

EK-35[®] ENVIRONMENTAL DATA

VOC, SEMI-VOLATILES, METALS, TCLP, PAH TESTS

RECEIVED

By Manager of Licensing at 9:39 am, Jul 25, 2011

PERFORMED BY: TSL, Tri-State Laboratories

REPORT DATA: July 15, 2002

SUMMARY: As part of the US EPA Environmental Technology Verification (ETV) Program EKK 35[®] was tested to determine major, minor and trace constituents using various EPA test methods.

Bulk analysis techniques were used to quantitatively determine the presence of Title 22 metals, Volatile Organic Compounds (VOC), Semi-volatiles, pesticides herbicides and Polynuclear Aromatic Hydrocarbons (PAH) in EK 35[®]. Bulk analysis is performed on the sample in the "as received" form and does not consider application rates, dilution ratios or environmental conditions. The vast majority of the analytes were found to be Below Detection Limits (BDL). Ever evolving sophistication of analytical methods and techniques have made detection limits well below regulatory levels. Some metals were detected at low levels, primarily iron and that can be attributed to the use of carbon steel tanks in transportation and storage.

Toxicity Characteristic Leaching Procedure (TCLP) is a sample preparation and battery of tests that can determine the presence of various elements and chemical compounds in a landfill type situation. In this test EK-35[®] is subjected to chemical extractions to "leach" the analytes from the product. This includes metals, volatiles and semivolatiles analysis. Once again most analytes were determined to be "below detection limits" and all were well below regulatory levels. Low level "hits" of cadmium and silver can be attributed to processing and handling.

RESULTS: Results indicate that EK-35[®] contains no bulk analysis or TCLP elements or compounds above regulatory levels. Most materials were not detected in EK-35[®]. Please see attached for results..

TSL Tri-State Laboratories, Inc.

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Laboratory Analysis Report

Client: RTI
Attn: DEBBIE FRANKE
PO BOX 12194
RESEARCH TRIANGLE PARK, NC 27709

Lab Number: 22061405
Sample ID: SAMPLE A-MIDWEST
KANSAS CITY

Sample Description:

Sampler Name:
Sample Matrix: Aqueous
PO#: 19820

Date Sampled:
Time Sampled:
Date Received: 6/14/2002
Report Date: 7/15/2002
Comments:

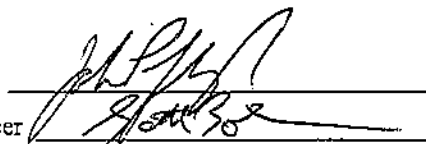
Analyte	Result	Unit	Detection Limit	Method	Analysis Date	Analyst
Aluminum	1.25	mg/kg	0.44	200.7	6/19/2002	SCB
Antimony	BDL	mg/kg	0.044	200.7	6/19/2002	SCB
Arsenic-TCLP	BDL	mg/L	0.10	6010B	6/19/2002	SCB
Arsenic	BDL	mg/kg	0.13	200.7	6/19/2002	SCB
Barium-TCLP	BDL	mg/L	0.040	6010B	6/19/2002	SCB
Barium	BDL	mg/kg	0.044	200.7	6/19/2002	SCB
Beryllium	BDL	mg/kg	0.007	200.7	6/19/2002	SCB
Cadmium-TCLP	0.040	mg/L	0.020	6010B	6/19/2002	SCB
Cadmium	0.044	mg/kg	0.022	200.7	6/19/2002	SCB
Chromium	BDL	mg/kg	0.022	200.7	6/19/2002	SCB
Chromium-TCLP	BDL	mg/L	0.020	6010B	6/19/2002	SCB
Copper	0.044	mg/kg	0.022	200.7	6/19/2002	SCB
Iron	31.8	mg/kg	0.44	200.7	6/19/2002	SCB
Lead	BDL	mg/kg	0.11	200.7	6/19/2002	SCB
Lead-TCLP	BDL	mg/L	0.10	6010B	6/19/2002	SCB
Manganese	0.160	mg/kg	0.044	200.7	6/19/2002	SCB
Mercury	BDL	mg/kg	0.0011	245.2	6/21/2002	SCB
Mercury-TCLP	BDL	mg/L	0.001	7472	6/21/2002	SCB
Nickel	BDL	mg/kg	0.044	200.7	6/19/2002	SCB
Selenium	BDL	mg/kg	0.18	200.7	6/19/2002	SCB
Selenium-TCLP	BDL	mg/L	0.16	6010B	6/19/2002	SCB
Silver-TCLP	0.0252	mg/L	0.020	6010B	6/19/2002	SCB
Silver	0.030	mg/kg	0.022	200.7	6/19/2002	SCB
Thallium	BDL	mg/kg	0.030	200.7	6/19/2002	SCB
Zinc	0.142	mg/kg	0.044	200.7	6/19/2002	SCB
Herbicides	SEE ATTACHED			8270	6/19/2002	JP
Pesticides	SEE ATTACHED			8270	6/19/2002	JP
Polynuclear Aromatic Hydrocarbons	SEE ATTACHED			8270/610	6/19/2002	JP
Semi-Volatile Organic Compounds	SEE ATTACHED			8270A/625	6/19/2002	JP
TCLP-Semi-Volatiles	SEE ATTACHED			1311/8270	6/19/2002	JP
TCLP-Volatiles (VOC)	SEE ATTACHED			1311/8260	6/17/2002	JP
Volatile Organic Compounds (VOC)	SEE ATTACHED			8260/624	6/17/2002	JP

