

TETRA TECH, INC.
A HONEYWELL SUBSIDIARY
GATEWAY CENTER II, SUITE 308
4TH AND STATE AVENUE
KANSAS CITY, KANSAS 68101
TELEPHONE (813) 821-8041

SITE:	Michael Battery - Rolff
ID#:	1AD981707243
BREAK:	1.3
OTHER:	Tetra Tech 8-25-87

TO: Glenn Tucker, U.S. EPA Primary Contact August 25, 1987
FROM: *RBK* Russell B. Krohn, Tetra Tech, Inc. Regional Manager
SUBJECT: Michael Battery/Rolff Road Site Sampling - Final Report
Work Assignment #17

On June 26, 1987 Tetra Tech TES IV contractors Russ Krohn and Mark Nobile performed facility sampling at the Michael Battery/Rolff Road site in Davenport, Iowa. This sampling effort was directed by the site specific Work and Quality Assurance Project Plan dated June 23, 1987. This investigation was undertaken to: 1) confirm previous sample data and, 2) to evaluate potential contamination of facility rooms adjoining the former Michael Battery operations.

This complex is owned by Mr. Paul Keller of the Keller Pattern Company. His company is operating in the first tier of rooms on the west side of the complex (Figure 1). Mid-West Wood Products is leasing space on the south end of the complex. The remaining and majority portion of the facility is not actively used, though cast molds and other equipment is stores throughout the remaining area.

The sample team met with Mr. Keller on site at 0800 hours on June 26, which had been previously arranged through Mr. Michael Noyes, his attorney. Mr. Keller stated that Michael had rented approximately 10,000 square feet in Rooms D, X, and Y. He had also stored some furniture and non-battery related junk in other areas. After discussing our proposed sampling, Mr. Keller and his maintenance man gave us a facility tour. We noted that the inner entrances to Rooms D, M, and Y had hand-written warning signs posted, and a tarp had been hung over the west entrance to Room D where there is no door. Other doors were closed. Room X was not posted, though it would be difficult to enter since large steel shelf units were butted up against the entrance.

A survey was conducted of the facility with a photo-ionization detector, Miniram aerosol dust monitor, and a radiation meter. No organic vapor or radiation readings above background were detected, and a TWA of .01 mg/m³ of dust was encountered. It was noted during this survey that a series of small, interconnected rooms were along the entire length of the east side of Room M, and were designated in aggregate as Room W. Room L is an actively used restroom.

Sampling efforts were initiated in Level C protection at 1000 hours after all sample locations were identified. Eighteen sweep samples were collected using a brush and spoon, collecting three to twenty aliquots for each composite sample. The number of aliquots varied due to the size of the area being sampled and the availability of dust on the floor. A new spoon and brush was used for

