Date:	Not reported	Haz. Subst. Descr.:	Not reported
Closure Date:	Not reported	Last Used:	06/89
Closure Status:	Not Defined	Substance Removal:	00000
Last Used Date:	01-JUN-89		
Tank Features:	NONE		

---

85 NE > 1 Higher — MARATHON, 325 N WASHINGTON ST, KOKOMO, IN 46901 — LUST — S101139971 / N/A

LUST:

Facility ID:	005354	Site No.:	9001539
Responsible Staff:	XXX	Priority:	Medium

---

86 NNE > 1 Higher — C & C OIL CO, 520 W JEFFERSON ST, KOKOMO, IN 46901 — LUST — S101139963 / N/A

LUST:

Facility ID:	003146	Site No.:	8903070
Responsible Staff:	XXX	Priority:	Low

---

87 ENE > 1 Higher — KOKOMO PUBLIC SCHOOL, 500 APPERSON WAY S, KOKOMO, IN — LUST — S101139973 / N/A

LUST:

Facility ID:	010353	Site No.:	9001548
Responsible Staff:	DIS	Priority:	Low

---

88 NE > 1 Higher — DECORATOR DEPOT, 208 E MULBERRY ST, KOKOMO, IN 46901 — LUST — S101139986 / N/A

LUST:

Facility ID:	000000	Site No.:	9107514
Responsible Staff:	XXX	Priority:	Medium

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
89 NE > 1 Higher	C & C OIL CO 700 N WASHINGTON ST KOKOMO, IN 46901	LUST	S101139976 N/A

LUST:
Facility ID: 003149 Site No.: 9005508
Responsible Staff:XXX Priority: Low

90 ESE > 1 Higher	GMC DELCO ELECTRONICS PLANT 1 700 E FIRMIN ST KOKOMO, IN 46901	RCRIS-LQG RCRIS-TSD CORRACTS	1000463645 IND006068050

CORRACTS Data:
Prioritization: Low
Status: *RCRA Facility Investigation Completed*

RCRIS:
Owner: GMC DELCO ELECTRONICS KOKOMO PLANT 1
(317) 459-7912

Contact: PAUL LUCHTEFELD
(317) 459-7912

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D001	.00000 (N)	Notification	D002	.00000 (N)	Notification
D003	.00000 (N)	Notification	F001	.00000 (N)	Notification
F002	.00000 (N)	Notification	F003	.00000 (N)	Notification
F004	.00000 (N)	Notification	F005	.00000 (N)	Notification
F006	.00000 (N)	Notification	F007	.00000 (N)	Notification
F008	.00000 (N)	Notification	F009	.00000 (N)	Notification
F010	.00000 (N)	Notification	F017	.00000 (N)	Notification
P001	.00000 (N)	Notification	P011	.00000 (N)	Notification
P012	.00000 (N)	Notification	P021	.00000 (N)	Notification
P022	.00000 (N)	Notification	P029	.00000 (N)	Notification
P030	.00000 (N)	Notification	P096	.00000 (N)	Notification
P098	.00000 (N)	Notification	P099	.00000 (N)	Notification
P104	.00000 (N)	Notification	P106	.00000 (N)	Notification
P121	.00000 (N)	Notification	U002	.00000 (N)	Notification
U009	.00000 (N)	Notification	U012	.00000 (N)	Notification
U013	.00000 (N)	Notification	U019	.00000 (N)	Notification
U031	.00000 (N)	Notification	U043	.00000 (N)	Notification
U044	.00000 (N)	Notification	U052	.00000 (N)	Notification
U070	.00000 (N)	Notification	U071	.00000 (N)	Notification
U072	.00000 (N)	Notification	U108	.00000 (N)	Notification
U112	.00000 (N)	Notification	U122	.00000 (N)	Notification
U123	.00000 (N)	Notification	U133	.00000 (N)	Notification
U134	.00000 (N)	Notification	U140	.00000 (N)	Notification
U144	.00000 (N)	Notification	U151	.00000 (N)	Notification
U154	.00000 (N)	Notification	U156	.00000 (N)	Notification
U159	.00000 (N)	Notification	U161	.00000 (N)	Notification
U162	.00000 (N)	Notification	U188	.00000 (N)	Notification
U210	.00000 (N)	Notification	U211	.00000 (N)	Notification
U220	.00000 (N)	Notification	U221	.00000 (N)	Notification
U222	.00000 (N)	Notification	U223	.00000 (N)	Notification
U226	.00000 (N)	Notification	U228	.00000 (N)	Notification
U238	.00000 (N)	Notification	U239	.00000 (N)	Notification

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

GMC DELCO ELECTRONICS PLANT 1 (Continued) 1000463645

F001	9.07200 (N)	Part A	F002	4.53600 (N)	Part A
F003	4.53600 (N)	Part A	F004	.45300 (N)	Part A
F005	2.26800 (N)	Part A	F006	1632.96000 (N)	Part A
F007	1360.80000 (N)	Part A	F009	907.20000 (N)	Part A
F010	.45300 (N)	Part A	F017	.00000 (N)	Part A
P001	.01100 (N)	Part A	P011	.04500 (N)	Part A
P012	.04500 (N)	Part A	P021	.04500 (N)	Part A
P022	.02200 (N)	Part A	P029	.04500 (N)	Part A
P030	.29400 (N)	Part A	P096	.00400 (N)	Part A
P098	.04500 (N)	Part A	P099	.04500 (N)	Part A
P104	.01100 (N)	Part A	P106	.09000 (N)	Part A
P121	.01100 (N)	Part A	U002	2.26800 (N)	Part A
U009	.04500 (N)	Part A	U012	.02200 (N)	Part A
U013	.00000 (N)	Part A	U019	.00000 (N)	Part A
U031	.02200 (N)	Part A	U043	4.53600 (N)	Part A
U044	.02200 (N)	Part A	U052	.45300 (N)	Part A
U070	.04500 (N)	Part A	U071	.04500 (N)	Part A
U072	.04500 (N)	Part A	U108	.02200 (N)	Part A
U112	.45300 (N)	Part A	U122	4.53600 (N)	Part A
U123	.45300 (N)	Part A	U133	.04500 (N)	Part A
U134	.22600 (N)	Part A	U140	.22600 (N)	Part A
U144	.04500 (N)	Part A	U151	.00200 (N)	Part A
U154	.90700 (N)	Part A	U156	.04500 (N)	Part A
U159	.45300 (N)	Part A	U161	.04500 (N)	Part A
U162	.04500 (N)	Part A	U188	.04500 (N)	Part A
U210	2.26800 (N)	Part A	U211	.04500 (N)	Part A
U220	.90700 (N)	Part A	U221	.04500 (N)	Part A
U222	.04500 (N)	Part A	U223	.02200 (N)	Part A
U226	4.53600 (N)	Part A	U228	2.26800 (N)	Part A
U238	.04500 (N)	Part A	U239	.04500 (N)	Part A
D001	.22600 (N)	Part A	D002	4.53600 (N)	Part A
D003	.22600 (N)	Part A	F008	90.72000 (N)	Part A

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

There are 5 compliance/violation record(s) reported at this site:

Evaluation	Date	Violations
COMPLIANCE SCHEDULE EVALUATION (CSE)	16-FEB-94	YES
COMPLIANCE EVALUATION INSPECTION (CEI)	14-SEP-93	YES
COMPLIANCE EVALUATION INSPECTION (CEI)	07-AUG-92	YES
OTHER EVALUATION	06-JUN-90	YES
OTHER EVALUATION	17-DEC-87	YES

91 NNE > 1 Higher	MIDWEST PLATING CORP 1509 N WASHINGTON ST KOKOMO, IN 46901	CERCLIS FINDS RCRIS-LQG SHWS	1000436368 IND006059117

CERCLIS Classification Data:

Site Incident Category:	Not reported	Federal Facility:	NO
Ownership Status:	OTHER	NPL Status:	NOT ON NPL
EPA Notes:	Not reported		

CERCLIS Assessment History:

Assessment:	DISCOVERY	Completed:	08/01/1980
Assessment:	PRELIMINARY ASSESSMENT	Completed:	06/19/1987

MIDWEST PLATING CORP (Continued) 1000436368

Assessment:	SCREENING SITE INSPECTION	Completed:	12/21/1990
Assessment:	REMOVAL ACTION	Completed:	11/21/1986
Assessment:	ADMINISTRATIVE RECORD	Completed:	12/02/1991

CERCLIS Site Status:
EPA has conducted a preliminary assessment on this site and has determined that no further action is necessary and no hazard was identified

CERCLIS Alias Name(s):
MIDWEST PLATING-KOKOMO

RCRIS:
Owner: M L TAYLOR A W YOUNG
(312) 555-1212

Contact: DAVID YOUNG
(317) 459-5123

Waste	Quantity	Info Source	Waste	Quantity	Info Source
D000	.00000 (N)	Notification	D002	.00000 (N)	Notification
D003	.00000 (N)	Notification	F007	.00000 (N)	Notification
F008	.00000 (N)	Notification	F009	.00000 (N)	Notification
P029	.00000 (N)	Notification	P030	.00000 (N)	Notification
P098	.00000 (N)	Notification	P099	.00000 (N)	Notification
P104	.00000 (N)	Notification	P106	.00000 (N)	Notification

(P) = Pounds , (K) = Kilograms , (M) = Metric Tons , (T) = Tons , (N) = Not Reported

There are 1 compliance/violation record(s) reported at this site:

Evaluation	Date	Violations
OTHER EVALUATION	28-AUG-84	YES

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
HOWARD	U000184293	CLARK STORE #665	801 E MARKLAND	46901	UST	002896
HOWARD COUNTY	S101165397	GREENTOWN LF			SWF/LF	
HOWARD COUNTY	S100343254	FIVECOATE LF			SWF/LF	
KOKOMO	U001321835	EARTH STATION SITE	SR 26	46902	UST	010190
KOKOMO	U001082731	KOKOMO UNIT	US 35 & SR 22, 2.75 E. OF US 3		UST	003713
KOKOMO	U000192116	GLENN DALE AIRPORT	3460 S 400 W	46902	UST	012794
KOKOMO	U000186479	CHAS, CONKLE MTR CO INC	318 & 401 N. BUCKEYE	46901	UST	008741
KOKOMO	1000401053	MASTER CIRCUITS INC	424 APPERSON WAY N	46901	RCRIS-SQG, FINDS	
KOKOMO	1000306638	PENN-DIXIE STEEL CORP	ATTN: P. E. SCHREINER	46901	TSCA	
KOKOMO	U001080705	H E MCGONIGAL	1220 E BOULEVARD # 3066	46902	UST	011887
KOKOMO	1000825729	FURROW BLDG MATERIALS	96 W COUNTRY RD 300 S	46902	RCRIS-SQG, FINDS	
KOKOMO	S101139964	HAYES INTERNATIONAL	WEST DEFENBAUGH		LUST	
KOKOMO	1000125142	PSI ENERGY	1619 W DEFFENBAUGH	46901	RCRIS-SQG, FINDS	
KOKOMO	U001321790	DEFFENBAUGH STREET OPERATIONS	DEFFENBAUGH STREET	46902	UST	003030
KOKOMO	1000438808	KOKOMO SPRING CO INC	329 E FIRMIN	46901	RCRIS-SQG	
KOKOMO	U000185807	FIRESTONE STORE #29Y7	1805 E HOFFER ST	46902	UST	004721
KOKOMO	U001078210	FIRESTONE DAVE EVANS TIRE	1805 E HOFFER ST	46902	UST	004762
KOKOMO	U000185039	CENTRAL TRANSPORT	1200 S HOME	46901	UST	002107
KOKOMO	1000269566	WILKERSON BODY SHOP	1308 S HOME	46902	RCRIS-SQG, FINDS	
KOKOMO	S101140004	CONWAY CENTRAL EXPRESS	1632 E. JACKSON ST.		LUST	
KOKOMO	U001082627	SPEEDWAY UNIT 5154	1301 W JEFFERSON & PHILLIPS		UST	000636
KOKOMO	1000512962	VE VEC TRANSPORT	1030 S MAIN ST	46901	FINDS, UST	005720
KOKOMO	U000182002	STAR BUILDING SUPPLY INC	1501 N MARKET ST PO BOX 649	46901	UST	000496
KOKOMO	U001079143	JIFFY LUBE	1701 MARKLAND AVE	46901	UST	016440
KOKOMO	1000757428	VILLAGE PANTRY 560	301 W MARKLAND	46902	FINDS, UST	007049
KOKOMO	1000759331	KMART STORE 4014	1805 E MARKLAND	46902	FINDS, UST	005010
KOKOMO	1000271073	MARKLAND ROAD QUARRY SITE	WEST MARKLAND/BRANDON STREET	46902	CERCLIS, FINDS	
KOKOMO	S101139994	MUNDY REALTY	MORGAN ST / APPERSON		LUST	
KOKOMO	1000342533	CABOT CORP	SOUTH OF 400 S WASHINGTON ST	46901	RCRIS-SQG	
KOKOMO	1000342534	HIGH TECHNOLOGY MATERIALS DIV	1020 W PK AVE	46901	RCRIS-SQG, FINDS, CERC-NFRAP	
KOKOMO	1000330594	SUNOCO SERVICE STATION	300 WALNUT ST	46902	RCRIS-SQG, FINDS	
KOKOMO	U000183210	GO FOR CORNER STORE	300 W WALNUT	46902	UST	002814
KOKOMO	1000245702	INDIANA UNIVERSITY KOKOMO	2300 S WASHINGTON ST	46901	FINDS, RCRIS-LQG	
KOKOMO	U000186711	MARATHON UNIT 1233	325 N WASHINGTON AND TAYLOR	46901	UST	005354
KOKOMO	U001078615	MARATHON UNIT 1232	2105 S WASHINGTON & BLVD AVE	46902	UST	005353
KOKOMO	U001444314	SHELL SERVICE STATION	933 S. WASHINGTON	46902	UST	000118
KOKOMO	1000512643	MILK BARN	2695 S WEBSTER	46901	FINDS, UST	002508
KOKOMO	S101139991	US POSTAL SERVICE (KOKOMO)	WEBSTER / LINCOLN		LUST	

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest Well.

PWS SUMMARY:

PWS ID:	IN5234001	PWS Status:	Active	Distance from TP:	1 - 2 Miles
Date Initiated:	January / 1976	Date Deactivated:	Not Reported	Dir relative to TP:	East
PWS Name:	STATELY MANOR MOBILE HOME PARK L. BONTRAGER 250 EAST, 200 NORTH KOKOMO, IN 46901				

Addressee / Facility Type:	Not Reported
Facility Name:	Not Reported

Facility Latitude:	40 29 11	Facility Longitude:	086 08 00
City Served:	INDIANAPOLIS		
Treatment Class:	Untreated	Population Served:	101 - 500 Persons

Well currently has or has had major violation(s): No

EPA Waste Codes Addendum

Code	Description
D000	NOT DEFINED
D001	IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
D002	A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
D003	A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.
D005	BARIUM
D007	CHROMIUM
D010	SELENIUM
D018	BENZENE
D039	TETRACHLOROETHYLENE
F001	THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F002	THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F003	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL

EPA Waste Codes Addendum

Code	Description
	ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F004	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: CRESOLS AND CRESYLIC ACID, AND NITROBENZENE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F005	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F006	WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.
F007	SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS
F008	PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.
F009	SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.
F010	QUENCHING BATH RESIDUES FROM OIL BATHS FROM METAL HEAT TREATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.
F017	NOT DEFINED
K061	EMISSION CONTROL DUST/SLUDGE FROM THE PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES.
K062	SPENT PICKLE LIQUOR GENERATED BY STEEL FINISHING OPERATIONS OF FACILITIES WITHIN THE IRON AND STEEL INDUSTRY (SIC CODES 331 AND 332).
K063	NOT DEFINED
P001	2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

EPA Waste Codes Addendum

Code	Description
P001	WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
P011	ARSENIC OXIDE AS2O3
P011	ARSENIC PENTOXIDE
P012	ARSENIC OXIDE AS2O3
P012	ARSENIC TRIOXIDE
P021	CALCIUM CYANIDE
P021	CALCIUM CYANIDE CA(CN)2
P022	CARBON DISULFIDE
P029	COPPER CYANIDE
P029	COPPER CYANIDE CU(CN)
P030	CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED
P049	DITHIOBIURET
P049	THIOIMIDODICARBONIC DIAMIDE [(H2N)C(S)]2NH
P096	HYDROGEN PHOSPHIDE
P096	PHOSPHINE
P098	POTASSIUM CYANIDE
P098	POTASSIUM CYANIDE K(CN)
P099	ARGENTATE(1-), BIS(CYANO-C)-, POTASSIUM
P099	POTASSIUM SILVER CYANIDE
P102	PROPARGYL ALCOHOL
P102	2-PROPYN-1-OL
P104	SILVER CYANIDE
P104	SILVER CYANIDE AG(CN)
P106	SODIUM CYANIDE
P106	SODIUM CYANIDE NA(CN)
P121	ZINC CYANIDE
P121	ZINC CYANIDE ZN(CN)2

EPA Waste Codes Addendum

Code	Description
U002	ACETONE (I)
U002	2-PROPANONE (I)
U009	ACRYLONITRILE
U009	2-PROPENENITRILE
U012	ANILINE (I,T)
U012	BENZENAMINE (I,T)
U013	NOT DEFINED
U019	BENZENE (I,T)
U031	1-BUTANOL (I)
U031	N-BUTYL ALCOHOL (I)
U043	ETHENE, CHLORO-
U043	VINYL CHLORIDE
U044	CHLOROFORM
U044	METHANE, TRICHLORO-
U052	CRESOL (CRESYLIC ACID)
U052	PHENOL, METHYL-
U070	BENZENE, 1,2-DICHLORO-
U070	O-DICHLOROBENZENE
U071	BENZENE, 1,3-DICHLORO-
U071	M-DICHLOROBENZENE
U072	BENZENE, 1,4-DICHLORO-
U072	P-DICHLOROBENZENE
U108	1,4-DIETHYLENEOXIDE
U108	1,4-DIOXANE
U112	ACETIC ACID ETHYL ESTER (I)
U112	ETHYL ACETATE (I)
U122	FORMALDEHYDE

EPA Waste Codes Addendum

Code	Description
U123	FORMIC ACID (C,T)
U133	HYDRAZINE (R,T)
U134	HYDROFLUORIC ACID (C,T)
U134	HYDROGEN FLUORIDE (C,T)
U140	ISOBUTYL ALCOHOL (I,T)
U140	1-PROPANOL, 2-METHYL- (I,T)
U144	ACETIC ACID, LEAD(2+) SALT
U144	LEAD ACETATE
U151	MERCURY
U154	METHANOL (I)
U154	METHYL ALCOHOL (I)
U156	CARBONOCHLORIDIC ACID, METHYL ESTER (I,T)
U156	METHYL CHLOROCARBONATE (I,T)
U159	2-BUTANONE (I,T)
U159	METHYL ETHYL KETONE (MEK) (I,T)
U161	METHYL ISOBUTYL KETONE (I)
U161	4-METHYL-2-PENTANONE (I)
U161	PENTANOL, 4-METHYL-
U162	METHYL METHACRYLATE (I,T)
U162	2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T)
U188	PHENOL
U210	ETHENE, TETRACHLORO-
U210	TETRACHLOROETHYLENE
U211	CARBON TETRACHLORIDE
U211	METHANE, TETRACHLORO-
U220	BENZENE, METHYL-
U220	TOLUENE

EPA Waste Codes Addendum

Code	Description
U221	BENZENEDIAMINE, AR-METHYL-
U221	TOLUENEDIAMINE
U222	BENZENAMINE, 2-METHYL-, HYDROCHLORIDE
U222	O-TOLUIDINE HYDROCHLORIDE
U223	BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T)
U223	TOLUENE DIISOCYANATE (R,T)
U226	ETHANE, 1,1,1-TRICHLORO-
U226	METHYL CHLOROFORM
U228	ETHENE, TRICHLORO-
U228	TRICHLOROETHYLENE
U238	CARBAMIC ACID, ETHYL ESTER
U238	ETHYL CARBAMATE (URETHANE)
U239	BENZENE, DIMETHYL- (I,T)
U239	XYLENE (I)

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA/NTIS
Telephone: 703-416-0702
CERCLIS: CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/31/95
Date Made Active at EDR: 12/04/95
Date of Data Arrival at EDR: 11/02/95
Elapsed ASTM days: 32

ERNS: Emergency Response Notification System
Source: EPA
Telephone: 202-260-2342
ERNS: Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/94
Date Made Active at EDR: 05/25/95
Date of Data Arrival at EDR: 04/11/95
Elapsed ASTM days: 44

NPL: National Priority List
Source: EPA
Telephone: 703-603-8852
NPL: National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, it is EDR's policy to plot NPL sites greater than approximately 500 acres in size as areas (polygons). Sites smaller in size are point-geocoded at the site's address.

Date of Government Version: 09/01/95
Date Made Active at EDR: 10/25/95
Date of Data Arrival at EDR: 10/17/95
Elapsed ASTM days: 8

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 703-308-7907
RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 05/31/95
Date Made Active at EDR: 08/22/95
Date of Data Arrival at EDR: 06/28/95
Elapsed ASTM days: 55

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEDERAL NON-ASTM RECORDS:

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies — Date of Next Scheduled Update: 09/01/95

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 703-308-7907
CORRACTS: CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 04/10/95 — Date of Next Scheduled Update: 12/18/95

FINDS: Facility Index System
Source: EPA/NTIS
Telephone: 800-908-2493
FINDS: Facility Index System. FINDS contains both facility information and "pointers" to other sources that contain more detail. These include: RCRIS, PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]), CERCLIS, DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), FRDS (Federal Reporting Data System), SIA (Surface Impoundments), CICIS (TSCA Chemicals in Commerce Information System), PADS, RCRA-J (medical waste transporters/disposers), TRIS and TSCA.

Date of Government Version: 07/27/94 — Date of Next Scheduled Update: 01/08/96

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
HMIRS: Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/94 — Date of Next Scheduled Update: 04/30/96

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/01/95 — Date of Next Scheduled Update: 01/15/96

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-260-8969
NPL LIENS: Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91 — Date of Next Scheduled Update: 02/26/96

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3992
PADS: PCB Activity Database. PADS identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/14/94 — Date of Next Scheduled Update: 02/19/96

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RAATS: RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA.

Date of Government Version: 04/17/95 Date of Next Scheduled Update: 12/18/95

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0703
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 03/31/95 Date of Next Scheduled Update: 03/04/96

TRIS: Toxic Chemical Release Inventory System
Source: EPA/NTIS
Telephone: 202-260-2320
TRIS: Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/92 Date of Next Scheduled Update: 04/12/96

TSCA: Toxic Substances Control Act
Source: EPA/NTIS
Telephone: 202-260-1444
TSCA: Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory List. It includes data on the production volume of these substances by plant site. USEPA has no current plan to update and/or re-issue this database.

Date of Government Version: 01/31/95 Date of Next Scheduled Update: 03/18/96

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF INDIANA ASTM RECORDS:

LUST: Lust List
Source: Department of Environmental Management
Telephone: 317-233-6366
LUST: Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/01/94 — Date of Data Arrival at EDR: 10/01/94
Date Made Active at EDR: 12/23/94 — Elapsed ASTM days: 83

SHWS: List of Hazardous Waste Response Sites Scored Using the Indiana Scoring Model
Source: Department of Environmental Management
Telephone: 317-233-3829
SHWS: State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 12/10/94 — Date of Data Arrival at EDR: 01/16/95
Date Made Active at EDR: 02/14/95 — Elapsed ASTM days: 29

SWF/LS: Permitted Solid Waste Facilities/Landfills Closed Prior to December 5, 1991
Source: Department of Environmental Management
Telephone: 317-232-4445
SWF/LS: Solid Waste Facilities/Landfill Sites. SWF/LS type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Section 2004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/22/95 — Date of Data Arrival at EDR: 06/05/95
Date Made Active at EDR: 06/30/95 — Elapsed ASTM days: 25

UST: Indiana Registered Underground Storage Tanks
Source: Department of Environmental Management
Telephone: 317-233-6400
UST: Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 10/10/95 — Date of Data Arrival at EDR: 10/17/95
Date Made Active at EDR: 11/20/95 — Elapsed ASTM days: 34

STATE OF INDIANA NON-ASTM RECORDS:

SPILLS: Spills Incidents
Source: Department of Environmental Management
Telephone: 317-233-6413

Date of Government Version: 09/16/95 — Date of Next Scheduled Update: 12/18/95

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED NPL: Delisted NPL Sites
Source: EPA
Telephone: 703-603-8769
DELISTED NPL: The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

NFRAP: No Further Remedial Action Planned
Source: EPA/NTIS
Telephone: 703-416-0702
NFRAP: As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

FRDS: Federal Reporting Data System
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
FRDS provides information regarding public water supplies and their compliance with monitoring requirements, maximum contaminant levels (MCL's), and other requirements of the Safe Drinking Water Act of 1986.

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals who, due to their fragile immune systems, are deemed to be especially sensitive to environmental discharges. These typically include the elderly, the sick, and children. While the exact location of these sensitive receptors cannot be determined, EDR indicates those facilities, such as schools, hospitals, day care centers, and nursing homes, where sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1994 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
WATER DAMS: National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

APPENDIX B

Data Useability

Contents

Section 1 *Purpose of Data Useability Evaluation* 1

1.1 Quality Control Measures 1

1.1.1 Field Sampling QA/QC Requirements 1

1.1.1.1 Field Blanks 3
1.1.1.2 Trip Blanks 3
1.1.1.3 Duplicate Samples 3
1.1.1.4 Matrix Spike/matrix Spike Duplicate (MS/MSD) Sample . . 4

1.1.2 Potable Water Supply Sample 4
1.1.3 Field Audits 4
1.1.4 Quality Control Criteria 5

1.1.4.1 Completeness 5
1.1.4.2 Comparability 6
1.1.4.3 Representativeness 6
1.1.4.4 Precision 7
1.1.4.5 Accuracy 7

1.1.5 Sample Management and Handling 8

Section 2 Field Analysis and Field Screening 10

2.1 Field Analysis 10

2.1.1 Soil Gas Survey 10
2.1.2 Markland Avenue Quarry Groundwater Screening 12

2.2 Field Screening 12

2.2.1 Markland Avenue Quarry Pond Profiling 12
2.2.2 Wildcat and Kokomo Creek Surface Water Screening 13
2.2.3 Groundwater Screening 14

Section 3 *Data Useability Evaluation Sheets* 15

3.1 Unuseable Data and Other Data Gaps 16

3.1.1 Unuseable Data 16
3.1.2 Other Data Gaps 18

Section 4 *Conclusion* *22*

Section 5 *References* *23*

Appendix A *Data Useability Evaluation Outline and Sheets*

Appendix B Memorandum. Subject: *Unannounced Field Audit at the Continental Steel Superfund Site in Kokomo, Indiana.* To: IDEM/CSSS File, From: Craig A. Almanza, Camp Dresser and McKee

Appendix C Table 1 *Completeness and Useable Data Percentages*

Appendix D Definitions of Data Qualifiers Used in the Data Useability Evaluation Sheets

Appendix E List of Acronyms

1 PURPOSE OF DATA USEABILITY EVALUATION

The purpose of this evaluation is to determine the useability of all data collected by Camp, Dresser & McKee Inc. (CDM) as outlined in the approved Phase II Quality Assurance Project Plan (QAPP) (CDM 1995c) and the Phase II Field Sampling Plan (FSP) (CDM 1995b) during the field sampling program at the Continental Steel Superfund Site (CSSS) in Kokomo, Indiana. This data will, in turn, be used to perform the Risk Assessment and Feasibility Study.

1.1 QUALITY CONTROL MEASURES

Quality Assurance/Quality Control (QA/QC) measures are applicable to all aspects of the field sampling and analysis program. The approved QAPP details the QA/QC measures deemed necessary to produce useable data from field screening and analysis as well as laboratory analysis. To determine the extent of useability of sampling results, the degree to which these QA/QC measures were followed in the field and by the laboratories will be evaluated. Section 1 outlines the major QA/QC requirements given in the QAPP (CDM 1995c). Sections 2 through 4 evaluate the extent to which CDM and the laboratory programs met these requirements.

1.1.1 FIELD SAMPLING QA/QC REQUIREMENTS

There were several types of QC samples collected during the field sampling program including field blanks, trip blanks, field duplicate samples, and matrix spike/matrix spike duplicate (MS/MSD) samples. Different data acquisition methods such as sampling procedures for field screening, field analysis, field analytical laboratories, and external laboratory programs each specify which type and at what frequency these QC samples will be taken. The field analytical laboratory used was the Field Analytical Services Program (FASP). The external laboratory programs used include the Contract Laboratory Program (CLP), the Central Regional Laboratory (CRL) and Kemron Environmental Services (Kemron). The Phase II field sampling program at CSSS utilized all four types of data acquisition methods as follows:

<u>Field Screening</u>

- Health and safety monitoring (organic vapors, respirable dust, etc.)
- Markland Avenue Quarry pond water profiling through water quality parameters (pH, conductivity, temperature, dissolved oxygen, turbidity, salinity)
- Wildcat and Kokomo Creek surface water screening - water quality parameters
- Groundwater screening during well stabilization prior to sampling

Field Analysis

- Soil gas survey with field gas chromatograph (GC)
- Markland Avenue Quarry groundwater screening (analysis by FASP)
- Markland Avenue Quarry pond water and sediment samples
- Main Plant sewer sediment samples
- Main Plant subsurface soil samples
- Slag Processing Area surface soil samples
- Residential Area surface soil samples
- Main Plant basement/pit water samples

Samples Collected for External Analytical Laboratories - CLP, CRL, and Kemron

- Selected Main Plant building wipe samples
- Selected Main Plant building indoor air samples
- Ambient air monitoring with high-volume air samplers
- Highland Park area soil samples (to establish background levels)
- Creek surface water and sediment samples
- Markland Avenue Quarry pond water and sediment samples
- Markland Avenue Quarry surface soil samples
- Main Plant sewer sediment samples
- Main Plant subsurface soil samples
- Slag Processing Area surface soil samples
- Residential Area surface soil samples
- Monitoring well groundwater samples

The frequency at which QC samples were taken was based on the analytical data quality objectives (DQOs) specified in the QAPP (CDM 1995c). DQOs are qualitative and quantitative statements which specify the quality of the data required to support decisions made during the Remedial Investigation/Feasibility Study (RI/FS) activities and are based on the end use of the data to be collected. As such, different data uses may require different levels of data quality. The field program at CSSS collected samples for analysis at analytical DQO Levels 1, 2, 3, and 4.

The specific QC requirements for each laboratory program mentioned earlier are discussed in detail in Section 3.1 of the QAPP. Similarly, the field screening and analysis QC procedures are found in Appendix D and E of the QAPP (CDM 1995c). In general, the level of QC laboratory requirements from highest (requiring the highest frequency of QC samples) to lowest are:

- Analytical DQO Level 4: CLP laboratory (analysis according to Routine Analytical Service [RAS] protocols)
- Analytical DQO Level 3: FASP, CRL and Kemron
- Analytical DQO Level 2: Field analysis
- Analytical DQO Level 1: Field screening

The following discussion will define and explain the significance of each type of QC sample. Later evaluation subsections and the data useability evaluation sheets given as **Appendix A** will explain how these QC requirements were met during each of the data acquisition/sampling methods mentioned above.

1.1.1.1 Field Blanks

Field blanks are collected to assess the quality of the data resulting from the field sampling program. These blanks are analyzed to check for procedural contamination at the site which may cause sample contamination. For this field sampling program, all field blanks collected were equipment rinsate blanks and so for this discussion, field blank and rinsate blank may be used interchangeably. These blanks are taken in the field by members of the field sampling team by rinsing distilled deionized ultra pure blank water over the decontaminated sampling equipment using procedures representative of the actual sampling procedure. This type of blank provides additional information about the effectiveness of the decontamination procedures used by the field personnel. The general level of QC effort is at least one field blank for every 10 or fewer investigative samples per each different sampling task.

1.1.1.2 Trip Blanks

These QC blanks are used to assess the potential for contamination of samples due to contamination during sample shipment and storage. The trip blanks consisted of preserved 40 milliliter volatile vials of distilled deionized ultra pure water which were prepared off-site by Environmental Sampling Supply (ESS), an independent environmental sampling media supply company. One volatile organic analysis (VOA) trip blank consisting of two vials was included in each cooler containing VOA samples.

1.1.1.3 Duplicate Samples

A duplicate sample is an independent sample collected at the same location and time as an investigative sample. Duplicate samples are analyzed to assess the homogeneity of the sampled media and the precision of the sampling and analytical protocol. Both field duplicate and laboratory duplicate samples were utilized for the CSSS field sampling program. Field duplicates are duplicate samples collected and designated by the field sample coordinator, whereas laboratory duplicate samples are duplicates that are designated by the laboratory. For field QC, the general level of the QC effort for field duplicates is at least one duplicate for every 10 or fewer investigative samples. For laboratory QC, laboratory duplicates are designated for at least one sample per batch of samples analyzed for each sample matrix (e.g., soil or water). Note that for the CSSS Phase II sample analysis program, laboratory duplicates were performed for metals analysis only.

1.1.1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike samples provide information about the effect of the sample matrix on the digestion and measurement methodology. Organic matrix spikes are performed in duplicate and are, therefore, most often referred to as matrix spike/matrix spike duplicate (MS/MSD) samples. Generally the sample coordinator can designate a sample as an MS/MSD after sample collection and before being sent to the laboratory. However, for volatile or semivolatile MS/MSD samples, laboratories usually require additional sample volume and, therefore, the field personnel must collect extra volume in the field for those samples predesignated by the sample coordinator as MS/MSDs. The general level of QC effort is at least one MS/MSD designated sample for every 20 or fewer investigative samples.

1.1.2 Potable Water Supply Sample

A sample of the wash and rinse water (field equipment decontamination water) utilized during the sampling program was collected as sample ID# PWS-01 and sent to Kemron for characterization along with a field blank (PWS-01(B)) taken in ambient air. Sample PWS-01, sourced from the Indiana American Water Company, was found to contain the following analytes above the laboratory detection limit: *Volatiles* - bromodichloromethane (15 µg/L), chloroform (32 µg/L), dibromochloromethane (4.8 µg/L) and cis-1,2-dichloroethene (0.6 µg/L) and *Metals (as total)* - aluminum (0.3 mg/L), barium (0.10 mg/L), calcium (73 mg/L), copper (0.04 mg/L), iron (0.16 mg/L), magnesium (30 mg/L), potassium (5 mg/L), sodium (26 mg/L) and zinc (0.34 mg/L). The trihalomethanes (THMs), bromodichloromethane, chloroform and dibromochloromethane, listed among the volatile detections are known to be by-products of the normal water disinfection process. Furthermore, the cis-1,2-dichloroethene was reported at a level below the contract required detection limit for the analytical methods used. The field blank PWS-01(B) contained volatile analytes chloroform (1.5 µg/L) and methylene chloride (1.0 µg/L) (a common laboratory contaminant) and was free of all metal analytes.

These compounds/elements detected in the potable water supply sample were considered when evaluating the success of the decontamination procedures based on the field equipment rinsate blanks. Furthermore, because the noted contaminants were detected at such low levels, the potable water supply water is not expected to affect the quality of the sample results overall.

1.1.3 Field Audits

Internal audits of field activities (sampling and measurements) were conducted by the CDM QA officer and the field manager. The audits included examination of the field sampling records, field instrument operating records, sample collection, handling and packaging in compliance with the established procedures, maintenance of QA procedures, chain of custody, etc. These audits were performed throughout the field program to ensure that any deficiencies were corrected and previous corrective actions were effective, and to verify that QA procedures were

maintained throughout the sampling program. These audits involved review of field measurement records, instrumentation calibration records, and sample documentation.

An unannounced field quality control audit was performed on November 7, 1995 by a CDM QA officer who is familiar with the field program QAPP (CDM 1995c) and FSP (CDM 1995b). This audit provided an unbiased source to determine if the methods used by the field staff for conducting sampling and sample handling were consistent with the methods and procedures outlined in the QAPP (CDM 1995c) and FSP (CDM 1995b) approved for site use. The QA officer observed three field teams and the sample coordinator during the audit.

Three field teams including personnel from CDM and Dispersion, the Geoprobe/soil gas sub-contractor were observed during their sampling activities. All three groups were found to be performing sampling in accordance with the procedures outlined for their task in the FSP with no significant deviations.

The management methods for sample handling and chain of custody being used in the field were consistent with the methods outlined in the FSP (CDM 1995b), QAPP (CDM 1995c), and the U.S. Environmental Protection Agency (U.S. EPA) sample management protocols with no significant deviations. The results of this audit are provided in **Appendix B** of this data useability evaluation.

In addition to this unannounced field QC audit, the field project manager conducted frequent field QC audits to ensure that each field sampling team was performing in accordance with the procedures outlined in the FSP (CDM 1995b) and QAPP (CDM 1995c).

1.1.4 Quality Control Criteria

The extent of the useability of the data is at the discretion of the quality control criteria which include completeness, comparability, representativeness, precision and accuracy. These criteria are defined below and are the guidelines applied in the data useability evaluation sheets given in **Appendix A** of this data useability evaluation. These sheets summarize the extent to which these criteria were met.

1.1.4.1 Completeness

Completeness is a measure of the amount of valid data obtained compared to the amount that was expected to be obtained under normal conditions. The percent completeness is calculated by the following calculation as given in the QAPP:

completeness (%) =
[(number of valid data)/(number of sample collected for each parameter analyzed)] x 100

The completeness criterion is defined by the project data quality objectives. For this project, the completeness criteria for the U.S. EPA CLP approved laboratory is 95 percent. The completeness criteria for non-CLP (CRL and Kemron) and field laboratories is 90 percent. For the field sampling program at CSSS, the percent completeness of the data for each category of testing is as follows: CLP = 99 percent, CRL/non-CLP = 100 percent, Kemron/non-CLP = 100 percent, and FASP = 100 percent (see Table 1 in **Appendix C** of this data useability evaluation for calculation). The percent completeness for data collected in the field was 100 percent for the soil gas analysis and all other field screening measurements. Note that redox potential (Eh) data was not collected during water quality parameter field screening as specified in the FSP (CDM 1995b). This is not considered a lack of completeness, however, because the accuracy of the Eh measurements would have been inhibited by the prevailing levels of dissolved oxygen (DO). As a result, DO was measured instead of Eh. (see Sections 2.2.2 and 2.2.3 for a further explanation).

1.1.4.2 Comparability

Comparability expresses the confidence with which one data set can be compared with another. The extent to which existing and planned analytical data will be comparable depends on the similarity of sampling and analytical methods.

The procedures used to obtain the planned analytical data, as documented in the QAPP (CDM 1995c) and FSP (CDM 1995b), are expected to provide comparable data. This is further supported by the approval of both documents by U.S. EPA. CLP and FASP data initially collected by ABB Environmental Services (ABB-ES) will be comparable to the Phase II CLP, CRL and FASP data due to the use of similar documented analytical procedures (ABB-ES 1993). In contrast, portions of the data generated during the Phase II field program, such as from samples analyzed by Kemron and in the soil gas survey, may not be directly comparable to all existing data because of differences in procedures and QA objectives necessary for the Phase II field sampling program.

1.1.4.3 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, and process condition, or an environmental condition. Representativeness is a qualitative parameter which is dependent upon the proper design of the sampling program and proper laboratory protocol.

Representativeness is satisfied by following the Continental Steel Superfund Site Focused RI/FS Work Plan (CDM 1995a) and FSP (CDM 1995b), implementing proper sampling techniques, using proper analytical procedures and analyzing samples within holding times. Data representativeness for the CSSS field program was demonstrated by the QA field audits performed throughout the field work by the CDM's field manager and by a CDM QA officer familiar with the CSSS QAPP (CDM 1995c) and FSP (CDM 1995b) as discussed in Section 1.1.3.

1.1.4.4 Precision

Precision is a measure of the agreement among separate measurements of the same sample. This can be assessed from the results of the duplicate analysis performed on the samples. Field duplicates were collected and sent to the appropriate laboratory for analysis. In addition, the laboratories also analyzed duplicate samples prepared in the laboratory.

Both field and laboratory duplicate samples are evaluated by calculating the relative percent difference (RPD) for these sample results. The RPD is calculated as follows:

RPD = [(sample-duplicate)/(0.5 x (sample+duplicate))] x 100

Results for this calculation for the field duplicates are given as attachments to each of the data useability evaluation sheets where applicable in **Appendix A** of this data useability evaluation. For discussion purposes, an RPD limit of 30 percent was set to evaluate the precision of the field duplicates. This 30 percent limit indicates a good level of precision. Relative percent difference for the laboratory duplicate samples was calculated and evaluated by the laboratory and compared to required standards. The results of the laboratory duplicate evaluation are also provided in the laboratory narratives accompanying the sample results and/or within the body of data.

The overall precision of the data resulting from the Phase II field sampling program was acceptable.

1.1.4.5 Accuracy

Accuracy is the degree of agreement of a data point with the true value. This accuracy is achieved when analytical laboratories and field personnel follow the analytical and field instrument calibration procedures as outlined in the QAPP (CDM 1995c) and FSP (CDM 1995b).

Accuracy of the FASP on-site laboratory analysis is assessed using initial calibrations, continuing calibrations, closing calibrations, surrogate recoveries, matrix spikes, matrix spike duplicates, method blanks, dilutions, and retention/holding times. Information about all of these items was detailed in the laboratory narrative which accompanied every FASP data package. This information was considered when evaluating the data for useability and any inconsistencies are noted on the data useability evaluation sheets.

Accuracy of the field measurements is assessed by conducting daily instrument calibrations and calibration checks. The CSSS field team documented in its logbooks that two field instruments were used for surface water and groundwater field screening tasks, the Grant YSI 3800 Water Quality Data Logger and the Horiba U-10 Water Quality Checker. These instruments were calibrated and operated in accordance with the procedures outlined in Section 6.0 of the QAPP (CDM 1995c) and the standard operating procedures (SOPs) in the FSP (CDM 1995b).