BDL = Below Detection Limit

Results approved by:

John Pflugh, Lab Manager

Scott Bolam, QA/QC Officer

Handwritten signatures of John Pflugh and Scott Bolam over horizontal lines.

TRI-STATE LABORATORIES

2870 Salt Springs Road
Youngstown, OH 44509
Phone: (330) 797-8844/1-800-523-0347
Fax: (330) 797-3264

Client: RTI

Date Received: 06.14.02

Sample: 22061405

Date Analyzed: 06.19.02

Sample Description: A

Date Reported: 07.15.02

HERBICIDES

Method #: 8270

COMPOUND	CONCENTRATION (mg/L)	MDL (mg/L)
2,4-D	BDL	0.138
Silvex	BDL	0.138

Surrogates	Recovery	Accept. Limits
DCAA	109	35-114

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Date Reported: 07.15.02

PESTICIDES

Method #: 8270

COMPOUND	CONCENTRATION (mg/L)	MDL (mg/L)
TECHNICAL CHLORDANE	BDL	0.008
ENDRIN	BDL	0.003
HEPTACHLOR	BDL	0.003
LINDANE	BDL	0.003
METHOXYCHLOR	BDL	0.003
TOXAPHENE	BDL	0.07

Surrogates	Recovery	Accept. Limits
TCMX	61	35-114
DBCP	71	43-116

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Sample: 22061405

Date Analyzed: 06/19/02

Sample Description: A

Date Reported: 06/28/02

POLYNUCLEAR AROMATIC HYDROCARBONS

Method #: 8270

COMPOUND	CONCENTRATION (mg/kg)	MDL(mg/kg)
Acenaphthene	BDL	50
Acenaphthylene	BDL	50
Anthracene	BDL	50
Benzo [a] anthracene	BDL	50
Benzo [a] pyrene	BDL	50
Benzo [b] fluoranthene	BDL	50
Benzo [k] fluoranthene	BDL	50
Benzo [g,h,i] perylene	BDL	50
Chrysene	BDL	50
Dibenzo [a,h] anthracene	BDL	50
Fluoranthene	BDL	50
Fluorene	BDL	50
Indeno (1,2,3-cd) pyrene	BDL	50
Naphthalene	BDL	50
Phenanthrene	BDL	50
Pyrene	BDL	50

Surrogates	Recovery	Accept.Limits
Nitrobenzene-d5	58	23-123
2-Fluorobiphenyl	109	30-107
p-Terphenyl	109	18-129