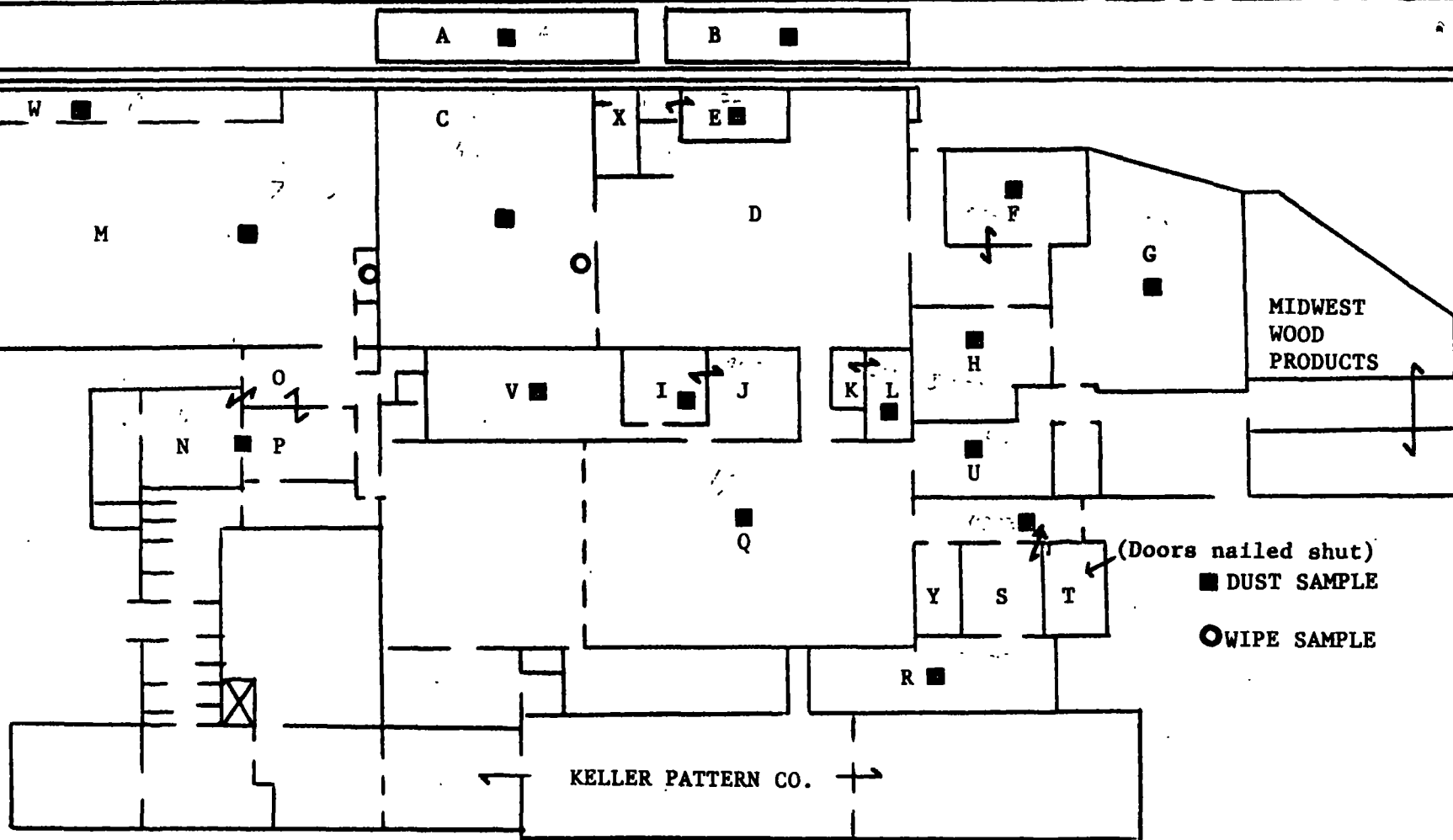
30254491



Superfund

30000573

ALTER TRUCKING CO.



S. ROLFF

PROPOSED SAMPLE LOCATIONS FOR THE KELLER PATTERN CO./MICHAEL
BATTERY CO. FACILITY, S. ROLFF ROAD.

FIGURE 1.

30000574

each composite. Six wipe samples were collected, including one field blank. Filter paper was used as the wipe medium, and was soaked with deionized water. Two wipes were collected, as per an additional U.S. EPA request, from cast molds belonging to Caterpillar in Room D. A TWA of $.08 \text{ mg/m}^3$ of dust was measured during the sampling effort. Table 1 summarizes samples collected and lead analytical data. Completed Field Sheets are in Appendix A.

After completing the sampling effort, photographs were taken of representative locations of the facility (Figures 2 - 6). The team departed the site at 1440 hours. Samples were delivered under chain-of-custody to the U.S. EPA Region VII Laboratory June 29, 1987.

Analytical data from this activity was transmitted from the U.S. EPA Regional Laboratory on July 17, 1987. All samples had detectable amounts of lead, ranging from 360 mg/kg to 250,000 mg/kg in the sweep samples. Wipe samples also had detectable lead levels, varying from 460 ug/100 cm^2 to 21,000 ug/100 cm^2 . There is no readily apparent pattern to the contamination, though this sampling effort indicated that the problem is widespread.

A wide variety of metals, including aluminum, barium, cobalt, chromium, copper, iron, manganese, molybdenum, nickel, antimony, vanadium, zinc, calcium, magnesium, sodium, potassium and lead, were detected at varying concentrations in all samples. Beryllium, selenium, titanium, and thallium were not detected in any samples, though silver, arsenic and cadmium were detected in some dust samples. Table 2 presents the highest values for each metal as detected in all sweep samples. The complete data transmittal is presented in Appendix B.

As with the lead data, no readily apparent pattern for the contamination was noted, though these metals were also widespread throughout the facility. Dust levels were relatively low during the sampling effort, though there was no other dust-stirring activity at that time. Heavy equipment, etc. being operated in the area would be expected to significantly raise dust levels. These levels could be hazardous to exposed workers, particularly when considering the variety and concentrations of all metals present. A health risk assessment for current facility employees may be prudent, addressing all routes of exposure. ✓

Attachments

Table 1
Sample Summary
of the
Michael Battery/Rolff Road Site

Sample Number	Type	Aliquots	Value (mg/kg) Lead	Location
I19AN001	Dust	10	6,200	Building A floor
I19AN002	Dust	6	960	Building B floor and sill
I19AN004	Dust	12	5,800	Room C floor
I19AN005	Wipe	1	*19,000 ✓	Room C windowsill in South wall
I19AN006	Dust	3	360	Room E floor
I19AN007	Dust	7	5,600	Room F and hallway floors
I19AN008	Dust	8	680	Room G floor
I19AN009	Dust	6	5,500 ✓	Room H floor
I19AN010	Dust	20	96,000 ✓	Rooms I and J floors
I19AN011	Dust	9	250,000 ✓	Rooms K and L floors
I19AN012	Dust	5	7,000	Room M - South half of floor
I19AN013	Wipe	1	* 1,300	Room M - Southwest corner office floor
I19AN014	Dust	5	6,200 ✓	Room M - North half floor
I19AN015	Wipe	1	* 21,000 ✓	Room M - meter cover on north wall
I19AN016	Dust	7	1,400	Rooms N, O and P floors
I19AN017	Dust	8	13,000	Room Q floor
I19AN018	Dust	6	2,800 ✓	Room R floor
I19AN019	Dust	5	110,000 ✓	Room S and hallway floors
I19AN020	Dust	5	4,200	Room U floor
I19AN021	Dust	5	2,300	Room V floor
I19AN022	Dust	6	800	Room W floor
I19AN023	Wipe	1	* 1,600	Room D - Caterpillar mold #5013
I19AN024	Wipe	1	* 460	Room D - Caterpillar mold #7278
I19AN025	Wipe	1	* 50 U	Field blank

* Value in ug/100 cm²

30000576



Figure 2.