Accuracy of analytical laboratory results was assessed for compliance with the established QC criteria that are described in general in this memorandum in Section 1.1.1 and in more detail in Section 3.0 of the QAPP (CDM 1995c). The QC criteria are assessed using analytical results for laboratory method blanks, reagent/preparation blanks, matrix spikes/matrix spike duplicates samples and field blanks. Information about these QC samples is detailed in the accompanying data useability evaluation sheets in **Appendix A** of this data useability evaluation and in Section 3 of this evaluation. Furthermore, the laboratory reports provided by CLP, CRL and Kemron all indicate that samples were analyzed using the methods in the QAPP Appendices (CDM 1995c).

The overall accuracy of the data resulting from the Phase II field sampling program was acceptable.

1.1.5 Sample Management and Handling

All sample management and handling procedures were performed as outlined in the QAPP (CDM 1995c) and FSP (CDM 1995b), with the exception of four minor incidents. Three incidents of improper sample labeling procedures and one incident of improper sample preservation were observed. First, the FSP (CDM 1995b) specifies that blank and duplicate samples be designated with a final one-letter suffix in parentheses added to the end of the normal sample number (e.g., SW-01(B) and SW-01(D) represent the blank and duplicate sample at location SW-01). During the field program, a decision was made to designate blank and duplicate samples by adding -B and -D respectively to the sample ID written on the sample labels and the chain of custody forms. On a few occasions, field personnel labeled field/rinsate blanks by adding -ER or -B1, -B2, etc. after or in place of the numerical portion of the sample number. In these cases, the -ER or -B1 labeling was maintained for consistency and the field personnel were instructed to designate future rinsate blanks with a -B after the normal sample number. For discussion throughout this evaluation, the (B) for blank and (D) for duplicate labeling convention as outlined in the QAPP (CDM 1995) is used.

Second, field personnel designated shallow and deep samples with "S" and "D" respectively at the end of the normal sample number. This is a deviation from the "A" and "B" labels specified in the FSP for shallow and deep samples. Note that the A, B, C, etc. labeling convention to designate further depth intervals was used in all other subsurface samples such as with the pond water and groundwater sampling.

The third incident was a deviation from the labeling of CRL duplicate samples. The FSP specifies that the final two digit sample number for a duplicate sample should be the same final two digit number as the corresponding sample. During the CSSS field program, duplicate samples were instead given consecutive final two digit numbers 01, 02, 03, etc. as the samples were chronologically collected which did not necessarily correspond directly to the sample of which it is a duplicate. This deviation made it difficult for CRL to evaluate the precision of the results for the sample and its duplicate, however, all samples received the correct analyses and all analytical data is useable as reported. This precision evaluation was completed by CDM for

every sample-duplicate pair and reported in the data useability evaluation sheets in **Appendix A** of this evaluation.

The fourth incident occurred with sampling the surface water in Kokomo and Wildcat Creek. Samples collected for nitrite (NO_2), nitrate (NO_3), total phosphorus, (P) and ammonia (NH_3) analysis during the original round of sampling from November 15 through 20, 1995 should have been preserved with sulfuric acid (H_2SO_4) before being sent to CRL (this represents one, 1-liter bottle per sample location). As a result, the NO_2, NO_3, total P and NH_3 samples were re-sampled on December 1, 1995 from the same locations as the samples from the original sampling event and immediately sent to the CRL properly preserved with H_2SO_4. These events are documented in the field logbooks. Because the unuseable samples were re-sampled and then analyzed accordingly, this does not represent a data gap and the Kokomo and Wildcat Creek surface water data is useable as reported.

None of these exceptions affects the data useability.

2 FIELD ANALYSIS AND FIELD SCREENING

Field analysis, analytical DQO Level 2, was performed to provide estimates of water quality parameters (e.g., pH, conductivity, temperature, turbidity, and redox potential, dissolved oxygen) and measurements of volatile organic compounds (VOCs) in soil gas. The level of the QC effort for each field analysis is specified in Section 3.0 of the QAPP (CDM 1995c). Field screening, analytical DQO Level 1, was used to monitor ambient air quality for health and safety purposes (e.g., organic vapors, ambient dust levels). The level of the QC effort for field screening involved daily calibration of the instruments for accuracy and obtaining multiple readings on a single sample or standard as specified in the QAPP (CDM 1995c).

2.1 Field Analysis

The soil gas survey and the groundwater screening sample collection in Markland Avenue Quarry qualify as field analysis for screening purposes.

2.1.1 Soil Gas Survey

The soil gas survey was conducted to document potential VOC contamination or hot spots at the Main Plant (a maximum of 75 locations), Markland Avenue Quarry (a maximum of 100 locations), the Slag Processing Area (a maximum of 40 locations), and the Lagoon Area (a maximum of 100 locations). On-site analysis was performed by a field laboratory equipped with a field GC and following an analysis method based on procedures defined in EPA SW-846 Method 8260 as specified in the QAPP (CDM 1995c).

Quality control requirements were provided in the SOP for Soil Gas Sampling and Analysis in Appendix E of the QAPP (CDM 1995c). The QC requirements provided in the FSP (CDM 1995b) specify that instrument calibration checks would be run periodically throughout the day as well as system blanks at a frequency of one per 10 samples to check for contamination in the soil gas sampling equipment. Furthermore, ambient air samples were to be routinely analyzed to check for background levels in the atmosphere. A duplicate sample was to be collected for every 10 samples and MS/MSD samples prepared for every 20 samples.

Evaluation of the soil gas data shows that the following numbers of samples were collected at each operable unit: Main Plant - 49, Markland Avenue Quarry - 77, Slag Processing Area - 35, Lagoon Area - 92. Eighty seven samples were also collected at the Fence Plant area. Quality control samples were collected at a rate of at least one ambient air blank per day of sampling, 30 duplicates per 340 samples and 15 MS/MSDs per 340 samples. These numbers fall short of the specified numbers of QC samples by 4 duplicates and 2 MS/MSDs and represent a minor data

gap. The missing duplicates were collected but were not analyzed because the Tedlar bag holding the duplicate sample failed before it could be analyzed. MS/MSDs were to be prepared by the on-site laboratory personnel and are a helpful but not mandatory factor to consider when evaluating the quality of this field screening level of data as a whole.

All blanks were free of target VOCs with the following exception: on October 19, 1995, trichloroethene (TCE) (4 mg/m^3) was detected in the first blank and cis-1,2-dichloroethene (cis-1,2-DCE) (2 mg/m^3) and TCE (3 mg/m^3) were detected in the second blank. Both of these are low levels of the contaminant listed.

The RPDs for all duplicate samples were within the 30 percent limit except the compounds in the samples shown in the table below. Note that because this data is screening level field analysis (Analytical DQO Level 2), samples results will not be disqualified based on field duplicate analysis. RPDs less than 30 percent are generally acceptable, but higher RPDs such as shown in the table are not uncommon for environmental sampling. The RPDs for the soil gas samples that are higher than 30 percent (as listed below) are generally accounted for when a compound was detected at low levels in both samples (i.e., 2 ppm vs. 1 ppm yields an RPD of 67 percent).

LOCATION	ANALYTE (RPD percent)
MQSG-32	cis-1,2-DCE (121), TCE (306), vinyl chloride (123), 1,1-dichloroethene (133)
MQSG-66	TCE (67)
MQSG-83	vinyl chloride (67)
LASG-07	TCE (77)
LASG-40	cis-1,2-DCE (67)
LASG-52	trans-1,2-DCE (40), 1,1-dichloroethene (40)
LASG-59	trans-1,2-DCE (46), cis-1,2-DCE (36), TCE (36)
LASG-60	TCE (120)
LASG-94	TCE (67)
MPSG-02	TCE (67)

Based on this evaluation, all of the soil gas data is considered useable as reported. No significant problems that may have qualified the data as unuseable were noted by field personnel who participated in the soil gas survey task.

2.1.2 Markland Avenue Quarry Groundwater Screening

Groundwater samples were collected with a Geoprobe from the backfilled portion of Markland Avenue Quarry to evaluate groundwater quality. Up to 23 samples were to be collected. Field personnel attempted to collect samples at 23 sample locations following the SOP for Geoprobe groundwater sampling outlined in Appendix E of the QAPP (CDM 1995c). On several occasions the sampling team encountered refusal of the Geoprobe rod or did not reach groundwater and, as a result, abandoned sample collection. A total of six samples, two duplicates and two blanks were collected and analyzed for VOCs by the FASP laboratory.

The number of duplicates and blanks collected meet the QC requirements. The two field blanks were free of volatile target analytes and the RPDs for both duplicates were below the 30 percent limit for target analytes except for TCE. The laboratory reported that the exceedance of this analyte is likely the result of required dilutions of some of the sample due to instrument calibration range exceedances (see accompanying data useability evaluation sheet labeled with outline number II/C). No significant problems that may have qualified the data as unuseable were noted by field personnel who participated in the Markland Avenue Quarry groundwater screening task.

2.2 Field Screening

The water quality analyses performed in the field at Markland Avenue Quarry, Wildcat and Kokomo Creek, and during groundwater monitoring well sampling qualify as field screening tasks.

The instruments used for the field screening tasks included the Grant YSI 3800 Water Quality Data Logger for the Markland Avenue Quarry pond profiling and the Horiba U-10 Water Quality Checker for the Wildcat and Kokomo Creek surface water screening and the groundwater screening.

2.2.1 Markland Avenue Quarry Pond Profiling

The Grant YSI 3800 Water Quality Data Logger was used to evaluate the vertical profile of the Markland Avenue Quarry Pond by measuring pH, temperature, dissolved oxygen, conductivity and depth. The field team recorded in its logbooks that this field instrument was calibrated and operated by the procedures outlined in Section 6.0 of the QAPP (CDM 1995c) and by the SOPs given in the FSP (CDM 1995b). Field team personnel examined the instrument to certify that it was in operating condition, performed calibration at the intervals specified by the manufacturer or more frequently if field conditions required (i.e., many instruments are affected by significant changes in ambient air temperature or humidity and require re-calibration) and recorded all instrument calibration data in the field logbooks in accordance with the requirements outlined in the QAPP (CDM 1995c) and FSP (CDM 1995b).

Field personnel collected, recorded and dated all measurements in the field logbooks, as required by the FSP (CDM 1995b). After completion of the field program, this data was put in tabular form for use in data interpretation. No significant problems that may have qualified the data as unuseable were noted by field personnel who participated in the pond profiling task.

2.2.2 Wildcat and Kokomo Creek Surface Water Screening

Concurrent with the Wildcat and Kokomo Creek surface water sampling, water quality parameters including pH, conductivity, turbidity, dissolved oxygen (DO), temperature, and salinity were measured with the Horiba U-10 Water Quality Checker at each surface water sampling location. The field team documented in its logbooks that this field instrument was calibrated and operated by the procedures outlined in Section 6.0 of the QAPP (CDM 1995c) and by the SOPs given in the FSP (CDM 1995b). Field team personnel examined the instrument to certify that it was in operating condition, performed calibration at the intervals specified by the manufacturer or more frequently if field conditions required (i.e., many instruments are affected by significant changes in ambient air temperature or humidity and require re-calibration) and recorded all instrument calibration data in the field logbooks in accordance with the requirements outlined in the QAPP (CDM 1995c) and FSP (CDM 1995b).

Field personnel collected, recorded and dated all water quality parameter measurements in the field logbooks, as required by the FSP (CDM 1995b). After completion of the field program, this data was put in tabular form for use in data interpretation.

Note that although redox potential (Eh) measurements were taken during the first surface water sampling event, a limitation of the Eh technique was noted in Section 4.0 of the Procedure for Determining Eh given in Appendix B of the FSP (CDM 1995b) that could affect the useability of the data. This section states, "Experience has shown that many natural water systems do not give measured Eh values that can be quantitatively interpreted. Measurements made in water containing dissolved oxygen, for example, give values lower than might generally be expected. If dissolved oxygen (DO) is above 0.01 mg/L, the DO determination may be more useful than attempting to determine Eh".

Because all DO measurements were greater than 0.01 mg/L, Eh measurements should not be included in the useable data for the creek water quality parameter measurements. Furthermore, based on this limitation, the field manager decided that Eh measurements would not be taken during future field screening events in which the DO measurements are greater than 0.01 mg/L. No significant problems that may have qualified the data as unuseable were noted by field personnel who participated in the Wildcat and Kokomo Creek surface water screening task. The absence of Eh measurements does not cause a data gap since DO was measured instead.

2.2.3 Groundwater Screening

The field team screened groundwater quality by measuring pH, conductivity, turbidity, dissolved oxygen (DO), temperature, and salinity with the Horiba U-10 Water Quality Checker. The field team documented in its logbooks that this field instrument was calibrated and operated by the procedures outlined in Section 6.0 of the QAPP (CDM 1995c) and by the SOPs given in the FSP (CDM 1995b). Field team personnel examined the instrument to certify that it was in operating condition, performed calibration at the intervals specified by the manufacturer or more frequently if field conditions required (i.e., many instruments are affected by significant changes in ambient air temperature or humidity and require re-calibration) and recorded all instrument calibration data in the field logbooks in accordance with the requirements outlined in the QAPP (CDM 1995c) and FSP (CDM 1995c).

Field personnel collected, recorded and dated all measurements in the field logbooks, as required by the FSP. After completion of the field program, this data was put in tabular form for use in data interpretation. Measured parameters are complete for each monitoring well sampled except for Eh. All DO measurements taken were greater than 0.01 mg/L and so Eh measurements were not taken based on the limitation of the Eh technique (Section 2.2.2). No significant problems that may have qualified the data as unuseable were noted by field personnel who participated in the groundwater screening task.

3 DATA USEABILITY EVALUATION SHEETS

A data useability evaluation sheet was completed for each group of samples to establish the useability of each analysis performed by the various laboratories. These sheets serve to document the QC samples collected in association with the samples for each sampling task completed during the field program. These sheets also detail any inconsistencies that may appear throughout the data and present the final decision about the useability of the data. All sheets and an outline indexing each sheet are provided in **Appendix A** of this data useability evaluation. A few notes about assumptions and/or interpretive methods used in the useability evaluation are given below. In addition, definitions of data qualifiers referred to throughout the data useability evaluation sheets are given in **Appendix D** of this evaluation.

- In calculating the relative percent difference (RPD) for duplicate samples, only those compounds/elements which had results listed above the detection limits were compared and are presented on the attached calculation sheet. In some cases (especially with the CLP laboratory results), one sample result showed a non-detect, whereas the corresponding duplicate sample reported a detection, however, below the required detection limit. In these cases, RPD was not evaluated and is noted as such in the RPD section.

- All FASP laboratory data is qualified as "F". This data qualifier flag indicates that data was generated using FASP analytical methodologies. Analytes are tentatively identified and concentrations are quantitative estimates. Therefore, because all of the FASP data is already qualified as estimated, based on the analytical methodologies, no further estimated qualifiers were required due to inconsistencies with items such as calibration criteria or blank contamination. Data is still qualified "E", however, when the target analyte was detected at a concentration exceeding the calibration range of the instrument adjusted for sample dilution.

- In general, common laboratory contaminants include methylene chloride, 2-butanone, acetone, and phthalate esters (common from latex gloves used in sample handling). Detection of these compounds in blank samples is evidence of laboratory contamination. The presence of these compounds is flagged as a non-detect (U) when the sample result is less than 10 times the blank result. In contrast, for analytes that are not common laboratory contaminants, the presence of the analyte is flagged as a non-detect (U) when the sample result is less than five times the blank result.

- The RPDs for soil and sediment samples were consistently and considerable higher than those for the water samples. RPDs of less than or equal to 30 percent are

generally acceptable. However, higher RPDs are not uncommon for environmental sampling, especially soil and sediment samples which tend to be heterogeneous and hard to replicate. Therefore, unless the laboratory report or other data validation indicates otherwise, analytical data for soil and sediment samples will be accepted regardless of RPD value.

3.1 Unuseable Data and Other Data Gaps

Unuseable data and data gaps are identified in bold lettering on the data useability evaluation sheets. A data gap occurs where the unuseable result was for a contaminant of concern of the area that was sampled or when an insufficient number of QC samples were collected. A data gap is not present where the unuseable result was not a contaminant of concern of the area sampled. The following section details all instances in which data was unuseable and where data gaps were found. These cases have been sorted alphabetically first by area sampled and sample type, and further by the laboratory that analyzed the sample and the applicable analyte group.

In each unuseable data case listed below, a determination is made whether the lack of data represents a data gap. Note that much of the unuseable data listed below do not represent data gaps because they involve analytes that are not contaminants of concern in the corresponding sampling areas.

3.1.1 Unuseable Data

<u>Kokomo/Wildcat Creek - Sediment Samples</u>
CLP Pesticide/PCB: Recoveries of lindane in the matrix spike/matrix spike duplicate samples SDWC-118MS and SDWC-118MSD were zero. Since this compound was not found in the unspiked sample, the SDWC-118 result for lindane should be considered unuseable. Note that because lindane is not a pesticide/PCB contaminant of concern for the Kokomo and Wildcat Creek sediment, this does not represent a data gap.

CLP Total Metals: For the matrix spike sample SDWC-108MS, the matrix spike recovery of silver is outside the control limits. Most of the silver data is thus affected by interference and poor precision, and additionally, the analysis results are less than the instrument detection limit. As a result of this matrix spike audit, the results for silver are qualified unuseable (indicated by an "R" notation next to the silver results in the laboratory data) for the following samples: SDWC-109, -110, -111, -112, -101, -102, -103, -103(D), -104, -105, -106, SDKC-124, -125, -126, -127. In some sediment sampling areas, silver is a contaminant of concern and, therefore, this may be considered a data gap for this set of samples.

Markland Avenue Quarry - Pond Sediment Samples
CLP Pesticide/PCB: Sample SD-09 was chosen as the matrix spike sample for the Markland Avenue Quarry pond sediment samples. For the pesticide fraction, the recoveries of aldrin in both matrix spike and matrix spike duplicate samples SD-09MS and SD-09MSD were zero. Since this compound was not found in the unspiked sample, the result for aldrin in SD-09 should be considered unuseable, "R". Note that because aldrin is not a pesticide/PCB contaminant of concern in the Markland Avenue Quarry pond sediment, this does not represent a data gap.

CLP Semivolatiles (BNA): Sample SD-09 was chosen as the matrix spike sample for the Markland Avenue Quarry pond sediment samples. The recoveries of 4-nitrophenol were zero and those of pentachlorophenol were below 10 percent in both matrix spike and matrix spike duplicate samples SD-09MS and SD-09MSD. Since the unspiked sample contained neither of these compounds, the results for 4-nitrophenol and pentachlorophenol in SD-09 should be considered unuseable, "R". Note that because 4-nitrophenol and pentachlorophenol are not semivolatile contaminants of concern in the Markland Avenue Quarry pond sediment, this does not represent a data gap.

Markland Avenue Quarry - Pond Water Samples
CLP Semivolatiles (BNA): Sample SW-02C was designated as the matrix spike for this group of samples. Zero recovery of 4-nitrophenol was detected for matrix spike sample SW-02C/MS; therefore, the non-detected result for 4-nitrophenol in unspiked sample SW-02C is unuseable, "R". Note that because 4-nitrophenol is not a semivolatile contaminant of concern in the Markland Avenue Quarry pond water, this does not represent a data gap.

Markland Avenue Quarry - Surface Soil Samples
CLP Pesticide/PCB: Non-detected results for lindane and 4,4'-DDT in sample MS-13 are unuseable, "R"; however, because these compounds are not among the contaminants of concern in the Markland Ave Quarry area, this does not represent a data gap.

CLP Semivolatiles (BNA): Results for 1,2-dichlorobenzene and nitrobenzene for samples MS-23 and MS-23(D) are flagged as unuseable, "R" because the recovery of one of the surrogates was less than 10 percent. Because 1,2-dichlorobenzene and nitrobenzene are not among the contaminants of concern for the Markland Avenue Quarry surface soil, this does not represent a data gap.

Monitoring Wells - Groundwater Samples
CRL Volatiles: Some data for vinyl acetate and acrolein is unacceptable because these analytes were not detected at any calibration levels during some of the initial and continuing laboratory calibrations. Therefore, vinyl acetate and/or acrolein results are unuseable (indicated by a "UR" notation next to the these results in the laboratory data; "U" for not detected and "R" for unuseable) for the following affected samples: UA-01, -02, -04, -10, -13, -17, -21, and EW-11; field duplicate UA-17(D); field blanks UA-ER-1, UA-ER-2, UA-21(B); trip blanks TR-27, -28, -

29 and -30. This does not represent a data gap because vinyl acetate and acrolein are not contaminants of concern for the groundwater.

Some data for vinyl acetate, 2-chloroethyl vinylether, and acrolein are unacceptable because these analytes were not detected at any calibration levels during some of the initial and continuing laboratory calibrations. Therefore, some vinyl acetate, 2-chloroethyl vinylether and acrolein results are unuseable (flagged "UR") for the following affected samples LA-01A, -01B, -01C, -03A, -03E, -04A, -04B, -04C, -05B, -05C, -05D, -06A, -06B, -06C, -08A, -08B, -101C, -102C, -103C, -104E, -105C, -105E, -106C, -107C, -107E and EW-15, -16, -17, -18, -28, -99 and UA-105; field duplicate LA-03A(D), -04B(D), -06B(D), -08B(D), -107E(D); field blank LA-03A(B), -05-ER, -07-ER, -08-ER and UA-32(B); trip blanks TR-33, -34, -36, -37. This does not represent a data gap because vinyl acetate, 2-chloroethyl vinylether, and acrolein are not contaminants of concern for the groundwater.

Site Background - Wildcat/Kokomo Creek Sediment Samples
CLP Pesticide/PCB: The gamma-BHC result for BK-04 is unuseable based on the laboratory reported results of the matrix spike evaluation. Note that because gamma-BHC is not a pesticide/PCB contaminant of concern for the Kokomo and Wildcat Creek sediment, this does not represent a data gap.

CLP Total Metals: The matrix spike recovery for cadmium is less than 30 percent, therefore, the cadmium results for samples BW-01, -02, -03, -03(D), -04, -05, -06 and BK-01, -03, -03(D), -04, -05, -06 are unuseable. In some sediment sampling areas, cadmium is a contaminant of concern and so this may be considered a data gap for this set of samples.

3.1.2 Other Data Gaps

In addition to the data gaps resulting from unuseable data, the following cases also represent data gaps. These cases are generally QC samples that were not collected.

Drilling Operations Purge Water Samples
Kemron Fast Turnaround Volatiles, Fast Turnaround Metals and FASP Volatiles: These samples were collected for quick turnaround results to characterize the water and determine if it could be disposed of in the public sewer system. These samples were not addressed in the FSP (CDM 1995b) or the QAPP (CDM 1995c) as it was determined in the field that alternate means of water disposal was needed. No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. Note that each of the two samples was collected with a different sampling apparatus and so determining the success of decontamination procedures is not necessary for these samples.

Lagoon Area - Soil Boring Sample
CLP Volatiles, Semivolatiles (BNA), Pesticide/PCB, Total Metals: A field decision was made to collect a soil sample in the Lagoon Area to characterize an unknown substance encountered in

the subsurface. Field personnel did not take an accompanying blank, duplicate, or designate an MS/MSD sample at the time of sampling and so no QC samples are associated with this sample. Because this sample was unplanned and taken for characterization data only, the lack of these QC samples represents a small data gap and inhibits the evaluation of equipment decontamination procedure success, precision of the analysis, and matrix affects on the analysis. Note that the related Lagoon Area soil boring sample data is still useable.

Main Plant - Sewer Sediment Samples

CLP Volatiles, Semivolatiles (BNA), Pesticide/PCB, Total Metals: A field blank was inadvertently not collected for the Main Plant sewer sediment samples. The sampling team was unable to collect a sewer sediment sample at the final location at which a field blank was to be collected. As a result, this associated blank was never collected and later sampling efforts were abandoned. The lack of a blank constitutes a slight data gap because the equipment decontamination process cannot be evaluated for this group of samples. However, the related Main Plant sewer sediment sample data is still useable as reported.

Also, no matrix spike sample was recorded for this group of samples. Of a total of six samples taken in this sample group, only one sample and one duplicate were submitted to the CLP laboratory. Neither of these samples were designated as a matrix spike sample and so matrix affects on the analysis cannot be evaluated. This represents a minor data gap, however, the related Main Plant sewer sediment sample data is still useable as reported.

FASP Volatiles, PAH, PCB: A field blank was inadvertently not collected for the Main Plant sewer sediment samples. The sampling team was unable to collect a sewer sediment sample at the final location at which a field blank was to be collected. As a result, this associated blank was never collected and later sampling efforts were abandoned. The lack of a blank constitutes a slight data gap because the equipment decontamination process cannot be evaluated for this group of samples. However, the related Main Plant sewer sediment sample data is still useable as reported.

Also, for FASP volatiles only, no matrix spike was designated for this batch of samples by the sampling coordinator. The location scheduled for designation of an MD/MSD was unable to be sampled and so the associated MS/MSD was never taken and later sampling efforts were abandoned. This represents a minor data gap because the matrix affects on the analysis cannot be evaluated. However, the related Main Plant sewer sediment sample data is still useable as reported.

Kemron Fast Turnaround Metals: A field blank was inadvertently not collected for the Main Plant sewer sediment samples. The sampling team was unable to collect a sewer sediment sample at the final location at which a field blank was to be collected. As a result, this associated blank was never collected. The lack of a blank constitutes a slight data gap because the equipment decontamination process cannot be evaluated for this group of samples. However, the related Main Plant sewer sediment sample data is still useable as reported.

Main Plant - Subsurface Soil Samples

CRL Volatiles, Semivolatiles, Mercury: Rinsate blanks were erroneously not collected. Therefore, field decontamination can not be evaluated for this group of samples. Although the blanks were not collected, the data is still useable as reported. A small data gap is present as a result. However, the related Main Plant subsurface soil sample data is still useable as reported.

FASP Volatiles, PAH, PCB: Field duplicate samples were not collected at a rate of one for every ten samples for this batch of samples (3 duplicates were collected for 63 samples). The lack of duplicate samples is due to low sample recovery at sample locations where some duplicate samples were scheduled. Although this represents a data gap, the corresponding Main Plant subsurface soil data is still useable as reported. Information regarding the precision of the sample results can be drawn from the three duplicate samples that were collected.

Also note that an insufficient number of rinsate blanks were collected for this group of samples and this represents a data gap. Some soil boring locations at which the rinsate blanks were scheduled for collection were unable to be sampled and so the blank was in turn never collected. Information regarding the success of the decontamination procedures should be drawn from the four rinsate blanks that were collected. The corresponding Main Plant subsurface soil data is still useable as reported.

Kemron Fast Turnaround Metals: Field duplicate samples were not collected at a rate of one for every 20 samples for this batch of samples. Seventy-four samples were collected and only three duplicates are present. One more duplicate should have been taken to meet the one duplicate for every twenty samples Kemron QC requirement. The fourth duplicate sample was inadvertently not collected because the location at which it was scheduled had low sample recovery. A judgement about the precision of the sample results can still be made based on the other three duplicate samples collected and evaluated for RPD. This represents a data gap. However, the corresponding data for the Main Plant subsurface soil samples is still useable as reported.

Markland Avenue Quarry - Groundwater Screening Samples

FASP Volatiles: No matrix spike sample was designated with this group of samples. Up to 23 samples were schedule for this sampling group, and only 6 samples were successfully collected. The MS/MSD sample was scheduled for designation by samples that the field team was unable to collect, and so no MS/MSD was designated and analyzed by the laboratory. This represents a minor data gap because the matrix affects on the analysis cannot be evaluated, however the related Markland Avenue Quarry groundwater screening sample data is still useable as reported.

Markland Avenue Quarry - Pond Water Samples

FASP Volatiles, PAH, PCB: Duplicate samples were collected at a rate of one for every 12 samples for this batch of samples. This is less than the required rate of one for every 10 samples and represents a slight data gap; however, the related Markland Avenue Quarry

pond water sample data is still useable as reported. Note that for the one set of duplicate samples that was taken for the Markland Avenue Quarry pond water, all analytes had an RPD less than 30 percent which indicates a good level of precision.

Markland Avenue Quarry - Surface Soil Samples
CLP Semivolatiles (BNA), Pesticide/PCB, Total Metals: A rinsate blank was not taken for the CLP laboratory for this group of samples and represents a minor data gap. Note, however, that a sufficient number of blanks were collected for analysis for both Kemron and FASP which can be used to determine the success of the decontamination procedures for this group of samples. The related Markland Avenue Quarry surface soil sample data is still useable as reported.

Site Background - Wildcat/Kokomo Creek Sediment Samples
CLP Volatiles: No trip blanks are associated with the Wildcat and Kokomo Creek volatile samples analyzed by the CLP laboratory. This represents a minor data gap because the potential for contamination during shipping and storage cannot be evaluated. However, the related site background Wildcat and Kokomo Creek sediment sample data is still useable as reported.

4 Conclusion

The Phase II field sampling program at the CSSS in Kokomo, Indiana was successful in collecting the goal of 95 percent useable data as specified in the Phase II Quality Assurance Project Plan (CDM 1995c). This goal was achieved with no major deviations from either the Quality Assurance Project Plan (CDM 1995c) or the Phase II Field Sampling Plan (CDM 1995b). All data gaps and unuseable data encountered in the evaluation of the useability of the data were minor and represent a loss of only two percent of the data proposed for collection during the Phase II field sampling program. Therefore, 98 percent of the data is useable (see Table 1 as **Appendix C** of this data useability evaluation for calculation).

In addition to the text presented in Section 3, the data useability evaluation sheets given in **Appendix A** of this evaluation serve as a concise and complete summary of all of the exceptions and qualifications of the data. These sheets were available to the writers of the CSSS Remedial Investigation report and the Risk Assessment and Feasibility Study report to aid in the interpretation of the sampling results.

5 References

ABB Environmental Services (ABB-ES). 1993. *Quality Assurance Project Plan Continental Steel Site Remedial Investigation/Feasibility Study.*

Camp Dresser & McKee Inc. (CDM). 1995a. *Continental Steel Superfund Site Focused RI/FS Work Plan.*

Camp Dresser & McKee Inc. (CDM). 1995b. *Continental Steel Superfund Site Phase II Field Sampling Plan.*

Camp Dresser & McKee Inc. (CDM). 1995c. *Continental Steel Superfund Site Focused RI/FS Phase II Quality Assurance Project Plan.*

DATA USEABILITY - APPENDIX A

Data Useability Evaluation Outline and Sheets

DATA USEABILITY EVALUATION SHEETS OUTLINE

I. Supporting text (no data useablility evaluation sheets related to this Roman numeral).

II. Field Screening

A. OU1: Groundwater
1) Groundwater screening in Markland Avenue Quarry
a. FASP

2) Packer Testing at installation of new monitoring wells
a. FASP

III. Wipe Samples

A. OU5: Main Plant
1) Wipe samples of select main plant buildings
a. Kemron

IV. Air Samples

A. OU5: Main Plant
1) Indoor air sampling
a. Kemron

2) Ambient air monitoring/ Hi-Vol air samplers
a. Kemron

V. Soil/Sediment

A. Site Background
1) Highland Park soil - initial screening
a. Kemron
b. FASP

2) Highland Park soil - post-screening results
   a. CLP

3) Creek sediment
   a. CLP

B. OU3: Kokomo and Wildcat Creeks
1) Sediment
   a. CLP

C. OU4: Markland Avenue Quarry
1) Pond sediment
   a. CLP
   b. Kemron
   c. FASP

2) Surface soil
   a. CLP
   b. Kemron
   c. FASP

D. OU5: Main Plant
1) Sewer sediment
   a. CLP
   b. Kemron
   c. FASP

2) Subsurface soil
   a. CLP
   b. CRL
   c. Kemron
   d. FASP

E. OU6: Slag Processing Area
1) Surface soil
   a. CLP
   b. CRL
   c. Kemron
   d. FASP

F. Residential Areas
1) Surface soil - North and South of Markland Avenue
a. CLP
b. Kemron
c. FASP

G. Lagoon Area
1) Soil Boring
a. CLP

VI. Groundwater/ Surface Water

A. OU1: Groundwater
1) Monitoring well sampling (Existing, Lower Aquifer and Upper Aquifer wells)
a. CLP
b. CRL

B. OU3: Kokomo and Wildcat Creek
1) Surface water
a. CRL

C. OU4: Markland Avenue Quarry
1) Pond water
a. CLP
b. Kemron
c. FASP

D. OU5: Main Plant
1) Basement water
a. CLP
b. Kemron
c. FASP

E. Drilling Operations
1) Sample of water purged during drilling to determine if it could be disposed of it into the city sewer
a. Kemron
b. FASP

DATA USEABILITY EVALUATION SHEET

Outline #:	**II/A/1/a**	**Lab:**	**FASP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**6**
Type of Sampling:	**GW Screening**	**# of duplicates:**	**2**
Analyses Performed:	**VOA**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = GW-035(D) and GW-088(D)

Rinsate Blanks = GW-024(B) and GW-088(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Both field blanks were free of all target analytes.

All lab method blanks were free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/6 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Duplicate samples GW-035 and GW-035(D) had RPDs for all target anlalytes below the 30% limit exept for 1,1,1-trichloroethane (See attached table). Sample GW-035(D) required dilution due to an analyte outside the calibration range and may account for the TCE above the RPD limit; the reported quantitation limits reflect the sample's dilution. Duplicate samples GW-088 and GW-088(D) had RPDs below the 30% limit for all target analytes except TCE; both results were significantly lower than those of duplicates GW-035 and GW-035(D). Note that RPD was not evaluated for cis-1,2-dichoroethene because it was detected at levels below the detection limit in GW-035 and was not detected in GW-035(D).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike sample was designated with this group of samples. Up to 23 samples were schedule for this sampling group, and only 6 samples were successfully collected. The MS/MSD sample was scheduled for designation by samples that the field team was unable to collect, and so no MS/MSD was designated and analyzed by the lab. This represents a minor data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

VOA RPD CALCS

Duplicate #1	**GW-035**	**GW-035(D)**	RPD	
1,1,1-Trichloroethane	1200	590	68.16	OVER
1,2-Dichloroethane	700	560	22.22	UNDER
Trichloroethene	3000	2800	6.90	UNDER

Duplicate #2	**GW-088**	**GW-088(D)**	RPD	
Trichloroethene	15	6.6	77.78	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**II/A/2/a**	**Lab:**	**FASP**
Area Sampled:	**Monitoring Wells**	**# of samples:**	**5**
Type of Sampling:	**Packer / GW**	**# of duplicates:**	**0**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field duplicates and blanks were not collected as this task was abandoned before completion.

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks were not collected - Not applicable

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were not collected - Not applicable.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples were not collected - Not applicable.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

This is considered level II data to be used to make field decisions within 12 hours of sampling. Lack of blank and duplicate samples does not constitute a data gap.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**III/A/1/a**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**20**
Type of Sampling:	**Wipes**	**# of duplicates:**	**1**
Analyses Performed:	**Metals**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = WS-17(D)

Field Blanks = WS-08(B), WS-20(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No listed parameters were detected in sample WS-20(B). Sample WS-08(B) had copper at 2.7 ug Cu, lead at 4.7 ug Pb, and zinc at 12 ug Zn. These levels are far below the levels detected in the actual corresponding samples in the group. The detection limits for these elements are 0.9, 3, and 1.5 respectively None of the analytes detected in the blank were qualified. No mention of data qualifications due to the presence of these analytes in the blank were made in the lab narrative.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicates were collected at 1/20 for this group of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Only copper exceeded the required RPD of 30% (see attached sheet). All other analytes were within the required RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

As per the Lab Narrative, the laboratory QC sample set was slightly low on recoveries for Lead on the media spikes and the Laboratory Control Sample (LCS). The recoveries found for Lead are typical for this sampling media. Data was not qualified by the lab.

Below note any other issues given in the laboratory results narrative:

Data is considered useable as reported.

FastTurnMetals RPD CALCS

Duplicate	**WS-17**	**WS-17(D)**	RPD	
Arsenic	160	140	13.33	UNDER
Barium	130	120	8.00	UNDER
Cadmium	23	18	24.39	UNDER
Chromium	200	190	5.13	UNDER
Copper	4600	3300	32.91	OVER
Lead	2600	2200	16.67	UNDER
Nickel	530	430	20.83	UNDER
Zinc	8300	7300	12.82	UNDER

DATA USEABILITY EVALUATION SHEET

Outline #:	**III/A/1/a**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**20**
Type of Sampling:	**Wipes**	**# of duplicates:**	**1**
Analyses Performed:	**PCB - Semi Volatiles**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = WS-17(D)

Blanks = WS-08(B), WS-20(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No listed target compounds were detected in either of the two blanks.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicates were collected at 1/20 for this group of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target compounds were found in either of the field duplicate sample or the corresponding normal sample collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Matrix spike was not designated for this group of samples - N/A. All method required quality assurance checks were within acceptable control limits as per the Lab Narrative.

Below note any other issues given in the laboratory results narrative:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**IV/A/1/a**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**4**
Type of Sampling:	**Indoor Air**	**# of duplicates:**	**1**
Analyses Performed:	**Ttl Susp Particulate**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = AI-43(D)

Field Blank = AI-46(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative - no holding time specified.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The field blank shows non-detect for total particulate (<0.05 mg)

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/4 for this batch of samples and meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target analytes were detected in either of the field duplicate samples AI-41 or AI-43(D) and, therefore, it was not necesary to evaluate RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - Not applicable to total suspended particulate air samples.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

No problems of note were recorded with the quality control standards and samples that were analyzed conjointly with the samples (as per narrative).

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**IV/A/2/a**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**30**
Type of Sampling:	**Ambient Air - Hi Vols**	**# of duplicates:**	**0**
Analyses Performed:	**Ttl Susp Particulate**	**# of blanks:**	**10**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none taken (see *Rate of Duplicate Samples Taken* below)

Field Blanks = AI-04(B), AI-08(B), AI-12(B), AI-16(B), AI-20(B), AI-24(B), AI-28(B), AI-32(B), AI-36(B), AI-40(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative - no holding time specified for air filters for this analysis.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No target analytes detected in any of the field blanks.
All lab quality control blanks met the laboratory quality control standards.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were collected for this sampling due to sampling procedures as given in the approved Sampling and Analysis Plan. One hi-volume air sampler was placed at each of 3 sampling locations and allowed to run for 24hrs. No additional samplers were available to run concurrently with the regular sample to supply a duplicate sample. Laboratory duplicates associated with these samples were reported in the QC Summary with the following lab sample numbers: 11-156-1, 11-133-1, 11-38-1, 11-064-1, 11-169-7, 11-221-1, 12-041-1, 12-066-

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

N/A - No duplicate samples taken (see explanation above) and so RPD was not evaluated.

All laboratory duplicates were reported with RPDs less than the 30% limit.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

No problems of note were recorded with the quality control standard and samples that were analyzed conjointly with the samples.

The lack of field duplicates does not represent a data gap based on the explanation above.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**IV/A/2/a**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**30**
Type of Sampling:	**Ambient Air - Hi Vols**	**# of duplicates:**	**0**
Analyses Performed:	**Pb, Cr, Cd**	**# of blanks:**	**10**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none taken (see Rate of Duplicate Samples Taken below)

Field Blanks = AI-04(B), AI-08(B), AI-12(B), AI-16(B), AI-20(B), AI-24(B), AI-28(B), AI-32(B), AI-36(B), AI-40(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative - no holding time specified for air filters for this analysis.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No target analytes detected in any of the field blanks.
All lab quality control blanks met the laboratory quality control standards.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were collected for this sampling due to sampling procedures as given in the approved Sampling and Analysis Plan. One hi-volume air sampler was placed at each of 3 sampling locations and allowed to run for 24hrs. No additional samplers were available to run concurrently with the regular sample to supply a duplicate sample. Laboratory duplicates associated with these samples were reported in the QC Summary with the following lab sample numbers: 11-156-1, 11-133-1, 11-38-1, 11-064-1, 11-169-7, 11-221-1, 12-041-1, 12-066-

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

N/A - No duplicate samples taken (see explanation above) and so RPD was not evaluated.

All laboratory duplicates were reported with RPDs less than the 30% limit.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

No problems of note were recorded with the quality control standard and samples that were analyzed conjointly with the samples.

The lack of field duplicates does not represent a data gap based on the explanation above.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/1/a**	**Lab:**	**Kemron**
Area Sampled:	**Highland Park**	**# of samples:**	**8**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**0**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

No field duplicate or blank samples were collected - N/A

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks not collected - N/A

Two soil lab duplicates were evaluated.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicates not collected - N/A

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No field duplicates collected - N/A

Both lab duplicates met lab QC requirments; no further qualification of the data is noted.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

Matrix spike was not designated for this group of samples as scheduled - N/A. Laboratory spike sample was within control limits. Data was not qualified by the lab for any reason.