BDL = below detection limit
MDL = method detection limit

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Sample: 22061405

Date Analyzed: 06/19/02

Sample Description: A

Date Reported: 06/28/02

BASE/NEUTRAL & ACID COMPOUNDS: PRIORITY POLLUTANTS

Method #: EPA 8270

COMPOUND	CONCENTRATION (mg/kg)	MDL (mg/kg)
Acenaphthene	BDL	50
Acenaphthylene	BDL	50
Anthracene	BDL	50
Benzidine	BDL	500
Benzo [a] anthracene	BDL	50
Benzo [a] pyrene	BDL	50
3,4-Benzofluoranthene	BDL	50
Benzo (g,h,i) perylene	BDL	50
Benzo (b) fluoranthene	BDL	50
Benzo (k) fluoranthene	BDL	50
Bis (2-chloroethoxy) methane	BDL	50
Bis (2-chloroethyl) ether	BDL	50
Bis (2-chloroisopropyl) ether	BDL	50
Bis (2-ethylhexyl) phthalate	BDL	50
4-Bromophenyl phenyl ether	BDL	50
Butyl benzyl phthalate	BDL	50
Carbazole	BDL	50
2-Chloronaphthalene	BDL	50
4-Chlorophenyl phenyl ether	BDL	50
Chrysene	BDL	50
Dibenzo [a,h] anthracene	BDL	50
1,2-Dichlorobenzene	BDL	50
1,3-Dichlorobenzene	BDL	50
1,4-Dichlorobenzene	BDL	50
3,3'-Dichlorobenzidine	BDL	500
Diethyl phthalate	BDL	50
Dimethyl phthalate	BDL	50
Di-n-octyl phthalate	BDL	50
2,4-Dinitrotoluene	BDL	50
2,6-Dinitrotoluene	BDL	50
Di-n-octyl phthalate	BDL	50
1,2-Diphenylhydrazine (as azobenzene)	BDL	50

BDL = below detection limit

MDL = method detection limit

Client: RTI

Sample: 22061405

COMPOUND	CONCENTRATION (mg/kg)	MDL (mg/kg)
Fluoranthene	BDL	50
Fluorene	BDL	50
Hexachlorobenzene	BDL	50
Hexachlorobutadiene	BDL	50
Hexachlorocyclopentadiene	BDL	50
Hexachloroethane	BDL	50
Indeno (1,2,3-cd) pyrene	BDL	50
Isophorone	BDL	50
Naphthalene	BDL	50
Nitrobenzene	BDL	50
N-Nitrosodimethylamine (as diphenylamine)	BDL	50
N-Nitrosodi-n-propylamine	BDL	50
N-Nitrosodiphenylamine	BDL	50
Phenanthrene	BDL	50
Pyrene	BDL	50
1,2,4-Trichlorobenzene	BDL	50
2-Chlorophenol	BDL	100
2,4-Dichlorophenol	BDL	100
2,4-Dimethylphenol	BDL	100
4,6-Dinitro-o-cresol	BDL	100
2,4-Dinitrophenol	BDL	100
2-Methyl phenol	BDL	100
3&4-Methyl phenol	BDL	100
2-Nitrophenol	BDL	100
4-Nitrophenol	BDL	100
Pentachlorophenol	BDL	100
Phenol	BDL	100
2,4,5-Trichlorophenol	BDL	100
2,4,6-Trichlorophenol	BDL	100
4-Chloro-3-Methyl Phenol	BDL	100
Benzoic Acid	BDL	100
2,3,7,8-tetrachloro-dibenzo-p-dioxin	ABSENT	

Surrogates	Recovery	Accept.Limits
Nitrobenzen-d5	58	35-114
2-Fluorobiphenyl	109	43-116
p-Terphenyl	109	33-141
Phenol-d6	71	11-94
2-Fluorophenol	61	25-100
2,4,6- Tribromophenol	78	16-123

BDL = below detection limit

MDL = method detection limit

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Date Received: 06.14.02

Sample: 22061405

Date Analyzed: 06.19.02

Sample Description: A

Date Reported: 06.28.02

TCLP SEMI-VOLATILES - GC/MS

Method #: 1311/8270

COMPOUND	CONCENTRATION (mg/L)	MDL (mg/L)
Cresols	BDL	0.55
1,4-Dichlorobenzene	BDL	0.66
2,4-Dinitrotoluene	BDL	0.66
Hexachlorobenzene	BDL	0.66
Hexachloro-1,3-butadiene	BDL	0.66
Hexachloroethane	BDL	0.66
Nitrobenzene	BDL	0.66
Pentachlorophenol	BDL	0.55
Pyridine	BDL	0.28
2,4,5-Trichlorophenol	BDL	0.55
2,4,6-Trichlorophenol	BDL	0.55

Surrogates	Recovery	Accept.Limits
Nitrobenzene-d5	64	35-114
2-Fluorobiphenyl	99	43-116
p-Terphenyl	120	33-141
Phenol-d6	67	25-100
2-Fluorophenol	78	11-94
2,4,6-Tribromophenol	86	16-123