Looking north into Room M. The Room W complex is visible on the far right.
1255 hours. 6/26/87

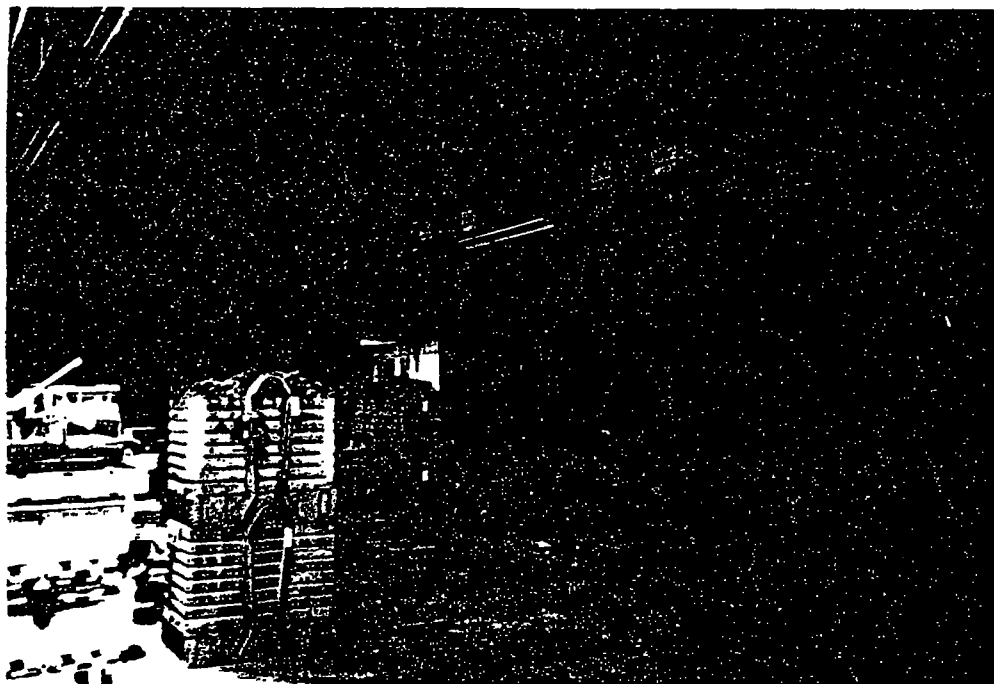


Figure 3.

Looking northeast across Room C.
1257 hours. 6/26/87

30000577



Figure 4

Looking northeast across Room D
1258 hours. 6 /27/87



Figure 5

Looking east at warning sign at the West entrance to Room D, which is covered
by a tarp.
1259 hours, 6/26/87

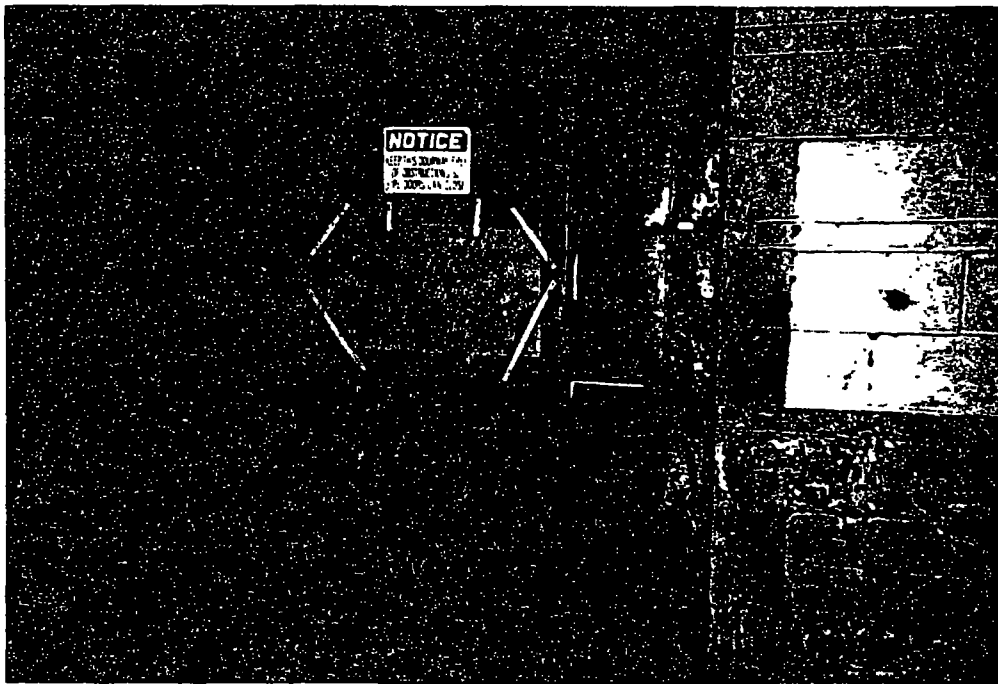


Figure 6

Looking west at the exterior door of Room Y.
1259 hours. 6/26/87

30000579

TABLE 2

Highest Detected Value Among All Dust Samples
For Each Element Analyzed
(Values in mg/kg)