Below note any other issues given in the laboratory results narrative:

Since these screening samples were used to locate the a clean background sample location, no QA/QC samples were collected. This is considered Level II data to be used to make field decisions within 12 hours of sampling. Lack of blank and duplicate samples does not constitute a data gap.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/1/b**	**Lab:**	**FASP**
Area Sampled:	**Highland Park**	**# of samples:**	**8**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**0**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.
No field blanks or duplicates were collected - N/A

Holding times met? **Yes** [X] **No** [ ] If not, explain:

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples
Field blanks not collected - N/A. The laboratory method blank was free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):
Field duplicates not collected - N/A

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:
No field duplicates collected - N/A

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:
Matrix spike was not designated for this group of samples - N/A

Below note any other issues given in the laboratory results narrative:
Since these screening samples were used to locate the a clean background sample location, no QA/QC samples were collected. This is considered Level II data to be used to make field decisions within 12 hours of sampling. Lack of blank/duplicate/MS-MSD samples does not constitute a data gap.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/1/b**	**Lab:**	**FASP**
Area Sampled:	**Highland Park**	**# of samples:**	**8**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**0**
Analyses Performed:	**PCB**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.
No field blanks or duplicates were collected - N/A

Holding times met? **Yes** [X] **No** [ ] If not, explain:

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples
Field blanks not collected - N/A. The laboratory extract blank was free of PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):
Field duplicates not collected - N/A

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:
No field duplicates collected - N/A

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:
Matrix spike was not designated for this group of samples - N/A

Below note any other issues given in the laboratory results narrative:
Since these screening samples were used to locate a clean background sample location, no QA/QC samples were collected. This is considered Level II data to be used to make field decisions within 12 hours of sampling. Lack of blank/duplicate/MS-MSD samples does not constitute a data gap.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/1/b**	**Lab:**	**FASP**
Area Sampled:	**Highland Park**	**# of samples:**	**8**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**0**
Analyses Performed:	**PAH**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.
No field blanks or duplicates were collected - N/A

Holding times met? **Yes** [X] **No** [ ] If not, explain:

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples
Field blanks not collected - N/A. The laboratory extract blank was free of all PAH target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):
Field duplicates not collected - N/A

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:
No field duplicates collected - N/A

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:
Matrix spike was not designated for this group of samples - N/A

Below note any other issues given in the laboratory results narrative:
Since these screening samples were used to locate a clean background sample location, no QA/QC samples were collected. This is considered Level II data to be used to make field decisions within 12 hours of sampling. Lack of blank/duplicate/MS-MSD samples does not constitute a data gap.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VIA/2/a**	**Lab:**	**CLP**
Area Sampled:	**Highland Park**	**# of samples:**	**18**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**2**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BG-03S(D), BG-07S(D).
Lab Duplicate = BG-03D
Rinsate Blanks = BG-06(B).
Trip Blanks = TR-20, TR-21

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Methylene Chloride (a common lab contaminant) was detected and estimated (flagged J) at 5 ug/L in rinsate blank sample BG-06(B). No other volatiles were detected in this sample. No target compounds were detected in either of the trip blank samples. Three laboratory blanks (VBLKAF, VBLKAG, and VBLKAH) were analyzed and found to contain methylene chloride, acetone, and carbon disulfide. Both acetone and methylene chloride are common lab contaminants and the presence of these contaminants in the associated samples is flagged as non-detected when the sample results are less than 10X the blank results. Carbon disulfide is not a common lab contaminant; therefore, it is flagged as non-detected when the associated sample results are less than 5X the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/18 for this batch of samples which meets QC requirements.

One sample was designated as a lab duplicate.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

RPD will not be evaluated for the methylene chloride hit in sample BG-07S because it was detected at levels below the detection limit and was not detected in the corresponding duplicate sample. Toluene, the only other detected compound in sample BG-07S, was outside of the 30% RPD requirement (see attached table). Toluene was also outside of the 30% RPD requirement for sample BG-03S. These exceedences of the RPD may be explained by the non-homogenous nature of soil samples.

The lab narrative states that none of the results for any analyte are qualified and all data are acceptable based on the lab duplicate audit of sample BG-03D.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample BG-04S was designated as the MS/MSD sample for this group of samples. Toluene was reported outside of the QC range; therefore, positive results in the unspiked sample is estimated (flaagged J).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Methylene chloride and acetone detected in the blanks and the duplicate samples should be considered a common laboratory contaminant, and not be considered during use of this data.

Data is considered useable as reported.

VOA RPD CALCS

Duplicate #1	**BG-07S**	**BG-07S(D)**	RPD	
Toluene	43	11	118.52	OVER

Duplicate #2	**BG-03S**	**BG-03S(D)**	RPD	
Methylene Chloride	10	10	0.00	UNDER
Toluene	14	22	44.44	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/2/a**	**Lab:**	**CLP**
Area Sampled:	**Highland Park**	**# of samples:**	**18**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**2**
Analyses Performed:	**BNA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BG-03S(D), BG-07S(D).

Rinsate Blanks = BG-06B(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative, the SVOC portion of sample BG-09S was extracted nine days beyond the 14 day hold time. Therefore, positive results for this sample are estimated (flagged J). All other samples in this group met holding time requirements.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No target SVOC compounds were found in the rinsate blank sample. The laboratory method blank SBLKS1 contained SVOC contamination. Specifically, diethylphthalate at 33 ug/kg and bis (2-ethylhexyl) phthalate at 34 ug/kg. both of these compounds are common lab contaminants and are flagged as non-detected if the sample results are less than 10X the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/18 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target SVOA compounds were found in either the duplicate samples or the corresponding investigative samples collected in this group with the exception of fluoranthane which was detected below the detection limit in sample BG-07S and not detected in the corresponding duplicate sample; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample BG-04S was designated as the MS/MSD for this group of samples. Compounds 4-nitrophenol and 4-chloro-3-methyphenol were detected outside of the QC limits; therefore, positive results for all of the spiked compounds are estimated (flagged J).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

As per lab narrative, data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/2/a**	**Lab:**	**CLP**
Area Sampled:	**Highland Park**	**# of samples:**	**18**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**2**
Analyses Performed:	**Pesticides / PCBs**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BG-03S(D), BG-07S(D).

Rinsate Blanks = BG-06B(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No analyzed Pesticide / PCB target compounds were detected in the field blank. Three lab method blanks (PBLK1S, PBLK2S, and PBLK3S) were analyzed and found to contain 4,4-DDT. Method blank PBLK2S also contained heptachlor epoxide; therefore, the presence of these compounds found in samples associated with these blanks is qualified as non-detected if the sample results are less than 5X the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/18 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target pesticide / PCB compounds were found in either the duplicate samples or the corresponding investigative samples collected in this group with the exception of heptachlor epoxide and Aroclor-1254 which were both detected below the detection limit in sample BG-07S(D) and not detected in the corresponding investigative sample; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample BG-04S was designated as the MS/MSD for this group of samples. All pesticides and PCB compounds were recovered within the QC limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/2/a**	**Lab:**	**CLP**
Area Sampled:	**Highland Park**	**# of samples:**	**18**
Type of Sampling:	**Background Soil**	**# of duplicates:**	**2**
Analyses Performed:	**TOTAL METALS**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BG-03S(D), BG-07S(D).

Rinsate Blanks = BG-06B(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Ca, Cr, Na, and Zn were all detected in the lab preparation blank. Therefore, these elements are qualified with a "B" qualifer in the rinsate blank. The levels in the rinsate blank are Ca at 25.9 ug/L, Cr at 1.4 ug/L, Na at 79.7 ug/l and Zn at 2.6 ug/L. All detects in the investigative samples are qualified with a "B" meaning that these compounds were detected in the associated blank.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/18 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Both field duplicate samples had analytes that exceeded the 30% RPD requirements (see attached sheet). These types of RPD levels are not uncommon for the media samples (Soil), due to the non-homogenous nature of the matrix.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

MS/MSD samples were not designated for this group of samples in the field. Sample BG-03D was designated by the laboratory as the MS/MSD. MS recovery of lead for this sample is out of control and has been flagged J. MS recovery of antimony is also out of control. Antimony levels for samples BG-03S, BG-07S(D), BG-08S and BG-01D flagged J due to a low bias. The remaining antimony data is estimated and flagged UJ due to possible elevation of the detection limit. All manganese data is estimated (flagged J) due to high bias.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as qualified and reported.

TOTMET RPD CALCS

Duplicate #1	BG-03S	BG-03S(D)	RPD	
Aluminium	8140	7700	5.56	UNDER
Antimony	0.97	0.67	36.59	OVER
Arsenic	10.3	6.1	51.22	OVER
Barium	92.7	46.4	66.57	OVER
Beryllium	0.54	0.43	22.68	UNDER
Calcium	2250	77400	188.70	OVER
Chromium	12.7	14	9.74	UNDER
Cobalt	9.3	7.6	20.12	UNDER
Copper	16.9	18.8	10.64	UNDER
Iron	17400	16500	5.31	UNDER
Lead	18.8	7.5	85.93	OVER
Magnesium	2050	28800	173.42	OVER
Manganese	723	319	77.54	OVER
Mercury	0.2	0.14	35.29	OVER
Nickel	17.3	18	3.97	UNDER
Potassium	763	1740	78.07	OVER
Sodium	70.7	102	36.25	OVER
Thallium	0.96	1.6	50.00	OVER
Vanadium	22.4	16.5	30.33	OVER
Zinc	54.4	45.8	17.17	UNDER

Duplicate #2	BG-07S	BG-07S(D)		
Aluminium	12500	8190	41.66	OVER
Antimony	0.73	0.81	10.39	UNDER
Arsenic	9.2	7.8	16.47	UNDER
Barium	110	97.1	12.46	UNDER
Beryllium	0.64	0.53	18.80	UNDER
Cadmium	0.74	0.48	42.62	OVER
Calcium	3640	3080	16.67	UNDER
Chromium	20	14.1	34.60	OVER
Cobalt	9.9	6.7	38.55	OVER
Copper	22.4	19.2	15.38	UNDER
Iron	20500	15700	26.52	UNDER
Lead	21.7	22.9	5.38	UNDER
Magnesium	3110	2310	29.52	UNDER
Manganese	1000	644	43.31	OVER
Mercury	0.19	0.12	45.16	OVER
Nickel	26.2	19	31.86	OVER
Potassium	1600	1130	34.43	OVER
Selenium	0.97	0.73	28.24	UNDER
Sodium	72.2	74.6	3.27	UNDER
Thallium	1.7	1.7	0.00	UNDER
Vanadium	27.9	19.2	36.94	OVER
Zinc	124	153	20.94	UNDER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/3/a**	**Lab:**	**CLP**
Area Sampled:	**Site Background**	**# of samples:**	**12**
Type of Sampling:	**Creek Sediment**	**# of duplicates:**	**2**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BW-03(D), BK-03(D)

Rinsate Blanks = BW-05(B) *(only one blank was scheduled for this group of samples)*

No trip blanks associated with these samples - this represents a minor data gap as the potential for contamination during shipping cannont be evaluated.

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

-- Field blank BW-05(B) was free of all target analytes exept for methylene chloride and acetone.

-- The lab method blanks associated with these samples (VBLKAF, VBLKAG, VBLKAH) contained methylene chloride, acetone, carbon disulfide. Methylene chloride and acetone are common laboratory contaminants. The presence of these compounds in associated samples is flagged as non-detected(U) when the sample results are less than 10X the blank results. Carbon disulfide is not a common laboratory contaminant. The presence of carbon disulfide is flagged as non-detected(U) when the sample results are less than 5X the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/12 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target analytes were detected in either field duplicate samples BW-03 or BW-03(D), therefore, it was not necessary to evaluate RPD. Duplicate samples BK-03 and BK-03(D) had RPDs below 30% for all target analytes.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sediment sample BK-04 was designated as the MS/MSD sample. All spike recoveries were within given QC limits, therefore results are acceptable.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

VOA RPD CALCS

Duplicate #1	**BW-03**	**BW-03(D)**	RPD

All of the target analytes were given as non-detects for the duplicate samples.

Duplicate #2	**BK-03**	**BK-03(D)**	RPD	
Acetone	18	21	15.38	UNDER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/3/a**	**Lab:**	**CLP**
Area Sampled:	**Site Background**	**# of samples:**	**12**
Type of Sampling:	**Creek Sediment**	**# of duplicates:**	**2**
Analyses Performed:	**BNA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BW-03(D), BK-03(D)

Rinsate Blanks = BW-05(B) *(only one blank was scheduled for this group of samples)*

Holding times met? **Yes** [ ] **No** [X] If not, explain:

All holding times were met except for samples BK-04MS and BK-04MSD. In the original extraction of the soil QC sample BK-04 for the BNA fraction, the sample was not spiked with the matrix spike compounds due to an analyst error. Sample BK-04MS and BK-04MSD were spiked and re-extracted outside of holding times. Positive results are flagged as estimated(J) and non-detected(UJ) for BK-04MS and BK-04MSD only.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No target analytes were detected in the field blank BW-05(B) except for bis(2-Ethylhexyl)phthalate which was an estimated value (flagged J).
For the lab method blanks associated with the given sample group, SBLKS1 and SBLKWR1 contained diethylphthalate and bis(2-ethylhexyl)phthalate which are common laboratory contaminants. The presence of these compounds in the associated samples is flagged as non-detect(U) when the sample results are less than 10X the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/12 for this batch of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples BW-03 and BW-03(D) had some semivolatile compounds above the 30% RPD limit, however, for each compound over the limit, the associated result was flagged as estimated (J) in either one or both of the samples (See attached table). For duplicate samples BK-03 and BK-03(D), the original sample results are the only set of data that can be truly compared. BK-03(D) was diluted and reanalyzed for the usable results. RPDs for these both undiluted results are given in the attached table. Again, many of the compound in which the RPD limit was exceeded were those flagged as estimated (J). The RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample. RPD was not evaluated for the compounds for which the analyte was detected in one sample below the detection limit and not detected in the other sample. This applies to Anthracene, Carbazole, Benzo(a)anthracene, Indeno(1,2,3-cd)pyrene and Dibenz(a,h)anthracene for duplicate samples BW-03 and BW-03(D) and 4-Methylphenol, Naphthalene, 2-Methylnaphthalene and Di-n-butylphthalate for duplicate samples BK-03 and BK-03(D).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sediment sample BK-04 was designated as the MS/MSD sample. All compounds were within given QC limits for spike recoveries except for N-Nitroso-di-n-propylamine, 39% (limits=41%-126%) in sample BK-04MS and Pentachlorophenol, 110% (limits = 17%-109%) in sample BK-04MSD. As a result, positive results for these compounds are flagged as estimated(J) or non-detect(UJ) for the unspiked soil sample BK-04.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

BNA samples BK-02, BK-03-D, BK-05, and BK-06 were analyzed at a dilution to bring analyte concentrations within the QC limits (within linear calibration). Both sets of data are given, however, only the results for the diluted sample will be used. See other issues for discussion as given above.

Data is considered useable as reported.

BNA RPD CALCS

Duplicate #1	BW-03	BW-03(D)	RPD		BW-03	BW-03(D)
					Flagging as given in results**	
Phenanthrene	44	240	138.03	OVER	J	J
Fluoranthene	91	520	140.43	OVER	J	
Pyrene	130	430	107.14	OVER	J	J
Butylbenzylphthalate	24	33	31.58	OVER	J	J
Chrysene	47	270	140.69	OVER	J	J
Benzo(b)fluoranthene	43	250	141.30	OVER	J	J
Benzo(k)fluoranthene	27	180	147.83	OVER	J	J

Duplicate #2	BK-03	BK-03(D)	RPD		BK-03	BK-03(D)
Acenapthylene	28	62	75.56	OVER	J	J
Acenaphthene	260	760	98.04	OVER	J	
Dibenzofuran	100	320	104.76	OVER	J	J
Fluorene	210	640	101.18	OVER	J	
Phenanthrene	2200	5800	90.00	OVER		
Anthracene	550	1400	87.18	OVER		
Carbazole	390	1300	107.69	OVER	J	
Fluoranthene	3500	7700	75.00	OVER		
Pyrene	2600	6300	83.15	OVER		
Benzo(a)anthracene	1400	3600	88.00	OVER		
Chrysene	1700	4400	88.52	OVER		
Benzo(b)fluoranthene	1400	3800	92.31	OVER		
Benzo(k)fluoranthene	1400	2900	69.77	OVER		
Benzo(a)pyrene	1400	4100	98.18	OVER		
Indeno(1,2,3-cd)pyrene	590	1700	96.94	OVER		
Dibenz(a,h)anthracene	280	670	82.11	OVER	J	
Benzo(g,h,i)perylene	330	600	58.06	OVER	J	

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/3/a**	**Lab:**	**CLP**
Area Sampled:	**Site Background**	**# of samples:**	**12**
Type of Sampling:	**Creek Sediment**	**# of duplicates:**	**2**
Analyses Performed:	**PEST/PCB**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BW-03(D), BK-03(D)

Rinsate Blanks = BW-05(B) (*only one blank was scheduled for this group of samples)*

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The field blank contained no target analytes.

The lab method blanks contained no Pest/PCB residues.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/12 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

For field duplicate samples BW-03 and BW-03(D), all compounds were within the 30% RPD (See attached table). Note that RPD was not evaluated for Dieldrin and 4,4'-DDT for duplicate samples BW-03 and BW-03(D) because the analyte was detected in one sample below the detection limit and was not detected in the other sample. For duplicate samples BK-03 and BK-03(D), all compounds were within the 30% RPD limit except for Dieldrin, gamma-Chlordane, and Aroclor-1248. Note that for each of these compounds one or both of the sample results was flagged as estimated. Additionally the RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

Sediment sample BK-04 was designated as the MS/MSD sample. All compounds were within QC limits for spike recovery except for gamma-BHC(Lindane) in both BK-04MS and BK-04MSD. The recovery for gamma-BHC in BK-04MS/MSD was below the QC limit. In addition, the RPD for gamma-BHC was above the QC limit. *AS A RESULT, FOR THE UNSPIKED SAMPLE BK-04, POSITIVE RESULTS FOR GAMMA-BHC ARE FLAGGED AS ESTIMATED (J) AND NON-DETECTE RESULTS ARE UNUSEABLE. NOTE THAT IN THIS CASE THE GAMMA-BHC RESULTS FOR BK-04 IS UNUSEABLE.*

Below note any other issues given in the laboratory results narrative or additional data useability comments:

FOR THE UNSPIKED SAMPLE BK-04, POSITIVE RESULTS FOR GAMMA-BHC ARE FLAGGED AS ESTIMATED (J) AND NON-DETECTE RESULTS ARE UNUSEABLE. NOTE THAT IN THIS CASE THE GAMMA-BHC RESULT FOR BK-04 IS UNUSEABLE. This does not represent a data gap because Gamma-BHC is not a contaminant of concern.

All other data is considered useable as reported

PEST.PCB RPD CALCS

Duplicate #1	**BW-03**	**BW-03(D)**	RPD		**BW-03**	**BW-03(D)**

All analytes below the detection limit.

Duplicate #2	**BK-03**	**BK-03(D)**	RPD		**BK-03**	**BK-03(D)**
					Flagging as given in results**	
Heptachlor epoxide	7.8	10	24.72	UNDER	U	J
Dieldrin	4.7	7.8	49.60	OVER	U	J
4,4'-DDE	4.7	5.3	12.00	UNDER	J	J
Endrin ketone	9.1	9.4	3.24	UNDER	J	J
gamma-Chlordane	2.3	3.7	46.67	OVER	J	J
Aroclor-1248	340	560	48.89	OVER	J	J

**** NOTE: The "P" qualifier indicates a Pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between two GC columns. The lower of the two results is reported.***

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/A/3/a**	**Lab:**	**CLP**
Area Sampled:	**Site Background**	**# of samples:**	**12**
Type of Sampling:	**Creek Sediment**	**# of duplicates:**	**2**
Analyses Performed:	**TOTAL METALS**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BW-03(D), BK-03(D)
Lab Duplicates = BK-04
Rinsate Blanks = BW-05(B) (only one blank was scheduled for this group of samples)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The lab method blank associated with BW-05(B) was found to contain Ca, Cr, Fe, Na, and Zn. Consequently, detects of Ca, Na, and Zn, the only target analytes found in field blank BW-05(B), are flagged as estimated (J) due to the lab contamination. The lab preparation blank associated with all other samples reported all target analytes below the detection limit except for Ca and Mn. All samples affected by this lab preparation blank contamination or continuing calibration detections are flagged as "B" in the results. This qualifier indicates that the analyte was found in the sample as well as the associated lab blank.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/12 for this batch of samples which meets QC requirements.
One lab duplicate was designated.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

For field duplicate samples BK-03 and BK-03(D), all compounds were within the RPD limit of 30% exept for Ca, Co, Mg, and Mn (see attached table). For duplicate samples BW-03 and BW-03(D), all compounds were within the RPD limit of 30% except for Ba, Cu, Pb, Th, and Zn. Note that for results which exceeded the RPD limit several were flagged as estimated (J) and/or "B" meaning that the compound was detected in the associated lab blank as well. Furthermore, higher RPDs are common with sediment samples because of the heterogeneous nature of the sample.

BK-04 was used for the lab duplicate sample. RPDs for all analytes were reported within the laboratory control limits except for Mn (64%), Zn(41.8%), Al(45.1%), Pb (37.3%), Ca(61.0%), Fe(41.9%), Mg(78.8%); the lab directed that all data given for these analytes be qualified as estimated (J) due to poor precision. Furthermore, the following analytes had RPDs >30%, however were not directed to be qualified because the duplicate differences did not exceed the technical criterion (+/-2x Contract Required Detection Limit) for soil sample: Cu(63.7%), K(64.2%), Na(35.5%), Ba(103.3%), As(60.2%).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample BK-04 was designated as the matrix spike sample. The matrix spike recoveries are out of control for Mn, Se, Tl, As and Hg are out of control. *THE MATRIX SPIKE RECOVERY FOR Cd is <30%, THEREFORE, Cd RESULTS of BW-01,02,03,03(D),04,05,06 and BK-01,03,03(D),04,05,06 ARE UNUSABLE.*

Below note any other issues given in the laboratory results narrative or additional data useability comments:

THE MATRIX SPIKE RECOVERY FOR Cd is <30%, THEREFORE, Cd RESULTS of BW-01, 02, 03, 03(D), 04, 05, 06 and BK-01,03,03(D),04,05,06 ARE UNUSABLE.

Otherwise, data is considered useable as reported.

TOTMET RPD CALCS

Duplicate #1	BW-03	BW-03(D)	RPD		BW-03	BW-03(D)
					Flagging as given in results**	
Aluminum	1830	2360	25.30	UNDER	J	J
Arsenic	4.7	5.6	17.48	UNDER	J	J
Barium	11.9	25.2	71.70	OVER	B	B
Beryllium	0.49	0.6	20.18	UNDER	B	B
Calcium	53000	45800	14.57	UNDER	J	J
Chromium	4.4	5.5	22.22	UNDER	J	J
Cobalt	2.5	2.9	14.81	UNDER	B	B
Copper	3.1	14.2	128.32	OVER	B	
Iron	4620	5510	17.57	UNDER	J	J
Lead	3.9	8	68.91	OVER	J	J
Magnesium	21900	16700	26.94	UNDER	J	J
Manganese	147	184	22.36	UNDER	J	J
Nickel	4.5	6	28.57	UNDER	B	BJ
Potassium	205	262	24.41	UNDER	B	B
Sodium	117	107	8.93	UNDER	B	B
Thallium	0.79	1.1	32.80	OVER	UJ	BJ
Vanadium	6.2	6.7	7.75	UNDER	B	B
Zinc	20	35.5	55.86	OVER	J	J

Duplicate #2	BK-03	BK-03(D)	RPD		BK-03	BK-03(D)
Aluminum	2400	2970	21.23	UNDER		
Arsenic	3.1	3	3.28	UNDER	B	B
Barium	29	29.2	0.69	UNDER	B	B
Beryllium	0.67	0.71	5.80	UNDER	B	B
Calcium	13400	47300	111.70	OVER		
Chromium	9.3	9.7	4.21	UNDER		
Cobalt	2.2	3.5	45.61	OVER	B	B
Copper	18.9	15.9	17.24	UNDER		
Iron	5220	6690	24.69	UNDER		
Lead	18	18.1	0.55	UNDER		
Magnesium	3600	8960	85.35	OVER		
Manganese	68.3	128	60.83	OVER		
Nickel	6.4	7.5	15.83	UNDER	B	B
Potassium	295	379	24.93	UNDER	B	B
Sodium	130	141	8.12	UNDER	B	B
Vanadium	7.1	9	23.60	UNDER	B	B
Zinc	116	106	9.01	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/B/1/a**	**Lab:**	**CLP**
Area Sampled:	**Kokomo/Wldct Creek**	**# of samples:**	**27**
Type of Sampling:	**Creek Sediment**	**# of duplicates:**	**3**
Analyses Performed:	**VOA**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SDWC-103(D), SDWC-115(D), SDWC-121(D)

Rinsate Blanks = SDWC-109(B), SDKC-126(B)

Trip Blanks = TR-20,21,22,23,24,25,26

Holding times met? **Yes** [X] **No** [ ] If not, explain:

Sample SDWC-106 was reanalyzed 10 days outside of the 14 day holding time - positive results flagged as estimated (J) and non-detects flagged as estimated (UJ).

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All trip blanks were free of target analytes.
Field blanks SDWC-109(B) and SDKC-126(B) were free of all volatile target analytes except for acetone which is a common lab contaminant.
The only contaminants which appeared in the lab method blanks were common lab contaminants such as methylene chloride, acetone, butanone, 2-hexanone; where these contaminants appear in associated samples, results are flagged as non-detects (U) where the sample results are less than 10x the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SDWC-103 and SDWC-103(D) had RPDs within the 30% limit for all compounds except for acetone and toluene; acetone is a common lab contaminant and in both cases one or both of the results were flagged as estimated (J). Duplicate samples SDWC-115 and SDWC-115(D) had RPDs within the 30% limit for all compound except for methylene chloride (common lab contaminant), carbon disulfide, and toluene all of which had one or both results flagged as estimated. Duplicate samples SDWC-121 and SDWC-121(D) had RPDs within the 30% limit for all compounds except for Acetone which is a common lab contaminant and was further flagged as estimated (J) in both results. The RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Samples SDWC-108 and SDWC-118 were chosen as the matrix spikes for this group of samples. All volatile MS and MSD recoveries were within the QC limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

VOA RPD CALCS

Duplicate #1	SDWC-103	SDWC-103(D)	RPD		SDWC-103	SDWC-103(D)
					Flagging as given in results*	
Methylene Chloride	10	8	22.22	UNDER	J	
Acetone	11	28	87.18	OVER	J	J
Toluene	14	2	150.00	OVER		J

Duplicate #2	SDWC-115	SDWC-115(D)	RPD		SDWC-115	SDWC-115(D)
Methylene Chloride	15	9	50.00	OVER		J
Acetone	23	23	0.00	UNDER	J	J
Carbon Disulfide	15	4	115.79	OVER		J
Trichloroethene	2	2	0.00	UNDER	J	J
Tetrachloroethene	2	2	0.00	UNDER	J	J
Toluene	15	2	152.94	OVER		J

Duplicate #3	SDWC-121	SDWC-121(D)	RPD		SDWC-121	SDWC-121(D)
Acetone	19	32	50.98	OVER	J	J

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/B/1/a**	**Lab:**	**CLP**
Area Sampled:	**Kokomo/Wldct Creek**	**# of samples:**	**27**
Type of Sampling:	**Creek Sediment**	**# of duplicates:**	**3**
Analyses Performed:	**BNA**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SDWC-103(D), SDWC-115(D), SDWC-121(D)

Rinsate Blanks = SDWC-109(B), SDKC-126(B)

Holding times met? **Yes** [X] **No** [X] If not, explain:

SDWC-121(D) required reanalysis and was extracted beyond the fourteen day holding time, but within the extended 28 day holding time; all extracts were very promptly analyzed. The SDWC-121(D) results were consequently flagged as estimated (J) for positive results or non-detect estimated (UJ).

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SDWC-109(B) was free of all semivolatile target analytes. Field blank SDKC-126(B) was free of all semivolatile target analytes except for di-n-butylphthalate which was flagged as estimated, J by the lab. Some method blanks were contaminated with diethylphthalate and/or bis(2-ethylhexyl)phthalate. These are common semivolatile lab contaminants from latex gloves used in sample handling. Where these contaminants appear in associated samples, results are flagged as non-detects (U) where the sample results are less than 10x the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SDWC-103 and SDWC-103(D) had several compounds with RPDs outside the 30% limit (see attached table). In all cases except for phenanthrene, results for one of both of the results were flagged as estimated (J). Duplicate samples SDWC-115 and SDWC-115(D) had several compounds with RPDs outside the 30% limit (see attached table); in all cases one or both results were flagged as estimated (J). Duplicate samples SDWC-121 and SDWC-121(D) had several compounds with RPDs outside the 30% limit (see attached table); in all cases one or both results were flagged as estimated (J). Furthermore, the higher RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Samples SDWC-108 and SDWC-118 were chosen for the matrix spikes for this group of samples. Recovery of pyrene was above the QC limit for SDWC-108MSD; the positive result for pyrene in the unspiked sample was thus flagged as estimated (J). Recoveries of pentachlorophenol, 4-chloro-3-methylphenol, and phenol were above the upper limits for both SDWC-118MS and SDWC-118MSD. Since none of these compounds was present in the unspiked sample SDWC-118, no action is required.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Other Items of Note:

The following analytes exceeded the calibration ranges in the original sample analysis:
SDWC-102: fluoranthene and pyrene; SDWC-103 and SDKC-124: pyrene; SCWC-103(D): pyrene and bis(2-Ethylhexyl)phthalate; SDWC-108: bis(2-ethylhexyl)phthalate; SDKC-127: fluoranthene, pyrene and benzo(b)fluoranthene. For these analytes, the results of the diluted analysis should be considered the sample's analyte concentration.
Also, the semi-volatile fraction of sample SDWC-114 was reanalyzed at a 1:2 dilution because of potential interferences; it is recommended that the results from the initial analysis be used without qualification.

Data is considered useable as reported.

BNA RPD CALCS

Duplicate #1	SDWC-103	SDWC-103(D)	RPD		SDWC-103	SDWC-103(D)
					Flagging as given in results**	
1,4-Dichlorobenzene	110	77	35.29	OVER	J	J
Acenapthylene	150	76	65.49	OVER	J	J
Dibenzofuran	80	39	68.91	OVER	J	J
Fluorene	200	100	66.67	OVER	J	
Phenanthrene	2200	1400	44.44	OVER		
Anthracene	450	260	53.52	OVER	J	J
Carbazole	180	130	32.26	OVER	J	J
Di-n-butylphthalate	39	97	85.29	OVER	J	J
Fluoranthene	2900	2200	27.45	UNDER		
Pyrene	3500	2400	37.29	OVER	E	EJ
Benzo(a)anthracene	1300	920	34.23	OVER		J
Chrysene	1400	1100	24.00	UNDER		J
bis(2-Ethylhexyl)phthalate	2500	2300	8.33	UNDER		EJ
Benzo(b)fluoranthene	1400	1000	33.33	OVER	J	J
Benzo(k)fluoranthene	1100	1100	0.00	UNDER	J	J
Benzo(a)pyrene	1200	950	23.26	UNDER	J	J
Indeno(1,2,3-cd)pyrene	400	300	28.57	UNDER	J	J
Benzo(g,h,i)perylene	350	300	15.38	UNDER	J	J

Duplicate #2	SDWC-115	SDWC-115(D)	RPD		SDWC-115	SDWC-115(D)
Phenanthrene	39	69	55.56	OVER	J	J
Fluoranthene	100	190	62.07	OVER	J	J
Pyrene	56	78	32.84	OVER	J	J
Benzo(a)anthracene	26	50	63.16	OVER	J	J
Chrysene	37	66	56.31	OVER	J	J
bis(2-Ethylhexyl)phthalate	43	57	28.00	UNDER	J	J
Di-n-octylphthalate	53	63	17.24	UNDER	J	J
Benzo(b)fluoranthene	33	64	63.92	OVER	J	J
Benzo(k)fluoranthene	37	65	54.90	OVER	J	J
Benzo(a)pyrene	28	54	63.41	OVER	J	J

Duplicate #3	SDWC-121	SDWC-121(D)	RPD		SDWC-121	SDWC-121(D)
Pyrene	190	250	27.27	UNDER	J	J
Di-n-octylphthalate	83	120	36.45	OVER	J	J
Benzo(b)fluoranthene	97	200	69.36	OVER	J	J
Benzo(k)fluoranthene	83	150	57.51	OVER	J	J
Benzo(a)pyrene	77	150	64.32	OVER	J	J

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/B/1/a**	**Lab:**	**CLP**
Area Sampled:	**Kokomo/Wldct Creek**	**# of samples:**	**27**
Type of Sampling:	**Creek Sediment**	**# of duplicates:**	**3**
Analyses Performed:	**PEST/PCB**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SDWC-103(D), SDWC-115(D), SDWC-121(D)

Rinsate Blanks = SDWC-109(B), SDKC-126(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks SDWC-109(B) and SDKC-126(B) were free of all Pest/PCB target analytes.

All pesticide lab method blanks contained no target anayltes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples SDWC-103 and SDWC-103(D) had one compound with RPD over the 30% limit (see attached table). Duplicate samples SDWC-115 and SDWC-115(D) had three compounds with RPDs outside the 30% limit (see attached table); in all cases but Aroclor-1248, one or both results were flagged as estimated (J). Duplicate samples SDWC-121 and SDWC-121(D) had several compounds with RPDs outside the 30% limit (see attached table); in most cases one or both results were flagged as estimated (J). Furthermore, to account for non-estimated results, the higher RPDs of these samples are not uncommon with sediment samples because of the non homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

Samples SDWC-108 and SDWC-118 were chosen for the matrix spikes for this group of samples. Recovery of Aldrin was below the QC limit in SDWC-108MSD; the positive result for Aldrin in the unspiked sample SDWC-108 was thus flagged as estimated (J). Recoveries of Lindane in both SDWC-118MS and SDWC-118MSD were zero. Since this compound was not found in SDWC-118 the unspiked sample, *THE RESULT FOR LINDANE SHOULD BE CONSIDERED UNUSEABLE.* Recoveries for Endrin in both SDWC-118MS and SDWC-118MSD were very near zero; Recoveries of Heptachlor and Dieldrin were zero in SDWC-118MSD while Heptachlor was satisfactory, Dieldrin was above the QC limit in the SDWC-119MS; the recoveries of Aldrin and DDT in both SDWC-118MS and SDWC-118MSD were much above the upper limits. In all of these cases, all positve results for the mentioned compounds should be flagged as estimated (J).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

RECOVERIES OF LINDANE IN BOTH SDWC-118MS and SDWC-118MSD WERE ZERO. SINCE THIS COMPOUND WAS NOT FOUND IN SDWC-118 THE UNSPIKED SAMPLE, THE RESULT FOR LINDANE SHOULD BE CONSIDERED UNUSEABLE. Note that because Lindane is not a contaminant of concern, this does not represent a data gap.

The following analytes per sample exceeded the calibration range in the original sample analysis: SDWC-102: gamma-BHC(Lindane), Aldrin, and alpha-chlordane; SDWC-105: Aldrin; SDKC-125: Aldrin gamma-BHC(Lindane); SDWC-114: Aldrin and Aroclor-1248; Aldrin, Aroclor 1248, Aroclor 1254; SDWC-120: Aldrin, Aroclor 1248, Aroclor 1254, and Aroclor 1260. For all of these analytes per given sample, the results of the diluted (DL) analysis should be considered the sample's analyte concentration, for all other analytes, the results from the initial analysis should be used.

Data is considered useable as reported.

PEST.PCB RPD CALCS

Duplicate #1	SDWC-103	SDWC-103(D)	RPD		SDWC-103	SDWC-103(D)
					Flagging as given in results**	
gamma-BHC (Lindane)	8.3	7.2	14.19	UNDER	P*	P
Aldrin	17	15	12.50	UNDER	P	P
Endrin aldehyde	20	37	59.65	OVER	P	P
alpha-Chlordane	4.3	3.3	26.32	UNDER	P	P
gamma-Chlordane	9.8	11	11.54	UNDER		
Aroclor-1016	180	150	18.18	UNDER		
Aroclor-1248	410	390	5.00	UNDER	P	
Aroclor-1254	230	200	13.95	UNDER	P	P
Aroclor-1260	210	160	27.03	UNDER	P	P

Duplicate #2	SDWC-115	SDWC-115(D)	RPD		SDWC-115	SDWC-115(D)
Aldrin	2.2	3.4	42.86	OVER	JP	JP
Aroclor-1248	49	79	46.88	OVER	U	

Duplicate #3	SDWC-121	SDWC-121(D)	RPD		SDWC-121	SDWC-121(D)
Aldrin	14	8.2	52.25	OVER	JP	JP
Heptachlor epoxide	4.2	2.9	36.62	OVER	JP	JP
Endosulfan I	8.1	4.5	57.14	OVER	JP	JP
Dieldrin	15	9	50.00	OVER	JP	JP
4 4'-DDE	11	6	58.82	OVER		J
4 4'-DDT	29	18	46.81	OVER		JP
gamma-Chlordane	18	10	57.14	OVER		
Aroclor-1254	370	220	50.85	OVER		

**** NOTE: The "P" qualifier indicates a Pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between two GC columns. The lower of the two results is reported.***

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	V/B/1/a	**Lab:**	CLP
Area Sampled:	Kokomo/Wldct Creek	**# of samples:**	27
Type of Sampling:	Creek Sediment	**# of duplicates:**	3
Analyses Performed:	TOTAL METALS	**# of blanks:**	2

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SDWC-103(D), SDWC-115(D), SDWC-121(D)
Lab Duplicates = SDWC-115, SDWC-118 , SDWC-112, SDWC-108
Rinsate Blanks = SDWC-109(B), SDKC-126(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks were free of all target analytes except for: Be,Ca,Fe,Mn,Na,Zn (SDWC-109(B)) and Be,Ca,Fe,Pb,Mn,Mg,Na,Zn (SDKC-126(B)); all of these detected analytes were further flagged "B" as they were also detected in the associated lab method blank - several were also qualified as estimated (J). There was no mention of any lab method blank difficulties in the lab narrative. The following elements showed low level concentrations in the initial, preparation, and, continuing calibration blanks: K, Ba, Be, Ca, Fe, Mn, Mg, Na, Zn (associated w/ SDWC-101,102,103,103(D), 104,105,106,107,108,109,110,111,112, SDKC-124,125,126,127); Se, Ca, Tl (associated w/ SCWC-116,119,121,121(D),122); Tl, Cu, Al, Na, Ca, Cr, Fe,Zn (associated w/ SDWC-113,114,115,115(D),117); Ca (associated w/ SDWC-118,120,123). All levels were below the Contract Required Detection Limit so no action is required and there was no mention in the review narrative of any problems associated with lab method blanks.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.
Four lab duplicates were designated this group of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SDWC-103 and SDWC-103(D), SDWC-115 and SDWC-115(D), and SDWC-121 and SDWC-121(D) had several compound each with RPD over the 30% limit (see attached table). In most cases one or both results were flagged with a "B" indicating that the analyte is detected in the associated blank as well as the sample; in those cases, this may account for the discrepancy in the RPD. Also, several of these results were qualified as estimated (J). Furthermore, the higher RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.

For lab duplicate samples SDWC-115, SDWC-118 , SDWC-112, SDWC-108 all analytes were reported within the laboratory control limits except for the following RPDs in exceedance per duplicate sample: SDWC-115: Pb (66.7%), Zn(46%); flagged as estimated, "J" and Cr(45.3), As(56.1%), Cd(200%), Cu(35.8%); not qualified because the duplicate difference technical criterion for soil samples was met (+/-2xContract Required Detection Limit). SDWC-118: K(35%); not qualified because the duplicate difference technical criterion for soil samples was met. SDWC-112: Sb(200%); not qualified because the duplicate difference technical criterion for soil samples was met. SDWC-108: Ag(80.2%) flagged as estimated, "J" where appropriate. Sb(40.8%); not qualified because the duplicate difference technical criterion for soil samples was met.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

Samples SDWC-108 and SDWC-118 were chosen for the matrix spikes for this group of samples. The matrix spike recovery for antimony for sample SDWC-118 is out of control. Antimony data for samples SDWC-112, SDWC-107, SDWC-108, and SDWC-110 are estimated (J) due to a low bias. For sample SDWC-108: the matrix spike recovery of silver is out of control. Silver data for samples SDWC-107, SDWC-108 are estimated (J) due to low bias, interference, and poor precision. *THE REMAINING SILVER DATA ARE AFFECTED BY INTERFERENCE AND POOR PRECISION, BUT SINCE THE ANALYSIS RESULTS ARE LESS THAN THE IDL, THE DATA ARE UNUSEABLE (R) BASED ON THE MATRIX SPIKE AUDIT (THIS INCLUDES SAMPLES SDWC-109, 110, 111, 112, 101, 102, 103, 103(D), 104, 105, 106, SDKC-124,125,126,127)*. The remaining antimony data are estimated (UJ) due to possible elevated detection limit. The matrix spike recovery for antimony and mercury are out of contol for SDWC-118. All chromium and copper data are estimated(J), since the spike recovery is out of control. Because the spike recovery for selenium was out of contol, all "W" *flagged selenium data of samples SDWC-109,101,102,103,103(D),104,106 are estimated non-detect (UJ) due to interference. Thallium data for samples SDWC-109,110,111,101,102,103,103(D),104,105,106,108, SDKC-125,126,127 were flagged (W) by the lab. All thallium data mentioned above are estimated non-detect (UJ) due to interference.

Below note any other issues given in the laboratory results narrative or additional data

Silver data for samples SDWC-107, SDWC-108 are estimated (J) due to low bias, interference, and poor precision. For sample SDWC-108: the matrix spike recovery of silver is out of control. Silver data for samples SDWC-107, SDWC-108 are estimated (J) due to low bias, interference, and poor precision. **THE REMAINING SILVER DATA ARE AFFECTED BY INTERFERENCE AND POOR PRECISION, BUT SINCE THE ANALYSIS RESULTS ARE LESS THAN THE IDL, THE DATA ARE UNUSEABLE (R) BASED ON THE MATRIX SPIKE AUDIT (THIS INCLUDES SAMPLES SDWC-109, 110, 111, 112, 101, 102, 103, 103(D), 104, 105, 106, SDKC-124,125,126,127).**

-- All other data are useable as given.