BDL = below detection limits

MDL = method detection limit

GC/MS = gas chromatography/mass
spectrometry

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Sample: 22061405

Date Analyzed: 06.17.02

Sample Description: A

Date Reported: 06.28.02

TCLP VOLATILES - GC/MS

Method #: 1311/8260

COMPOUND	CONCENTRATION (mg/L)	MDL (mg/L)
Benzene	BDL	2.27
Carbon Tetrachloride	BDL	2.27
Chlorobenzene	BDL	2.27
Chloroform	BDL	2.27
1,2-Dichloroethane	BDL	2.27
1,1-Dichloroethene	BDL	2.27
Methyl ethyl ketone (2-Butanone)	BDL	2.27
Tetrachloroethene	BDL	2.27
Trichloroethene	BDL	2.27
Vinyl Chloride	BDL	4.53

Surrogates	Recovery	Accept. Limits
Dibromofluorobenzene	115	86-118
Toluene-d8	94	88-110
Bromofluorobenzene	100	86-115

BDL = below detection limit

MDL = method detection limit

GC/MS = gas chromatography/mass spectrometry

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Client: RTI**Date Received:** 06.14.02**Sample:** 22061405**Date Analyzed:** 06.17.02**Sample Description:** A**Date Reported:** 06.22.02

8260 WASTE DILUTION

Method #: 8260/5030

COMPOUND	CONCENTRATION (mg/kg)	MDL (mg/kg)
Acetone	BDL	25
Benzene	BDL	2.5
Bromobenzene	BDL	2.5
Bromochloromethane	BDL	2.5
Bromodichloromethane	BDL	2.5
Bromoform	BDL	2.5
Bromomethane	BDL	5.0
2-Butanone	BDL	25
n-Butylbenzene	BDL	2.5
sec-Butylbenzene	BDL	2.5
tert-Butylbenzene	BDL	2.5
Carbon Tetrachloride	BDL	2.5
Chlorobenzene	BDL	2.5
Chloroethane	BDL	5.0
Chloroform	BDL	2.5
Chloromethane	BDL	5.0
2-Chlorotoluene	BDL	2.5
4-Chlorotoluene	BDL	2.5
1,2-Dibromo-3-chloropropane	BDL	2.5
Dibromochloromethane	BDL	2.5
1,2-Dibromoethane	BDL	2.5
Dibromomethane	BDL	2.5
1,2-Dichlorobenzene	BDL	2.5
1,3-Dichlorobenzene	BDL	2.5
1,4-Dichlorobenzene	BDL	2.5
Dichlorodifluoromethane	BDL	5.0
1,1-Dichloroethane	BDL	2.5
1,2-Dichloroethane	150	2.5
1,1-Dichloroethene	BDL	2.5
cis-1,2-Dichloroethene	BDL	2.5
trans-1,2-Dichloroethene	BDL	2.5
1,2-Dichloropropane	BDL	2.5
1,3-Dichloropropane	BDL	2.5
2,2-Dichloropropane	BDL	2.5
1,1-Dichloropropene	BDL	2.5
Ethyl Benzene	BDL	2.5
Hexachlorobutadiene	BDL	2.5

BDL = below detection limit

MDL = method detection limit

COMPOUND	CONCENTRATION (mg/kg)	MDL (mg/kg)
2-Hexanone	BDL	25
Isopropylbenzene	BDL	2.5
p-Isopropyltoluene	BDL	2.5
Methylene Chloride	BDL	2.5
Methyl Isobutyl Ketone	BDL	25
Naphthalene	BDL	2.5
n-Propylbenzene	BDL	2.5
Styrene	BDL	2.5
1,1,1,2-Tetrachloroethane	BDL	2.5
1,1,2,2-Tetrachloroethane	BDL	2.5
Tetrachloroethene	BDL	2.5
Toluene	BDL	2.5
1,2,3-Trichlorobenzene	BDL	2.5
1,2,4-Trichlorobenzene	BDL	2.5
1,1,1-Trichloroethane	BDL	2.5
1,1,2-Trichloroethane	BDL	2.5
Trichloroethene	BDL	2.5
Trichlorofluoromethane	BDL	5.0
1,2,3-Trichloropropane	BDL	2.5
1,2,4-Trimethylbenzene	BDL	2.5
1,3,5-Trimethylbenzene	BDL	2.5
Vinyl Chloride	BDL	5.0
m,p-Xylene	BDL	2.5
o-Xylene	BDL	2.5

Surrogates

	Recovery	Accept.Limits
Dibromofluorobenzene	112	86-118
Toluene-d8	95	88-110
Bromofluorobenzene	87	86-115

BDL = below detection limit

MDL = method detection limit