Element	Value	Sample Number
Silver	15	018
Aluminum	48,000	020
Arsenic	150	011
Barium	1,800	012
Beryllium	1 U	
Cadmium	30	019
Cobalt	36	018
Chromium	1,100	004
Copper	36,000	004
Iron	130,000	020
Manganese	1,100	020
Molybdenum	160	018
Nickel	640	012
Lead✓	250,000	011
Antimony	3,200	011
Selenium	10 U	
Titanium	Analysis attempted, no reported results.	
Thallium	60 U	
Vanadium	52	018
Zinc	20,000	004
Calcium	130,000	002
Magnesium	41,000	016
Sodium	25,000	019
Potassium	5,400	007

Appendix A

30000581

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

ACTIVITY LEADER(Print) <u>Russell Krohn</u>	NAME OF SURVEY OR ACTIVITY <u>Michael Battery - Ralff Rd.</u>	DATE OF COLLECTION DAY <u>26</u> MONTH <u>6</u> YEAR <u>87</u>	SHEET <u>1</u> of <u>1</u>
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CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS				VOA SET (2 VIALS EA)	SAMPLED MEDIA					RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	CUBITAINER	BOTTLE	BOTTLE	BOTTLE		water	soil	sediment	dust	other	
T19A001		1							X		
" 002		1							X		
" 004		1							X		
" 005		1							X	Wipe	
" 006		1							X		
" 007		1							X		
" 008		1							X		
" 009		1							X		
" 010		1							X		
" 011		1							X		
" 012		1							X		
" 013		1							X	Wipe	
" 014		1							X		
" 015		1							X	Wipe	
" 016		1							X		
" 017		1							X		
" 018		1							X		
" 019		1							X		
" 020		1							X		
" 021		1							X		
" 022		1							X		
" 023		1							X	Wipe	
" 024		1							X	Wipe	
" 025		1							X	Wipe	

DESCRIPTION OF SHIPMENT

MODE OF SHIPMENT

24 PIECE(S) CONSISTING OF _____ BOX(ES)

1 ICE CHEST(S); OTHER 3 loose cans

____ COMMERCIAL CARRIER: _____

____ COURIER

X SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER) <u>Russell B. Krohn</u>	DATE <u>6/29/87</u>	TIME <u>1325</u>	RECEIVED BY <u>J. Woods</u>	REASON FOR CHANGE OF CUSTODY <u>Analysis</u>
☒ SEALED ☐ UNSEALED			☒ SEALED ☐ UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	

0000582

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

Collected: YR: 87 MO: 6 Day: 26 Time: 0955 Leader: KROHN
Sample Number: I19AN001 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

[illegible]

Depth: Surface Pan #: _____ Aliquots: 10
Samplers: Nobile _____

Site Description: Building A - gravel floor lines

30000583

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

: Site Name: MICHAEL BATTERY-DAVENPORT : Site Number: AN :
: Location: DAVENPORT IA : Site Code: N/A :

: Collected: YR: 87 MO: 6 Day: 26 Time: 1005 Leader: KROHN :

: Sample Number: I19AN002 SMO #: _____ :

: Sample Media (circle one): :

: SOIL, DUST, RINSAJE, SEDIMENT, WATER, OTHER: _____ :

: Sample Split (circle one): YES NO :

: Sample Container : Tag Color : Preservative : Analysis Requested :

: 8-OZ JAR : WHITE : NONE : METALS-LEAD :

: Depth: Surface Pan #: _____ Aliquots: 126 ^{EX} :

: Samplers: Nettle :

COMMENTS OF FIELD PERSONNEL

: Site Description: Building B - gravel floor fines (4 locations) :
: and 2 aliquots from wooden sill dust $\approx$ 4' above :
: floor. :

IBM-PC

30000584

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

: Site Name: MICHAEL BATTERY-DAVENPORT :
: Location: DAVENPORT IA : Site Number: AN :
: Site Code: N/A :

: Collected: YR: 87 MO: 6 Day: 26 Time: 1012 Leader: KROHN :

: Sample Number: I19AN003 SMD #: _____ :

: Sample Media (circle one):
: SOIL, DUST RINSATE, SEDIMENT, WATER, OTHER: _____ :

: Sample Split (circle one): YES NO :

: Sample Container : Tag Color : Preservative : Analysis Requested :

: 8-OZ JAR : WHITE : NONE : METALS-LEAD :

: Depth: Surface Pan #: _____ Aliquots: 6 :

: Samplers: Mobile _____ :

COMMENTS OF FIELD PERSONNEL

: Site Description: :

: Room C - floor sweep - south half :

IBM-PC

30000585

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: Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
: Location: DAVENPORT IA                    Site Code: N/A      :