TOTMET RPD CALCS

Duplicate #1	SDWC-103	SDWC-103(D)	RPD		SDWC-103	SDWC-103(D)
					Flagging as given in results**	
Aluminum	2720	3430	23.09	UNDER	J	J
Barium	36.5	47.1	25.36	UNDER	BJ	BJ
Beryllium	0.33	0.33	0.00	UNDER	BJ	BJ
Cadmium	1.4	4	96.30	OVER	BJ	BJ
Calcium	29300	27400	6.70	UNDER	J	J
Chromium	28.2	47.5	50.99	OVER	J	J
Cobalt	9	22.3	84.98	OVER	BJ	BJ
Copper	23.6	51.9	74.97	OVER	J	J
Iron	6030	7020	15.17	UNDER	J	J
Lead	162	145	11.07	UNDER		
Magnesium	7140	6790	5.03	UNDER	J	J
Manganese	121	162	28.98	UNDER	J	J
Mercury	0.09	0.07	25.00	UNDER	B	U
Nickel	29	53.2	58.88	OVER	J	J
Sodium	77.9	83	6.34	UNDER	B	B
Vanadium	7.6	9.5	22.22	UNDER	B	B
Zinc	117	148	23.40	UNDER	J	J

Duplicate #2	SDWC-115	SDWC-115(D)	RPD		SDWC-115	SDWC-115(D)
Aluminum	3120	3660	15.93	UNDER		
Arsenic	2	2.7	29.79	UNDER	B	B
Barium	45	49.7	9.93	UNDER	B	B
Beryllium	0.42	0.42	0.00	UNDER	B	B
Cadmium	0.28	0.38	30.30	OVER	U	B
Calcium	19400	20300	4.53	UNDER		
Chromium	6.5	8.3	24.32	UNDER		
Cobalt	3.9	4.6	16.47	UNDER	B	B
Copper	8.7	12.8	38.14	OVER		
Iron	6260	7560	18.81	UNDER		
Lead	6.2	8.4	30.14	OVER	J	J
Magnesium	5790	6510	11.71	UNDER		
Manganese	112	135	18.62	UNDER		
Mercury	0.14	0.16	13.33	UNDER	U	
Nickel	8.6	11.8	31.37	OVER	B	
Potassium	318	401	23.09	UNDER	B	B
Selenium	0.56	0.62	10.17	UNDER	U	B
Sodium	175	246	33.73	OVER	B,J	B
Thallium	0.85	0.95	11.11	UNDER	U	B
Vanadium	8.5	9.7	13.19	UNDER	B	B
Zinc	36.4	50.9	33.22	OVER	J	J

TOTMET RPD CALCS

Duplicate #3	SDWC-121	SDWC-121(D)	RPD		SDWC-121	SDWC-121(D)
Aluminum	7420	10200	31.56	OVER		
Arsenic	6	7.3	19.55	UNDER		
Barium	105	108	2.82	UNDER	J	J
Beryllium	0.57	0.61	6.78	UNDER	B	B
Cadmium	0.66	0.8	19.18	UNDER	B	B
Calcium	30900	36000	15.25	UNDER	J	J
Chromium	26.6	30.8	14.63	UNDER	J	J
Cobalt	11.7	11.9	1.69	UNDER	B	B
Copper	24.6	26.7	8.19	UNDER	J	J
Iron	16500	18600	11.97	UNDER		
Lead	32.5	33.4	2.73	UNDER	J	J
Magnesium	8710	9710	10.86	UNDER	J	J
Manganese	530	545	2.79	UNDER	J	J
Nickel	40.7	45.2	10.48	UNDER		
Potassium	1540	2290	39.16	OVER	B	
Sodium	121	200	49.22	OVER	B	B
Vanadium	19.2	24.8	25.45	UNDER		
Zinc	223	245	9.40	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/1/a**	**Lab:**	**CLP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**2**
Type of Sampling:	**Pond Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SD-03(D)
Rinsate Blanks = SD-09(B)
Trip Blanks (associated samples in parenthesis) = TR-12 (SD-03(D)), TR-13 (SD-09, SD-09(B))

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SD-09(B) was free of all volatile target analytes except for chloroform. Note that chloroform is a common disinfectant by product that was found in the Kokomo tap water used for one step in the decontamination procedure. Trip Blanks TR-12 and TR-13 were free of all volatile target analytes except for methylene chloride and acetone which are common lab contaminants.
All lab method blanks were free of all target analytes with the following exceptions (associated samples noted in parentheses: VBLKJ3 (SD-09(B)) methylene chloride [common lab contaminant]; VBLKJ(SD-09) and VBLK5 (SD-03) NONE; VBLK6 (SD-03-(D)) methylene chloride and acetone [common lab contaminants].

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SD-03 and SD-03(D) had RPDs of 0% (all non-detedcts) for every volatile compound except for methylene chloride[57.63%] (common lab contaminant) and trichloroethene [146.82%] (See attached table). The higher RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample SD-09 was chosen as the matrix spike sample for this group of samples. For the medium level volatile fraction, the recovery of trichloroethene in SD-09MS was above the upper limit; since trichloroethene was present in unspiked sample SD-09, the result for that compound in SD-09 should be considered estimated (J).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

VOA RPD CALCS

Duplicate	**SD-03**	**SD-03(D)**	RPD		**SD-03**	**SD-03(D)**
					Flagging as given in results**	
Methylene Chloride	380	210	57.63	OVER	J	U
Trichloroethene	15000	2300	146.82	OVER		

*** Definitions of data qualifiers (flagging) given in Appendix D*

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of note:

The recoveries of 4-nitrophenol were zero and those of pentachlorophenol were below 10% in both SD-09MS and SD-09MSD. **SINCE THE UNSPIKED SAMPLE SD-09 CONTAINED NEITHER OF THESE COMPOUNDS, THE RESULTS FOR 4-Nitrophenol and Pentachlorophenol IN SD-09 SHOULD BE CONSIDERED UNUSABLE "R" Because these are not contaminants of concern, this does not represent a data gap.**

Otherwise, data is considered useable as reported.

BNA RPD CALCS

Duplicate	SD-03	SD-03(D)	RPD		SD-03	SD-03(D)
					Flagging as given in results**	
Naphthalene	330	160	69.39	OVER	J	J
2-Methylnaphthalene	2000	710	95.20	OVER		
Fluorene	310	120	88.37	OVER	J	J
Phenanthrene	2100	680	102.16	OVER	J	J
Anthracene	240	79	100.94	OVER	J	J
Fluoranthene	370	370	0.00	UNDER	J	J
Pyrene	3400	830	121.51	OVER		
Benzo(a)anthracene	590	230	87.80	OVER	J	J
Chrysene	950	340	94.57	OVER		J
Benzo(b)fluoranthene	420	270	43.48	OVER	J	J
Benzo(a)pyrene	350	160	74.51	OVER	J	J
Benzo(g,h,i)perylene	150	150	0.00	UNDER	J	J

** ***Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	V/C/1/a	**Lab:**	CLP
Area Sampled:	Markland Ave Quarry	**# of samples:**	2
Type of Sampling:	Pond Sediment	**# of duplicates:**	1
Analyses Performed:	PEST/PCB	**# of blanks:**	1

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SD-03(D)

Rinsate Blanks = SD-09(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SD-09(B) was free of all Pest/PCB target analytes.
All lab method blanks (associated sample given in parentheses) which include PBLKQ2 (SD-09-D), PBLKSE (SD-03, SD-03-D), PBLKW1 (SD-09) were free of all Pest/PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No target compounds were found in either field duplicate samples SD-03 and SD-03(D); therefore, it was not necessary to calculate the RPD for these duplicate samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample SD-09 was chosen as the matrix spike sample for this group of samples. For this pesticide fraction, the recoveries of Aldrin in both SD-09MS and SD-09MSD were zero. *SINCE THIS COMPOUND WAS NOT FOUND IN THE UNSPIKED SAMPLE, THE RESULT FOR ALDIRN IN SD-09 SHOULD BE CONSIDERED "R" UNUSABLE.*

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

-- For this pesticide fraction, the recoveries of Aldrin in both SD-09MS and SD-09MSD were zero. **SINCE THIS COMPOUND WAS NOT FOUND IN THE UNSPIKED SAMPLE, THE RESULT FOR ALDIRN IN SD-09 SHOULD BE CONSIDERED "R" UNUSEABLE. Note that this does not represent a data gap because Aldrin is not a contaminant of concern.**

-- The Pest/PCB fraction of SD-09 was reanalyzed at a 1:10 dilution because the value for Aroclor 1242 exceeded the instrumental range and was therefore flagged "E" by the lab. Only the value for Aroclor 1242 should be taken from the SD-09DL diluted analysis; for all other analytes, the results from the initial analysis should be used. Also, for the pesticide fraction, two or more analytes in each of the samples were flagged "P" because the difference on the two columns exceeded 25%; the results for such analytes in the affected samples should therefore be considered "J" estimated.

Otherwise, data is considered useable.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/1/a**	**Lab:**	**CLP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**2**
Type of Sampling:	**Pond Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**TOTAL METALS**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SD-03(D)
Lab Duplicates = SD-09(B)
Rinsate Blanks = SD-09(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SD-09(B) was free of all metals target analytes exept for Al, Cu, Fe, Mn, Na, and Zn.
The following lab method blank elements showed low level concentrations below the Contract Required Detection Limit for samples SD-03 and SD-03(D): Calibration Blanks - Fe, Ag, Tl, Ca, Mg; Preparation Blanks - soil(low)/Ca, Fe, Zn - soil(medium)/Al, Ca, Zn. No action is required as directed by the laboratory narrative. And for lab method blanks associated with samples SD-09 and SD-09(B): Calibration Blanks - soil/ Al, As, Ca, Cr, Cu, Fe, Mn, Hg, Tl, Zn; Preparation Blanks - soil/Cu,Fe,K,Zn - water/Al,As,Ba,Ca,Cr,Cu,Fe,Mn,Hg,Na,V,Zn. The results for all samples affected by the reflected lab blank contamination have been appropriately qualified.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.
Only one lab duplicate was designated and this sample was a field blank and not the soil matrix that the rest of the group of samples are. The lab designated soil duplicates from other sampling types analyzed concurrently wiith the MAQ Pond Sediment samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SD-03 and SD-03(D) are medium level field duplicates which had several elements exceeding the 30% RPD (See attached table). In many cases the result was flagged "B" indicating that the element was also found in the associated blank and/or "J" indicating that the result was an estimated value. Furthermore, free product was encountered in this area and appeared in most of the samples causing them to be stratified (i.e., free product on the top layer of the sample). The reproducibility of the results of a sample from the same location is variable as it depends on how the lab and/or field personnel split or mixed the samples per duplicate.

The lab narrative noted no qualifications surrounding the lab duplicate SD-09(B).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample SD-09 was chosen as the matrix spike sample for this group of samples. The matrix spike recovery for Ag was out of control. The Ag result on SD-09 is thus estimated non-detect (UJ) due to possible elevation of the detection limit. The matrix spike recovery for As was out of control and so the As result for SD-09 should be flagged as estimated (J). The matrix spike recovery for Tl was out of control and so the Tl result for SD-09 was flagged (W) by the lab. ("W" indicates that the post-digestion spike for furnace AA analysis is out of control limits 85%-115%, while sample absorbance is less than 50% of the spike digestion.)

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

TOTMET RPD CALCS

Duplicate	SD-03	SD-03(D)	RPD		SD-03	SD-03(D)
					Flagging as given in results**	
Aluminum	1140	1370	18.33	UNDER		
Antimony	1.6	2.3	35.90	OVER	UJ	BJ
Arsenic	6	10.1	50.93	OVER		
Barium	249	308	21.18	UNDER		
Cadmium	5.9	8.5	36.11	OVER		
Calcium	284000	238000	17.62	UNDER		
Chromium	59	94	45.75	OVER	J	J
Cobalt	1.9	4.1	73.33	OVER	B	B
Copper	57.7	109	61.55	OVER	J	J
Iron	8770	23600	91.63	OVER	J	J
Lead	1030	1090	5.66	UNDER		
Magnesium	2270	2650	15.45	UNDER	B	
Manganese	543	838	42.72	OVER	J	J
Mercury	0.27	0.26	3.77	UNDER		U
Nickel	16.9	42.3	85.81	OVER	B	
Potassium	1270	1880	38.73	OVER	B	B
Silver	0.83	1.4	51.12	OVER	BJ	B
Vanadium	28.5	20.7	31.71	OVER		B
Zinc	1180	1980	50.63	OVER	J	J

** ***Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/1/b**	**Lab:**	**Kemron**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**8**
Type of Sampling:	**Pond Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field duplicates = SD-05(D)

Rinsate Blanks = SD-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

None of target analytes were detected in the field blank SD-03(B).

All analytes in lab QC blanks were below analysis detection limits.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/8 for this batch of samples which meets QC requirements.

Two lab duplicates were designated, one per each data package reporting data on these samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

The RPDs of all analytes are above 30% for duplicate samples SD-05 and SD-05(D). RPDs higher than 30% are not uncommon for sediment samples which tend to be heterogeneous and hard to replicate. Lab narrative states that "some sample non-homogeneity was noted on the soil matrix samples [SR-01,02,03] and is confirmed by the sample lab duplicates. Post digestion spike recovery for lead = 87% and zinc = 90%." The lab narrative specifies no necessary qualification of the data based on the lab duplicate associated with samples SR-04,05,05(D),06,07,08. Furthermore, free product was encountered in this area and appeared in most of the samples causing them to be stratified (i.e., free product on the top layer of the sample). The reproducibility of the results of a sample from the same location is variable as it depends on how the lab and/or field personnel split or mixed the samples per duplicate.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample SD-06 was designated as the MS/MSD. All recoveries were within lab quality control ranges.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

FastTurnMetals RPD Calc

Duplicate	SD-05	SD-05(D)	RPD	
Percent Solids	63.3	1	193.78	OVER
Arsenic, Total	73	38	63.06	OVER
Barium, Total	140	210	40.00	OVER
Cadmium, Total	6	4	40.00	OVER
Chromium, Total	61	4	175.38	OVER
Copper, Total	310	20	175.76	OVER
Lead, Total	860	40	182.22	OVER
Nickel, Total	120	4	187.10	OVER
Zinc, Total	1400	20	194.37	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/1/c**	**Lab:**	**FASP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**8**
Type of Sampling:	**Pond sediment**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SD-05(D)

Rinsate Blanks = SD-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank was free of all target analytes.

Lab extract blanks were free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Duplicate samples were collected 1/8 for this batch of samples which meets lab QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

The RPD for all analytes for duplicate samples SD-05 and SD-05(D) were all less than 30% (see attached calculation sheet). RPD was not evaluated for o-Xylene and m&p-Xylene as these analytes were detected in one sample below the detection limit and then not detected in the duplicate sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

Matrix spike for the sample SD-06 was run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range except for o-Xylene which was 546.61%. The quality control range generally used by FASP is 50%-150%. Note that this is not a contaminant of concern for this area. In consideration of the possibility of any lab difficulty or error with this sample result, although not specified, the only affected results would be for o-Xylene in the unspiked sample SD-06.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

VOA RPD CALCS

Duplicate	**SD-05**	**SD-05(D)**	RPD		**SD-05**	**SD-05(D)**
					Flagging as given in results**	
cis-1,2-Dichoroethene	6.8	7	2.90	UNDER		
Trichloroethene	330	260	23.73	UNDER		

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/1/c**	**Lab:**	**FASP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**8**
Type of Sampling:	**Pond sediment**	**# of duplicates:**	**1**
Analyses Performed:	**PAH**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SD-05(D)

Rinsate Blanks = SD-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The field blank was found to be free of all PAH target analytes.
The lab extract blank was found to be free of PAH target analytes. All calibration compound met calibration criteria on the days of analysis exept the following (w/ associated samples given in parenthesis).
11/14/95 (SD-03-B): benzo(a)anthracene, chrysene, benzo(b&k)fluoranthene, benzo(a)pyrene, indeno(123-cd)pyrene, and benzo(g,h,i)perylene.
11/13/95 (SD-01,02,04,05,05-D,06,07,08): indeno(123-cd)pyrene and dibenzo(a,h)anthracene

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/8 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

For field duplicate samples SD-05 and SD-05(D), the RPD of all but 4 analytes were above 30% (see attached calculation table). Free product was encountered in this area and appeared in most of the samples causing them to be stratified (i.e., free product on the top layer of the sample). The reproducibility of the results of a sample from the same location is variable as it depends on how the lab and/or field personnel split or mixed the samples per duplicate.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sediment sample SD-06 was designated as the matrix spike sample by the field sampling team. Matrix spikes were run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range of 50%-150% normally used by FASP except for benzo(b&k)fluoranthene in sample SD-06MS (188.1%) and SD-06MSD (207.2%), naphthalene in sample SD-06MSD (204.2%), and dibenzo(a,h)anthracene in sample SD-06MSD(156.2%). The non-homogenous sample matrix is the likely reason for these out of control recoveries.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

PAH RPD CALCS

Duplicate	**SD-05**	**SD-05(D)**	RPD		**SD-05**	**SD-05(D)**
					Flagging as given in results**	
Acenaphthalene	3	2	40.00	OVER		U
Acenaphthene	3.1	2	43.14	OVER		U
Fluorene	4.3	2	73.02	OVER		U
Phenanthrene	8.4	2.7	102.70	OVER		
Aanthracene	2.5	2	22.22	UNDER		U
Fluoranthene	9.9	3.2	102.29	OVER		
Pyrene	17	4.9	110.50	OVER		
Benzo(a)anthracene	30	15	66.67	OVER		
Chrysene	25	22	12.77	UNDER		
Benzo(b&k)fluoranthene	21	13	47.06	OVER		U
Benzo(a)pyrene	14	2	150.00	OVER		U
Ideno(123-cd)anthracene	25	2	170.37	OVER		U
Benzo(g,h,i)perylene	7.4	2	114.89	OVER		U

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	V/C/1/c	**Lab:**	FASP
Area Sampled:	Markland Ave Quarry	**# of samples:**	8
Type of Sampling:	Pond sediment	**# of duplicates:**	1
Analyses Performed:	PCB	**# of blanks:**	1

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SD-05(D)

Rinsate Blanks = SD-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SD-03(B) and lab extract blank found to be free of PCB target anaytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/8 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

For field duplicate samples SD-05 and SD-05(D), all compounds were within the 30% RPD range with the exception of Aroclor - 1248 (See attached table). Free product was encountered in this area and appeared in most of the samples causing them to be stratified (i.e., free product on the top layer of the sample). The reproducibility of the results of a sample from the same location is variable as it depends on how the lab and/or field personnel split or mixed the samples per duplicate.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Sediment sample SD-06 was designated as the matrix spike sample and all recoveries met quality control criteria.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

PCB RPD CALCS

Duplicate	**SD-05**	**SD-05(D)**	RPD		**SD-05**	**SD-05(D)**
					Flagging as given in results**	
Aroclor - 1248	1.2	0.7	52.63	OVER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/2/a**	**Lab:**	**CLP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**3**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**1**
Analyses Performed:	**BNA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.
Field Duplicates = MS-23(D)

Rinsate Blanks = NONE

Holding times met? **Yes** [X] **No** [ ] If not, explain:
As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples
A rinsate blank was not taken for the CLP lab for this group of samples and represents a minor data gap; note, however, that a sufficient number of blanks were taken for analysis for both Kemron and FASP which can be used to detemine the success of the decontamination procedures for this group of samples. Lab method blanks SBLK1 and SBLK2 were free of all semi-volatile target analytes except for bis(2-ethylhexyl)phthalate and di-n-octylphthalate (all samples in this group are associated with these two method blanks). The lab narrative states that these two compounds are common lab contaminants and the results are further qualified as estimated, J. These phthalate esters are common to environmental samples which are usually handled with latex gloves and other plastic handling equipment.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):
Field duplicate samples were collected 1/3 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:
Field duplicate samples MS-23 and MS-23(D) had RPDs for several compounds above the 30% limit (See attached table). The results for all of the compounds in exceedance were qualified as estimated, J. Note that RPD will not be evaluated for the benzo(g,h,i)perylene detection in sample MS-23(D) because it was detected at levels below the detection limit and was not detected in the corresponding sample MS-23. The higher RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:
Sample MS-13 was designated as the matrix spike for this group of samples. The recoveries of the MS and MSD for 2,4-dinitrotoluene were reported above the QC limits, but because the recovery of this compound was equal or less than 100, no qualification of the results is necessary.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

THE SYSTEM MONITORING COMPOUND AND SURROGATE RECOVERY NARRATIVE SECTION STATES THAT IN THE BASE/NEUTRAL FRACTION THE NON-DETECTED RESULTS 1,2-dichlorobenzene and nitrobenzene FOR SAMPLES MS-23 and MS-23(D) ARE FLAGGED AS UNUSEABLE "R" BECAUSE THE RECOVERY OF ONE OF THE SURROGATES WAS LESS THAN 10%. BECAUSE THESE ARE NOT AMONG THE CONTAMINANTS OF CONCERN IN THE MARKLAND AVE QUARRY AREA, THIS DOES NOT REPRESENT A DATA GAP.

Otherwise, data is considered useable as reported.

BNA RPD CALCS

Duplicate	MS-23	MS-23(D)	RPD		MS-23	MS-23(D)
					Flagging as given in results**	
Acenapthylene	32	51	45.78	OVER	J	J
Diethylphthalate	69	22	103.30	OVER	J	J
Phenanthrene	160	150	6.45	UNDER	J	J
Anthracene	44	57	25.74	UNDER	J	J
Fluoranthene	210	280	28.57	UNDER	J	J
Pyrene	160	260	47.62	OVER	J	J
Benzo(a)anthracene	120	230	62.86	OVER	J	J
Chrysene	230	370	46.67	OVER	J	J
Benzo(b)fluoranthene	180	300	50.00	OVER	J	J
Benzo(k)fluoranthene	170	300	55.32	OVER	J	J
Benzo(a)pyrene	60	110	58.82	OVER	J	J
Indeno(1,2,3-cd)pyrene	74	140	61.68	OVER	J	J
Dibenz(a,h)anthracene	43	79	59.02	OVER	J	J

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	V/C/2/a	**Lab:**	CLP
Area Sampled:	Markland Ave Quarry	**# of samples:**	3
Type of Sampling:	Surface Soil	**# of duplicates:**	1
Analyses Performed:	PEST/PCB	**# of blanks:**	0

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = MS-23(D)

Rinsate Blanks = NONE

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A rinsate blank was not taken for the CLP lab for this group of samples and represents a minor data gap; note, however, that a sufficient number of blanks were taken for analysis for both Kemron and FASP which can be used to detemine the success of the decontamination procedures for this group of samples. The lab method blanks associated with this group of samples were free of all pesticide/PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/3 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples MS-23 and MS-23(D) had RPDs below the 30% limit for all compounds except for Aldrin and Dieldrin. For these compounds, either one or both of the results was flagged estimated, J and, furthermore, these two compounds are not among the contaminants of concern (See attached table). Note also that RPD was not evaluated for the Aroclor-1254 detection in sample MS-23 because it was detected at levels below the detection limit and was not detected in corresponding sample MS-23(D). The RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample MS-13 was designated as the matrix spike for this group of samples. Recoveries of the MS/MSD for all compounds: gamma-BHC (Lindane), Dieldrin, and 4,4'-DDT were outside the QC limits. The recoveries for Dieldrin were above the QC limts, therefore, the positive Dieldrin result in sample MS-13 should be considered estimated, J. *THE RECOVERIES FOR LINDANE AND 4,4'-DDT ARE 0%, THEREFORE, THE POSITIVE RESULTS FOR THESE COMPOUNDS IN SAMPLE MS-13 SHOULD BE CONSIDERED ESTIMATED AND THE NON-DETECTED RESULTS UNUSEABLE "R".*

Below note any other issues given in the laboratory results narrative or additional data useability comments:

NON-DETECTED RESULTS FOR LINDANE AND 4,4'-DDT IN SAMPLE MS-13 ARE UNUSEABLE "R", HOWEVER, BECAUSE THESE ARE NOT AMOUNG THE CONTAMINANTS OF CONCERN IN THE MARKLAND AVE QUARRY AREA, THIS DOES NOT REPRESENT A DATA GAP.

Otherwise, data is considered useable as reported.

PEST.PCB RPD CALCS

Duplicate	**MS-23**	**MS-23(D)**	RPD		**MS-23**	**MS-23(D)**
					Flagging as given in results**	
Aldrin	2	1.1	58.06	OVER	P*	JP
Heptachlor epoxide	1.7	1.3	26.67	UNDER	JP	JP
Dieldrin	2.9	2	36.73	OVER	J	JP
4,4'-DDT	3	2.7	10.53	UNDER	JP	JP
Endrin ketone	3.6	2.8	25.00	UNDER	J	J

** NOTE: The "P" qualifier indicates a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentration between two GC columns. The lower of the two is reported.*

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	V/C/2/a	**Lab:**	CLP
Area Sampled:	Markland Ave Quarry	**# of samples:**	3
Type of Sampling:	Surface Soil	**# of duplicates:**	1
Analyses Performed:	TOTAL METALS	**# of blanks:**	0

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = MS-23(D)

Rinsate Blanks = NONE

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A rinsate blank was not taken for the CLP lab for this group of samples and represents a minor data gap; note, however, that a sufficient number of blanks were taken for analysis for both Kemron and FASP which can be used to detemine the success of the decontamination procedures for this group of samples.
The lab preparation blanks were free of all metals target analytes exept for the following (associated samples given in parentheses): (MS-23 and MS-23(D))/Ca and (MS-08 and MS-13)/Ca and Mn.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/3 for this batch of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples MS-23 and MS-23(D) had several elements over the 30% RPD limit which include Sb, Be, Cr, Fe, PB, Na, Mn, and Mg (See attached table). The results for sodium (qualified "B"), iron and silver (no qualifiers), however, both had RPDs within 2% of the 30% limit. The results for all other elements in both samples in exceedance of the RPD limit were qualified either as estimated, J or as"B" indicating that the element was also found in the associated lab blank. Lastly, RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - Sample MS-13 was designated in the field as the matrix spike for this group of samples, however, the lab did not use this sample for MS/MSD analysis. Therefore, no analytical MS/MSD results are given and this does not represent a data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

TOTMET RPD CALCS

Duplicate	MS-23	MS-23(D)	RPD		MS-23	MS-23(D)
					Flagging as given in results**	
Aluminum	13600	12400	9.23	UNDER		
Antimony	1.8	36.6	181.25	OVER	BJ	J
Arsenic	7.6	9.7	24.28	UNDER		
Barium	344	281	20.16	UNDER	J	J
Beryllium	0.33	0.24	31.58	OVER	B	B
Cadmium	5.4	4.8	11.76	UNDER		
Calcium	103000	124000	18.50	UNDER	J	J
Chromium	1250	2480	65.95	OVER	J	J
Cobalt	5	6.3	23.01	UNDER	B	B
Copper	214	194	9.80	UNDER	J	J
Iron	95600	131000	31.24	OVER		
Lead	575	1660	97.09	OVER	J	J
Magnesium	52700	88000	50.18	OVER	J	J
Manganese	14600	21500	38.23	OVER	J	J
Mercury	0.18	0.15	18.18	UNDER	J	J
Nickel	45.7	57.3	22.52	UNDER		
Selenium	1.9	1.9	0.00	UNDER		
Silver	2.7	3.7	31.25	OVER		
Sodium	299	219	30.89	OVER	B	B
Vanadium	81.7	102	22.10	UNDER		
Zinc	1610	1570	2.52	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/2/b**	**Lab:**	**Kemron**
Area Sampled:	**Markland Quarry**	**# of samples:**	**26**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = MS-12(D), MS-22(D), MS-04(D).

Rinsate Blanks = MS-09(B), MS-19(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All metals results were under the required detection limits with the exception of chromium, which was detected at .027 mg/L in sample MS-09(B). The detection limit for chromium is .02 mg/L. This level is far below the level of Cr detected in the actual corresponding samples in the group. The Cr detected in the blank was not qualified, and no mention of data qualifications due to the presence of these analytes in the blank were made in the lab narrative.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 3/26 for this batch of samples which meets QC requirements.

There were several lab duplicates associated with these samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples showed several RPD levels above 30% (See attached table). The RPDs of these samples are not uncommon with these types of soil samples because of the non-homogenous nature of the sample.

Based on the lab duplicate evaluation, the lab stated that sample non-homogeneity was noted in the soil matrix samples and is confirmed by the duplicate analysis. No additional qualification of the data is specified.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

No MS/MSD samples were designated for this group of samples as scheduled- N/A. Laboratory spike sample was within control limits. Data was not qualified by the lab for any reason.

Below note any other issues given in the laboratory results narrative:

Although RPD percentages above the required limit of 30% were encountered for this group of samples, the non-homogenous nature of the sample media can be used to explain the results.

Data is considered useable as reported.

FastTurnMetals RPD CALCS

Duplicate #1	**MS-12**	**MS-12(D)**	RPD	
Arsenic	100	140	33.33	OVER
Barium	100	82	19.78	UNDER
Cadmium	4	6	40.00	OVER
Chromium	290	310	6.67	UNDER
Copper	89	110	21.11	UNDER
Lead	170	250	38.10	OVER
Nickel	51	59	14.55	UNDER
Zinc	750	2000	90.91	OVER

Duplicate #2	**MS-22**	**MS-22(D)**	RPD	
Arsenic	74	73	1.36	UNDER
Barium	65	73	11.59	UNDER
Cadmium	8	9	11.76	UNDER
Chromium	140	170	19.35	UNDER
Copper	510	630	21.05	UNDER
Lead	820	620	27.78	UNDER
Nickel	230	270	16.00	UNDER
Zinc	9200	580	176.28	OVER

Duplicate #3	**MS-04**	**MS-04(D)**	RPD	
Arsenic	120	110	8.70	UNDER
Barium	690	660	4.44	UNDER
Cadmium	28	25	11.32	UNDER
Chromium	2200	2100	4.65	UNDER
Copper	250	250	0.00	UNDER
Lead	1500	1100	30.77	OVER
Nickel	54	78	36.36	OVER
Zinc	41000	14000	98.18	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/2/c**	**Lab:**	**FASP**
Area Sampled:	**Markland Quarry**	**# of samples:**	**26**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**PAH**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = MS-04(D), MS-12(D), and MS-22(D)

Rinsate Blanks = MS-09(B) and MS-19(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All analyzed compounds not detected in field blanks. The lab extract blank was found to be free of PAH target analytes as per the lab narrative.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 3/26 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples MS-04(D) and MS-22(D) were 0% RPD (all analytes were not detected). Duplicate sample MS-12(D) showed anthracene, fluoranthene, pyrene, benzo(b&k)fluoranthene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene at levels abobe 30% RPD (See attached table). The RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range except for Ideno(1,2,3-cd)pyrene in sample MS-17MSD which was 151.5%.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

PAH RPD CALCS

Duplicate	**MS-12**	**MS-12D**	RPD	
Napathalene	2	2	0.00	UNDER
Acenaphthalene	2	1.6	22.22	UNDER
Acenaphthene	2	2	0.00	UNDER
Fluorene	2	2	0.00	UNDER
Phenanthrene	2	2.4	18.18	UNDER
Aanthracene	2.7	4.2	**43.48**	OVER
Fluoranthene	3.1	5.3	**52.38**	OVER
Pyrene	3.8	6.2	**48.00**	OVER
Benzo(a)anthracene	14	18	25.00	UNDER
Chrysene	21	27	25.00	UNDER
Benzo(b&k)fluoranthene	10	17	**51.85**	OVER
Benzo(a)pyrene	4.6	7.6	**49.18**	OVER
Ideno(123-cd)anthracene	21	24	13.33	UNDER
Dibenzo(a,h)anthracene	2	22	**166.67**	OVER
Benzo(g,h,i)perylene	4.8	7.1	**38.66**	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/C/2/c**	**Lab:**	**FASP**
Area Sampled:	**Markland Quarry**	**# of samples:**	**26**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**PCB**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = MS-04(D), MS-12(D), and MS-22(D)

Rinsate Blanks = MS-09(B) and MS-19(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All analyzed compounds not detected in field blanks. The lab extract blank did not contain any PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 3/26 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

All compounds were within the 30% RPD range with the exception of Aroclor - 1248 (See attached table).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Samples MS-07 and MS-17 were designated as the matrix spike samples. MS/MSD samples were within control limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

PCB RPD CALCS

Duplicate	**MS-04**	**MS-04D**	RPD	
Aroclor - 1242	1	1	0.00	UNDER
Aroclor - 1248	3.3	6.5	**65.31**	**OVER**
Aroclor - 1254	1	1	0.00	UNDER
Aroclor - 1260	1	1	0.00	UNDER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**1**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-03(D)
Rinsate Blanks = none
Trip Blanks = TR-12

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable (see comments below for further explanation).

The trip blank was found to be free of all volatile target analytes except for Methylene Chloride and Acetone which are common laboratory contaminants and a TIC (tentatively identified cmpd) hexane.

Method blank VBLK7 associated with sample SR-03 was free of all target analytes.

Method blank VBLK4 associated with sample SR-03(D) reported a detectable amount of 4-methyl-2-pentanone, however, this result for sample SR-03(D) is flagged as non-detected (U) as the sample result was less than five times the blank result.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/1 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples SR-03 and SR-03(D) were both reanalyzed and so the reanalyzed sample results will be used for RPD calculations as well as used in data evaluation. RPDs for compounds including Acetone, Chloroform, 2-Butanone (common lab contaminants), Tetrachloroethene, Toluene, Ethylbenzene, Xylene were all above the 30% limit, however, for each compound, one or both of the associated results were flagged as estimated (J). Furthermore, the higher RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike sample was recorded for this group of samples. Of a total of six samples taken in this sample group, only 1 sample and 1 dup were submitted to the CLP lab. Neither of these samples were designated as a matrix spike sample. This represents a minor data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

-- No field blank was taken as associated with the sewer samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken - later sampling efforts were abondoned.

-- Both samples SR-03 and SR-03(D) had surrogate spike recoveries which did not fall witin QC limits, but these results were duplicated upon re-analysis verifying a matrix effect; the results from the reanalyzed samples should be used.

Data is considered useable as reported.

VOA RPD CALCS

Duplicate	SR-03RE*	SR-03(D)RE	RPD		SR-03RE	SR-03(D)RE
					Flagging as given in results**	
Acetone	61	200	106.51	OVER	J	
Chloroform	14	6	80.00	OVER	UJ	J
2-Butanone	13	43	107.14	OVER	J	
Tetrachloroethene	14	17	19.35	UNDER	UJ	J
Toluene	2	18	160.00	OVER	J	J
Ethylbenzene	5	55	166.67	OVER	J	J
Xylene (Total)	30	300	163.64	OVER	J	J

* RE indicates the reanalyzed sample results

** ***Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**1**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**BNA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-03(D)

Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable (see comments below for further explanation).

Method blank SBLK4 associated with both SR-03 and SR-03(D) reported a detectable amount of butylbenzylphthalate and bis(2-ethylhexyl)phthalate. The phthalates are common laboratory contaminants, therefore the presence of these compounds in the samples associated with the blanks is qualified as non-detect (U) when the sample results are 10x less than the blank results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/1 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples SR-03 and SR-03(D) had RPDs for all compounds within the 30%. RPD was not evaluated for fluorene and di-n-butylphthalate as the compounds were detected in on sample below the detection limit and not detected in the corresponding duplicate sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike sample was recorded for this group of samples. Of a total of six samples taken in this sample group, only 1 sample and 1 dup were submitted to the CLP lab. Neither of these samples were designated as a matrix spike sample. This represents a minor data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

No field blank was taken as associated with the sewer samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken - later sampling efforts were abondoned.

Data is considered useable as reported.

BNA RPD CALCS

Duplicate	**SR-03**	**SR-03(D)**	RPD		**SR-03**	**SR-03(D)**
					Flagging as given in results**	
Naphthalene	4200	5000	17.39	UNDER	J	
2-Methylnaphthalene	6700	6500	3.03	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**1**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**PEST/PCB**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-03(D)

Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable (see comments below for further explanation).

Method blank PBLKSE is associated with both SR-03 and SR-03(D) and was found free of all Pest/PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/1 for this batch of samples whcih meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples SR-03 and SR-03(D) were both diluted and so the diluted sample results will be used for RPD calculations as well as used in data evaluation. The RPDs for all compounds were within the 30% limit except for alpha-BHC and 4,4'-DDE. For both of these compounds, the result for one of the samples was flagged as estimated (J). The RPD for 4,4'-DDT was not evaluated as this compound was detected below the detection limit in SR-03 and not detected in SR-03(D). Furthermore, the higher RPDs of these samples are not uncommon

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike sample was recorded for this group of samples. Of a total of six samples taken in this sample group, only 1 sample and 1 dup were submitted to the CLP lab. Neither of these samples were designated as a matrix spike sample. This represents a minor data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

-- No field blank was taken as associated with the sewer samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken - later sampling efforts were abondoned.

-- Heptachlor epoxide in samples SR-03 and SR-03(D) exceeded the calibration range. For any analyte that exceeded the calibration range in the original sample analysis, the results of the diluted analysis (1:10) should be considered the sample's analyte concentration.

Data is considered useable as reported.

PEST.PCB RPD CALCS

Duplicate	**SR-03-DL***	**SR-03(D)DL**	RPD		**SR-03-DL**	**SR-03(D)DL**
					Flagging as given in results***	
alpha-BHC	21	30	35.29	OVER	DJ	D
Aldrin	20	22	9.52	UNDER	DPJ**	DPJ
4,4'-DDE	36	53	38.20	OVER	DPJ	DP
Endrin	49	61	21.82	UNDER	D	DP

**** The "DL" indicates that results were used from the diluted sample.***

***** NOTE:***
The "D" qualifier indicates an identified compound in an analysis has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analysis.

The "P" qualifier indicates a Pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between two GC columns. The lower of the two results is reported.

****** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**1**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**TOTAL METALS**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-03(D)
Lab Duplicates = none
Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable (see comments below for further explanation).

The following elements showed low level concentrations below the Contract Required Detection Limit in the Calibration Blanks: Fe, Ag, Tl, Ca, Mg; and in the Preparation Blanks: Ca, Fe, Zn. No action is required as per lab narrative.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/1 for this batch of samples which meets QC requirements.
None of the sewer sediment samples were among those samples in the CLP data package designated by the lab as "lab duplicates".

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

The RPDs for all elements for field duplicate samples SR-03 and SR-03(D) were all within the 30% limit except for mercury and sodium. Note that for the sodium, both results were flagged "B" indicating that analyte was detected in the associated blank as well as the sample. Furthermore, the higher RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.
No lab duplicate samples were designated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike sample was recorded for this group of samples. Of a total of six samples taken in this sample group, only 1 sample and 1 dup were submitted to the CLP lab. Neither of these samples were designated as a matrix spike sample. This represents a minor data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:
No field blank was taken as associated with the sewer samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken - later sampling efforts were abondoned.

Data is considered useable as reported.

TOTMET RPD CALCS

Duplicate	SR-03	SR-03(D)	RPD		SR-03	SR-03(D)
					Flagged as given in results**	
Aluminum	6660	7520	12.13	UNDER		
Antimony	32.1	33.3	3.67	UNDER	J	J
Arsenic	27.7	29.8	7.30	UNDER		
Barium	335	314	6.47	UNDER		
Beryllium	0.68	0.66	2.99	UNDER	B	B
Cadmium	53.1	47.4	11.34	UNDER		
Calcium	42900	46500	8.05	UNDER		
Chromium	588	704	17.96	UNDER	J	J
Cobalt	12.6	14.8	16.06	UNDER	B	B
Copper	1210	1330	9.45	UNDER	J	J
Iron	123000	129000	4.76	UNDER	J	J
Lead	2410	2770	13.90	UNDER		
Magnesium	11700	12700	8.20	UNDER		
Manganese	4250	5280	21.62	UNDER	J	J
Mercury	0.33	0.22	40.00	OVER		
Nickel	112	131	15.64	UNDER		
Potassium	916	865	5.73	UNDER	B	B
Selenium	4.7	5.7	19.23	UNDER	J	J
Silver	2.5	2.5	0.00	UNDER	B	B
Sodium	383	755	65.38	OVER	B	B
Thallium	6.7	7.1	5.80	UNDER		
Vanadium	48.8	54	10.12	UNDER		
Zinc	8950	11500	24.94	UNDER	J	J

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/b**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**6**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-04(D)

Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken - later sampling efforts were abondoned. The lack of a blank constitues a slight data gap, however, the data is still considered usable.

The lab blank was free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/6 for this batch of samples which meets QC requirements.
Three lab duplicates, one each associated with samples grouped in brackets [SR-01 and SR-02], [SR-03, 04, 04(D)] and [SR-07 and SR-08].

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

RPD of all analytes for field duplicate samples SR-04 and SR-04(D) were all under 30% exept for total barium, cadmium, and chromium (see attached table). The RPDs of these samples are not uncommon with sediment samples because of the non-homogenous nature of the sample.
Both lab duplicates associated with sample groups [SR-01 and SR-02] and [SR-03, 04, 04(D)] reported RPDs within the contract required quality control limits and below the 30% limit. The lab duplicate associated with sample group [SR-07 and SR-08] had several RPDs above the 30% limit which include: Hg, Ba, Cu and Pb; the laboratory specified no necessary qualifiers as a result of these higher RPDs.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

N/A - No field MS/MSDs were designated for Kemron for the sewer samples as scheduled - not a data gap.
The lab matrix spike was run in accordance with the SOP requirements and all elements showed recoveries within the lab quality control ranges.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

FastTurnMetals RPD Calc

Duplicate	**SR-04**	**SR-04(D)**	RPD	
Percent Solids	82	82.1	0.12	UNDER
Arsenic, Total	95	99	4.12	UNDER
Barium, Total	120	290	82.93	OVER
Cadmium, Total	30	48	46.15	OVER
Chromium, Total	4	150	189.61	OVER
Copper, Total	450	350	25.00	UNDER
Lead, Total	8800	7300	18.63	UNDER
Nickel, Total	73	84	14.01	UNDER
Zinc, Total	380000	510000	29.21	UNDER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/c**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**6**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-02(D)

Rinsate Blanks = none taken

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken; later sampling efforts were abondoned. The lack of a blank constitues a slight data gap, however, the data is still considered usable.

The lab method blank was found to be free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/6 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

The narrative states that the continuing calibration was run on 11/1/95 and the RPD was acceptable for all compounds except trans-1,2-Dichloroethene and 1,2-Dichloroethane. The data however shows that none of the target analytes, including the two just mentioned, were detected in either SR-02 or SR-02(D) and so it is not necessary to evaluate the RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike was designated for this batch of samples by the sampling coordinator. The location scheduled for designation of an MD/MSD was unable to be sampled and so the associated MS/MSD was never taken; later sampling efforts were abondoned. This represents a minor data gap because the matrix affects on the analysis cannot be evaluated, however the data is useable as reported.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/c**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**6**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**PAH**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-02(D)

Rinsate Blanks = none taken

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken ; later sampling efforts were abondoned. The lack of a blank constitues a slight data gap, however, the data is still considered usable.