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Collected: YR: 87 MO: 6 Day: 26 Time: 1021 Leader: KROHN
Sample Number: I19AN004 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

: Sample Container : Tag Color : Preservative : Analysis Requested :

[illegible]

Depth: Surface Pan #: _____ Aliquots: 6/2
Samplers: Nobile

Site Description: ^{RBK} Room C - ~~North hall~~ floor sweep

30000586

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:   Site Name: MICHAEL BATTERY-DAVENPORT           Site Number: AN      :
:   Location:  DAVENPORT  IA                       Site Code:  N/A     :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1025 Leader: KROHN
Sample Number: I19AN005 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: Wipe
Sample Split (circle one): YES NO

: Sample Container : Tag Color : Preservative : Analysis Requested :

[illegible]

Depth: Surface Pan #: _____ Aliquots: 1
Samplers: Krahn _____

Site Description: 100 cm² wipe from wooden sill in south wall of room C.

30000587

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: Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
: Location: DAVENPORT IA                    Site Code: N/A       :

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Collected: YR: 87 MO: 6 Day: 26 Time: 1035 Leader: KROHN
Sample Number: I19AN006 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

Sample Container	Tag Color	Preservative	Analysis Requested
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
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36	36	36	36
37	37	37	37
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92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

[illegible]

Depth: Surface Pan #: _____ Aliquots: 3
Samplers: Nobile _____

Site Description: Room E floor sweep composite- one from each office.

30000588

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

Collected: YR: 87 MO: 6 Day: 26 Time: 1045 Leader: KROHN
Sample Number: I19AN007 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

[illegible]

Samplers: Nobile

Site Description: Room F floor sweep, included adjoining hallway.

30000589

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: Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
: Location: DAVENPORT IA                    Site Code: N/A      :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1055 Leader: KROHN

Sample Number: I19AN008 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____

Sample Split (circle one): YES NO

: Sample Container : Tag Color : Preservative : Analysis Requested :

[illegible]

Depth: Surface Pan #: _____ Aliquots: 2
Samplers: No Lilo

Site Description:	Room G floor sweep
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30000590

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:   Site Name: MICHAEL BATTERY-DAVENPORT           Site Number: AN
:   Location:  DAVENPORT IA                        Site Code: N/A

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Collected: YR: 87 MO: 6 Day: 26 Time: 1105 Leader: KROHN

Sample Number: I19AN009 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____

Sample Split (circle one): YES NO

Sample Container	Tag Color	Preservative	Analysis Requested
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
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52	52	52	52
53	53	53	53
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55	55	55	55
56	56	56	56
57	57	57	57
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72	72	72	72
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74	74	74	74
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83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

[illegible]

Depth: Surface Pan #: _____ Aliquots: 6
Samplers: Nabila _____

Site Description: Room H floor sweep

3600691


```

:   Site Name: MICHAEL BATTERY-DAVENPORT           Site Number: AN      :
:   Location:  DAVENPORT IA                        Site Code:  N/A     :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1135 Leader: KROHN

Sample Number: I19AN011 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____

Sample Split (circle one): YES NO

: Sample Container : Tag Color : Preservative : Analysis Requested :

[illegible]

Depth: Surface Pan #: _____ Aliquots: 9
Samplers: Nobile _____

Site Description: Floor sweep composite from rooms
K and L (bathrooms)

30000593

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: Site Name: MICHAEL BATTERY-DAVENPORT.      Site Number: AN      :
: Location: DAVENPORT IA                      Site Code: N/A      :

```

: Sample Container : Tag Color : Preservative : Analysis Requested :

Depth: Surface Pan #: _____ Aliquots: 5
Samplers: Nobile _____

Site Description: Sweep sample from floor of south half of room M.

30000594

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:   Site Name: MICHAEL BATTERY-DAVENPORT           Site Number: AN       :
:   Location:  DAVENPORT IA                        Site Code:  N/A       :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1140 Leader: KROHN
Sample Number: I19AN013 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: Wipe
Sample Split (circle one): YES NO

[illegible]

Depth: Surface Pan #: _____ Aliquots: 1 _____
 Samplers: Krohn _____

Site Description: 100 cm² wipe from office ~~linoleum~~^{tile} floor
in south^{west} part of room M.

30000595

```

: Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN
: Location: DAVENPORT IA                    Site Code: N/A

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1200 Leader: KROHN
Sample Number: I19AN014 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

Sample Container	Tag Color	Preservative	Analysis Requested
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
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48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

[illegible]

Depth: Surface Pan #: _____ Aliquots: 5
Samplers: Nobile _____

Site Description: Room M floor sweep from north half,

30000596

```

: Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
: Location: DAVENPORT IA                    Site Code: N/A      :

```

: Sample Container : Tag Color : Preservative : Analysis Requested :

Depth: Surface Pan #: _____ Aliquots: 1
Samplers: Krahn _____

Site Description: 100 cm² wipe of top of cover over meter
next to overhead ~~door~~ door in north half of room M.

30000597

```

-----
:  Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN
:  Location: DAVENPORT  IA                   Site Code: N/A
-----

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1205 Leader: KROHN
Sample Number: I19AN016 SMD #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

[illegible]

Depth: Surface Par #: _____ Aliquots: 7
Samplers: Nobile _____

Site Description: Floor sweep composite from rooms
N, O and P.

30000598


```

:   Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
:   Location:  DAVENPORT  IA                  Site Code:  N/A      :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1220 Leader: KROHN

Sample Number: I19AN018 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____

Sample Split (circle one): YES NO

: Sample Container : Tag Color : Preservative : Analysis Requested :

[illegible]

Depth: Surface Pan #: _____ Aliquots: 6
Samplers: Krohn _____

```
:
: Site Description: Floor sweep from room R
:
:
:
:
:
:
:
:
:
:
:
```

30000600

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

Collected: YR: 87 MO: 6 Day: 26 Time: 1220 Leader: KROHN
Sample Number: I19AN019 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

[illegible]

Depth: Surface Pan #: _____ Aliquots: 5
Samplers: No tile _____

Site Description: Floor sweep from room S and adjoining hall.

30000601

```

:   Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
:   Location:  DAVENPORT  IA                  Site Code:  N/A      :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1230 Leader: KROHN
Sample Number: I19AN020 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

[illegible]

Site Description: Floor sweep from room U.

00000002

```

: Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
: Location: DAVENPORT IA                    Site Code: N/A      :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 230 Leader: KROHN
Sample Number: I19AN021 SMO #: _____
Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____
Sample Split (circle one): YES NO

: Sample Container : Tag Color : Preservative : Analysis Requested :

[illegible]

Depth: Surface Pan #: _____ Aliquots: 3
Samplers: Nobile _____

[illegible]

30000603

```

: Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN      :
: Location: DAVENPORT IA                    Site Code: N/A       :

```

Collected: YR: 87 MO: 6 Day: 26 Time: 1240 Leader: KROHN

Sample Number: I19AN022 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____

Sample Split (circle one): YES NO

Sample Container	Tag Color	Preservative	Analysis Requested
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
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61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
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82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

[illegible]

Depth: Surface Pan #: _____ Aliquots: 6
Samplers: Mobile _____

```

: Site Description: Floor Sweep - room W
:
:
:
:
:
:
:
:
:
:
:

```

3000604

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

: Site Name: MICHAEL BATTERY-DAVENPORT Site Number: AN :
: Location: DAVENPORT 1A Site Code: N/A :

: Collected: YR: 87 MO: 6 Day: 26 Time: 1430 Leader: KROHN :

: Sample Number: I19AN023 SMO #: _____ :

: Sample Media (circle one): :

: SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: Wipe :

: Sample Split (circle one): YES NO :

: Sample Container : Tag Color : Preservative : Analysis Requested :

: 8-OZ JAR : WHITE : NONE : METALS-LEAD :

: Depth: Surface Pan #: _____ Aliquots: 1 :

: Samplers: Krahn _____ :

COMMENTS OF FIELD PERSONNEL

: Site Description: 100 cm² wipe of Caterpillar mold #5013 :

: located ~ 20' northwest of bay door. :

IBM-PC

~~30000605~~

30000605

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

: Site Name: MICHAEL BATTERY-DAVENPORT Site Number: AN :
: Location: DAVENPORT IA Site Code: N/A :

: Collected: YR: 87 MO: 6 Day: 26 Time: 1440 Leader: KROHN :

: Sample Number: I19AN024 SMO #: _____ :

: Sample Media (circle one):
: SOIL, DUST, RINSATE, SEDIMENT, WATER, OTHER: _____ :

: Sample Split (circle one): YES NO :

: Sample Container : Tag Color : Preservative : Analysis Requested :

: 8-OZ JAR : WHITE : NONE : METALS-LEAD :

: Depth: Surface Pan #: _____ Aliquots: 1 :

: Samplers: Krohn _____ :

COMMENTS OF FIELD PERSONNEL

: Site Description: 100 cm² wipe of Caterpillar cart mold
: # 7278, located next to east wall of
: room D :

IBM-PC

30000606