All but the following calibration compounds met with the continuing calibration criteria:
Associated sample = SR-03 ; chrysene, indeno(123-cd)pyrene, dibenzo(a,h)anthracene
Associated sampes = SR-04,SR-07 ; benzo(a)anthracene, chrysene, benzo(b&k)fluoranthene, benzo(a)pyrene, indeno(123-cd)pyrene, and benzo(g,h,i)perylene.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/6 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No target analytes were detected in either of field duplicate samples SR-02 and SR-02(D) and so it was not necessary to evaluate the RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

A matrix spike SR-07MS/MSD was run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/1/c**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**6**
Type of Sampling:	**Sewer Sediment**	**# of duplicates:**	**1**
Analyses Performed:	**PCB**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SR-02(D)

Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

A field blank was inadvertantly not collected and so the equipment decontamination process cannot be evaluated for this group of samples. The location scheduled for taking a blank was unable to be sampled and so the associated blank was never taken ; later sampling efforts were abondoned. The lack of a blank constitues a slight data gap, however, the data is still considered usable.

Lab method blanks were free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/6 for this batch of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

None of the target analytes were detected in either of the duplicate samples SR-02 or SR-02(D) and so it was not necessary to evaluate RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

A matrix spike SR-07MS/MSD was run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range of 50%-150% set by FASP.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**16**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**VOA**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-C4D(D), SB-B3S(D), SB-B3D(D).

Rinsate Blanks = SB-C5S(B), SB-F3S(B).

Trip Blanks = TR-09, TR-01, TR-02.

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Methylene chloride was detected and estimated (flagged J) at 5 ug/L in rinsate blank sample SB-F3S(B) and at 6 ug/L in rinsate blank SB-C5S(B) and was also flagged J. Acetone was also detected at 6 ug/L in sample SB-C5S(B). Both of the mentioned analytes are common lab contaminants. Methylene chloride was detected in trip blank TR-09 at 4 ug/L. Acetone was detected in trip blanks TR-09 at 16 ug/L and TR-01 at 8 ug/L. No VOC's detected in Trip blank TR-02. The lab method blanks were free of all target analytes except for those noted to follow (associated samples given in parenthesis: VBLK1 (SB-C4D, SB-C4D(D), SB-B1S, SB-B2S, SB-C2S, SB-B1Sreanalyzed) and VBLK2 (SB-E1S, SB-E1S/reanalyzed, SB-H3S): 4-methyl-2-pentanone and 2-hexanone (both flagged estimated, J); VBLK4 (SB-C5D): 4-methyl-2-pentanone; VBLK1N (SB-B3D(D), SB-F4S/MSD): 1,1,2,2-Tetrachlorothane far below lab quality limits and not found in associated samples. Results for all method blank analytes mentioned were flagged as estimated, J.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field Duplicate samples were collected at a rate of approximately 2/10 for this batch of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

RPD will not be evaluated for the methylene chloride hit in sample SB-C4D(D) and SB-3SD(D) because it was detected at levels below the detection limit and was not detected in the corresponding normal sample. The toluene hit of 3 ug/L in SB-B3D(D) will also not be evaluated for the same reason. Acetone, the only other detected compound in sample SB-C4D, was also found in the normal sample and was outside of the 30% RPD requirement (see attached table). This exceedance of the RPD may be explained by the non-homogenous nature of soil samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Sample SB-F4S was designated as the MS/MSD sample for this group of samples. All VOA values were well within the required QC limits as per the lab narrative.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

VOA RPD CALCS

Duplicate	SB-C4D	SB-C4D(D)	RPD	
Acetone	23	15	42.11	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**16**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**BNA**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-C4D(D), SB-B3D(D).

Rinsate Blanks = SB-C5S(B), SB-F3S(B).

Holding times met? **Yes** ☐ **No** ☒ If not, explain:

All soil samples analyzed for semi-volatiles were extracted well within the fourteen day holding time for this fraction except for sample SB-F4S and the corresponding MS/MSD. These samples required reanalysis and were re-extracted seven days beyond the holding time; all extracts were promptly analyzed. The semi-volatile results for these samples should therefore be considered J, estimated, for positive values or UJ, estimated quantitation limits, for non-detects.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SB-F3S(B) was free of all target analytes. Field blank SB-C5S(B) was free of all target analytes except for diethylphthalate (0.7 ug/L - very low) and bis(2-ethylhexyl)phthalate, both qualified as estimated (J); note that these phthalate esters are common to environmental samples such as these frequently handled by latex gloves and/or other plastic handling equipment and were found in associated lab method blanks as shown to follow. The lab method blanks were free of all target analytes except for those noted to follow (associated samples given in parenthesis): SBLK6B (SB-F3S(B)): Di-n-butylphthalate and bis(2-ethylhexyl)phthalate; SBLK1 (SB-C4D, SB-C4D(D), SB-B1S&reanalyzed, SB-B2S &reanalyzed, SB-C2S/MS/MSD): dimethylphthalate, diethylphthalate, and bis(2-ethylhexyl)phthalate; SBLK3 (SB-E1S&reanalyzed, SB-H3S, SB-C5D): bis(2-ethylhexyl)phthalate. Results for all method blank analytes mentioned were flagged as estimated, J.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at a rate of approximately 2/10 for this batch of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** ☒ **No** ☐

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Both sets of field duplicate samples SB-C4D / SB-C4D(D) and SB-B3D / SB-B3D(D) were free of all target analytes and so it was not necessary to evaluate RPD for either set of duplicates. RPD was not evaluated for the Di-n-butylphthalate and bis(2-ethylhexyl)phthalate hit in sample SB-B3D because it was detected at levels below the detection limit and was not detected in the corresponding sample and SB-B3D(D).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample SB-F4S was designated as the MS/MSD sample for this group of samples. All semi-volatile values were well within the required QC limits as per the lab narrative.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**16**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**Total Metals**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-C4D(D), SB-B3D(D).
Rinsate Blanks = SB-C5S(B), SB-F3S(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SB-F3S(B) was free of all target analytes for Se (qualified as estimated, J) and Na which were both flagged as "B" indicating that these analytes were also found in the associated lab blank. Field blank SB-C5S(B) was free of all target analytes except for Al, Ca (qualified as estimated, J), Cr, and Zn which were flagged "B".

Lab preparation blanks were free of all target analytes except for Ca, Fe and Zn (associated samples SB-C4D, C4D(D), B1S, B2S, C2S, E1S, H3S, C5D) and Ca (associated samples SB-B4S, B4D, F3S, B3D, F5S, A1S, B3D(D), F4S).

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at a rate of approximately 2/10 for this batch of samples which meets QC requirements.
Samples SB-F4S, SB-C2S and SB-C5D were designated as lab duplicate samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate pairs SB-C4D/SB-C4D(D) had several RPDs for several metals above the 30% limit (see attached table). Note that with the exception of Cu, in every case where the RPD exceeded 30%, one or both of the results was flagged with a J, B, E or * (See Attachent D for explanation). Field duplicate pairs SB-B3D/SB-B3D(D) had only Ca and Se (flagged with J,B,W,N) with RPDs over 30%. Other than indicated by the lab qualification (flagging) as given, exceedance of the RPD may also be accounted for by the non-homogenous nature of soil samples.

Lab duplicates had RPDs below the 30% limit except for: SB-F4S: As(89.6), Pb(41.4), Mn(31.8), and Zn(32.8); SB C2S: K(200-one detect, one non-detect), Se(49.6), and Na(38.3); SB-C5D: Cr(65.7) and Na(200-one detect, one non-detect). All results related to these lab duplicate samples have been appropriately qualified by the lab based on lab quality control standards. In some cases as estimated "J" and in other cases, no qualification was

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**16**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**Pest/PCB**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-C4D(D), SB-B3S(D).

Rinsate Blanks = SB-C5S(B), SB-F3S(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks SB-F3S(B) and SB-C5S(B) were free of all target analytes.
All lab method blanks associated with this group of samples were free of all Pest/PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at a rate of approximately 2/10 for this batch of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SB-C4D / SB-C4D(D) and SB-B3S / SB-B3S(D) were free of all target analytes and so it is not necessary to calculate RPD for these two sets of duplicate sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Sample SB-F4S was designated as the MS/MSD sample for this group of samples. All pesticide/PCB values were well within the required QC limits as per the lab narrative.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample SB-F4S was designated as the MS/MSD sample for this group of samples. All metals values were well within the required QA limits as per the lab narrative.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

Total Metals RPD CALCS

Duplicate #1	SB-C4D	SB-C4D(D)	RPD		SB-B3D	SB-B3D(D)
					Flagging as given in results**	
Aluminum	12400	8690	35.18	OVER	J	J
Arsenic	10.4	12.5	18.34	UNDER		
Barium	74.8	84.1	11.71	UNDER		
Beryllium	0.59	0.82	32.62	OVER	B	B
Calcium	3590	3860	7.25	UNDER	EJ	EJ
Chromium	15.5	19.6	23.36	UNDER	EJ	EJ
Cobalt	7.7	11.7	41.24	OVER	B	B
Copper	19.8	30.8	43.48	OVER		
Iron	20500	21000	2.41	UNDER	EJ	EJ
Lead	11.7	46.5	119.59	OVER	*J	*J
Magnesium	3810	3290	14.65	UNDER		
Manganese	435	488	11.48	UNDER		
Nickel	17.1	27.3	45.95	OVER	EJ	EJ
Potassium	1450	1570	7.95	UNDER	J	J
Sodium	8201	127	193.90	OVER	BE*J	BE*J
Vanadium	27	25.1	7.29	UNDER		
Zinc	80	253	103.90	OVER	*J	*J

Duplicate #2	SB-B3D	SB-B3D(D)	RPD		SB-B3D	SB-B3D(D)
Aluminum	10300	10200	0.98	UNDER		
Arsenic	9.3	7.7	18.82	UNDER	JN*	JN*
Barium	113	114	0.88	UNDER		
Beryllium	0.52	0.52	0.00	UNDER	B	B
Calcium	6960	3890	56.59	OVER		
Chromium	11.8	11.7	0.85	UNDER	JN	JN
Cobalt	12.4	10.4	17.54	UNDER		B
Copper	15.2	13.8	9.66	UNDER		
Iron	18000	17100	5.13	UNDER		
Lead	15.9	17.1	7.27	UNDER	J*	J*
Magnesium	3700	2760	29.10	UNDER		
Manganese	1200	948	23.46	UNDER	*	*
Nickel	18	16.8	6.90	UNDER		
Potassium	659	613	7.23	UNDER	B	B
Selenium	0.36	0.23	44.07	OVER	JBWN	JBWN
Sodium	60.9	58.3	4.36	UNDER	JB	JB
Thallium	0.51	0.47	8.16	UNDER	JB	JB
Vanadium	22.9	22.1	3.56	UNDER		
Zinc	56.9	56.9	0.00	UNDER	JE*	JE*

***** *Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/b**	**Lab:**	**CRL**
Area Sampled:	**Main Plant**	**# of samples:**	**13**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-G2D(D), SB-H2D(D)
Rinsate Blanks = Inadvertently omitted.
Trip Blanks = TR-08, TR-11, TR-14, TR-17, TR-07

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Rinsate blanks were erroneously not collected; therefore, field decontamination can not be evaluated for this group of samples. Although the blanks were not collected, the data is still useable as reported; however, a small data gap is present as a result. As per lab narrative, Acetone was detected below the MDL in trip blank sample TR-11 and TR-17. TR-11 was also analyzed after holding time had expired and sample results were flagged as J. This does not affect the site sample results. The laboratory method blank showed acetone at levels above MDL (method of detection limit); therefore, acetone in all samples has been flagged B

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/13 for this group of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Acetone and chloroform were found in field duplicate samples SB-G2D and SB-G2D(D) at levels over 30% RPD (see attached sheet). Both acetone values were qualified with a B meaning that this compound was also identified in the laboratory blank. Chloroform was flagged J in the duplicate sample meaning that the reported value was estimated. Field duplicate samples SB-H2D and SB-H2D(D) had all RPDs below 30%. Note that the RPD for Benzene was not evaluated as it was detected in SB-H2D(D) below the detection limit and then not detected in SB-H2D.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

MS/MSD was run on SB-B4S as per lab narrative. Results were acceptable.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of note:
As per lab narrative, data is acceptable for use. Also a portion of the data is qualified, but is acceptable for use. Sample SB-H2D(D) was to be a duplicate but a portion of the sample was erroneously collected at the shallow interval. The organic portion of the sample was collected and the data is useable; however there is no corresponding metals data for this sample.

Data is considered useable as reported.

VOA RPD CALCS

Duplicate #1	SB-G2D	SB-G2D(D)	RPD		SB-G2D	SB-G2D(D)
					Flagging as given in results**	
Acetone	180	130	32.26	OVER		
Chloroform	2	1	66.67	OVER		
Toluene	1	1	0.00	UNDER		

Duplicate #2	SB-H2D	SB-H2D(D)	RPD		SB-H2D	SB-H2D(D)
Acetone	71	90	23.60	UNDER		
2-Butanone	10	13	26.09	UNDER		
Benzene	2	1	66.67	OVER		J
Toluene	1	1	0.00	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/b**	**Lab:**	**CRL**
Area Sampled:	**Main Plant**	**# of samples:**	**13**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**TCLP Metals**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-G2D(D), SB-H2D(D)
Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Rinsate blanks were not planned for these TCLP samples.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/13 for this group of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Only barium was found in field duplicate samples SB-G2D and SB-G2D. Barium and chromium were found in field duplicate samples SB-H2D and SB-H2D(D). RPD was below the 30% requirement for all analytes (see attached sheet).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

As per lab narrative, all MS/MSD pairs were well within ± 10% RPD for all five metals

Below note any other issues given in the laboratory results narrative or additional data useability comments:

As per case narrative, data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/d**	**Lab:**	**FASP**
Area Sampled:	**Slag Processing**	**# of samples:**	**10**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SS-05(D)

R nsate Blanks = SS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

-- Methylene chloride was detected in the field blank, however, the lab narrative notes that the presence of methylene chloride in the samples is most probably a laboratory contaminant coming from the PAH extraction procedure.
-- The method blank was found to be free of all target analytes.
-- All analytes met the continuing calibration criteria exept 1,1-dichloroethene, methylene chloride, and

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/10 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

The RPDs for the field duplicate samples SS-05 and SS-05(D) are all below 30% exept for methylene chloride. This should be accounted for by the lab narrative note that methylene chloride detects are due to lab contaminantion. For this reason, all RPDs are considered to have met the less than or equal to 30% criteria.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Soil sample SS-07 was designated as the matrix spike sample by the field sampling team. Matrix spikes were run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range except for o-Xylene in samples SS-07MS and SS-07MSD which were 183.9% and 181.14% respectively. These compounds are most likely outside the lab quality control ranges due to the soil matrix effects (non-homogeneity).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

VOA RPD CALCS

Duplicate	**SS-05**	**SS-05(D)**	RPD	
Methylene Chloride	53	35	40.91	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/d**	**Lab:**	**FASP**
Area Sampled:	***Slag Processing***	***# of samples:***	***10***
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**1**
Analyses Performed:	**PAH**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SS-05(D)

Rinsate Blanks = SS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The extraction blanks were found to be free of PAH target analytes.

The field blank SS-03(B) was found to be free of PAH target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/10 for this batch of samples which meet QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target analytes were detected in either of field duplicate samples SS-05 and SS-05(D); therefore, it was not necessary to evaluate RPD for these samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Soil sample SS-07 was designated as the matrix spike by the sample field sampling team. Matrix spikes were run in accordance with the SOP requirements and all compounds showed recoveries within the quality control limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/d**	**Lab:**	**FASP**
Area Sampled:	**Slag Processing**	**# of samples:**	**10**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**1**
Analyses Performed:	**PCB**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SS-05(D)

Rinsate Blanks = SS-03-(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The lab extract blank was found to be free of PCB target analytes.

The field blank was also found to be free of PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/10 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target analytes were detected in either of field duplicate samples SS-05 and SS-05(D); therefore, it was not necessary to evaluate RPD for these samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Soil sample SS-07 was designated as the matrix spike sample by the field team. Matrix spikes were run in accordance with the SOP requirements and all recoveries are within quality control limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/F/1/a**	**Lab:**	**CLP**
Area Sampled:	**Residential Area**	**# of samples:**	**8**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**BNA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = RS-005(D) and RS-103(D)

Rinsate Blank = RS-112(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Rinsate blank RS-112(B) was free of all semi-volatile target analytes except for Di-n-butylphthalate; this result was flagged as estimated, J in the result as phthalate esters were also found in the associated lab method blank. Note that such phthalate esters are commonly found in environmental samples handled with latex gloves or other plastic handling equipment. Lab method blanks were free of all semi-volatile target analytes with the following exceptions (associated samples noted in parentheses): SBLK1 (RS-112(B)): diethylphthalate and bis(2-ethylhexyl)phthalate; SBLKS2 (RS-008, 103, 103(D), 107, 015, 018, 005, 005(D), 022): bis(2-ethylhexyl)phthalate and di-n-octylphthalate. Results for all lab method blanks mentioned were further qualified as estimated J, by the lab.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/8 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

For field duplicate samples RS-005 and RS-005(D), there were several compounds with RPD above the 30% limit (see attached table); for all of these compounds the results were qualified as estimated, J. Also note that RPD was not evaluated for the Anthracene detection in sample RS-005 because it was detected at levels below the detection limit and then was not detected in RS-005(D). For duplicate samples RS-103 and RS-103(D), all compounds had RPDs below 30% except for benzo(a)anthracene and this result was flagged as estimated, J, for both samples. Also note that RPD was not evaluated for the butylbenzylphthalate detection in sample RS-103 because it was detected at levels below the detection limit and then was not detected in RS-103(D). Furthermore, the RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No samples were designated as the matrix spike for this group of samples. Although samples RS-107 and RS-002 were designated by the sample coordinator as MS/MSD samples, the laboratory did not analyze these samples as such. This will not affect the quality or useability of this group of samples and does not represent a data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

BNA RPD CALCS

Duplicate #1	RS-005	RS-005(D)	RPD		RS-005	RS-005(D)
					Flagging as given in results**	
2-Methylnaphthalene	37	27	31.25	OVER	J	J
Diethylphthalate	26	23	12.24	UNDER	J	J
Phenanthrene	190	130	37.50	OVER	J	J
Fluoranthene	240	170	34.15	OVER	J	J
Pyrene	360	220	48.28	OVER	J	J
Benzo(a)anthracene	180	140	25.00	UNDER	J	J
Chrysene	240	190	23.26	UNDER	J	J
Benzo(b)fluoranthene	200	200	0.00	UNDER	J	J
Benzo(k)fluoranthene	180	150	18.18	UNDER	J	J
Benzo(a)pyrene	180	140	25.00	UNDER	J	J
Indeno(1,2,3-cd)pyrene	110	86	24.49	UNDER	J	J
Benzo(g,h,i)perylene	85	58	37.76	OVER	J	J

Duplicate #2	RS-103	RS-103(D)	RPD		RS-103	RS-103(D)
Diethylphthalate	26	29	10.91	UNDER	J	J
Phenanthrene	37	50	29.89	UNDER	J	J
Fluoranthene	82	110	29.17	UNDER	J	J
Pyrene	67	88	27.10	UNDER	J	J
Benzo(a)anthracene	41	59	36.00	OVER	J	J
Chrysene	71	87	20.25	UNDER	J	J
Benzo(b)fluoranthene	68	84	21.05	UNDER	J	J
Benzo(k)fluoranthene	53	63	17.24	UNDER	J	J
Benzo(a)pyrene	56	67	17.89	UNDER	J	J
Indeno(1,2,3-cd)pyrene	37	42	12.66	UNDER	J	J

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/F/1/a**	**Lab:**	**CLP**
Area Sampled:	**Residential Area**	**# of samples:**	**8**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**PEST/PCB**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = RS-005(D) and RS-103(D)

Rinsate Blank = RS-112(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank RS-112(B) was free of all pesticide/PCB target analytes.
Lab method blanks were free of all semi-volatile target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/8 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples RS-005 and RS-005(D) have RPDs for all compounds below the 30% limit. Duplicate samples RS-103 and RS-103(D) have RPDs for all compounds below the 30% limit. Note that the RPD will not be evaluated for the detection of Dieldrin in sample RS-103(D) because it was detected at a level below the detection limit and was not detected in sample RS-103.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No samples were designated as the matrix spike for this group of samples. Although samples RS-107 and RS-002 were designated by the sample coordinator as MS/MSD samples, the laboratory did not analyze these samples as such. This will not affect the quality or usability of this group of samples and does not represent a data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

Note that for sample RS-112, target compounds aldrin and alpha-Chlordane exceeded the calibration range. For these analytes, the results of the diluted analysis should be considered the sample's analyte concentration.

Otherwise, data is considered useable as reported.

PEST.PCB RPD CALCS

Duplicate #1	**RS-005**	**RS-005(D)**	RPD		**RS-005**	**RS-005(D)**
					*Flagging as given in results***	
Aldrin	1.9	1.9	0.00	UNDER	JP*	JP
Heptachlor epoxide	1.6	1.6	0.00	UNDER	JP	JP
4,4'-DDE	3.6	3.7	2.74	UNDER	JP	JP
Endrin	4.4	4	9.52	UNDER		JP
4,4'-DDT	22	25	12.77	UNDER	P	P
Endrin ketone	3.3	3.3	0.00	UNDER	JP	JP
gamma-Chlordane	2.6	3	14.29	UNDER	P	P
Aroclor-1254	120	130	8.00	UNDER	P	

Duplicate #2	**RS-103**	**RS-103(D)**	RPD		**RS-103**	**RS-103(D)**
4,4'-DDT	5.6	6.6	16.39	UNDER	P	P

** NOTE: The "P" qualifier indicates a Pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between two GC columns. The lower of the two results is reported.*

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/F/1/a**	**Lab:**	**CLP**
Area Sampled:	**Residential Area**	**# of samples:**	**8**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**TOTAL METALS**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = RS-005(D) and RS-103(D)
Lab Duplicates = RS-107 and RS-022
Rinsate Blank = RS-112(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank RS-112(B) was free of all metals target analytes except for Be, Ca, Na, and Zn. Note that all of these results were qualified with a "B" indicating that this analyte was found in the associated lab method blank as well. Lab preparation blanks were free of all metals target analytes exept for those listed as follows (associated samples in parentheses): *(RS-112(B))/ Al, Be and Ca; (RS-112)/ Ba, Be, Ca, Mn, K; (RS-008,103, 103(D), 107, 015, 018, 005, 005(D), 022)\Ca*

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 2/8 for this batch of samples which meets QC requirements. RS-107 and RS-022 were designated as lab duplicates.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples RS-005 and RS-005(D) had RPDs below 30% for every element except for calcium, for which both results were qualified as estimated(J), and selenium, for which RS-005 gave a detect and was flagged "B" (element was also found in the associated blank), but not detected in RS-005(D). There were several elements for which the RPDs of duplicate samples RS-103 and RS-103(D) were above 30%. The RPD for arsenic was only 30.54%, very near the given limit. For all other elements with RPDs over 30%, either one or both of the results was flagged as estimated, J or with a "B" (see attached table). Furthermore, the RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

Lab duplicate sample RS-107 had an RPD for Sb of 200%, however, was not flagged by the lab because the duplicate difference did not exceed the technical criterion (+/-2x Contract Required Detection Limit) for soil samples. The sample RS-022 lab duplicate RPD for Cu(190.2%) and Ca(42.6%) is out of control and so all the Cu and Ca data are estimated (J) due to poor precision. The sample RS-022 lab duplicate RPD for Ag(200%) and Pb(33.1%) was not flagged by the lab because the duplicate difference did not exceed the technical criterion (+/-2x Contract Required Detection Limit) for soil samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample RS-107 was designated as the matrix spike for this group of samples. The recovery for Sb is stated as out of control and so Sb data for samples RS-008, 103(D), 015, 005(D), and 022 are estimated (J) due to low bias. The matrix spike recovery for Hg and so the Hg data for samples RS-008, 103, 103(D), 107, 015, 018, 005, 005(D) and 022 are estimated (J) due to low bias.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

TOTMET RPD CALCS

Duplicate #1	RS-005	RS-005(D)	RPD		RS-005	RS-005(D)
					Flagging as given in results**	
Aluminum	7130	7140	0.14	UNDER		
Antimony	0.76	0.85	11.18	UNDER	UJ	B
Arsenic	17.5	18.8	7.16	UNDER		
Barium	105	90.2	15.16	UNDER	J	J
Beryllium	0.68	0.68	0.00	UNDER	B	B
Cadmium	14.9	15.5	3.95	UNDER		
Calcium	11000	7960	**32.07**	**OVER**	J	J
Chromium	74.8	67.2	10.70	UNDER	J	J
Cobalt	13.4	13.9	3.66	UNDER		
Copper	89.5	88.4	1.24	UNDER	J	J
Iron	25000	24900	0.40	UNDER		
Lead	772	808	4.56	UNDER	J	J
Magnesium	5080	3880	26.79	UNDER	J	J
Manganese	1550	1240	22.22	UNDER	J	J
Mercury	0.31	0.37	17.65	UNDER	J	J
Nickel	42.1	51.2	19.51	UNDER		
Potassium	1720	1600	7.23	UNDER		
Selenium	1.2	0.74	**47.42**	**OVER**	B	U
Silver	2.2	2.8	24.00	UNDER	B	
Vanadium	25.5	25.8	1.17	UNDER		
Zinc	3110	2890	7.33	UNDER		

Duplicate #2	RS-103	RS-103(D)	RPD		RS-103	RS-103(D)
Aluminum	8560	10000	15.52	UNDER		
Antimony	0.76	0.82	7.59	UNDER	UJ	BJ
Arsenic	10	13.6	**30.51**	**OVER**		
Barium	102	120	16.22	UNDER	J	J
Beryllium	0.6	0.7	15.38	UNDER	B	B
Cadmium	2	2.6	26.09	UNDER		
Calcium	3760	13000	**110.26**	**OVER**	J	J
Chromium	24.8	29.2	16.30	UNDER	J	J
Cobalt	12.6	17.2	**30.87**	**OVER**	B	
Copper	27.2	36.7	29.73	UNDER	J	J
Iron	16500	20700	22.58	UNDER		
Lead	120	141	16.09	UNDER	J	J
Magnesium	2130	7620	**112.62**	**OVER**	J	J
Manganese	723	1210	**50.39**	**OVER**	J	J
Mercury	0.16	0.16	0.00	UNDER	J	J
Nickel	24.3	30.6	22.95	UNDER		
Potassium	1070	1640	**42.07**	**OVER**	B	
Silver	0.37	0.59	**45.83**	**OVER**	B	B
Vanadium	23.8	29.7	22.06	UNDER		
Zinc	327	407	21.80	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/F/1/b**	**Lab:**	**Kemron**
Area Sampled:	**Residential Area**	**# of samples:**	**41**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**3**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = RS-014(D), RS-104(D), RS-020(D).

Rinsate Blanks = RS-106(B), RS-112(B), RS-018(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Barium was found at .02 mg/l in sample RS-018(B). Chromium was found at .024 mg/l in sample RS-018(B), at .022 mg/l in sample RS-106(B), and at .021 mg/l in sample RS-112(B). Nickel was detected at .02 mg/l in sample RS-106(B). Zinc was detected at .18 mg/l in sample RS-112(B). The detection limits for barium, chromium, and nickel are .02 mg/l and the detection limit for zinc is .01 mg/l. The detected levels are minutely over the detection limits. Although these compounds were found in these field blanks, the data was not qualified and no mention of data qualifications due to the presence of these analytes in the blanks was made in the lab narrative.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 3/41 for this batch of samples which meets the QC requirements.

Several lab duplicates associated with these samples were evaluated.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples showed many levels above 30% RPD with the exception of sample RS-020(D) which had no analytes over the required 30% or less RPD requirement. The RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

Based on the lab duplicate evaluation, the lab stated that sample non-homogeneity was noted in the soil matrix samples and is confirmed by the duplicate analysis. No additional qualification of the data is specified.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

No MS/MSD samples were designated for this group of samples as scheduled- N/A Laboratory spike samples were within control limits. Data was not qualified by the lab for any reason.

Below note any other issues given in the laboratory results narrative:

Although RPD percentages above the required limit of 30% were encountered, the non-homogenous nature of the sample media can be used to explain these circumstances.

Data is considered useable as reported.

FastTurnMetals RPD CALCS

Duplicate #1	**RS-014**	**RS-014(D)**	RPD	
Arsenic	49	61	21.82	UNDER
Barium	160	180	11.76	UNDER
Cadmium	11	12	8.70	UNDER
Chromium	45	46	2.20	UNDER
Copper	47	51	8.16	UNDER
Lead	790	1100	32.80	OVER
Nickel	32	37	14.49	UNDER
Zinc	2100	2700	25.00	UNDER

Duplicate #2	**RS-104**	**RS104(D)**	RPD	
Arsenic	73	66	10.07	UNDER
Barium	110	110	0.00	UNDER
Chromium	28	26	7.41	UNDER
Copper	23	28	19.61	UNDER
Lead	63	110	54.34	OVER
Nickel	28	31	10.17	UNDER
Zinc	170	270	45.45	OVER

Duplicate #3	**RS-020**	**RS-020(D)**	RPD	
Arsenic	86	80	7.23	UNDER
Barium	83	86	3.55	UNDER
Cadmium	10	9	10.53	UNDER
Chromium	29	27	7.14	UNDER
Copper	44	46	4.44	UNDER
Lead	190	230	19.05	UNDER
Nickel	31	32	3.17	UNDER
Zinc	690	760	9.66	UNDER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/F/1/c**	**Lab:**	**FASP**
Area Sampled:	**Residential Area**	**# of samples:**	**41**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**PCB**	**# of blanks:**	**3**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = RS-008(D), RS-102(D), RS-014(D).

Rinsate Blanks = RS-001(B), RS-112(B), RS-106(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blanks did not contain any target compounds. The laboratory extract blanks for this group of samples were free of all PCB target analytes. Only three field blanks were scheduled to accompany the residential soil samples as given above. All samples were collected by the same individual in a period of only a few days and so the success of the decontamination procedures used can be assumed from the three rinsate blanks collected. There is no data gap and the results are useable as reported.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were not collected 1/10 for this batch of samples. Forty-one samples were collected and 3 duplicates are present. Only 3 duplicate samples were scheduled so as to minimize the damage to residential lawns near the site. Information about the precision of these duplicate results can be drawn from the other duplicate samples taken. This does not constitute a data gap as only 3 duplicate samples were planned to accompany the 40 samples scheduled (the field manager made a field decision to scheduled the one additional sample - no additional duplicates were deemed necessary as a result).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No target compounds were found in either the duplicate samples or the corresponding investigative samples collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Samples RS-024, RS-107, and RS-021 were designated as the matrix spike samples. These MS/MSDs were all within control limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/F/1/c**	**Lab:**	**FASP**
Area Sampled:	**Residential Area**	**# of samples:**	**41**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**PAH**	**# of blanks:**	**3**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = RS-008(D), RS-102(D), RS-014(D).

Rinsate Blanks = RS-001(B), RS-112(B), RS-106(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blanks contained no target compounds. The laboratory extraction blanks for this group of samples were free of all PAH target analytes. Only 3 field blanks were scheduled to accompany the residential soil samples as given above. All samples were collected by the same individual in a period of only a few days and so the success of the decontamination procedures used can be assumed from the three rinsate blanks collected. There is no data gap and the results are useable as reported.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were not collected 1/10 for this batch of samples. 41 samples were collected and three duplicates are present. Only three duplicate samples were scheduled so as to minimize the damage to residential lawns near the site. Information about the precision of these duplicate results can be drawn from the other duplicate samples taken. This does not constitute a data gap as only three duplicate samples were planned to accompany the 40 samples scheduled (the field manager made a field decision to scheduled the one additional sample - no additional duplicates were deemed necessary as a result).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No target compounds were found in either the field duplicate samples or the corresponding normal samples collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Samples RS-017 and RS-024 were designated as the matrix spike samples. In sample RS-107, naphthalene was outside of quality control limits. In sample RS-024, Ideno(1,2,3-c,d)pyrene and dibenzo(a,h)anthracene were outside of quality control limits. No PAH compounds were detected in either of the two corresponding investigative samples for these MS/MSDs.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/G/1/a**	**Lab:**	**CLP**
Area Sampled:	**Lagoon Area**	**# of samples:**	**1**
Type of Sampling:	**Soil Boring**	**# of duplicates:**	**0**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field duplicates = none (see explanation in comments section)

Rinsate Blanks = none (see explanation in comments section)

Trip Blanks = TR-20 and TR-21 (associated w/ only sample in this category LASG-09)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

The lab narrative states: "Due to a large sample backlog, this sample was overlooked and was extracted 2 days outside of holding times."

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable. (see further explanation in comments section).

Both trip blanks TR-20 and TR-21 was free of all target analytes.
The lab method blank associated with LASG-09 was free of all target analytes except for methylene chloride, acetone (both common lab contaminants), and carbon disulfide; all three results were flagged as estimated (J) by the lab.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were taken with this sample (see explanation in comments section).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

N/A - no field duplicate samples were taken with this sample (see explanation in comments section).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike sample is associated with this sample (see explanation in comments section).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

A field decision was made to take this sample to characterize an unknown substance encountered in the subsurface. Field personnel did not take an accompanying blank, duplicate, or designate an MS/MSD sample at the time of sampling and so no QC samples are associated with this sample. Because this was an unplanned sample and was taken for characterization data only, the lack of QC samples represents a small data gap and inhibits the evaluation of equipment decontamination procedure success, precision of analysis, and matrix affects on the analysis.

All data is still considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	V/G/1/a	**Lab:**	CLP
Area Sampled:	Lagoon Area	**# of samples:**	1
Type of Sampling:	Soil Boring	**# of duplicates:**	0
Analyses Performed:	BNA	**# of blanks:**	0

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none (see explanation in comments section)

Rinsate Blanks = none (see explanation in comments section)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

The lab narrative states: "Due to a large sample backlog, this sample was overlooked and was extracted 2 days outside of holding times."

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable (see futher explanation in comments section).

The lab method blank associated with sample LASG-09 was free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were taken with this sample (see explanation in comments section).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

N/A - no field duplicate samples were taken with this sample (see explanation in comments section).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike sample is associated with this sample (see explanation in comments section).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

A field decision was made to take this sample to characterize an unknown substance encountered in the subsurface. Field personnel did not take an accompanying blank, duplicate, or designate an MS/MSD sample at the time of sampling and so no QC samples are associated with this sample. Because this was an unplanned sample and was taken for characterization data only, the lack of QC samples represents a small data gap and inhibits the evaluation of equipment decontamination procedure success, precision of analysis, and matrix affects on the analysis.

All data is still considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	V/G/1/a	**Lab:**	CLP
Area Sampled:	Lagoon Area	**# of samples:**	1
Type of Sampling:	Soil Boring	**# of duplicates:**	0
Analyses Performed:	PEST/PCB	**# of blanks:**	0

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none (see explanation in comments section)

Rinsate Blanks = none (see explanation in comments section)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

The lab narrative states: "Due to a large sample backlog, this sample was overlooked and was extracted 2 days outside of holding times."

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable. (see further explanation in comments section).

The method blank associated with sample LASG-09 was free of all target analytes except for 4,4'-DDT, therefore the presence of this compound in the associated sample is qualified with a "B". Furthermore, the sample would have been qualified as non-detected (U) if the sample result was less than five times the blank result.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were taken with this sample (see explanation in comments section).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

N/A - no field duplicate samples were taken with this sample (see explanation in comments section).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike sample is associated with this sample (see explanation in comments section).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

A field decision was made to take this sample to characterize an unknown substance encountered in the subsurface. Field personnel did not take an accompanying blank, duplicate, or designate an MS/MSD sample at the time of sampling and so no QC samples are associated with this sample. Because this was an unplanned sample and was taken for characterization data only, the lack of QC samples represents a small data gap and inhibits the evaluation of equipment decontamination procedure success, precision of analysis, and matrix affects on the analysis.

All data is still considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	V/G/1/a	**Lab:**	CLP
Area Sampled:	Lagoon Area	**# of samples:**	1
Type of Sampling:	Soil Boring	**# of duplicates:**	0
Analyses Performed:	TOTAL METALS	**# of blanks:**	0

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none (see explanation in comments section)

Rinsate Blanks = none (see explanation in comments section)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. The lack of a blank constitues a slight data gap, however, the data is still considered usable. (see further explanation in comments section).

The lab method blank associated with LASG-09 was free of all target analytes with the following exceptions: Initial calibration blank - soil/K; Continuing Calibration - soil/Al,Ba,Be,Ca,Cu,Fe,Pb,Mg,Mn,K,Na,Zn; Preparation blank - soil/Ba,Be,Ca,Mn,K.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were taken with this sample (see explanation in comments section).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

N/A - no field duplicate samples were taken with this sample (see explanation in comments section).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike sample is associated with this sample (see explanation in comments section).
Lab matrix spike recovery of Cd are out of control for LASG-09 and are estimated (UJ) due to an unknown bias.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

-- A field decision was made to take this sample to characterize an unknown substance encountered in the subsurface. Field personnel did not take an accompanying blank, duplicate, or designate an MS/MSD sample at the time of sampling and so no field blanks or duplicates are associated with this sample. Because this was an unplanned sample and was taken for characterization data only, the lack of QC samples represents a small data gap and inhibits the evaluation of equipment decontamination procedure success, precision of analysis, and matrix affects on the analysis.

-- Lead and Thallium data was flagged (W) by the lab indicating interference and that it was estimated.

All data is still considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/a**	**Lab:**	**CLP**
Area Sampled:	**Groundwater**	**# of samples:**	**3**
Type of Sampling:	**Monitoring Wells**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = EW-08(D)
Rinsate Blanks = EW-08(B)
Trip Blanks = TR-31and TR-35

Holding times met? **Yes** [ ] **No** [X] If not, explain:

All VOA analyses, except EW-08MS and EW-08MSD, were performed within the technical holding time of 14 days after sample collection for preserved water samples. the lab performed the VOA analysis for samples EW-08MS and EW-08MSD eight days after the expiration of the 14-day holding time, therefore, detected compounds are qualified as estimated, "J" and non-detects are "UJ". Note that the results for these two samples are used for QC purposes rather than data interpretation purposes, so should not affect reportable results.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank EW-08(B) was free of all volatile target analytes except for toluene which is qualified as estimated "J". Trip blank (associated samples in parentheses) TR-31(UA-06, EW-08, EW-08(D), EW-08(B)) was free of all volatile target analytes. TR-35 (LA-04A) was free of all target analytes except for methylene chloride (a common lab contaminant) and tetrachloroethene. Because there was only one sample in the cooler shipped with TR-35, there is is no threat for cross contamination of other samples. Lab method blanks were free of all target analytes exept for VBLK1R (EAWH3 and EAWH4) which detected 1,2-dichloroethane; this result was qualified as estimated (J) by the lab.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/3 for this batch of samples which meet QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

RPD for all volatile compounds for field duplicate samples EW-08 and EW-08(D) were below the 30% limit. Note that the the only compounds detected exceeded the calibration range and so were diluted; the results from the diluted sample were used to evaluate the RPD (See attached table).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample UA-06 was designated as the matrix spike for this group of samples. The % recoveries for trichloroethene was below the QC limits for both UA-06MS and UA-06MSD, therefore positive result for trichloroethene in the unspiked UA-06 sample is qualified as estimated, J.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

-- Note that groundwater samples EW-08, EW-08(D), EW-08(B), and LA-04A and accompanying trip blanks (TR-31 and TR-35) were scheduled for VOA analysis only. These are the only samples to which the information on this sheet applies.

-- Samples UA-06, EW-08 and EW-08(D) had analytes that exceeded the calibration range of the instrument and so were re-analyzed at a dilution factor of 5.0. The diluted results (DL) of the analyte given in parentheses should be considered the useable results. The results of the undiluted sample should be used for all other analytes not mentioned per each sample.
UA-06DL (tetrachloroethene); EW-08DL and EW-08(D)DL (1,2-dichloroethene (total) and trichloroethene). Note that this adjustment should have already been made in the database before data is reported.

Data is considered useable as reported.

VOA RPD CALCS

Duplicate	**EW-08**	**EW-08(D)**	RPD		**EW-08 EW-08(D)** Flagging as given in results**
1 2-Dichloroethene (total)	320	400	22.22	UNDER	results from diluted sample
Trichloroethene	550	710	25.40	UNDER	results from diluted sample

: Definitions of data qualifiers (flagging) given in Appendix D

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/a**	**Lab:**	**CLP**
Area Sampled:	**Groundwater**	**# of samples:**	**2**
Type of Sampling:	**Monitoring Wells**	**# of duplicates:**	**1**
Analyses Performed:	**BNA**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = UA-21(D)
Rinsate Blanks = UA-21(B) and UA-32(B)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

Holding times were met for all semivolatile samples except for UA-21(B)MS and UA-21(B)MSD. The extraction for these samples were performed eight days after the expiration of the 7-day holding time for water samples; therefore, all positive results are estimated "J" and the non-detects "UJ".

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks UA-21(B) and UA-32(B) were free of all semivolatile target analytes.
Lab method blanks were free of all semivolatile target analytes exept for SBLK6Y (associated samples UA-21, UA-21(D), UA-21(B)) which showed a very low level detect of di-n-butylphthalate; the result was qualified as estimated, J by the lab. This is a common lab contaminant from latex type gloves or other plastic sample handling equipment.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples UA-21 and UA-21(D) had no detections for any compound except for bis(2-ethylhexyl)phthalate. The RPD for this compound also exceeded 30%, however, the results for both samples was flagged estimated, J, by the lab (See attached table). This is a phthalate ester similar to that found in the associated method blank as discussed above.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Samples UA-21(B) and UA-32 were designated as the matrix spikes for this group of samples; UA-21(B) was designated by the lab, whereas UA-32 was designated by the field sample coordinator. For the UA-21(B)MS/MSD, % recoveries of 4-nitrophenol and 2,4-dinitrotoluene were above the QC limits in both the MS and MSD sample; therefore, positive results for these two analytes in unspiked sample UA-21(B) should be considered as estimated, J. For the UA-32MS/MSD, % recovery of 4-nitrophenol was reported above the QC limits; since the recovery was less than 100%, the lab recommended no qualification for the unspiked sample UA-32 results and the results are acceptable as given.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

Note that groundwater samples UA-21, UA-21(D), UA-21(B), UA-32, and UA-32(B) were scheduled for BNA and pesticide/PCB analysis only. These are the only samples to which the information on this sheet applies.