```

:   Site Name: MICHAEL BATTERY-DAVENPORT      Site Number: AN
:   Location:  DAVENPORT IA                    Site Code: N/A

```

Sample Number: I19AN025 SMO #: _____

: Sample Split (circle one): YES NO

: 8-OZ JAR : WHITE : NONE : METALS-LEAD :

: Samplers: Krohn :

: Site Description: Wipe sample + field blank :

Appendix B



MICHAEL BATTERY:

ROLFF/ROD

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

6/26/87

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

Date:

7/17/87

MEMORANDUM

SUBJECT: Data Transmittal for Activity #: I 19 AN
Site Description: Michael Battery - Davenport
FROM: Robert D. Kleopfer, Ph.D. W. Bunn for RDK
Acting Chief, Laboratory Branch, ENSV
TO: Robert L. Morby
Chief, Superfund Branch, WSTM
ATTN: Pauletta R. France

Attached is the data transmittal for the above referenced site.

This should be considered a Partial Corrected Complete
data transmittal (completes transmittal of). If you
have any questions or comments, please contact D. Simmons at 236-3881.

Attachments

cc: Data File

30000609

EPA REGION VII
DATA QUALIFICATION CODES

- U - Compound was not detected.
- M - Compound was qualitatively identified; however, quantitative value is less than contract required detection limits (CLP data); or value is less than limit of quantitation (EPA data).
- J - Compound was qualitatively identified; however, compound failed to meet all QA criteria and therefore is only an estimated value.
- I - Analysis attempted, but no results can be reported.
- O - Sample lost or not analyzed.
- L - Value known to be higher than value reported.

30000610
30000610

ANALYSIS TYPE: TOTAL METALS

TITLE: MICHAEL BATTERY

LAB: EPA REGION VII

SAMPLE PREP: GLM ANALYST/ENTRY: GLM

MATRIX: SEDIMENT

METHOD: 2001S77

REVIEWER: WJR

DATE: 07/09/87

SAMPLE NUMBERS

ELEMENT	UNITS	I19AN001	I19AN002	I19AN004	I19AN006
SILVER	MG/KG	1. U	1. U	1. U	1. U
ALUMINUM	MG/KG	3400	4600	7000	8600
ARSENIC	MG/KG	10. U	10. U	12	10. U
BARIUM	MG/KG	570	148	890	150
BERYLLIUM	MG/KG	1. U	1. U	1. U	1. U
CADMIUM	MG/KG	9.8	1.5	2.5	1. U
COBALT	MG/KG	30	8.3	18	9.6
CHROMIUM	MG/KG	110	30	1100	25
COPPER	MG/KG	1000	240	36000	86
IRON	MG/KG	65000	23000	61000	78000
MANGANESE	MG/KG	740	360	830	510
MOLYBDENUM	MG/KG	21	9.7	35	18
NICKEL	MG/KG	220	48	540	42
LEAD	MG/KG	6200	960	5800	360
ANTIMONY	MG/KG	23	3.8	14	5.6
SELENIUM	MG/KG	10. U	10. U	10. U	10. U
TITANIUM	MG/KG	N/A I	N/A I	N/A I	N/A I
THALLIUM	MG/KG	60 U	60 U	60 U	60 U
VANADIUM	MG/KG	21	14	26	32
ZINC	MG/KG	2900	1500	20000	570
CALCIUM	MG/KG	73000	130000	41000	37000
MAGNESIUM	MG/KG	8400	6600	6000	11000
SODIUM	MG/KG	2100	5600	2400	2900
POTASSIUM	MG/KG	670	2700	1900	2900

30000611

ANALYSIS TYPE: TOTAL METALS

TITLE: MICHAEL BATTERY

LAB: EPA REGION VII

SAMPLE PREP: GLM ANALYST/ENTRY: GLM

MATRIX: SEDIMENT

METHOD: 2001577

REVIEWER: W/R

DATE: 07/09/87

SAMPLE NUMBERS

ELEMENT	UNITS	I19AN007	I19AN008	I19AN009	I19AN010
SILVER	MG/KG	1. U	1. U	1.	2.8
ALUMINUM	MG/KG	9900	19000	20000	4800
ARSENIC	MG/KG	16	10. U	21	54
BARIUM	MG/KG	300	390	970	210
BERYLLIUM	MG/KG	1. U	1. U	1. U	1. U
CADMIUM	MG/KG	14	1. U	1. U	28
COBALT	MG/KG	12	9.2	13	17
CHROMIUM	MG/KG	67	66	150	190
COPPER	MG/KG	870	510	4200	2900
IRON	MG/KG	26000	85000	110000	89000
MANGANESE	MG/KG	350	610	970	650
MOLYBDENUM	MG/KG	25	26	44	40
NICKEL	MG/KG	89	61	150	190
LEAD	MG/KG	5600	600	5500	96000
ANTIMONY	MG/KG	5.2	6.	67	680
SELENIUM	MG/KG	10. U	10. U	10. U	10. U
TITANIUM	MG/KG	N/A I	N/A I	N/A I	N/A I
THALLIUM	MG/KG	60 U	60 U	60 U	60 U
VANADIUM	MG/KG	22	20	36	23
ZINC	MG/KG	5700	910	1700	4700
CALCIUM	MG/KG	70000	31000	47000	37000
MAGNESIUM	MG/KG	11000	1800	7600	3600
SODIUM	MG/KG	3600	2100	4200	2700
POTASSIUM	MG/KG	5400	710	1900	1300

30000612

ANALYSIS TYPE: TOTAL METALS

TITLE: MICHAEL BATTERY

LAB: EPA REGION VII

SAMPLE PREP: GLM ANALYST/ENTRY: GLM

MATRIX: SEDIMENT

METHOD: 2001S77

REVIEWER: W.B.

DATE: 07/09/07

SAMPLE NUMBERS

ELEMENT	UNITS	I19AN011	I19AN012	I19AN014	I19AN016
SILVER	MG/KG	4.7	4.5	1. U	1.1
ALUMINUM	MG/KG	13000	8400	4300	9700
ARSENIC	MG/KG	150	23.	13	10. U
BARIUM	MG/KG	23	1800.	1600	1500
BERYLLIUM	MG/KG	1. U	1. U	1. U	1. U
CADMIUM	MG/KG	5.8	15	3.7	7.3
COBALT	MG/KG	5.9	16	22	16
CHROMIUM	MG/KG	100	500	870	84
COPPER	MG/KG	790	1200	750	520
IRON	MG/KG	36000	86000	75000	23000
MANGANESE	MG/KG	350	1000	770	600
MOLYBDENUM	MG/KG	37	38	40	26
NICKEL	MG/KG	130	640	170	440
LEAD	MG/KG	250000	7000	6200	1400
ANTIMONY	MG/KG	3200	36	27	6.8
SELENIUM	MG/KG	10. U	10. U	10. U	10. U
TITANIUM	MG/KG	N/A I	N/A I	N/A I	N/A I
THALLIUM	MG/KG	60 U	60 U	60 U	60 U
VANADIUM	MG/KG	13	32	24	13
ZINC	MG/KG	1300	3000	2400	3300
CALCIUM	MG/KG	52000	37000	49000	59000
MAGNESIUM	MG/KG	2800	6300	6200	41000
SODIUM	MG/KG	4000	2400	2800	3000
POTASSIUM	MG/KG	1300	1200	1400	2500

30000613

ANALYSIS TYPE: TOTAL METALS

TITLE: MICHAEL BATTERY

LAB: EPA REGION VII

SAMPLE PREP: CLA ANALYST/ENTRY: GLM
CLM

MATRIX: SEDIMENT

METHOD: 2001S77

REVIEWER: WJ B DATE: 07/09/87

SAMPLE NUMBERS

ELEMENT	UNITS	I19AN017	I19AN018	I19AN019	I19AN020
SILVER	MG/KG	1.4	15	4.	5.3
ALUMINUM	MG/KG	9700	9900	4200	48000
ARSENIC	MG/KG	17	27	66	25
BARIUM	MG/KG	690	420	260	690
BERYLLIUM	MG/KG	1. U	1. U	1. U	1. U
CADMIUM	MG/KG	6.8	11	30	13
COBALT	MG/KG	10.	36	8.3	17
CHROMIUM	MG/KG	100	580	530	170
COPPER	MG/KG	1000	7500	730	11000
IRON	MG/KG	57000	93000	54000	130000
MANGANESE	MG/KG	470	820	500	1100
MOLYBDENUM	MG/KG	33	160	66	60
NICKEL	MG/KG	290	290	86	250
LEAD	MG/KG	13000	2000	110000	4200
ANTIMONY	MG/KG	100	18	1100	18
SELENIUM	MG/KG	10. U	10. U	10. U	10. U
TITANIUM	MG/KG	N/A I	N/A I	N/A I	N/A I
THALLIUM	MG/KG	60 U	60 U	60 U	60 U
VANADIUM	MG/KG	19	52	19	42
ZINC	MG/KG	1100	2100	840	1800
CALCIUM	MG/KG	34000	21000	80000	37000
MAGNESIUM	MG/KG	2700	2400	3200	3400
SODIUM	MG/KG	3400	2100	25000	9100
POTASSIUM	MG/KG	1100	940	4400	2500

30000614

ANALYSIS TYPE: TOTAL METALS

TITLE: MICHAEL BATTERY

LAB: EPA REGION VII

SAMPLE PREP: SLA ANALYST/ENTRY: GLM

MATRIX: SEDIMENT

METHOD: 2001S77

REVIEWER: WJR

DATE: 07/09/87

SAMPLE NUMBERS

I19AN021

I19AN022

ELEMENT UNITS

SILVER	MG/KG	1. U	1. U
ALUMINUM	MG/KG	4000	6600
ARSENIC	MG/KG	10.	10.
BARIUM	MG/KG	420	320
BERYLLIUM	MG/KG	1. U	1. U
CADMIUM	MG/KG	9.7	4.
COBALT	MG/KG	9.6	12
CHROMIUM	MG/KG	100	42
COPPER	MG/KG	360	130
IRON	MG/KG	44000	73000
MANGANESE	MG/KG	440	820
MOLYBDENUM	MG/KG	31	19
NICKEL	MG/KG	190	60
LEAD	MG/KG	2300	800
ANTIMONY	MG/KG	9.5	5.2
SELENIUM	MG/KG	10. U	10. U
TITANIUM	MG/KG	N/A I	N/A I
THALLIUM	MG/KG	60 U	60 U
VANADIUM	MG/KG	19	27
ZINC	MG/KG	1700	840
CALCIUM	MG/KG	24000	61000
MAGNESIUM	MG/KG	2800	11000
SODIUM	MG/KG	1600	2600
POTASSIUM	MG/KG	870	2300

30000615

WIPE SAMPLES
EPA REGION VII DATA

TITLE: MICHAEL BATTERY
DATE: 07/09/87
MATRIX: SEDIMENT

PARAMETER: WIPE SAMPLES
METHOD: 001
ANALYST: GMS GLN / WJB

SAMPLE NO.	Lead RESULT UG/100 cm ² Pb	REFERENCE	XREC
I19AN005	19000.		
I19AN013	1300.		
I19AN015	21000.		
I19AN023	1600.		
I19AN024	460		
I19AN025	50.0 U		