Samples UA-21 and UA-21(D) reported internal standard area counts outside the QC limits. Samples were reanalyzed as UA-21RE and UA-21(D)RE respectively as per SOW OLMO3.1. The area counts for the reanalyzed samples were also outside the QC limits; therefore, the data was qualified using the results from the original sample analyses.

Data is considered useable as reported.

BNA RPD CALCS

Duplicate	**UA-21**	**UA-21(D)**	RPD		**UA-21**	**UA-21(D)**
					Flagging as given in results**	
bis(2-Ethylhexyl)phthalate	8	2	120.00	OVER	J	J

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/a**	**Lab:**	**CLP**
Area Sampled:	**Groundwater**	**# of samples:**	**2**
Type of Sampling:	**Monitoring Wells**	**# of duplicates:**	**1**
Analyses Performed:	**PEST/PCB**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = UA-21(D)

Rinsate Blanks = UA-21(B) and UA-32(B)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

Holding times were met for all pesticide/PCB samples except for UA-21(B)MS and UA-21(B)MSD. The extraction for these samples were performed twelve days after the expiration of the 7-day holding time for water samples; therefore, all positive results are estimated "J" and the non-detects "UJ".

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks UA-21(B) and UA-32(B) were free of all pesticide/PCB target analytes.
Lab method blanks were free of all pesticide/PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

All detected compounds were below the 30% RPD limit (See attached table).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Samples UA-21(B) and UA-32 were designated as the matrix spikes for this group of samples; UA-21(B) was designated by the lab, whereas UA-32 was designated by the field sample coordinator. For the UA-21(B)MS/MSD, % recovery of Endrin was reported above the QC limits for the MSD sample; therefore, positive results for Endrin in unspiked sample UA-32 should be considered as estimated, J. For the UA-32MS/MSD, all recoveries met the required QC criteria.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:
Note that groundwater samples UA-21, UA-21(D), UA-21(B), UA-32, and UA-32(B) were scheduled for BNA and pesticide/PCB analysis only. These are the only samples to which the information on this sheet applies.

Data is considered useable as reported.

PEST.PCB RPD CALCS

Duplicate	**UA-21**	**UA-21(D)**	RPD		**UA-21**	**UA-21(D)**
					Flagging as given in results**	
alpha-Chlordane	0.09	0.081	10.53	UNDER	P*	P
Aroclor-1248	6.4	5.8	9.84	UNDER		

**** NOTE: The "P" qualifier indicates a Pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between two GC columns. The lower of the two results is reported.***

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/b**	**Lab:**	**CRL**
Area Sampled:	**Monitoring Wells**	**# of samples:**	**56**
Type of Sampling:	**Groundwater**	**# of duplicates:**	**8**
Analyses Performed:	**RDO VOA**	**# of blanks:**	**8**

THIS EVALUATION SHEET INCLUDES INFORMATION REGARDING ALL OF THE EXISTING (EW), UPPER AQUIFER (UA) AND LOWER AQUIFER (LA) MONITORING WELLS EXCEPT UA-06, EW-08, AND UA-11.

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = UA-17(D), UA-24(D), UA-21(D), LA-08B(D), LA-06B(D), LA-04B(D), LA-107E(D), LA-03A(D)

Rinsate Blanks = UA-ER-1, UA-ER-2, UA-21(B), LA-05-ER, LA-O8-ER, LA-07-ER, UA-32(B), LA-03A(B)

(NOTE: The irregular rinsate blank labeling system is discussed in the Data Useability Techmemo Section 1.1.5. All of the sample identification numbers listed as rinsate blanks are given as were labeled in the field and as given on all accompanying paperwork)

Trip blanks = TR-27, TR-28, TR-29, TR-30, TR-32, TR-33, TR-34, TR-36, TR-37

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Rinsate blanks were free of all volatile target analytes except the analytes given in parenthesis followed by the result in brackets in ug/L: *UA-ER-1* (acetone[12], chloroform[1(at the DL)], toluene[5]), *UA-ER-2* (acetone[13], chloroform[1(at the DL)], toluene[5]), *UA-21(B)* (toluene[2]), *LA-05-ER* and *LA-08-ER* (acetone[17], methylene chloride [1], chlororform [2[), *LA-07-ER* (acetone[14], chloroform[1]), *UA-32(B)* (acetone[6]), *LA-03A(B)* (acetone[14], chloroform[1(at the DL)]).
Acetone and methylene chloride are common lab contaminants, chloroform is a known by-product of the normal water disinfection process, and toluene was in turn found in none of the associated samples.

Trip blanks TR-36, TR-27, TR-28, TR-29, TR-30, TR-32 were free of all volatile target analytes. TR-37 and TR-33 both showed low levels of acetone. TR-34 had a detection of chloromethane, 2ug/L which is just above the detection limit of 1ug/L; this volatile compound was not found in any of the samples associated with this trip blank.

There were a few target analytes and tentatively identified compounds (TICs) found in the lab method blanks associated with these samples. In all cases, the affected analyte or TIC was appropriately flagged "B" in the associated sample results.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 8/56 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

The RPD for all analytes in field duplicate sample pairs UA-21/UA-21(D) and LA-03A/LA-03A(D) were all under the 30% limit. All UA-17/UA-17(D) and LA-03A/LA-03A(D) results were non-detects and so it was not necessary to evaluate RPD. Duplicate sample pairs UA-24/UA-24(D), LA-08B/LA-08B(D), LA-06B/LA-06B(D), LA-04B/LA-04B(D) and LA-107E/LA-107E(D) all had one or more analytes with RPD above the 30% limit (see attached sheet). Note the cases in which the higher RPD results from comparing two small numbers (2 vs. 1 gives an RPD of 67%) or in which the analyte was detected in one sample and not the other. Based on the results of the RPD for the

duplicate samples, the precision of the results for analytes cis-1,2-dichloroethene, vinyl chloride, trans-1,2-dichloroethene appear to be the lowest. These analytes tended to show the highest concentrations and required dilution and reanalysis for one or both of the samples in the duplicate pair for the majority of the samples. These dilutions could have limited the precision of these results particularly when one sample required dilution and the other did not (as occurred in many cases).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matix spike sample was designated for this group of samples as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

Some data for vinyl acetate and Acrolein is unacceptable because these analytes were not detected at any calibration levels during some of the initial and continuing lab calibrations. Therefore, vinyl acetate and/or Acrolein results are unuseable (flagged "UR") for the following affected samples: UA-01, 02, 04, 10, 13, 17, 21, and EW-11; field duplicate UA-17(D); field blanks UA-ER-1, UA-ER-2, UA-21(B); trip blanks TR-27, 28, 29 and 30. This does not represent a data gap because vinyl acetate and Acrolein are not contaminants of concern for the groundwater.

Some data for vinyl acetate, 2-chloroethyl vinylether, and Acrolein is unacceptable because these analytes were not detected at any calibration levels during some of the initial and continuing lab calibrations. Therefore, vinyl acetate and/or 2-chloroethyl vinylether and/or Acrolein results are unuseable (flagged "UR") for the following affected samples LA-01A, 01B, 01C, 03A, 03E, 04A, 04B, 04C, 05B, 05C, 05D, 06A, 06B, 06C, 08A, 08B, 101C, 102C, 103C, 104E, 105C, 105E, 106C, 107C, 107E and EW-15, 16, 17, 18, 28, 99 and UA-105; field duplicate LA-03A(D), 04B(D), 06B(D), 08B(D), 107E(D); field blank LA-03A(B), 05-ER, 07ER, 08ER and UA-32(B); trip blanks TR-33, 34, 36, 37. This does not represent a data gap because vinyl acetate, 2-chloroethyl vinylether, and Acrolein are not contaminants of concern for the groundwater.

Samples UA-20, 22, 24, 28, 29, 30, 32, 105 and LA-02A, 02B, 02C, 03A, 04A, 04B, 04C, 06A, 06B, 06C, 07A, 07B, 07C, 08B, 101C, 102C, 103C, 105E, 106C, 107C, 107E and EW-11, 16, 17, 18, 28, 99; field duplicates UA-24(D), LA-08B(D), LA-107E(D), LA-03A(D) reported several compounds outside the upper calibration range. These samples were diluted and reanalyzed. Results for the compounds exceeding the upper calibration range were reported from the diluted analysis and are flagged "D".

The lab noted that many of the groundwater samples showed very high concentrations of vinyl chloride, cis-1,2-cichloroethene and trichloroethene. Samples UA-28, 29, and 30 showed extremely high concentrations fo tetrachloroethene. The high concentrations of these compounds are not safe for residential well drinking water.

Some data was qualified estimated J or UJ by the lab due to exceedances of internal lab QC standards during calibration or due to surrogate spike compound recoveries outside of the lab QC limits.

Otherwise, data is considered useable as reported.

VOA RPD CALCS

Duplicate #1	UA-24	UA-24(D)			UA-24	UA-24(D)
					Flagging as given in results***	
Vinyl Chloride	46	47	2.15	UNDER	D*	D
1,1-Dichloroethene	3	3	0.00	UNDER		
trans-1,2-Dichloroethene	5	5	0.00	UNDER		
cis-1,2-Dichloroethene	790	240	106.80	OVER	D	D
Trichloroethene	2000	2000	0.00	UNDER	D	D
Napthalene	1	1	0.00	UNDER	J	UJ

Duplicate #2	UA-21	UA-21(D)			UA-21	UA-21(D)
cis-1,2-Dichloroethene	1	1	0.00	UNDER	J	
Trichloroethene	1	1	0.00	UNDER	U	

Duplicate #3	LA-08B	LA-08B(D)			LA-08B	LA-08B(D)
Vinyl Chloride	2	1	66.67	OVER		
Methylene Chloride	1	1	0.00	UNDER	U	J
Acrylonitrile	21	24	13.33	UNDER		
1,1-Dichloroethane	2	2	0.00	UNDER		
cis-1,2-Dichloroethene	45	58	25.24	UNDER	D	D

Duplicate #4	LA-06B	LA-06B(D)			LA-06B	LA-06B(D)
Vinyl Chloride	23	34	38.60	OVER		D
1,1-Dichlororethene	1	2	66.67	OVER	U	D
trans-1,2-Dichloroethene	1	3	100.00	OVER	J	D
1,2-Dichloroethane	2	4	66.67	OVER		D
cis-1,2-Dichloroethene	150	800	136.84	OVER	E	D
Trichloroethene	110	140	24.00	UNDER	E	D

Duplicate #5	LA-04B	LA-04B(D)			LA-04B	LA-04B(D)
Vinyl Chloride	9	2	127.27	OVER		
trans-1,2-Dichloroethene	1	3	100.00	OVER	U	
cis-1,2-Dichloroethene	38	57	40.00	OVER	D	E**
Trichloroethene	13	14	7.41	UNDER		
Ethylbenzene	1	1	0.00	UNDER	U	
m& /or p-Xylene	1	4	120.00	OVER	U	
o-Xylene	1	1	0.00	UNDER	U	J

Duplicate #6	LA-107E	LA-107E(D)			LA-107E	LA-107E(D)
Vinyl Chloride	26	29	10.91	UNDER	D	D
1,1-Dichlororethene	1	2	66.67	OVER		
trans-1,2-Dichloroethene	3	3	0.00	UNDER		
1,1-Dichloroethane	1	1	0.00	UNDER		
cis-1,2-Dichloroethene	390	380	2.60	UNDER	D	D
Chloroform	1	1	0.00	UNDER		U
Trichloroethene	3	3	0.00	UNDER		

VOA RPD CALCS

Duplicate #7	**LA-03A**	**LA-03A(D)**			**LA-03A**	**LA-03A(D)**
					Flagging as given in results***	
Vinyl Chloride	67	73	8.57	UNDER	D	D
1,1-Dichlororethene	3	3	0.00	UNDER		
trans-1,2-Dichloroethene	4	4	0.00	UNDER		
1,1-Dichloroethane	1	1	0.00	UNDER		
cis-1.2-Dichloroethene	880	820	7.06	UNDER	D	D
1,1,1-Trichloroethane	2	2	0.00	UNDER		
Trichloroethene	3	3	0.00	UNDER		
Tetrachloroethene	5	4	22.22	UNDER		

** "D" indicates the identified compound in the analysis has been diluted. This flag alerts the user to any differences between the concentrations reported in the two analysis.*

*** "E" indicates compounds whose concentrations exceed the calibration range of the instrument.*

**** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/b**	**Lab:**	**CRL**
Area Sampled:	**Monitoring Wells**	**# of samples:**	**55**
Type of Sampling:	**Groundwater**	**# of duplicates:**	**8**
Analyses Performed:	**RDM Filtered Metals**	**# of blanks:**	**8**

THIS EVALUATION SHEET INCLUDES INFORMATION REGARDING ALL OF THE EXISTING (EW), UPPER AQUIFER (UA) AND LOWER AQUIFER (LA) MONITORING WELLS EXCEPT UA-06, EW-08, AND UA-11.

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = UA-17(D), UA-24(D), UA-21(D), LA-08B(D), LA-06B(D), LA-04B(D), LA-107E(D), LA-03A(D)

Rinsate Blanks = UA-ER-1, UA-ER-2, UA-21(B), LA-05-ER, LA-08-ER, LA-07-ER, UA-32(B), LA-03A(B)
(NOTE: The irregular rinsate blank labeling system is discussed in the Data Useability Techmemo Section 1.1.5. All of the sample identification numbers listed as rinsate blanks are given as were labeled in the field and as given on all accompanying paperwork).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Rinsate blanks were free of all RDM filitered metal analytes exept for cadmium (0.3ug/L) in LA-08-ER and LA-07-ER; aluminum in UA-32(B) (100ug/L) and LA-03A(B) (80ug/L); aluminum (82ug/L) and copper (9ug/L) in UA-ER-1; aluminum (100ug/L), copper (12ug/L), and nickel (20ug/L - right at the detection limit) in UA-ER-2; aluminum (85ug/L) and copper (12ug/L) in UA-21(B). The lab narrative recommends no further qualifications of the results based on these findings. None of the analytes found in the rinsate blanks are groundwater contaminants of concern except for nickel.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 8/55 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate sample pairs UA-17/UA-17(D) and LA-06B/LA-06B(D) had RPDs under 30% for all analytes. Samples UA-24/UA-24(D) , UA-21/UA-21(D), and LA-08B/LA-08B(D) had RPDs under 30% for all analytes except for copper. Sample LA-08B/LA-08B(D) also had vanadium above 30% RPD. The RPD for arsenic in duplicates LA-04B/LA-04B(D) and LA-107E/LA-107E(D) and the RPD for Iron in LA-03A/LA-03A(D) also exceeded 30%. None of these analytes mentioned are groundwater contaminants of concern except for iron (RPD 40.38%). The lab narrative gives no further qualification of the data based on these results.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matix spike sample was designated for this group of samples as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:
Samples LA-08-ER, EW-28, LA-08A, LA-08B were reported with an elevated detection limit of 4ug thallium/L. These samples were diluted because of an inability to obtain an analytical spike recovery within the CRL's 90-110% window.

The Safe Drinking Water Act (SDWA - 40 CFR 141) were used to evaluate the filtered metals groundwater data. The current maximum contaminant limits (MCLs) are: chromium (0.1mg/L), copper (1.3 mg/L), nickel (0.1 mg/L), antimony (6 ug/L), cadmium (5 ug/L), selenium (50 ug/L) and thallium (2 ug/L). For arsenic, the old MCL was 50 ug/L, but is under review due. Lead is regulated primarily for plumbing corrosion, whereby 90% of the households should be below 15 ug/L. Cobalt has no SDWA MCL.

Data is considered useable as reported.

FM RPD CALCS

Duplicate #1	UA-17	UA-17(D)	RPD		UA-17	UA-17(D)
					Flagging as given in results**	
Dissolved Arsenic	4	5	22.22	UNDER		
Dissolved Barium	84	97	14.36	UNDER		
Dissolved Calcium	108000	115000	6.28	UNDER		
Dissolved Cobalt	7	7	0.00	UNDER		
Dissolved Copper	8	6	28.57	UNDER		
Dissolved Iron	701	767	8.99	UNDER		
Dissolved Magnesium	30000	32000	6.45	UNDER		
Dissolved Manganese	981	1050	6.79	UNDER		
Dissolved Sodium	57000	61000	6.78	UNDER		
Dissolved Vanadium	9	8	11.76	UNDER		U

Duplicate #2	UA-24	UA-24(D)	RPD		UA-24	UA-24(D)
Dissolved Barium	25	25	0.00	UNDER		
Dissolved Calcium	229000	226000	1.32	UNDER		
Dissolved Copper	6	14	80.00	OVER	U	
Dissolved Iron	86	86	0.00	UNDER		
Dissolved Magnesium	84000	83000	1.20	UNDER		
Dissolved Manganese	889	878	1.25	UNDER		
Dissolved Potassium	6000	6000	0.00	UNDER		
Dissolved Sodium	48000	47000	2.11	UNDER		
Dissolved Vanadium	9	12	28.57	UNDER		

Duplicate #3	UA-21	UA-21(D)	RPD		UA-21	UA-21(D)
Dissolved Arsenic	14	13	7.41	UNDER		
Dissolved Aluminum	80	105	27.03	UNDER	U	
Dissolved Barium	107	105	1.89	UNDER		
Dissolved Calcium	139000	133000	4.41	UNDER		
Dissolved Copper	6	13	73.68	OVER	U	
Dissolved Iron	6080	5870	3.51	UNDER		
Dissolved Magnesium	55000	56000	1.80	UNDER		
Dissolved Manganese	657	636	3.25	UNDER		
Dissolved Potassium	9000	7000	25.00	UNDER		
Dissolved Sodium	20000	19000	5.13	UNDER		

Duplicate #4	LA-08B	LA-08B(D)	RPD		LA-08B	LA-08B(D)
Dissolved Barium	44	43	2.30	UNDER		
Dissolved Calcium	140000	137000	2.17	UNDER		
Dissolved Copper	6	12	66.67	OVER		
Dissolved Iron	1110	1100	0.90	UNDER		
Dissolved Magnesium	38000	37000	2.67	UNDER		
Dissolved Manganese	153	149	2.65	UNDER		
Dissolved Potassium	19000	19000	0.00	UNDER		
Dissolved Sodium	59000	58000	1.71	UNDER		
Dissolved Vanadium	8	16	66.67	OVER	U	

Duplicate #5	LA-06B	LA-06B(D)	RPD		LA-06B	LA-06B(D)
Dissolved Arsenic	3	4	28.57	UNDER		
Dissolved Barium	40	41	2.47	UNDER		
Dissolved Calcium	163000	166000	1.82	UNDER		
Dissolved Cobalt	19	19	0.00	UNDER		
Dissolved Iron	2070	2190	5.63	UNDER		
Dissolved Magnesium	46000	47000	2.15	UNDER		
Dissolved Manganese	139	142	2.14	UNDER		
Dissolved Nickel	56	52	7.41	UNDER		
Dissolved Potassium	6000	6000	0.00	UNDER		
Dissolved Sodium	53000	54000	1.87	UNDER		

Duplicate #6	LA-04B	LA-04B(D)	RPD		LA-04B	LA-04B(D)
Dissolved Arsenic	2	3	40.00	OVER	U	
Dissolved Barium	36	34	5.71	UNDER		
Dissolved Calcium	162000	158000	2.50	UNDER		
Dissolved Iron	2160	2090	3.29	UNDER		
Dissolved Magnesium	32000	31000	3.17	UNDER		
Dissolved Manganese	91	88	3.35	UNDER		
Dissolved Potassium	5000	5000	0.00	UNDER	U	
Dissolved Sodium	40000	38000	5.13	UNDER		
Dissolved Zinc	50	50	0.00	UNDER		

Duplicate #7	LA-107E	LA-107E(D)	RPD		LA-107E	LA-107E(D)
Dissolved Arsenic	2	3	40.00	OVER		
Dissolved Cadmium	0.3	0.3	0.00	UNDER		
Dissolved Aluminum	81	80	1.24	UNDER		U
Dissolved Barium	97	95	2.08	UNDER		
Dissolved Calcium	113000	112000	0.89	UNDER		
Dissolved Copper	11	14	24.00	UNDER		
Dissolved Iron	260	259	0.39	UNDER		
Dissolved Magnesium	36000	36000	0.00	UNDER		
Dissolved Manganese	112	110	1.80	UNDER		
Dissolved Potassium	5000	6000	18.18	UNDER		
Dissolved Sodium	43000	42000	2.35	UNDER		
Dissolved Zinc	48	49	2.06	UNDER		

Duplicate #8	LA-03A	LA-03A(D)	RPD		LA-03A	LA-03A(D)
Dissolved Barium	98	94	4.17	UNDER		
Dissolved Calcium	106000	104000	1.90	UNDER		
Dissolved Copper	6	8	28.57	UNDER	U	
Dissolved Iron	166	250	40.38	OVER		
Dissolved Magnesium	28000	27000	3.64	UNDER		
Dissolved Manganese	58	57	1.74	UNDER		
Dissolved Potassium	10000	10000	0.00	UNDER		
Dissolved Sodium	52000	50000	3.92	UNDER		

*** *Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/b**	**Lab:**	**CRL**
Area Sampled:	**Monitoring Wells**	**# of samples:**	**55**
Type of Sampling:	**Groundwater**	**# of duplicates:**	**8**
Analyses Performed:	**MERCURY**	**# of blanks:**	**8**

THIS EVALUATION SHEET INCLUDES INFORMATION REGARDING ALL OF THE EXISTING (EW), UPPER AQUIFER (UA) AND LOWER AQUIFER (LA) MONITORING WELLS EXCEPT UA-06, EW-08, AND UA-11.

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = UA-17(D), UA-24(D), UA-21(D), LA-08B(D), LA-06B(D), LA-04B(D), LA-107E(D), LA-03A(D)

Rinsate Blanks = UA-ER-1, UA-ER-2, UA-21(B), LA-05-ER, LA-O8-ER, LA-07-ER, UA-32(B), LA-03A(B)

(NOTE: The irregular rinsate blank labeling system is discussed in the Data Useability Techmemo Section 1.1.5. All of the sample identification numbers listed as rinsate blanks are given as were labeled in the field and as given on all accompanying paperwork)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All field blanks were free of the Mercury target analyte.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 8/55 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate sample pairs UA-21/UA-21(D), LA-08B/LA-08B(D), LA-06B/LA-06B(D), LA-04B/LA-04B(D), LA-107E/LA-107E(D) and LA-03A/LA-03A(D) all had no detects for mercury and so it was not necessay to evaluate RPD for these duplicate samples.

The Mercury RPD for both sample pairs UA-17/UA-17(D) and UA-24/UA-24(D) was under the 30% limit (see attached sheet).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matix spike sample was designated for this group of samples as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

The mercury result reported for sample LA-103C was obtained from analysis of dilutions of the sample. The concentration of mercury obtained from the dilution was found to be 0.6ug/L. The undiluted sample contained 1.7ug/L of mercury. This difference can be attributed to suspended solids present in the sample. Mercury results for these samples are deemed acceptable for use.

The drinking water standard was used to further evaluate the sample results. Mercury is a primary drinking water parameter. Ingestion of mercury in any form is fatal to human and aquatic life. The Maximum Contaminant Limit (MCL) for mercury under the drinking water standard is 0.2ug/L. This limit is set to protect against adverse health effects. The laboratory detection limit is 0.1ug/L.

Data is considered useable as reported.

Hg RPD CALCS

Duplicate #1	**UA-17**	**UA-17(D)**	RPD		**UA-17(D)**	**UA-17(D)**
					Flagging as given in results**	
Mercury	0.1	0.1	0.00	UNDER		U

Duplicate #2	**UA-24**	**UA-24(D)**	RPD		**UA-24**	**UA-24(D)**
Mercury	0.1	0.1	0.00	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/b**	**Lab:**	**CRL**
Area Sampled:	**Monitoring Wells**	**# of samples:**	**56**
Type of Sampling:	**Groundwater**	**# of duplicates:**	**8**
Analyses Performed:	**CHLORIDE**	**# of blanks:**	**8**

THIS EVALUATION SHEET INCLUDES INFORMATION REGARDING ALL OF THE EXISTING (EW), UPPER AQUIFER (UA) AND LOWER AQUIFER (LA) MONITORING WELLS EXCEPT UA-06, EW-08, AND UA-11.

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = UA-17(D), UA-24(D), UA-21(D), LA-08B(D), LA-06B(D), LA-04B(D), LA-107E(D), LA-03A(D)

Rinsate Blanks = UA-ER-1, UA-ER-2, UA-21(B), LA-05-ER, LA-O8-ER, LA-07-ER, UA-32(B), LA-03A(B)

(NOTE: The irregular rinsate blank labeling system is discussed in the Data Useability Techmemo Section 1.1.5. All of the sample identification numbers listed as rinsate blanks are given as were labeled in the field and as given on all accompanying paperwork)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All rinsate blanks listed above are free of the chloride target analyte.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 8/56 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate pairs UA-17/UA-17(D), UA-24/UA-24(D), UA-21/UA-21(D), LA-08B/LA-08B(D), LA-06B/LA-06B(D), LA-04B/LA-04B(D), LA-107E/LA-107E(D) and LA-03A/LA-03A(D) all had chloride RPDs less than 30% (see attached sheet).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matix spike sample was designated for this group of samples as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

Chloride is a secondary drinking water parameter under the Drinking Water Standard (DWS). It is generally found in all natural water bodies. Chlorides found in water supplies may originate from mineral and human activities or seawater contamination of groundwater. The Secondary Maximum Contaminant Level (SMCL) for chloride under the DWS is 250mg/L. Water with chloride concentration exceeding the DWS is not considered to be satisfactory for consumption. High concentrations of chloride is also known to increase the risk associated with heart and k dney diseases.

Cations such as calcium, magnesium, potassium or sodium are usually associated with chloride anions. These cations are known to produce harmful physiological effects and contribute to the amount of dissolved solids found in water. Dissolved solids at high concentrations will give water mineral taste. Increase in chloride concentratins above the naturally occurring levels for a particular area may generally indicate contamination or pollution of the water system. To evaluate health effects associated with such increases, it is necesary to determine the contributing source for the chloride. Such water must be treated prior to use.

All the required quality control criteria for the laboratory, method and system performance audits were evaluated and determined to be within control limits. All the chloride results for these samples are acceptable for use.

Data is considered useable as reported.

Chloride RPD CALCS

Duplicate #1	**UA-17**	**UA-17(D)**	RPD	
Chloride	107	102	4.78	UNDER

Duplicate #2	**UA-24**	**UA-24(D)**	RPD	
Chloride	48	49	2.06	UNDER

Duplicate #3	**UA-21**	**UA-21(D)**	RPD	
Chloride	73	72	1.38	UNDER

Duplicate #4	**LA-08B**	**LA-08B(D)**	RPD	
Chloride	94	93	1.07	UNDER

Duplicate #5	**LA-06B**	**LA-06B(D)**	RPD	
Chloride	111	110	0.90	UNDER

Duplicate #6	**LA-04B**	**LA-04B(D)**	RPD	
Chloride	98	95	3.11	UNDER

Duplicate #7	**LA-107E**	**LA-107E(D)**	RPD	
Chloride	60	61	1.65	UNDER

Duplicate #8	**LA-03A**	**LA-03A(D)**	RPD	
Chloride	93	96	3.17	UNDER

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/b**	**Lab:**	**CRL**
Area Sampled:	**Monitoring Wells**	**# of samples:**	**2**
Type of Sampling:	**Groundwater**	**# of duplicates:**	**1**
Analyses Performed:	**PCB**	**# of blanks:**	**1**

THIS EVALUATION SHEET APPLIES TO THE UPPER AQUIFER WELL SAMPLES UA-21 AND UA-32 AND ACCOMPANYING FIELD DUPLICATE UA-21(D) AND RINSATE BLANK UA-21(B). THESE ARE THE ONLY GROUDWATER SAMPLES ANALYZED FOR PCBs.

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = UA-21(D)

Rinsate Blanks = UA-21(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank UA-21(B) was free of all Aroclor target analytes.
The lab method blank was free of all Aroclor target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Duplicate samples were collected 1/2 for this batch of samples which meets the QC requirements.
One laboratory control sample duplicate was evaluated for this group of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples UA-21 and UA-21(D) had RPDs below 30% for all Aroclor target analytes except for Aroclor 1242 (RPD = 95%). Note that the Aroclor 1242 results for UA-21 and UA-21(D) were 1.6ug/L and 4.5ug/l respectively which is on the order of ppb. The difference between these two numbers when units are accounted for is actually very small.

The RPDs for the lab duplicate sample were acceptable (within lab QC limits).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matix spike sample was designated for this group of samples as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

These samples were sent to the CRL to confirm results of earlier analysis done by a contract lab; this objective was accomplished.

Data is considered useable as reported.

PCB RPD CALCS

Duplicate	**UA-21**	**UA-21(D)**	RPD	
Aroclor 1242	1.6	4.5	95.08	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/A/1/b**	**Lab:**	**CRL**
Area Sampled:	**Monitoring Wells**	**# of samples:**	**3**
Type of Sampling:	**Groundwater**	**# of duplicates:**	**1**
Analyses Performed:	**General Water Qual.**	**# of blanks:**	**1**

THIS EVALUATION SHEET APPLIES SAMPLES EW-08, UA-06 AND UA-11 AND ACCOMPANYING FIELD DUPLICATE EW-08(D) AND RINSATE BLANK EW-08(B). THESE SAMPLES WERE ANALYZED FOR: GENERAL WATER QUALITY (Alkalinity, Ammonia Nitrogen, Nitrate/Nitrite Nitrogen, Total Phosphorous, Sulfate, TSS, TDS), FILTERED AND UNFILTERED RDM METALS, MERCURY, and CHLORIDE (all evaluated on this sheet).

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = EW-08(D)

Rinsate Blanks = EW-08(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank EW-08(B) was free of all general water quality analytes except for Sulfate (5mg/L); in all associated samples, sulfate was found in amounts greater than ten times that found in the field blank and so should have no significant effect on the data.
The field blank was free of all of the following target analytes: chloride, mercury, RDM Unfiltered Metals (Sb, As, Cd, Pb, Se, Tl).
The field blank was free of all RDM Filtered Metals except for aluminum (90ug/L) and copper (11ug/L); neither of these metals are among the contaminants of concern for the groundwater samples.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Duplicate samples were collected 1/3 for this batch of samples which meets the QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicates EW-08 and EW-08(D) had all analytes for the above listed parameters with RPDs below 30% except for Residue/Non-Filterable,TSS (General Water Quality parameter), dissolved copper and dissolved zinc (RDM Filtered Metals), aluminum and iron (RDM Unfiltered Metals) - (see attached sheet). None of these analytes except for iron are among the groundwater contaminants of concern. The Unfiltered Iron RPD was not extremely high and the Filtered Iron sample had an RPD well under the 30% limit.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matix spike sample was designated for this group of samples as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note (Comments on sample results):

Total Dissolved Solids (TDS): TDS is a secondary drinking water parameter. The Secondary Maximum Contaminant Level (SMCL) under the Drinking Water Standard (DWS) is 500mg/L. The concentration in samples UA-06, EW-08, UA-11, and EW-08(D) exceeded the limit. These samples do not meet the drinking water criteria and are not considered safe with respect to TDS. Drinking water with high concentrations of dissolved solids generally has mineral taste. Consumption of such water could cause adverse physiological effects in the body.

Total Suspended Solids (TSS): TSS is not a primary or secondary drinking water parameter. The concentration of suspended solids in samples UA-06, EW-08, UA-11, and EW-08(D) were found to be ten times the laboratory detection limit of 5mg/L. This finding indicates either contamination or significant presence of suspended solids in the water sample when the results are evaluated using the lab detection limit. Water with significant quantity of suspended solids are generally no suitable for consumption. Suspended solids may contribute to the presence of other contaminants or pollutants. These solids can be removed by filtration process. They are often removed from raw water sources for domestic consumption prior to use.

Alkalinity: Alkalinity is not a primary or secondary drinking water parameter. The Alkalinity of samples UA-06, EW-08, UA-11, and EW-08(D) were found to be more than ten times the laboratory detection limit of 5mg/L. This finding indicates either contamination or significant levels of sources of alkalinity in the water samples when the results are evaluated using the lab detection limit. Water supply for domestic consumption generally have Alkalinity content which is considered to be normal when it is compared to the level that occurs naturally. Alkalinity is related to pH, TDS, calcium and magnesium content. TDS and pH are secondary drinking water parameters. The SMCL limit under the DWS is 500mg/L. The SMCL limit for pH is 6.5 to 8.5 units. Drinking water as a result could have acceptable level of Alkalinity derived from the MCL and SMCL of the related parameters.

Sulfate and Chloride: Sulfate and chloride are secondary drinking water parameters under the DWS. The SMCL for sulfate is 250mg/L. The limit for chloride is also 250mg/L. All the sample results were found to be below those limits. These water samples are considered safe with respect to sulfate and chloride contamination.

Ammonia Nitrogen: Ammonia is not a primary or secondary drinking water parameter. It is a known pollutant in raw public water supplies. The concentration of ammonia in sample UA-11 was found to be more than ten times the laboratory detection limit of 0.05mg/L. This finding indicates either contamination or significant levels of ammonia when the results are compared to the lab detection limit. Such water may not be suitable for consumption since the presence of ammonia in the sample could be indicative of recent pollution.

Nitrate/Nitrite Nitrogen: Nitrate/Nitrite nitrogen is a primary drinking water contaminant under the DWS. The MCL is 10mg/L. All the sample results were found to be below this limit. The water samples should be considered safe with respect to Nitrate/Nitrite nitrogen.

Total Phosphorus: Total phosphorus is not a primary or secondary drinking water parameter. The total phosphorus result for sample UA-11 was found to be more than ten times the lab detection limit of 0.05mg/L. This finding either indicates contamination or significant concentration of phosphorus in the sample when the results are compared to the lab detection limit. Phosphorus is an essential element for aquatic life and all other forms of life. Under ideal conditions, high levels of phosphorus and other nutrients can lead to algal and other aquatic plant growth. This problem can easily develop in standing waters or reservoirs. High level of phosphorus and other nutrients result in excessive growth fo plants especially algae and other organisms supported. This may make the water unsuitable for use.

Data is considered useable as reported.

FM.UM.Hg.GenH2O Qual RPD CALCS

Duplicate	**EW-08**	**EW-08(D)**	RPD		**EW-08**	**EW-08(D)**
					Flagging as given in results**	
General Water Quality Parameters						
Alkalinity	460	460	0.00	UNDER		
Ammonia Nitrogen	0.05	0.05	0.00	UNDER	U	U
Nitrate/Nitrite Nitrogen	4.75	4.89	2.90	UNDER		
Total Phosphorus	0.08	0.08	0.00	UNDER		
Sulfate	182	172	5.65	UNDER		
Residue, Filterable (TDS)	1040	1040	0.00	UNDER		
Residue, Non-Filterable (TSS)	72.7	31.6	78.81	OVER		
Filtered RDM Metals						
Dissolved Barium	122	129	5.58	UNDER		
Dissolved Calcium	203000	201000	0.99	UNDER		
Dissolved Copper	6	11	58.82	OVER	U	
Dissolved Iron	1080	1160	7.14	UNDER		
Dissolved Magnesium	35000	37000	5.56	UNDER		
Dissolved Manganese	1180	1250	5.76	UNDER		
Dissolved Nickel	24	20	18.18	UNDER	U	
Dissolved Potassium	7000	6000	15.38	UNDER		
Dissolved Sodium	116000	114000	1.74	UNDER		
Dissolved Vanadium	8	8	0.00	UNDER	U	
Dissolved Zinc	45	64	34.86	OVER		
Unfiltered RDM Metals						
Arsenic Concentration	3	4	28.57	UNDER		U
Cadmium Concentration	0.3	0.3	0.00	UNDER		
Lead Concentration	9	11	20.00	UNDER		
Aluminum Concentration	344	494	35.80	OVER		
Barium Concentration	137	138	0.73	UNDER		
Calcium Concentration	224000	235000	4.79	UNDER		
Iron Concentration	7580	12500	49.00	OVER		
Magnesium Concentration	45000	49000	8.51	UNDER		
Manganese Concentration	1400	1540	9.52	UNDER		
Potassium Concentration	5240	5000	4.69	UNDER		U
Sodium Concentration	125000	127000	1.59	UNDER		
Vanadium Concentration	9	8	11.76	UNDER		U
Zinc Concentration	150	246	48.48	OVER		
Other						
Chloride	184	178	3.31	UNDER		
Mercury	0.1	0.1	0.00	UNDER		U

** ***Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/B/1/a**	**Lab:**	**CRL**
Area Sampled:	**Kokomo/Wildcat Creeks**	**# of samples:**	**27**
Type of Sampling:	**Surface water**	**# of duplicates:**	**3**
Analyses Performed:	**Filtered RDM Metals**	**# of blanks:**	**3**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = WCSW-109(D), WCSW-115(D), WCSW-119(D)
Lab Duplicate = WCSW-115
Rinsate Blanks = WCSW-ER-1, WCSW-ER-2, WCSW-ER-3

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All rinsate blanks were free of all filtered RDM metals analytes.
No qualification of the data was required based on the results of the lab QC blanks.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.

One lab duplicate sample was designated.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples WCSW-109 and WCSW-109(D) had RPDs below the 30% limit for all RDM filtered metal analytes except for lead, aluminum and copper. Field duplicate samples WCSW-115 and WCSW-115(D) had RPDs below the 30% limit for all RDM filtered metal analytes except for arsenic and zinc. Field duplicate samples WCSW-119 and WCSW-119(D) had RPDs below the 30% limit for all RDM filtered metal analytes except for arsenic (see attached sheet). None of these mentioned analytes are groundwater contaminants of concern.

Lab duplicate sample WCSW-115 had all RPDs within lab QC limits except for cobalt (148%) and copper (49%). The imprecision indicated for Co from the lab duplicate suggests possible low bias for Co. However, the difference noted was small and the remaining QC audit checks were in control. Therefore, Co results are useable.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike samples were designated as scheduled.
Based on the lab matrix spike evaluation, no further qualification of the data was suggested.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

For Nickel (Ni) results in general the lab made the following comment in the narrative: "Ni data do not support the detection limit value (20 ug/L) reported. More realistically, a Ni detection limit value in the 30 to 60 ug/L range would better reflect the noise encountered for low Ni concentration values".

In several instances, particularly for the alkali and alkaline earth metals, the dissolved (filtered RDM metal) exceeds the total (unfiltered RDM metal). In no case is the dissolved result greater than 10% more than the total result, and thus is within the acceptance limits for a duplicate.

Data is considered useable as reported.

FM RPD CALCS

Duplicate #1	WCSW-109	WCSW-109(D)	RPD		WCSW-109	WCSW-109(D)
					Flagging as given in results**	
Dissolved Arsenic	2	2	0.00	UNDER		U
Dissolved Lead	2	3	40.00	OVER		
Dissolved Aluminum	80	144	57.14	OVER		
Dissolved Barium	35	39	10.81	UNDER		
Dissolved Calcium	80000	85000	6.06	UNDER		
Dissolved Copper	11	24	74.29	OVER		
Dissolved Iron	87	87	0.00	UNDER		
Dissolved Magnesium	27000	29000	7.14	UNDER		
Dissolved Manganese	36	39	8.00	UNDER		
Dissolved Potassium	18000	18000	0.00	UNDER		
Dissolved Sodium	137000	156000	12.97	UNDER		
Dissolved Zinc	116	145	22.22	UNDER		

Duplicate #2	WCSW-115	WCSW-115(D)	RPD		WCSW-115	WCSW-115(D)
Dissolved Antimony	2	2	0.00	UNDER	U	
Dissolved Arsenic	3	2	40.00	OVER		
Dissolved Cadmium	0.2	0.2	0.00	UNDER		
Dissolved Lead	3	3	0.00	UNDER		
Dissolved Barium	44	43	2.30	UNDER		
Dissolved Calcium	86000	85000	1.17	UNDER		
Dissolved Copper	14	18	25.00	UNDER		
Dissolved Iron	152	157	3.24	UNDER		
Dissolved Magnesium	30000	30000	0.00	UNDER		
Dissolved Manganese	147	145	1.37	UNDER		
Dissolved Potassium	15000	16000	6.45	UNDER		
Dissolved Sodium	140000	139000	0.72	UNDER		
Dissolved Zinc	190	109	54.18	OVER		

Duplicate #3	WCSW-119	WCSW-119(D)	RPD		WCSW-119	WCSW-119(D)
Dissolved Arsenic	3	2	40.00	OVER		U
Dissolved Barium	43	41	4.76	UNDER		
Dissolved Calcium	85000	82000	3.59	UNDER		
Dissolved Copper	8	7	13.33	UNDER		
Dissolved Iron	108	121	11.35	UNDER		
Dissolved Magnesium	30000	29000	3.39	UNDER		
Dissolved Manganese	102	103	0.98	UNDER		
Dissolved Potassium	14000	14000	0.00	UNDER		
Dissolved Sodium	131000	124000	5.49	UNDER		
Dissolved Zinc	71	62	13.53	UNDER		

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/B/1/a**	**Lab:**	**CRL**
Area Sampled:	**Kokomo/Wildcat Crk**	**# of samples:**	**27**
Type of Sampling:	**Surface water**	**# of duplicates:**	**3**
Analyses Performed:	**Unfiltered RDM Metals**	**# of blanks:**	**4**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = WCSW-109(D), WCSW-115(D), WCSW-119(D)
Lab Duplicate = WCSW-115 and WCSW-123
Rinsate Blanks = WCSW-ER-1, WCSW-ER-2, WCSW-ER-3
Field/Ambient Air Blank = WCSW-FB-1

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Rinsate blanks were free of all of the Unfilitered RDM Metals analytes except for those given in parenthesis following the sample ID as follows: WCSW-ER-1 (lead, 2ug/L - right at the detection limit (DL)), WCSW-ER-2 (Lead, 2ug/L - right at the DL and copper 10ug/L - DL=6ug/L), WCSW-ER-3 (copper 6ug/L - right at the DL), WCSW-FB-1 (lead, 3ug/L - DL=2ug/L and nickel, 23ug/L - DL = 20ug/L. Note that lab copper contamination was indicated in the lab narrative. For nickel the lab notes that the Ni data do not support the detection limit value (20ug/L) reported. A more realistic Ni detection limit value in the 30 to 60 ug/L range would better reflect the noise encountered for low Ni concentration values.

No qualification of the data was required based on the results of the lab QC blanks.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.
Two lab duplicate samples were designated.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples WCSW-109 and WCSW-109(D) had RPDs below the 30% limit for all RDM unfiltered metal analytes except for lead, aluminum and potassium. Field duplicate samples WCSW-115 and WCSW-115(D) had RPDs below the 30% limit for all RDM unfiltered metal analytes except for arsenic, cadmium, lead, aluminum and nickel. Field duplicate samples WCSW-119 and WCSW-119(D) had RPDs below the 30% limit for all RDM unfiltered metal analytes except for aluminum and copper (see attached sheet). None of these mentioned analytes are groundwater contaminants of concern except for nickel; the RPD for nickel of 41.38% was not much over the 30% limit and was not over the 30% limit for the filtered RDM nickel result.

Lab duplicate samples WCSW-115 and WCSW-123 had all RPDs within lab QC limits except for copper. The imprecision appeared to be due to variable Cu contamination.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike samples were designated as scheduled.
Based on the lab matrix spike evaluation, no further qualification of the data was suggested.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:
As explained above, the lab duplicate evaluation determined that the imprecision in the Cu results appeared to be due to variable Cu contamination. It should be noted that Cu digestion blank values were below the detection limit levels. Also, all remaining QC audit checks were within control limits. All unfiltered Cu results are useable.

In the first Unfiltered RDM Metals analysis, Ni was just above detection in the first instrument blank, and decreased throughout the run, so that subsequent instrument blanks were are within +/- the detection limit. Nickel data from the early part of the run, total Ni analyses for samples WCSW-123, WCSW-115, WCSW-117, WCSW-113, WCSW-114, may be biased slightly high. The Cr data from that same run showed a poor matrix spike recovery (79%), outside the CRL's 85-115% acceptance window. No Cr was found, but if false negatives were present in the data, the true concentration could not be much greater than the detection limit of 10 ug/L.

In several instances, particularly for the alkali and alkaline earth metals, the dissolved (filtered RDM metal) exceeds the total (unfiltered RDM metal). In no case is the dissolved result greater than 10% more than the total result, and thus is within the acceptance limits for a duplicate.

Data is considered useable as reported.

UM RPD CALCS

Duplicate #1	WCSW-109	WCSW-109(D)	RPD		WCSW-109	WCSW-109(D)
					Flagging as given in results**	
Arsenic Concentration	2	2	0.00	UNDER	U	
Lead Concentration	7	5	33.33	OVER		
Aluminum Concentration	111	80	32.46	OVER		U
Barium Concentration	42	42	0.00	UNDER		
Calcium Concentration	82000	84000	2.41	UNDER		
Copper Concentration	15	15	0.00	UNDER		
Iron Concentration	255	210	19.35	UNDER		
Magnesium Concentration	31000	29000	6.67	UNDER		
Manganese Concentration	45	41	9.30	UNDER		
Potassium Concentration	190000	17000	167.15	OVER		
Sodium Concentration	149000	150000	0.67	UNDER		
Zinc Concentration	129	136	5.28	UNDER		

Duplicate #2	WCSW-115	WCSW-115(D)	RPD		WCSW-115	WCSW-115(D)
Arsenic Concentration	2	3	40.00	OVER		
Cadmium Concentration	0.3	0.2	40.00	OVER		
Lead Concentration	5	7	33.33	OVER		
Aluminum Concentration	119	176	38.64	OVER		
Barium Concentration	51	49	4.00	UNDER		
Calcium Concentration	89000	87000	2.27	UNDER		
Copper Concentration	23	20	13.95	UNDER		
Iron Concentration	640	625	2.37	UNDER		
Magnesium Concentration	31000	30000	3.28	UNDER		
Manganese Concentration	174	173	0.58	UNDER		
Nickel Concentration	23	35	41.38	OVER		
Potassium Concentration	15000	15000	0.00	UNDER		
Sodium Concentration	139000	136000	2.18	UNDER		
Zinc Concentration	120	136	12.50	UNDER		

Duplicate #3	WCSW-119	WCSW-119(D)	RPD		WCSW-119	WCSW-119(D)
Arsenic Concentration	2	2	0.00	UNDER		U
Lead Concentration	4	4	0.00	UNDER		
Aluminum Concentration	177	115	42.47	OVER		
Barium Concentration	47	46	2.15	UNDER		
Calcium Concentration	86000	85000	1.17	UNDER		
Copper Concentration	15	8	60.87	OVER		
Iron Concentration	506	483	4.65	UNDER		
Magnesium Concentration	29000	29000	0.00	UNDER		
Manganese Concentration	134	127	5.36	UNDER		
Nickel Concentration	25	26	3.92	UNDER		
Potassium Concentration	14000	14000	0.00	UNDER		
Sodium Concentration	124000	123000	0.81	UNDER		
Zinc Concentration	94	76	21.18	UNDER		

*** Definitions of data qualifiers (flagging) given in Appendix D*

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/B/1/a**	**Lab:**	**CRL**
Area Sampled:	**Kokomo/Wildcat Crk**	**# of samples:**	**27**
Type of Sampling:	**Surface water**	**# of duplicates:**	**3**
Analyses Performed:	**NH3/NO2/NO3/total P**	**# of blanks:**	**4**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = WCSW-107(D), WCSW-123(D), KCSW-125(D)
Rinsate Blanks = WCSW-ER-1, WCSW-ER-2, WCSW-ER-3
Field/Ambient Air Blank = WCSW-FB-1

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blank and the blank taken in ambient air listed above were all free of target analytes ammonia nitrogen, nitrate/nitrite nitrogen, and total phosphorus.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

All three sets of field duplicate samples had RPDs below the 30% limit except for the ammonia nitrogen result for duplicate samples WCSW-107 and WCSW-107(D). In this case, ammonia nitrogen was not detected in WCSW-107(D) and was detected in WCSW-107 and only 0.07ug/L (only 0.02ug/L above the detection limit of 0.05ug/L). This is not a significant difference as demonstrated by the RPD at 33% (just over the 30% limit).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike samples were designated as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Comments on Sample Results:

Ammonia Nitrogen: Ammonia is not a primary or secondary drinking water parameter. It is a known pollutant in raw public water supplies. The concentration of ammonia in sample KCSW-127 was found to be more than ten times (10X) the laboratory detection limit of 0.05mg/L. This finding indicates either contamination or significant levels of ammonia when the results are compared to the laboratory detection limit. Such water may not be suitable for consumption since the presence of ammonia in the sample could be indicative of recent pollution.

Nitrate/Nitrite Nitrogen: Nitrate/Nitrite nitrogen is a primary drinking water contaminant under the DWS. The Maximum Contaminant Limit (MCL) is 10mg/L. The concentration of Nitrate/Nitrite nitrogen in sample WCSW-120 exceeded this limit. Water with Nitrate/Nitrite nitrogen concentration above the MCL are not suitable for consumption. High levels of nitrate in drinking water in excess of the DWS are known to cause serious illnesses and in certain cases fatalities in infants under six months of age.

Nitrates also serve as one of the sources of nutrients for plants. In natural waters, they are constantly converted to organic nitrogen in plant cells during photosynthetic activities. These activities reduces the concentration of nitrates in natural water and minimizes its accumulation in the water system. Photosynthetic activities require light and are not known to occur in deep groundwater under normal conditions. The absence of photosynthetic activities can lead to the accumulation of high concentration of Nitrates in groundwater supplies. Such water must be treated prior to use.

Total Phosphorus: Total phosphorus is not a primary or secondary drinking water parameter. The total phosphorus result for samples WCSW-107(D), WCSW-104, WCSW-105, WCSW-106, WCSW-107, WCSW-108, WCSW-109, WCSW-110, WCSW-111, WCSW-112, WCSW-113, WCSW-114, WCSW-115, WCSW-116, WCSW-117, WCSW-118, WCSW-119, WCSW-123, WCSW-124, WCSW-125, WCSW-126 and WCSW-127 were found to be more than ten times (10X) the laboratory detection limit of 0.05mg/L. This finding indicates either contamination or significant concentration of phosphorus in the sample when the results are compared to the laboratory detection limit.

Phosphorus is an essential element for plants and other forms of life. Under ideal conditions, high levels of phosphorus and other nutrients can lead to algal and other aquatic plant growth. This problem can easily develop in standing waters or reservoirs. High levels of phosphorus and other nutrients may lead to excessive growth of plants especially algae and other organisms in water. This may make the water unsuitable for use.

Data is considered useable as reported.

NH3.NO2.NO3.totP RPD CALCS

Duplicate #1	**WCSW-107**	**WCSW-107(D)**	RPD		**WCSW-107**	**WCSW-107(D)**
					Flagging as given in results**	
Ammonia Nitrogen	0.07	0.05	33.33	OVER		U
Nitrate/Nitrite Nitrogen	4.51	4.84	7.06	UNDER		
Total Phosphorus	1.13	1.15	1.75	UNDER		

Duplicate #2	**WCSW-123**	**WCSW-123(D)**	RPD		**WCSW-123**	**WCSW-123(D)**
Ammonia Nitrogen	0.08	0.06	28.57	UNDER		
Nitrate/Nitrite Nitrogen	1.51	1.48	2.01	UNDER		
Total Phosphorus	0.38	0.4	5.13	UNDER		

Duplicate #3	**KCSW-125**	**KCSW-125(D)**	RPD		**KCSW-125**	**KCSW-125(D)**
Ammonia Nitrogen		NOT DETECTED				
Nitrate/Nitrite Nitrogen	0.56	0.54	3.64	UNDER		
Total Phosphorus	0.11	0.1	9.52	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/B/1/a**	**Lab:**	**CRL**
Area Sampled:	**Kokomo/Wildcat Crk**	**# of samples:**	**27**
Type of Sampling:	**Surface water**	**# of duplicates:**	**3**
Analyses Performed:	**TSS/TDS**	**# of blanks:**	**4**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = WCSW-109(D), WCSW-115(D), WCSW-119(D)

Rinsate Blanks = WCSW-ER-1, WCSW-ER-2, WCSW-ER-3
Field/Ambient Air Blank = WCSW-FB-1

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blanks and the blank taken in ambient air listed above were all free of target analytes TDS (Residue, Filterable) and TSS (Residue, Non-filterable).

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate pairs WCSW-109/WCSW-109(D), WCSW-115/WCSW-115(D) and WCSW-119/WCSW-119(D) had RPDs under 30% for TDS (Residue, Filterable). The RPD for TSS (Residue, Non-filterable) was under 30% for duplicate pair WCSW-109/WCSW-109(D). TSS (Residue, Non-filterable) was not detected in either of duplicate pairs WCSW-115/WCSW-115(D) or WCSW-119/WCSW-119(D) and so it was not necessary to evaluate the RPD for TSS in these two cases.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike samples were designated as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

No difficulties or exceptions were noted for this group of samples for the TSS and TDS analyses. Furthermore, the lab narrative states that "all the mercury, TDS and TSS results are acceptable for use.

Data is considered useable as reported.

TSS.TDS RPD CALCS

Duplicate #1	**WCSW-109**	**WCSW-109(D)**	RPD	
TDS (Residue, Filterable)	750	764	1.85	UNDER
TSS (Residue, Non-filterable)	5	5.5	9.52	UNDER

Duplicate #2	**WCSW-115**	**WCSW-115(D)**	RPD	
TDS (Residue, Filterable)	722	716	0.83	UNDER
TSS (Residue, Non-filterable)		*NOT DETECTED*		

Duplicate #3	**WCSW-119**	**WCSW-119(D)**	RPD	
TDS (Residue, Filterable)	898	672	28.79	UNDER
TSS (Residue, Non-filterable)		*NOT DETECTED*		

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/B/1/a**	**Lab:**	**CRL**
Area Sampled:	**Kokomo/Wildcat Crk**	**# of samples:**	**27**
Type of Sampling:	**Surface water**	**# of duplicates:**	**3**
Analyses Performed:	**MERCURY**	**# of blanks:**	**4**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = WCSW-109(D), WCSW-115(D), WCSW-119(D)
Rinsate Blanks = WCSW-ER-1, WCSW-ER-2, WCSW-ER-3
Field/Ambient Air Blank = WCSW-FB-1

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blanks and the blank taken in ambient air listed above were all free of the target analyte mercury.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 3/27 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Mercury was not detected in any of the field duplicates or corresponding samples and so it was not necessary to evaluate RPD for the field duplicate samples (listed above) and corresponding samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

N/A - No matrix spike samples were designated as scheduled.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

No difficulties or exceptions were noted for this group of samples for the TSS and TDS analyses. Furthermore, the lab narrative states that "all the mercury, TDS and TSS results are acceptable for use.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/C/1/a**	**Lab:**	**CLP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**2**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02C(D)
Rinsate Blanks = SW-03C(B)
Trip Blanks = TR-18 (associated samples SW-02C, SW-02C-(D), SW-03C-(B)); TR-16 (SW-03C)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SW-03C(B) was free of all target analytes except for Methylene Chloride which is a common lab contaminant and was thus flagged as estimated (J).
Trip blanks TR-18 and TR-16 were free of all target analytes.
Lab method blanks associated with samples SW-02C, SW-02C(D), and SW-03C(B) were free of all target analytes. The method blank associated with sample SW-03C contained the common lab contaminant methylene chloride (below Contract Required Detection Limits); the associated sample also contained this compound and was flagged as estimated, J.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meet QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SW-02C and SW-02C(D) had RPDs within the 30% limit except for trichloroethene (66.67%) (See attached table). For trichloroethene, one of the results was flagged as estimated (J) by the laboratory which may account for the variability for this compound.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample SW-02C was designated as the matrix spike for this group of samples. The recovery of trichloroethene for SW-02C/MS was above the QC limit therefore the positive results of trichloroethene in the unspiked sample SW-02C is flagged as estimated (J).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

For this volatile fraction, the results of trichloroethene for diluted sample SW-02C/DL and SW-02C-D/DL should be used since the results were quantitated within the calibration range. The remaining results should be used from the undiluted samples SW-02C and SW-02C(D). The volatile fraction of SW-03C, initially analyzed at an effective 1:2 dilution (smaller sample size), was reanalyzed at an effective 1:5 dilution because the value for trichloroethene exceeded the calibration range and was therefore flagged "E" by the lab. Only the value for trichloroethene should be taken from the SW-03C/DL (diluted sample) analysis; for all other compounds, the results from the initial analysis should be used. These changes should have been accounted for in the database for results presentation.

Data is considered useable as reported.

VOA RPD CALCS

Duplicate	**SW-02C**	**SW-02C(D)**	RPD		**SW-02C**	**SW-02C-D**
					Flagging as given in results**	
1,2-Dichloroethene (total)	52	51	1.94	UNDER		
Trichloroethene	190	380	66.67	OVER	J	

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/C/1/a**	**Lab:**	**CLP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**2**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**BNA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02C(D)

Rinsate Blanks = SW-03C(B)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

Sample SW-03(B) (field blank) was extracted eight days (seven day holding time for extraction) after sample collection. The positive results for SW-03(B) are flagged as estimated (J) or non-detected (UJ) as appropriate.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SW-03C(B) was free of all target analytes exept for bis(2-Ethylhexyl)phthalate. Lab method blanks associated with samples SW-02C, SW-02C(D), and SW-03C(B) were free of all target analytes. The method blank associated with sample SW-03C contained the common phthalate esters diethyl phthalate and bis(2-ethylhexyl)phthalate (each only a small fraction of the Contract Required Quantitation Limit); furthermore, these results were qualified as estimated, J. The phthalate esters mentioned are contaminants which commonly originate from the nitrile gloves or other plastic equipment used in sample handling.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

For field duplicate samples SW-02C and SW-02C(D), all compounds have RPDs within the 30% limit. RPD was not evaluated for 2-methylphenol, 4-methylphenol, fluorene and bis(2-ethylhexyl)phthalate because the compounds were detected below the detection limit in one sample and not detected in the corresponding duplicate sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample SW-02C was designated as the matrix spike for this group of samples. *ZERO RECOVERY OF 4-nitrophenol WAS DETECTED FOR SW-02C/MS, THEREFORE, THE NON-DETECTED RESULT FOR 4-nitrophenol IN UNSPIKED SAMPLE SW-02C HAS BEEN FLAGGED AS UNUSEABLE (R).*

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:

Sample SW-02C was designated as the matrix spike for this group of samples. **ZERO RECOVERY OF 4-nitrophenol WAS DETECTED FOR SW-02C/MS, THEREFORE, THE NON-DETECTED RESULT FOR 4-nitrophenol IN UNSPIKED SAMPLE SW-02C HAS BEEN FLAGGED AS UNUSEABLE (R). This does not represent a data gap because 4-nitrophenol is not a contaminant of concern.**

BNA RPD CALCS

Duplicate	**SW-02C**	**SW-02C(D)**	RPD		**SW-02C**	**SW-02C-D**
					Flagging as given in results**	
Phenol	41	36	12.99	UNDER	J	
Naphthalene	2	2	0.00	UNDER	J	J
2-Methylnaphthalene	1	1	0.00	UNDER	J	J
Acenapthylene	0.8	0.7	13.33	UNDER	J	J
Dibenzofuran	0.6	0.6	0.00	UNDER	J	J
Phenanthrene	1	1	0.00	UNDER	J	J

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/C/1/a**	**Lab:**	**CLP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**2**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**PEST/PCB**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02C(D)

Rinsate Blanks = SW-03C(B)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

Sample SW-03C(B) (field blank) was extracted eight days (seven day holding time for extraction) after sample collection. The positive results for SW-03C(B) are flagged as estimated (J) or non-detected (UJ) as appropriate.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SW-03C(B) was free of all Pest/PCB target analytes.
Lab method blanks associated with samples SW-02C, SW-02C(D), SW-03C and SW-03C(B) were free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meet QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

None of the target analytes were detected in field duplicate samples SW-02C and SW-02C(D) and so it was not necessary to evaluate the RPD for these samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Sample SW-02C was designated as the matrix spike for this group of samples. All recoveries were within the QC limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:
Note that a number of the pesticide results for sample SW-03C were flagged "P" by the lab because the differences between the two columns exceeded 25%; the values for such analytes should be considered estimated (J).

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/C/1/a**	**Lab:**	**CLP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**2**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**TOTAL METALS**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02C(D)
Lab Duplicates = SW-02C
Blanks = SW-03C(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SW-03C(B) was free of all target analytes except for Ca, Na, and Zn for which all of the results were flagged "B" indicating that the element was found in the lab blank as well as this associated sample.
Lab method blanks for water were free of all target analytes with the following exceptions as listed: For associated samples SW-02C, SW-02C(D) and SW-03C(B) -- Initial calibration blank: NONE; Continuing calibration blanks: NONE; Preparation blank: Ca,Cr,Fe,Na,Tl,V, and Zn. For associated sample SW-03C -- Initial calibration blank: NONE; Continuing calibration blanks: Al,Ca,Cr,Cu,Fe,Pb,Mg,Se,Tl, and Zn; Preparation blank: Al,As,Ba,Ca,Cr,Cu,Fe,Mn,Hg,Na,V and Zn. The Ca and Na result for SW-03C(B), the Cr results for SW-02C and SW-02C(D), the Fe result for SW-02C and the all the Zn results are qualified as estimated, J, due to lab contamination.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.
One lab duplicate sample was designated for this group of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SW-02C and SW-02C(D) had RPDs within the 30% limit for all elements except Hg in which both results are qualified as estimated, J (See attached table). RPD for the Mn hit was not evaluated as it was detected at a level below the detection limit in SW-02C and not detected in SW-02C(D).

Lab designated duplicate SW-02C had all RPDs below the 30% limit except for Mn(200%); the result, however, was not flagged by the laboratory because the duplicate difference did not exceed the technical criterion (+/- the Contract Required Detection Limit) for water samples. All Mn results are acceptable.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Sample SW-02C was designated as the matrix spike for this group of samples. All recoveries were within the QC limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Item of Note:

The CCB (Continuing Calibration Blank) was found to contain Hg (0.1ug/L) and so the Hg result for SW-03C is estimated (J) due to contamination.

Data is considered useable as reported.

TOTMET RPD CALCS

Duplicate	SW-02C	SW-02C(D)	RPD		SW-02C	SW-02C(D)
					Flagging as given in results**	
Aluminum	233	236	1.28	UNDER		
Barium	560	552	1.44	UNDER		
Calcium	270000	267000	1.12	UNDER		
Chromium	1.1	1.2	8.70	UNDER	BJ	BJ
Copper	1	1.3	26.09	UNDER	U	B
Iron	17.5	13	29.51	UNDER	BJ	U
Lead	3.7	3.9	5.26	UNDER		
Magnesium	8.5	9.4	10.06	UNDER	B	B
Mercury	0.2	0.46	78.79	OVER	UJ	J
Nickel	4	3.9	2.53	UNDER	B	B
Potassium	57500	58000	0.87	UNDER	J	J
Sodium	46300	46000	0.65	UNDER	J	J
Vanadium	4	3.9	2.53	UNDER	B	B
Zinc	6.6	6.7	1.50	UNDER	BJ	BJ

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABLIITY EVALUATION SHEET

Outline #:	**VI/C/1/b**	**Lab:**	**Kemron**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**12**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02A(D)

Rinsate Blanks = SW-01A(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Zinc was detected in field blank SW-01A(B) right at the detection limit of 0.01mg/L. All other anlytes were below the detection limit. There is no qualification recommended by the laboratory.

All analytes in lab QC blanks were below analysis detection limits; no qualification of results based on lab blanks were recommended by the lab.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/12 for this batch of samples which meet QC requirements.
Lab duplicates associated with this group of samples were designated by the lab.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No target analytes were detected in field duplicate samples SW-02A and SW-02A(D) and so it was not necessary to calculate RPD.

The RPD for all elements for the lab duplicates was below the 30% limit except for Zn (65.28%) for the lab MS/MSD associated with samples SW-01A,B,A(B),C and for Ni (40.16%) for the lab MS/MSD associated with samples SW-03A,B,C.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

None of the Kemron Markland Ave Quarry pond water samples were designated in the field as an MS/MSD as scheduled - not a data gap.

The lab matrix spike was run in accordance with the SOP requirements and all elements showed recoveries within the lab quality control ranges.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/C/1/c**	**Lab:**	**FASP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**12**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02A(D)

Rinsate Blanks = SW-01A(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No target analytes detected in field blank SW-01A(B).

Both of the method blanks run on the 2 days of analysis were free of all target analytes exept for methylene chloride. The lab narrative states that the presence of methylene chloride is most probably a laboratory contaminant from the PAH extraction procedure.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/12 for this batch of samples. **This is less than the required rate of 1/10 and represents a slight data gap.**

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target analytes were detected in either of field duplicate samples SW-02A and SW-02A(D) and so it was not necessary to evaluate RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

Water sample SW-03A was designated as the matrix spike sample by the field sampling team. The matrix spike was run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range of 50%-150% except for benzene in sample SW-03A/MS (153.81%) and SW-03A/MSD (176.48)%. The lab has qualified all data potentially affected by the out of control recoveries as necessary.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/C/1/c**	**Lab:**	**FASP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**12**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**PAH**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02A(D)

Rinsate Blanks = SW-01A(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

--- All lab extraction blanks were found to be free of PAH target analytes.
--- Field blank SW-01A(B) was found to be free of PAH target analytes.
--- Calibration compounds that did not meet continuing calibration criteria include on 11/14/95: benzo(a)anthracene, chrysene, benzo(b&k)fluoranthene, benzo(a)pyrene, indeno(123-cd)pyrene, and benzo(gh,i)perylene which may affect the following samples analyzed on that day: SW-01A, SW-01A(B), SW-01B, SW-01C.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/12 for this batch of samples. **This is less than the required rate of 1/10 and represents a slight data gap.**

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target analytes were detected in either of field duplicate samples SW-02A and SW-02A(D) and so it was not necessary to evaluate RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

Water sample SW-03A was designated as the matrix spike sample by the sample coordinator, however, was not analyzed as such by the lab. Another sample of the same matrix from another group of samples was used as the water MS/MSD in the samples analyzed concurrently. This does not represent a data gap because a sample was designated.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/C/1/c**	**Lab:**	**FASP**
Area Sampled:	**Markland Ave Quarry**	**# of samples:**	**12**
Type of Sampling:	**Pond Water**	**# of duplicates:**	**1**
Analyses Performed:	**PCB**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SW-02A(D)

Rinsate Blanks = SW-01A(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The lab extract blank and the field blank (SW-01A(B)) were both found free of PCB target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/12 for this batch of samples. **This is less than the required rate of 1/10 and represents a slight data gap.**

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target analytes were detected in either of field duplicate samples SW-02A and SW-02A(D) and so it was not necessary to evaluate RPD.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

Water sample SW-03A was designated as the matrix spike sample by the sample coordinator, however, was not analyzed as such by the lab. Another sample of the same matrix from another group of samples was used as the water MS/MSD in the samples analyzed concurrently. This does not represent a data gap because a sample was designated.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**2**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**1**
Analyses Performed:	**VOA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-13(D)

Rinsate Blanks = BS-03(B)

Trip Blanks = TR-04 and TR-05

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank BS-03(B) was free of all volatile target analytes except for the common laboratory contaminants methylene chloride and acetone.

Both trip blanks were free of all volatile target analytes.

Volatile lab method blanks were free of all target analytes.
Target analytes found in both the sample and the associated method blank, and therefore flagged "B" by the lab, are further flagged "U" by the reviewer if the analytes are present in the sample at no more than five times (or ten times for common lab contaminants) the amount in the method blank. If the value is less than the Contract Required Quantitation Limit (CRQL), it is deleted and raised to the CRQL by the reviewer.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples BS-03 and BS-03(D) were both free of all volatile target analytes and so it was not necessary to evaluate RPD for this set of samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample BS-03 was designated as the matrix spike sample for the Main Plant basement water samples. Sample BS-03MS and BS-03MSD had internal standard area recoveries outside QC criteria for each analysis. Matix effect is suspected.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**2**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**1**
Analyses Performed:	**BNA**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-13(D)

Rinsate Blanks = BS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank BS-03(B) was free of all semivolatile target analytes.

Both semi-volatile method blanks contained the common phthalate esters di-n-butyl phthalate and bis(2-ethylhexyl)phthalate (all well below the Contract Required Quantitation Limit).
Target analytes found in both the sample and the associated method blank, and therefore flagged "B" by the lab, are further flagged "U" by the reviewer if the analytes are present in the sample at no more than five times (or ten times for common lab contaminants) the amount in the method blank. If the value is less than the Contract Required Quantitation Limit (CRQL), it is deleted and raised to the CRQL by the reviewer.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples BS-03 and BS-03(D) were both free of all volatile target analytes and so it was not necessary to evaluate RPD for this set of samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample BS-03 was designated as the matrix spike sample for the Main Plant basement water samples. All MS and MSD recoveries were well within th QC limits except for the recoveries of pentachlorophenol in both BS-03MS and BS-03MSD, which were slightly above the upper limit. Since this compound was not present in the unspiked sample, no action in recommended.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**2**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**1**
Analyses Performed:	**PEST/PCB**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-13(D)

Rinsate Blanks = BS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank BS-03(B) was free of all semivolatile target analytes.

Pesticide/PCB lab method blanks were free of all target analytes.
Target analytes found in both the sample and the associated method blank, and therefore flagged "B" by the lab, are further flagged "U" by the reviewer if the analytes are present in the sample at no more than five times (or ten times for common lab contaminants) the amount in the method blank. If the value is less than the Contract Required Quantitation Limit (CRQL), it is deleted and raised to the CRQL by the reviewer.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples BS-03 and BS-03(D) were both free of all volatile target analytes and so it was not necessary to evaluate RPD for this set of samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:

Sample BS-03 was designated as the matrix spike sample for the Main Plant basement water samples. Recoveries for both BS-03MS and BS-03MSD were well within QC limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/a**	**Lab:**	**CLP**
Area Sampled:	**Main Plant**	**# of samples:**	**2**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**1**
Analyses Performed:	**TOTAL METALS**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-13(D)

Rinsate Blanks = BS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank BS-03(B) was free of all metals target analytes exept for selenium and sodium. Both of these results were qualified as estimated and were further flagged "B" by the lab. Target analytes found in both the sample and the associated method blank are flagged "B" by the lab and qualified as estimated "J" due to the lab contamination.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples.

One lab duplicate was designated by the laboratory.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples BS-13 and BS-13(D) had RPDs for every analyte under the 30% limit (see attached sheet)

The lab duplicate had all RPDs within QC limits.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample BS-03 was designated as the matrix spike sample for the Main Plant basement water samples. The lab narrative noted no added qualification of the data based on the matrix spike evaluation.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

TOTMET RPD CALCS

Duplicate	**BS-13**	**BS-13(D)**	RPD		**BS-13**	**BS-13(D)**
					Flagging as given in results**	
Barium	70.1	71.8	2.40	UNDER	B	B
Calcium	55900	57500	2.82	UNDER		
Iron	1140	1180	3.45	UNDER		
Lead	2	2.6	26.09	UNDER	BJ	BJ
Magnesium	3310	3410	2.98	UNDER	B	B
Manganese	212	215	1.41	UNDER		
Potassium	5250	5280	0.57	UNDER		
Sodium	8750	8950	2.26	UNDER		
Zinc	6.3	7.8	21.28	UNDER	BJ	BJ

** ***Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/b**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**20**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**2**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-13(D), BS-05(D).

Rinsate Blanks = BS-10(B), BS-03(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All metals results were under the detection limits with the exception of zinc which was detected at .02 mg/L in sample BS-10(B) and .05 mg/L in sample BS-03(B). The detection limit for zinc is .01 mg/L. The zinc detected in the blank was not qualified, and no mention of data qualifications due to the presence of this analyte in the blank were made in the lab narrative.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/20 for this batch of samples which meets QC requirements.

Several lab duplicates associated with these samples were evaluated.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples showed many levels abobe 30% RPD (See attached table). The RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

Based on the lab duplicate evalutation, the lab specified no additional qualification of the data.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

No MS/MSD samples were designated for this group of samples as scheduled - N/A Laboratory spike sample was within control limits. Data was not qualified by the lab for any reason.

Below note any other issues given in the laboratory results narrative:

Although RPD percentages above the required limit of 30% were encountered, the non-homogenous nature of the sample media can be used to explain these circumstances. An additional explanation of this event could also be that the samples collected in these areas were grossly contaminated with free product, and when sampling, the product may not have been decanted from the sample properly. This oil could have contained metals that may or may not be present at the same levels as the water. RPD is not within the required limits for this reason (see attached sheet).

Data is considered useable as reported.

FastTurnMetals RPD CALCS

Duplicate #1	**BS-13**	**BS-13(D)**	RPD	
Barium	0.07	0.07	0.00	UNDER
Zinc	0.05	0.06	18.18	UNDER

Duplicate #2	**BS-05**	**BS-05(D)**	RPD	
Barium	0.02	0.03	40.00	OVER
Copper	0.14	0.2	35.29	OVER
Nickel	0.03	0.05	50.00	OVER
Zinc	0.79	1.5	62.01	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/c**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**18**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**2**
Analyses Performed:	**VOA**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-13(D), BS-05(D).

Rinsate Blanks = BS-03(B), BS-05(B).

Holding times met? **Yes** ☐ **No** ☒ If not, explain:

As per lab narrative, the required hold times for volatile organic samples were met with the exception of samples BS-01, BS-03B, BS-03, BS-06, BS-02, and BS-07. The samples were held past holding time approximately 1 to 2 days. Data is considered estimated and useable as reported.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blanks did not contain any listed target compounds. The laboratory method blanks for this group of samples was free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/18 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** ☒ **No** ☐

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target compounds were found in either the duplicate samples or the corresponding normal samples collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** ☒ **No** ☐

If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. MS/MSD samples were within control limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/c**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**18**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**2**
Analyses Performed:	**PCB**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-13(D), BS-05(D).

Rinsate Blanks = BS-03(B), BS-05(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blanks did not contain any listed target compounds. The laboratory extract blanks for this group of samples were free of all PCB target compounds.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/18 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target compounds were found in either the duplicate samples or the corresponding normal samples collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Sample BS-09 was designated as the matrix spike for this group. Recovery results exceeded the calibration range; however, no target analytes were detected in the corresponding investigative sample.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Matrix spike recovery range exceedance renders this data estimated and should be considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/D/1/c**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**18**
Type of Sampling:	**Basement Water**	**# of duplicates:**	**2**
Analyses Performed:	**PAH**	**# of blanks:**	**2**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = BS-05(D), BS-13(D).

Rinsate Blanks = BS-05(B), BS-03(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

The rinsate blanks did not contain any listed target compounds. The laboratory extract blanks were found to be free of all PAH target compounds.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected at 2/18 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target compounds were found in the duplicate of sample BS-05(D); however, The normal sample BS-05 did contain moderate amounts of PAHs. A possible explanation of this event is that the samples collected in these areas were grossly contaminated with free product, and when sampling the product may not have been decanted from the sample properly. RPD is relatively high for this reason (see attached sheet).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Sample BS-07 was designated as the matrix spike sample for this group. The sample exibited severe matrix effects affecting quantitation of all analytes. The sample required dilution due to several analytes exceeding the calibration range. The reported quantitation limits reflect the the sample's dilution.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

The matrix spike interference renders these samples useable as reported; however, the given values are estimated.

PAH RPD CALCS

Duplicate	**BS-05**	**BS-05(D)**	RPD	
Fluorene	52	6	158.62	OVER
Phenanthrene	110	6	179.31	OVER
Anthracene	60	6	163.64	OVER
Fluoranthene	260	6	190.98	OVER
Pyrene	400	6	194.09	OVER
Chrysene	680	6	196.50	OVER
Benzo(b&k)fluoranthene	800	6	197.02	OVER
Benzo(a)pyrene	290	6	191.89	OVER
Dibenzo(a,h)anthracene	480	6	195.06	OVER
Benzo(g,h,i)perylene	480	6	195.06	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/E/1/a**	**Lab:**	**Kemron**
Area Sampled:	**Drilling Operations**	**# of samples:**	**2**
Type of Sampling:	**Purge Water**	**# of duplicates:**	**0**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none (see explanation below)

Rinsate Blanks = none (see explanation below)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. Note that each of the two samples was taken with a different sampling apparatus and so determining the success of decontamination procedures is not a factor in judging the interdependent effect on each sample. The lack of a blank constitues a slight data gap, however, the data is still considered usable.
The lab method blank was below detection limits for all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were collected along with this group of samples (see explanation below).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No field duplicate samples were collected along with this group of samples (see explanation below).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

No matrix spike sample was designated in the field associated with this group of samples.
The lab matrix spike was run in accordance with the SOP requirements and all elements showed recoveries within the lab quality control ranges.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:
No duplicate, blank or MS/MSD sample were taken with the two samples of driller's purge water. These samples were collected for quick turnaround results to characterize the water to determine if it could be disposed of into the public sewer system. **These samples were not covered in the Field Sampling Plan or the QAPP as it was a strategic field decision to find an alternate means of water disposal; this represents a minor data gap.**

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/d**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**63**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**VOA**	**# of blanks:**	**3**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-C4S(D), SB-B3S(D), SB-G2D(D).
Rinsate Blanks = SB-F2S(B), SB-C5(B), SB-C1(B), SB-F3S(B).

Holding times met? **Yes** [ ] **No** [X] If not, explain:

As per lab narrative, the required hold times for volatile organic samples were met with the exception of sample SB-C5(B). Was held past holding time approximately 1 to 2 days. Data is considered estimated and useable as reported.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

230 ug/L of o-Xylene was detected in rinsate blank SB-F2S(B), 9 ug/L methylene chloride, 220 ug/L toluene, 130 ug/L ethylbenzene, and 180 ug/L 0-Xylene was detected in rinsate blank SB-C1(B). The laboratory method blanks for this group of samples was free of all target analytes. **Note that an insufficient number of rinsate blanks were collected for this group of sample and this represents a data gap. Information regarding the success of the decontamination procedures should be drawn from the four rinsate blanks that were collected. Some soil boring locations at which the rinsate blanks were scheduled for collection were abondoned/unable to be sampled and so the blank was in turn never collected.The corresponding data is still useable as reported.**

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were not collected 1/10 for this batch of samples. 63 samples were collected and only three duplicates are present. The lack of duplicate samples is due to low sample recovery at sample locations where some duplicate samples were scheduled. Although this represents a data gap, the corresponding data is still useable as reported. Information regarding the precision of the sample results can be drawn from the three duplicate samples that were collected (see RPD section below).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No target compounds were found in either the duplicate samples or the corresponding normal samples collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements and all compounds showed recoveries within the quality control range. Sample SB-G3S was designated as the matrix spike sample.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/d**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**63**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**PAH**	**# of blanks:**	**4**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-B3S(D), SB-C4S(D), SB-G2D(D).

Rinsate Blanks = SB-C1(B), SB-F3S(B), SB-F2S(B), SB-C5(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

86 ug/L o-Xylene, 83 ug/L pyrene, and 700 ug/L dibenzo(a,h)anthracene was detected in rinsate blank SB-F2S(B). The laboratory extract blanks for this group of samples was free of all target analytes. **Note that an insufficient number of rinsate blanks were collected for this group of sample and this represents a data gap. Information regarding the success of the decontamination procedures should be drawn from the four rinsate blanks that were collected. Some soil boring locations at which the rinsate blanks were scheduled for collection were abondoned/unable to be sampled and so the blank was in turn never collected. The corresponding data is still useable as reported.**

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were not collected 1/10 for this batch of samples. 63 samples were collected and only three duplicates are present. The lack of duplicate samples is due to low sample recovery at sample locations where some duplicate samples were scheduled. Although this represents a data gap, the corresponding data is still useable as reported. Information regarding the precision of the sample results can be drawn from the three duplicate samples that were collected (see RPD section below).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target compounds were found in either the duplicate samples or the corresponding investigative samples collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Samples SB-F4S and SB-G3S were designated as the matrix spike samples. Both MS/MSD samples were found to be within control limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Blank contamination was due to improper decontamination of the field equipment. There is no evidence that the previous sample, or any sample collected in this group of samples, contained enough contamination to create this cross-over contamination result.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	V/E/1/a	**Lab:**	CLP
Area Sampled:	Slag Processing Area	**# of samples:**	2
Type of Sampling:	Surface Soil	**# of duplicates:**	1
Analyses Performed:	VOA	**# of blanks:**	1

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SS-05(D)

Rinsate Blanks = SS-03(B)

Trip Blanks = TR-16 (associated with SS-03, SS-03-D, SS-05, SS-05-B)

Holding times met? **Yes** [ ] **No** [X] If not, explain:

All samples were analyzed for volatiles well within the fourteen day holding time from the date of sampling for soils except for samples SS-03MS and SS-03MSD, which were analyzed 23 days after the holding time had expired. However, the purpose of these samples was to reveal any possible matrix effects. These samples yielded results virtually identical with the unspiked sample SS-03 (necessarily excluding the spiking compounds).

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SS-03(B) was free of all target analytes except for chloroform which was flagged as estimated in the results. Note that chloroform is a disinfectant byproduct that was found in the Kokomo tap water used in one of the steps of the decontamination procedure. Lab method blanks were free of all target analytes exept for: VBLKJ8 (SS-03(B)) methylene chloride which was flagged as estimated (J); VBLKJ5 (SS-03,SS-05,SS-05(D)) methylene chloride and acetone -- both of these contaminants are common lab contaminants.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target compounds were detected in either of field duplicate samples SS-05 and SS-05(D), therefore, it was not necessary to evaluate the RPD for these samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample SS-05 was chosen as the matrix spike sample for this group of samples. The lab narrative states that recoveries were well within QC limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	V/E/1/a	**Lab:**	CLP
Area Sampled:	Slag Processing Area	**# of samples:**	2
Type of Sampling:	Surface Soil	**# of duplicates:**	1
Analyses Performed:	BNA	**# of blanks:**	1

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SS-05(D)

Rinsate Blanks = SS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SS-03(B) was free of all semivolatile target analytes except for di-n-butylphthalate and butylbenzylphthalate.
All lab method blanks were free of all target analytes exept for very low levels of the following compounds: SBLKQ0 (SS-03(B)) diethylphthalate and chrysene; SBLKW3 (SS-03,SS-05,SS-05(D)) pyrene, butylbenzylphthalate, and bis(2-ethylhexyl)phthalate. In general, phthalate esters are contaminants which commonly come from using latex gloves during sample handling. Target analytes found in the sample and the associated method blank are, therefore, flagged "B" by the lab and further flagged "U" by the reviewer if the analytes are present in the sample at no more than 5x (or 10x for common lab contaminants) the amount in the method blank

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meet QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples SS-05 and SS-05(D) had only the Pyrene RPD above the 30% limit; the results were flagged "J" for estimated and further flagged "B" to indicate that the analyte was detected in the associated blank as well (See attached table). RPD was not evaluated for the hits of 1,2,4-trichlorobenzene, 4-choro-3-methylphenol, 2-methylnaphthalene, acenapthylene, diethylphthalate, anthracene, and dibenz(a,h)anthracene as the compounds were detected below the detection limit in one sample and not detected in the associated duplicate sample. Furthermore, the higher RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Sample SS-05 was chosen as the matrix spike sample for this group of samples; the lab narrative states that recoveries were well within QC limits.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

PEST.PCB RPD CALCS

Duplicate	**SS-05**	**SS-05(D)**	RPD		**SS-05**	**SS-05(D)**
					Flagging as given in results**	
Heptachlor epoxide	5.1	3.7	31.82	OVER	JP*	JP
Aroclor-1242	210	160	27.03	UNDER	JP	JP
Aroclor-1254	72	62	14.93	UNDER	JP	JP

**** NOTE: The "P" qualifier indicates a Pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between two GC columns. The lower of the two results is reported.***

***** Definitions of data qualifiers (flagging) given in Appendix D***

TOTMET RPD CALCS

Duplicate	**SS-05**	**SS-05(D)**	RPD		**SS-05**	**SS-05(D)**
					Flagging as given in results**	
Aluminum	18000	16800	6.90	UNDER		
Antimony	8.9	20.4	78.50	OVER	BJ	J
Arsenic	12.5	9.2	30.41	OVER	J	J
Barium	519	493	5.14	UNDER		
Beryllium	0.55	0.46	17.82	UNDER	B	B
Cadmium	24.7	24.6	0.41	UNDER		
Calcium	166000	137000	19.14	UNDER		
Chromium	4270	2770	42.61	OVER		
Cobalt	6.9	17.8	88.26	OVER	B	
Copper	261	647	85.02	OVER	J	J
Iron	193000	338000	54.61	OVER		
Lead	1500	1490	0.67	UNDER		
Magnesium	36000	32400	10.53	UNDER		
Manganese	32900	22000	39.71	OVER		
Mercury	0.26	0.24	8.00	UNDER		
Nickel	73	328	127.18	OVER		
Selenium	0.24	0.45	60.87	OVER	UJ	BJ
Silver	6.6	0.22	187.10	OVER	J	BJ
Sodium	295	423	35.65	OVER	B	B
Vanadium	237	179	27.88	UNDER		
Zinc	10900	11900	8.77	UNDER		

***** Definitions of data qualifiers (flagging) given in Appendix D***

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/b**	**Lab:**	**CRL**
Area Sampled:	**Slag Processing Area**	**# of samples:**	**2**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**0**
Analyses Performed:	**TCLP VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none

Rinsate Blanks = none

Trip Blank = TR-17 (associated samples SS-04 and SS-08)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blanks were planned as this is data quality level 3 data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.
Trip blank TR-17 was free of all volatile target analytes except for acetone which is a commone lab contaminant that was detected below the maximum detection limit.
Lab method blanks were free of all volatile target analytes except for the TCLP Blank which showed acetone at a concentration higher than the MDL; all TCLP samples have been flagged as "B" to indicate that the compound was found in the lab blank.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicates were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No field duplicates were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

No field designated MS/MSDs were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/b**	**Lab:**	**CRL**
Area Sampled:	**Slag Processing Area**	**# of samples:**	**2**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**0**
Analyses Performed:	**TCLP BNA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none

Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blanks were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Lab method blanks were free of all target analytes, none of the TCLP TCLs were detected.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicates were planned as this is data quality level 3 data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No field duplicates were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]

If not, note descrepancies and explain:

No field designated MS/MSDs were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/b**	**Lab:**	**CRL**
Area Sampled:	**Slag Processing Area**	**# of samples:**	**2**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**0**
Analyses Performed:	**TCLP Metals**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none

Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blanks were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicates were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No field duplicates were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

No field designated MS/MSDs were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/b**	**Lab:**	**CRL**
Area Sampled:	**Slag Processing Area**	**# of samples:**	**2**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**0**
Analyses Performed:	**TCLP Mercury**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none

Rinsate Blanks = none

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blanks were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicates were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No field duplicates were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

No field designated MS/MSDs were planned as this is data quality level III data used to evaluate disposal options for the Feasibility Study; therefore, this does not represent a data gap and is in accordance with the approved QAPP and SAP.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/E/1/c**	**Lab:**	**Kemron**
Area Sampled:	**Slag Processing**	**# of samples:**	**10**
Type of Sampling:	**Surface Soil**	**# of duplicates:**	**1**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**1**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.
Field duplicates = SS-05(D)

Rinsate Blanks = SS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:
As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples
None of target analytes were detected in the field blank SS-03(B).

All analytes in lab QC blanks were below analysis detection limits.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):
Field duplicate samples were collected 1/10 for this batch of samples.

Lab duplicates were designated for this group of samples.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:
Field duplicate sample SS-05 and SS-05(D) showed barium, copper, and nickel above 30% RPD (See attached table). The higher RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.
The lab duplicates showed all analytes below the 30% RPD limit. Furthermore, the lab narrative mentioned no qualification of this data or the data of the associated samples.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:
No matrix spike was designated in the field for this group of samples.

The lab matrix spike was run in accordance with the SOP requirements and all elements showed recoveries within the lab quality control ranges.

Below note any other issues given in the laboratory results narrative or additional data useability comments:
Data is considered useable as reported.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Blank contamination was due to improper decontamination of the field equipment. There is no evidence that the previous sample, or any sample collected in this group of samples, contained enough contamination to create this cross-over contamination result.

Data is considered useable as reported.

FastTurnMetals RPD Calc

Duplicate	**SS-05**	**SS-05(D)**	RPD	
Percent Solids	91.9	91.3	0.66	UNDER
Arsenic, Total	130	140	7.41	UNDER
Barium, Total	320	470	**37.97**	**OVER**
Cadmium, Total	26	25	3.92	UNDER
Chromium, Total	3100	3200	3.17	UNDER
Copper, Total	310	210	**38.46**	**OVER**
Lead, Total	1500	1600	6.45	UNDER
Nickel, Total	92	49	**60.99**	**OVER**
Zinc, Total	16000	16000	0.00	UNDER

Below note any other issues given in the laboratory results narrative:

Although spike interference and RPD percentages outside the required limits were encountered for this group of samples, the non-homogenous nature of the sample media can be used to explain these circumstances.

Data is considered useable as reported.

FastTurnMetals RPD CALCS

Duplicate #1	SB-B3S	SB-B3S(D)	RPD	
Arsenic	16	12	28.57	UNDER
Barium	53	76	35.66	OVER
Cadmium	22	18	20.00	UNDER
Chromium	38	26	37.50	OVER
Copper	78	54	36.36	OVER
Lead	770	480	46.40	OVER
Nickel	33	28	16.39	UNDER
Zinc	2200	1300	51.43	OVER

Duplicate #2	SB-C4S	SB-C4S(D)	RPD	
Arsenic	8.4	12	35.29	OVER
Barium	51	67	27.12	UNDER
Cadmium	29	83	96.43	OVER
Chromium	570	420	30.30	OVER
Copper	280	390	32.84	OVER
Lead	1400	4200	100.00	OVER
Nickel	180	81	75.86	OVER
Zinc	8900	23000	88.40	OVER

Duplicate #3	SB-G2S	SB-G2S(D)	RPD	
Arsenic	36	49	30.59	OVER
Barium	26	48	59.46	OVER
Chromium	18	130	151.35	OVER
Copper	28	100	112.50	OVER
Lead	40	69	53.21	OVER
Nickel	18	57	104.00	OVER
Zinc	220	3700	177.55	OVER

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/c**	**Lab:**	**Kemron**
Area Sampled:	**Main Plant**	**# of samples:**	**63**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**4**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-B3S(D), SB-C4S(D), SB-G2S(D).

Rinsate Blanks = SB-F3S(B), SB-C1(B), SB-C5S(B), SB-F2S(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

All metals results were under the detection limits with the exception of zinc which was detected at .02 mg/L in sample SB-F3S(B), .03 mg/L in sample SB-C5S(B), and .07 mg/L in sample SB-F2S(B). The detection limit for Zinc is .01 mg/L. This level is far below the level of Zn detected in the actual corresponding samples in the group. The Zn detected in the blank was not qualified, and no mention of data qualifications due to the presence of this analyte in the blank were made in the lab narrative.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were not collected 1/20 for this batch of samples. 63 samples were collected and only three duplicates are present. One more duplicate should have been taken to meet the 1/20 Kemron QC requirement. The fourth duplicate sample was inadvertantly not collected because the location at which it was scheduled had low sample recovery. A judgement about the precision of the sample results can still be made based on the other three duplicate samples (see RPD section below). This represents a small data gap, however the corresponding data is still useable as reported. Several lab duplicates associated with these samples were evaluated.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

Field duplicate samples showed many levels above 30% RPD (See attached table). The RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample; however, the lab did not qualify any of the data in this sample group.

Based on the lab duplicate evaluation, the lab stated that sample non-homogeneity was noted in the soil matrix samples and is confirmed by the duplicate analysis. No additional qualification of the data is specified.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]

If not, note descrepancies and explain:

The non-homogeneity of the samples caused some matrix spike interference. Samples SB-C2S(MS/MSD), and SB-F4S(MS/MSD) were designated as the matrix spike samples.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/b**	**Lab:**	**CRL**
Area Sampled:	**Main Plant**	**# of samples:**	**13**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**Semi-volatiles**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.
Field Duplicates = SB-G2D(D), SB-H2D(D)

Rinsate Blanks = Inadvertently omitted.

Holding times met? **Yes** [X] **No** [ ] If not, explain:
As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples
Rinsate blanks were erroneously not collected; therefore, field decontamination can not be evaluated for this group of samples. Although the blanks were not collected, the data is still useable as reported; however, a small data gap is present as a result. No target compounds were detected in th laboratory method blank.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):
Field duplicate samples were collected at 2/13 for this group of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:
No target compounds were found in either the of the duplicate samples or the corresponding investigative sample collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]
If not, note descrepancies and explain:
According to the lab narrative, MS/MSD analysis was not requested for this group of samples.

Below note any other issues given in the laboratory results narrative or additional data useability comments:
As per case narrative, data is qualified but acceptable for use for pentachlorophenol results for samples SB-B4S, SB-B4D, SB-F2S, SB-E2D, SB-F5D, SB-H2S, SB-E3D, SB-C3D, and SB-B2S. All of the B/N (base and neutral) compounds for sample SB-C3D are qualified and acceptable for use. All acid compound results for samples SB-H2S and SB-E3D are qualified but acceptable for use.

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/b**	**Lab:**	**CRL**
Area Sampled:	**Main Plant**	**# of samples:**	**13**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**2**
Analyses Performed:	**Mercury**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.
Field Duplicates = SB-G2D(D), SB-H2D(D)

Rinsate Blanks = Inadvertently omitted.

Holding times met? **Yes** [X] **No** [ ] If not, explain:
As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples
Rinsate blanks were erroneously not collected; therefore, field decontamination can not be evaluated for this group of samples. Although the blanks were not collected, the data is still useable as reported; however, a small data gap is present as a result.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):
Field duplicate samples were collected at 2/13 for this group of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:
No target compounds were found in either the duplicate samples or the corresponding normal sample collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [X]
If not, note descrepancies and explain:
MS/MSD analysis was not requested for this group of samples.

Below note any other issues given in the laboratory results narrative or additional data useability comments:
As per case narrative, data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**V/D/2/d**	**Lab:**	**FASP**
Area Sampled:	**Main Plant**	**# of samples:**	**63**
Type of Sampling:	**Subsurface Soil**	**# of duplicates:**	**3**
Analyses Performed:	**PCB**	**# of blanks:**	**4**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SB-B3S(D), SB-C4S(D), SB-G2D(D).

Rinsate Blanks = SB-F2S(B), SB-F3S(B), SB-C5(B), SB-C1(B).

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blanks did not contain any target analytes. The laboratory extract blanks for this group of samples were free of all PCB target analytes. **Note that an insufficient number of rinsate blanks were collected for this group of sample and this represents a data gap. Information regarding the success of the decontamination procedures should be drawn from the four rinsate blanks that were collected. Some soil boring locations at which the rinsate blanks were scheduled for collection were abondoned/unable to be sampled and so the blank was in turn never collected. The corresponding data is still useable as reported.**

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were not collected 1/10 for this batch of samples. 63 samples were collected and only three duplicates are present. The lack of duplicate samples is due to low sample recovery at sample locations where some duplicate samples were scheduled. Although this represents a data gap, the corresponding data is still useable as reported. Information regarding the precision of the sample results can be drawn from the three duplicate samples that were collected (see RPD section below).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [X] **No** [ ]

[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***

If not, note discrepancies and explain:

No target compounds were found in either the duplicate samples or the corresponding normal samples collected in this group; therefore, RPD was not evaluated.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [X] **No** [ ]

If not, note descrepancies and explain:

Matrix spikes were run in accordance with the SOP requirements. Samples SB-F4S, SB-C2S, and SB-G3S were designated as the matrix spike samples. Sample SB-F4S had a recovery of 175% for Aroclor 1242; however, no target PCB compounds were detected in the corresponding investigative sample. SB-C2S had a recovery of 34% for Aroclor 1242. This compound was detected in the corresponding investigative sample and was flagged F by the lab indicating an estimated value.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/E/1/a**	**Lab:**	**Kemron**
Area Sampled:	**Drilling Operations**	**# of samples:**	**2**
Type of Sampling:	**Purge Water**	**# of duplicates:**	**0**
Analyses Performed:	**Fast Turn Metals**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none (see explanation below)

Rinsate Blanks = none (see explanation below)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. Note that each of the two samples was taken with a different sampling apparatus and so determining the success of decontamination procedures is not a factor in judging the interdependent effect on each sample. The lack of a blank constitues a slight data gap, however, the data is still considered usable.
The lab method blank was below detection limits for all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

No field duplicate samples were collected along with this group of samples (see explanation below).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

No field duplicate samples were collected along with this group of samples (see explanation below).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

No matrix spike sample was designated in the field associated with this group of samples.
The lab matrix spike was run in accordance with the SOP requirements and all elements showed recoveries within the lab quality control ranges.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note:
No duplicate, blank or MS/MSD sample were taken with the two samples of driller's purge water. These samples were collected for quick turnaround results to characterize the water to determine if it could be disposed of into the public sewer system. **These samples were not covered in the Field Sampling Plan or the QAPP as it was a strategic field decision to find an alternate means of water disposal; this represents a minor data gap.**

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	**VI/E/1/b**	**Lab:**	**FASP**
Area Sampled:	**Drilling Operations**	**# of samples:**	**2**
Type of Sampling:	**Purge Water**	**# of duplicates:**	**0**
Analyses Performed:	**VOA**	**# of blanks:**	**0**

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = none (see explanation below)

Rinsate Blanks = none (see explanation below)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

No field blank was collected and so the equipment decontamination process cannot be evaluated for this group of samples. Note that each of the two samples was taken with a different sampling apparatus and so determining the success of decontamination procedures is not a factor in judging the interdependent effect on each sample. The lack of a blank constitues a slight data gap, however, the data is still considered usable.
The lab method blank was found to be free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

N/A - No field duplicate samples were taken with this group of samples (see explanation below).

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [-] **No** [-]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

N/A - No field duplicate samples were taken with this group of samples (see explanation below).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike sample was designated associated with these samples (see explanation below).

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Items of Note

No duplicate, blank or MS/MSD samples were taken with the two samples of driller's purge water. These samples were taken for quick turnaround results to characterize the water to determine if it could be disposed of into the public sewer system. **These samples were not planned in the Field Sampling Plan as it was a strategical field decision to find an alternate means of water disposal and so this represent only a minor data gap.**

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	V/E/1/a	**Lab:**	CLP
Area Sampled:	Slag Processing Area	**# of samples:**	2
Type of Sampling:	Surface Soil	**# of duplicates:**	1
Analyses Performed:	TOTAL METALS	**# of blanks:**	1

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicate = SS-05(D)
Lab Duplicate = SS-03
Rinsate Blank = SS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SS-03(B) was free of all target analytes exept for Al, Cu, Fe, Mn, Na, and Zn; all of these results were flagged with a "B" which indicates that the analyte was detected in the associated method blank as well as the sample.
Lab method blanks were free of all target analytes except for: Initial Calibration Blank - soil/As,Ba,Cr,Mn,Tl,Zn; Continuing Calibration Blanks - soil/Al,As,Ca,Cr,Cu,Fe,Mn,Hg,Tl,Zn - water/Al,As,Ca,Cr,Cu,Fe,Hg,Pb,Mn,Se,Tl,Zn; Preparation Blank - soil/Cu,Fe,K,Zn - water/Al,As,Ba,Ca,Cr,Cu,Fe,Mn,Hg,Na,V,Zn. Where the analyte is detected in both the lab blank and associated sample, the result should be qualified with a "B".

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

One lab duplicate was designated by the lab.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field duplicate samples SS-05 and SS-05(D) had several elements above the RPD limit of 30%. Several of those element results over the RPD limit were flagged with a "B" indicating that the analyte is detected in the associated blank as well as the sample and/or flagged "J" indicating that the result is an estimated value (See attached table). Furthermore, the higher RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.
For lab duplicate SS-03, Sb(46.4%), Co(44.7%), K(31.5%) and Ni(30.8%) were the only elements with RPDs above the 30% limit. The lab narrative states that these results were not qualified and are acceptable because the duplicate difference was less than the technical criterion for soil samples (+/-2x Contract Required Detection Limit).

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [ ] **No** [X]
If not, note descrepancies and explain:

Sample SS-03 was designated as the matrix spike sample for this sampling group. All recoveries were within laboratory control limits exept for those elements flagged with an "N" which include Sb, As, Ag, and Tl. The unspiked sample SS-03 results have been qualified by the lab according to these lab control limit exceedances.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

DATA USEABILITY EVALUATION SHEET

Outline #:	V/E/1/a	**Lab:**	CLP
Area Sampled:	Slag Processing Area	**# of samples:**	2
Type of Sampling:	Surface Soil	**# of duplicates:**	1
Analyses Performed:	PEST/PCB	**# of blanks:**	1

ITEMS TO CHECK: (consult case narrative for all below)

Identify field blanks and dups associated with given batch of samples.

Field Duplicates = SS-05(D)

Rinsate Blanks = SS-03(B)

Holding times met? **Yes** [X] **No** [ ] If not, explain:

As per lab narrative.

Notable blank levels for target analytes (those above detection limits):
-- evaluate noted analytes/values in associated samples

Field blank SS-03(B) was free of all Pest/PCB target analytes.
Method blanks PBLKQ2 (SS-03(B)) and PBLKW1 (SS-03, SS-05, SS-05(D)) were free of all target analytes.

Rate of duplicate samples taken (1/10 CLP,CRL,FASP; 1/20 Kemron):

Field duplicate samples were collected 1/2 for this batch of samples which meets QC requirements.

Is Relative Percent Difference (RPD) less than or equal to 30%: **Yes** [ ] **No** [X]
[(sample - dup)/(0.5*(sample + dup))] * 100 ***(Check w/spreadsheet where not lab provided)***
If not, note discrepancies and explain:

Field Duplicate samples SS-05 and SS-05(D) had only the Heptachlor epoxide RPD above the 30% limit which was flagged "P" which indicates a Pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns the lower of the results is reported and these results should be considered estimated, J (See attached table). RPD was not evaluated for the hits of 4,4'-DDE, methoxychlor, Endrin aldehyde, and alpha-Chlordane because the analyte was detected at a level below the detection limit for one sample and not detected in the associated duplicate sample. Furthermore, the higher RPDs of these samples are not uncommon with soil samples because of the non-homogenous nature of the sample.

MS/MSD Spike recoveries within specified limits (as given by lab)?: **Yes** [-] **No** [-]
If not, note descrepancies and explain:

N/A - No matrix spike sample was analyzed for Pest/PCB in this group of samples. Sample SS-03 was designated by the sample coordinator as an MS/MSD sample, however, was not analyzed by the lab as such. A sample of the same matrix (soil) from a different group of samples was used for the soil MS/MSD analysis by the lab. Therefore, this does no represent a data gap.

Below note any other issues given in the laboratory results narrative or additional data useability comments:

Data is considered useable as reported.

BNA RPD CALCS

Duplicate	**SS-05**	**SS-05(D)**	RPD		**SS-05**	**SS-05(D)**
					Flagging as given in results**	
Phenanthrene	34	29	15.87	UNDER	J	J
Fluoranthene	41	39	5.00	UNDER	J	J
Pyrene	42	30	33.33	OVER	**JB**	**JB**
Chrysene	28	28	0.00	UNDER	J	J
Benzo(b)fluoranthene	23	25	8.33	UNDER	J	J
Benzo(k)fluoranthene	8	7	13.33	UNDER	J	J
Benzo(a)pyrene	16	18	11.76	UNDER	J	J
Indeno(1,2,3-cd)pyrene	7	8	13.33	UNDER	J	J
Benzo(g,h,i)perylene	10	11	9.52	UNDER	J	J

***** Definitions of data qualifiers (flagging) given in Appendix D***

TCLP Metals RPD CALCS

Duplicate #1	**SB-G2D**	**SB-G2D(D)**	RPD	
Barium	620	540	13.79	UNDER

Duplicate #2	**SB-H2D**	**SB-H2D(D)**	RPD	
Barium	230	300	26.42	UNDER
Chromium	100	100	0.00	UNDER

DATA USEABILITY - APPENDIX B

Memorandum. Subject: *Unannounced Field Audit at the Continental Steel Superfund Site in Kokomo, Indiana.* To: IDEM/ CSSS File, From: Craig A. Almanza, Camp Dresser and McKee

MEMORANDUM

Date: November 10, 1995

To: IDEM/CSSS File

From: Craig A. Almanza

Subject: Unannounced Field Audit at the Continental Steel Superfund Site in Kokomo, Indiana.

On November 7, 1995, an unannounced field audit was conducted to determine if the methods used by the field staff for conducting field work were consistent with the methods and procedures outlined in the Sample and Analytical Plan (SAP) and Quality Assurance Project Plan (QAPP) approved for site use. During the audit, three field teams and the sample manager were observed. The following is a summation of events that were inconsistent with the methods outlined in the SAP and QAPP.

1) Sample Management Activities - Sample Manager: Aimee Vessell - Time of Audit: 11:15 AM.

   Sample Management methods used for the project are consistent with the methods outlined in the SAP, QAPP, and the USEPA Sample Management Guidance Document, with the following minor exceptions:

   - Address labels stating the name and address of the person sending the samples, and the name and address of the person to receive the samples, were not affixed to the sample coolers prior to shipment.

   - Although not a specified sample management guideline, the Federal Express airbills used to ship the samples were not completely filled out. Specifically, the area on the airbill that requires a mark for weekday service, Saturday service, or hold for pick-up service was not marked.

2) Field Activities - Field Team: S. Toland (CDM) and A. Kear (CDM) - Time of Audit: 1:00 PM - Field Activity: Surface Soil / Slag Sampling.

   The sampling team closely followed the procedures and methods for collecting surface soil samples outlined in the SAP; however, during the audit the following inconsistencies were noted:

   - Ice was not brought to the sampling site to keep the samples cool while in storage and transport. The field team stated that because of the cool weather conditions, the samples did not need ice. While the argument holds true that ice is not needed during cold weather, the temperature during the audit was approximately 45-50 degrees Fahrenheit. This was not cold enough to maintain the samples at four degrees Celsius as required by the SAP.

- Some of the pages in the field logbook were missing the date and samplers signature or initials that the SAP requires to be on every page. Also, the logbook did not have a site name, trailer address, phone number, or any other information that would help a person finding a lost logbook return it to the owner. Daily field equipment calibration data, and weather data were also absent from the logbook.

3) Field Activities - Field Team: J. Riley (CDM), C. Shope (Dispersion), and J. Shafer (Dispersion) - Time of Audit: 1:55 PM - Field Activity: Soil Gas Sampling.

The soil gas contractor (Dispersion) performed their work in accordance with the SAP. CDM also followed the methods and procedures outlined in the SAP with the following exception:

- Some of the pages of the logbook were missing the date and samplers signature or initials that the SAP requires present on every page. Also, the logbook did not have a site name, trailer address or phone number, or any other information that would help a person finding a lost logbook return it to the owner. Daily field equipment calibration data was also absent from the logbook.

4) Field Activities - Field Team: J. Newton (CDM) and J. DeLaet (CDM) - Time of Audit: 4:30 PM - Field Activity: Soil / Sludge Sampling for Treatibility.

The soil samples for the treatibility study were collected as outlined in the SAP with the following exceptions:

- Upon arriving at the area where the sampling was taking place, an open sample container was noted. This container was not maintained under proper chain-of-custody as the sample was not in the field team's view or possession and could have been unknowingly tampered with.

- Some of the pages of the logbook were missing the date and samplers signature or initials that the SAP requires to be present on every page. Also, the logbook did not have a site name, trailer address or phone number, or any other information that would help a person finding a lost logbook return it to the owner. Daily field equipment calibration data was also absent from the logbook.

An audit checklist was completed for each field team and the sample manager. After each audit, the noted oversights were discussed, and remedies were formulated to prevent reoccurrence. The audit checklists were then copied for the Field Manager (Jeff Pruitt) and the deviations from the project plans were pointed out to him. During the discussion with Jeff, it was decided that since most of the errors were common among all of the field teams (log book discrepancies), a team meeting, addressing all of the noted concerns, would be held.

Auditor: C. Almanza

Sampling Team Scott Toland
Andy Kear

Time: 1:00 P.

Slag Surface Soil Sampling

Field Activities

YES	NO	
X		1. Are sampling locations adequately defined and described in detail in field log? Comments: use of tables and drawings to precisely identify sample locations is used. Good Job!
X		2. Are samples collected in accordance with the methods outlined in the Agency approved Sample and Analysis Plan (SAP)? Comments: All methods, + procedures, used to collect Slag samples are outlined in SAP - Field Team is closely following them.
N/A		3. Are samples preserved in accordance with the methods outlines in the SAP? Comments: SOIL SAMPLES
X		4. Are number, frequency, and type of field measurements collected as outlined in the SAP? Comments: Slag is tough to break through but team is making best effort to get to 2 ft as per SAP - Team is sampling 5 locations (4 corners + center) per sample (as per SAP) and compositing.
X		5. Are sample information sheets properly and completely filled out? Comments: Sheets filled out completely and properly
	X	6. Are all samples collected iced, and maintained under chain-of-custody at all times, for example, in someone's actual view or possession, or locked up in a designated area? Comments: Samples are in Someones actual view. However they are not iced. The ambient Temp is ~45 which is not sufficient to keep samples cool.
X		7. Are all field instruments calibrated in accordance with the methods and time intervals outlines in the SAP and QAPP? Comments: All equipment is checked [illegible] is field checked numerous times [illegible] is operating (i.e. sample [illegible])

Field Activities (Continued)

YES	NO	
	X	8. Are field log book entries properly made using the method outlined in the SAP?
X		9. Is field equipment decontaminated using the methods outlined in the SAP?
X		10. Are samples collected using the procedures outlined in the SAP?
X		11. Are soil cuttings, purge water, and any other site derived waste properly containerized using the methods outlined in the SAP?

Comments: Log is pretty good; However, initials on every page are missing, Date on every page is missing, weather information is missing, Logbook Title (Project, start date, Team members, etc.) are missing. Also calibration data for field equip. is missing

Comments: As per SAP

Comments: As per SAP

Comments: As per SAP. water is containerized in large buckets on site and are brought back to Trailer and poured into large hold in tank.

Additional Comments: Pointed out to team problem areas (Ice, & logbook) both oversights are somewhat significant and need corrections. Team will correct problems.

Team is using proper HS Gear and is following sampling procedures outlined in SAP. For the most part they are doing a good job.

Auditor: C Almanza (Dispersion) Soil GAS SAMPLING

Team: Jeanne Riley (CDM) Chris Shope, Jason Shafer

Time: 1:55 P.

Field Activities

YES	NO	
N/A		1. Are sampling locations adequately defined and described in detail in field log? Comments: Drawings of specific areas are handed out to field team members - These are used to locate SG points -
X		2. Are samples collected in accordance with the methods outlined in the Agency approved Sample and Analysis Plan (SAP)? Comments: Dispersion is following SG collection methods outlined in SAP.
N/A		3. Are samples preserved in accordance with the methods outlines in the SAP? Comments: Soil Gas / Not Applicable
N/A		4. Are number, frequency, and type of field measurements collected as outlined in the SAP? Comments: Jeanne is collecting PID readings from the sample pump exhaust. This is not required in the SAP but it is good data for helping mobile lab determine if sample is hot.
N/A		5. Are sample information sheets properly and completely filled out? Comments: Samples are taken directly to mobile lab. Information for lab (Date, time, sample #) is derived from log book upon delivery (~ once per hour)
X		6. Are all samples collected iced, and maintained under chain-of-custody at all times, for example, in someone's actual view or possession, or locked up in a designated area? Comments: In visual range of samples at all times
X		7. Are all field instruments calibrated in accordance with the methods and time intervals outlines in the SAP and QAPP? Comments: OVM is calibrated daily and there is no drift

Field Activities (Continued)

YES	NO	
	X	8. Are field log book entries properly made using the method outlined in the SAP? Comments: Page numbers are not on every page - Date and Initials of Team member are not on every page - Field Equipment Calibration data is missing - Project Information (name, Address, Phone #) missing on Cover of Log (inside Cover)
X		9. Is field equipment decontaminated using the methods outlined in the SAP? Comments: Soap and water wash - Tap water rinse - Distilled water rinse - As per SAP.
X		10. Are samples collected using the procedures outlined in the SAP? Comments: As per SAP
X		11. Are soil cuttings, purge water, and any other site derived waste properly containerized using the methods outlined in the SAP? Comments: Decon water is containerized on-site and taken to drums located at the dispersion decon pad at Markland Quarry

Additional Comments: Jeanne is doing a good job of subcontractor oversight. Subcontractor is providing services as per SAP. Discussed log book omissions with Jeanne, she will correct them. All future entries will be as per SAP. Equipment calibration data will also be recorded daily.

Auditor: C. Almanza
Sample Manager: Aimee Uessell
Time: 11:15 A

Will not have many samples today will review paperwork from previous days in week

Sample Management Activities

YES	NO	
X		1. Is the area where the samples are located secure when not occupied and custody maintained on samples at all times? Comments: Seperate trailer door to Sample mgt area is Locked and secured when unattended (Lunch, at night) only Aimee + Jeff have keys - Refrigerator is Temp Custody Sealed
X		2. Is all documentation pertaining to sample identification and chain-of-custody complete and proper? Comments: Aimee is very thorough Sample Manager - Single line cross outs with initials and date in all cases All information is filled out and complete.
X		3. Are all samples shipped to the lab transferred under proper chain-of-custody? Comments: All relinquished Areas signed, dated and Time of relinquish complete. The proper [illegible] are shipped w/ samples and kept with SM.
X		4. Does the project number, sample location, time, date, samplers signature, grab/composite information, preservation information, and desired analysis appear on all sample paperwork? Comments: All Areas complete
X		5. Are all sample management procedures in accordance with the USEPA sample management protocol? Comments: Aimee is following protocol very well could not be better.
X		6. Are QA/QC samples (blanks, duplicates, MS/MSDs) collected as indicated in the SAP/QAAP, and are they properly designated on sample paperwork? Comments: Trip Blanks sent with every cooler with VOC samples, 1 Blank every 10 samples, one Duplicate every 10 samples 1 MS/MSD every 20 samples

Sample Management Activities (Continued)

YES	NO	
X		7. Is all sample paperwork signed by sample manager and assistants? Comments:
X		8. Are sample shipped at a frequency that allows the lab proper holding times as outlined in the SAP/QAPP met? Comments: Samples collected [illegible] are shipped next day - Samples collected on Friday where no Saturday lab service exists are shipped the following Monday. (3 days) This has only been done Twice.
	X	9. Are all boxes and coolers containing samples for shipment to the laboratory packed and sealed using USEPA protocol? (Drains taped, custody seals affixed, address labels, fragile and this end up stickers, clear tape over custody seal, strapping tape on both ends, chain -of-custody taped to lid, proper amount of ice) Comments: Aimee needs to put address labels on each cooler shipped (Not done currently) - Also needs to mark Fed Ex week day service Box on Airbill - All else OK.
X		10. Is the laboratory notified of number of samples being shipped to them, and are copies of sample paperwork sent on a regular basis to the sample coordinator? Comments: Aimee usually calls lab every evening to let them know what samples to expect - Paper work is sent to Sample coordinator (Wendy) Once per week - Copies made of all completed paper work
X		11. Are samples preserved as specified in the SAP? Comments:

Additional Comments: 8.) Aimee ships whenever possible she is only held up by the lab's inability to accept samples on Saturday - Aimee needs to be sure that when on the 10 on and 4 off schedule, volatiles are shipped on the last day of the 10 on.

Overall Aimee is doing an Excellent Job as Sample Manager - Keep up good work

Auditor: C. Almanza
Team: Joe Newton (COM)
Jeff DeLaet (COM)
Time: 4:30p

Treatibility Study Sampling

Field Activities

YES	NO	
N/A		1. Are sampling locations adequately defined and described in detail in field log? Comments: Using site drawings to locate sampling areas
X		2. Are samples collected in accordance with the methods outlined in the Agency approved Sample and Analysis Plan (SAP)? Comments: Small backhoe used to grab sample from depth As per SAP. Sample collected in 5-gal. Buckets
N/A		3. Are samples preserved in accordance with the methods outlines in the SAP? Comments:
X		4. Are number, frequency, and type of field measurements collected as outlined in the SAP? Comments: OVA, mini-Ram, and dreger tubes used for collecting field measurements as per SAP.
N/A		5. Are sample information sheets properly and completely filled out? Comments: Keep Info in log book until information is needed when samples are all composited —
	X	6. Are all samples collected iced, and maintained under chain-of-custody at all times, for example, in someone's actual view or possession, or locked up in a designated area? Comments: Sample container w/ sample in it noted upon arrival of visit - well out of range of vision - Not locked in car or other bldg - out in open.
X		7. Are all field instruments calibrated in accordance with the methods and time intervals outlines in the SAP and QAPP? Comments: OVM, Mini Ram, calibrated daily and charged at night - OVM calibrated twice per day

Field Activities (Continued)

YES	NO	
	X	8. Are field log book entries properly made using the method outlined in the SAP?
X		9. Is field equipment decontaminated using the methods outlined in the SAP?
X		10. Are samples collected using the procedures outlined in the SAP?
X		11. Are soil cuttings, purge water, and any other site derived waste properly containerized using the methods outlined in the SAP?

Comments: Page numbers missing, Signatures missing, Calibration data is missing, Blank pages are present, Partial Pages are present, Need address and Phone # of trailer.

Comments: Backhoe is decon'd between lagoon areas via High Pressure wash - resulting water is containerized in 55 gallon drums.

Comments: As Per SAP

Comments: Containerized in 55 gallon drums and transported to staging area New Orleans as per SAP.

Additional Comments: Spoke with team regarding Log Book omissions and Sample Volume issue - will correct for future.

Samples collected as per SAP - All HTS Protocol is being followed.

QA REPORT
Continental Steel Superfund Site
Kokomo, Indiana

PREPARED BY: Francie Barker

PREPARED FOR: Tom Pedersen
cc: Mark Burgess, Wendy Dewar

REPORTING PERIOD: 10/16/95 - 11/10/95

DATE: 11/10/95

ACTIVITIES CONDUCTED THIS PERIOD: The revised QAPP was submitted to IDEM and USEPA on October 13, 1995. The revised QAPP was conditionally approved on October 19, 1995. Field work at the site began on October 16, 1995. A field audit was conducted on November 7, 1995 by Craig Almanza.

PROBLEMS RESOLVED: N/A

DEVIATIONS FROM PLANS: Several deviations from the project plans were noted during the field audit and are listed in the attached memorandum. Errors in field logbook entries were noted for the three project teams that were audited.

CORRECTIVE ACTIONS: Following the field audit of each project team and the sample manager, oversights and appropriate corrective actions were discussed. Jeff Pruit will hold a team meeting to discuss the noted oversights, particularly the logbook entries.

DATA USEABILITY - APPENDIX C

Table 1 *Completeness and Useable Data Percentages*

COMPLETENESS AND USEABLE DATA PERCENTAGES

	NUMBER OF SAMPLES				NUMBER OF DUPLICATES				NUMBER OF BLANKS				NUMBER OF MS/MSDs				
LAB	unuseable data[1]	data gaps[2]	collected for analysis	planned for collection[5]	data unuseable	data gaps	collected for analysis	planned for collection	data unuseable	data gaps	collected for analysis	planned for collection	data unuseable	data gaps	collected for analysis	planned for collection	Completeness[3] (%)
CLP	1	0	98	95	1	1	20	18	0	3	14	14	0	2	14	14	99%
CRL	0	0	128	162	0	0	17	21	0	1	16	21	0	0	11	11	100%
Kemron	0	0	250	258	0	1	17	21	0	2	27	30	0	0	0	0	100%
FASP	0	0	194	244	0	5	15	25	0	5	14	25	0	2	20	20	100%
Dispersion (soil gas analysis)	0	0	340	340	0	4	30	34	0	0	1/day	1/day	0	2	15	17	100%
Totals:	*1*	*0*	*1010*	*1099*	*1*	*11*	*99*	*119*	*0*	*11*	*71*	*90*	*0*	*6*	*60*	*62*	

[4] USEABLE DATA: 98%

1) Unuseable data is data that the laboratory deemed unuseable *AND* that is among the CSSS contaminants of concern for the given sampling area.

2) Data gaps generally describe QC or investigative samples that were inadvertantly not collected during the sampling event. This usually includes field duplicates, rinsate blanks, and MS/MSDs.

3) Completeness (%) =
[(number of useable data)/(number of samples collected and submitted to the laboratory for each parameter analyzed)] x 100
Completeness describes the percentage of the data received from the lab that was useable compared to the data we expected from the lab for all samples submitted.

4) Useable Data (%) =
[(number of data collected for analysis) - (number of unuseable data + number of data gaps)/(number of data collected for analysis)] x 100
Useable Data is the data that can be used to perform the Risk Assessment and Feasibility Study.

5) In all cases in which fewer samples were collected than were planned, the samples were unable to be collected due to conditions encountered in the field (e.g., fewer Main Plant sewer sediment samples were collected than planned due to lack of sample volume at several sampling locations). These are not data gaps.

NOTE THAT IN CASES IN WHICH ONLY ONE ANALYTE OF A RESULT IS UNUSEABLE, THE NUMBER OF "UNUSEABLE DATA" WAS ROUNDED UP TO THE NEAREST WHOLE NUMBER TO MAKE THE MOST CONSERVATIVE ESTIMATE OF COMPLETENESS (%) AND USEABLE DATA.

DATA USEABILITY - APPENDIX D

Definitions of Data Qualifiers Used in the Data Useability Evaluation Sheets

DEFINITIONS OF DATA QUALIFIERS USED IN THE DATA USEABILITY EVALUATION SHEETS

Organic Data Qualifier Definitions

For the purpose of defining the flagging nomenclature utilized in this document the following code letters and associated definitions are provided.

A numerical value will appear if the result is a value greater than or equal to the Contract Required Quantitation Limit (CRQL).

U Indicates that the compound was analyzed for but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of a compound but the result is less than the sample quantitation limit, but greater than zero. The flag is also used to indicate a reported result having an associated QC problem.

R Indicates the data are unusable. (Note: The analyte may or may not be present.)

N Indicates presumptive evidence of a compound. The flag is only used for a tentatively identified compound, where the identification is based on a mass spectral library search.

P Indicates a pesticide/PCB target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C Indicates pesticide results that have been confirmed by GC/MS.

B Indicates the analyte is detected in the associated blank as well as the sample.

E Indicates compounds whose concentrations exceed the calibration range of the instrument.

D Indicates an identified compound in an analysis has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analyses.

A Indicates tentatively identified compounds that are suspected to be aldol condensation products.

G Indicates the TCLP Matrix Spike Recovery was greater than the upper limit of the analytical method.

L Indicates the TCLP Matrix spike Recovery was less than the lower limit of the analytical method.

T Indicates the analyte is found in the associated TCLP extraction blank as well as in the sample.

F Indicates that the data was generated using FASP analytical methodologies. Analytes are tentatively identified and concentrations are quantitative estimates.

Organic Data Qualifier Definitions (continued)

>F Qualifier used by the FASP laboratory only. Indicates that an Aroclor was present in an amount greater than the given value, however no identifiable pattern match was found.

X,Y,Z are reserved for laboratory defined flags.

Inorganic Data Qualifier Definitions

For the purpose of defining the flagging nomenclature utilized in this document the following code letters and associated definitions are provided.

U Indicates the material was analyzed, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J Indicates the associated value is an estimated quantity.

R Indicates the data are unusable. (Note: The analyte may or may not be present.)

UJ Indicates the material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

E Indicates the reported value is estimated because of the presence of interferences. An explanatory note shall be included under Comments on the Cover page(if the problem applies to all samples) or on the specific FORM I-IN (if it is an isolated problem).

M Indicates duplicate injection precision is not met.

N Indicates the spike sample recovery is not within control limits.

S Indicates the reported value was determined by the Method of Standard Addition (MSA).

W Indicates the post-digestion spike for furnace AA analysis is out of control limits (85%-115%), while sample absorbance is less than 50% of the spike absorbance.

+ Indicates the correlation coefficient for the MSA is less than 0.995.

* Indicates the duplicate analysis is not within control limits.

Note: Entering "S", "W" or " + " is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

DATA USEABILITY - APPENDIX E

List of Acronyms

LIST OF ACRONYMS

Acronyms

ABB-ES	ABB Environmental Services
BNA	Base Neutral Acid (semivolatile and PAH analyte group)
CDM	Camp Dresser & McKee Inc.
cis-1, DCE	cis-1, 2-dichloroethene
CLP	Contract Laboratory Program
CRL	Central Regional Laboratory
CSSS	Continental Steel Superfund Site
DO	Dissolved Oxygen
DQO	Data Quality Objectives
Eh	Redox Potential
ESS	Environmental Sampling Supply
FASP	Field Analytical Services Program
FSP	Phase II Field Sampling Plan
GC	Gas Chromatography
Kemron	Kemron Environmental Services
MS/MSD	Matrix Spike/Matrix Spike Duplicate
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychorinated Biphenyls
QA/QC	Quality Assurance/Quality Control

LIST OF ACRONYMS (Continued)

Acronyms

QAPP	Phase II Quality Assurance Project Plan
RAS	Routine Analytical Services
RI/FS	Remedial Investigation/Feasibility Study
RPD	Relative Percent Difference
SOP	Standard Operating Procedure
TCE	trichloroethene
trans-1,2-DCE	trans-1,2-dichloroethene
U.S. EPA	United States Environmental Protection Agency
VOA	Volitile Organic Analysis
VOC	Volatile Organic Compound