TETRA TECH EM INC.

EPA Region 5 Records Ctr.
295978

March 3, 2006

Mr. David Graham
City of Chicago Department of Environment
30 North LaSalle Street
25th Floor
Chicago, IL 60602

Subject: **Soil Sampling and Surveying Letter Report**
Former Dutch Boy – National Lead Property
Study Area No. 13 of the West Pullman Industrial Redevelopment Area (WIRA)
Chicago, Illinois

Dear Mr. Graham:

On the behalf of the City of Chicago Department of Environment (CDOE), Tetra Tech EM Inc. (Tetra Tech) performed subsurface soil sampling and surveying at the property located between 12000 and 12054 South Peoria Street and between 901 and 925 West 120th Street within Study Area No. 13 of the WIRA (hereafter referred to as the "site") in Chicago, Illinois. The objective of this investigation was to evaluate whether material removed from the former basement areas and stockpiled adjacent to these areas has reimpacted previously remediated areas.

This letter report summarizes the site background, soil investigation, and laboratory analytical results, and presents conclusions based on the soil sampling and surveying. Enclosure 1 provides figures, Enclosure 2 provides tables, Enclosure 3 provides copies of the boring logs, Enclosure 4 provides copies of the analytical results, and Enclosure 5 contains the data evaluation report.

SITE BACKGROUND

CDOE has entered the site in the Illinois Site Remediation Program (SRP) in accordance with Title 35 of the *Illinois Administrative Code*, Part 740. Site investigations and removal actions were conducted from 1986 through 2001 to determine if former operations impacted shallow soil and groundwater at the site. Previous site investigations and removal actions have been conducted by the following parties: the Illinois Environmental Protection Agency (IEPA); Toxcon Engineering Company, Inc. (Toxcon); Ecology & Environment, Inc. (E&E); Simon Hydro-Search, Inc. (Simon); Harza Environmental Services, Inc. (Harza); the U.S. Environmental Protection Agency (U.S. EPA); Science Applications International Corporation (SAIC); ENVIRON Corporation (Environ); Earth Tech, Inc. (Earth Tech); Environmental Strategies Corporation (ESC); and Tetra Tech.

Soil sampling results from these investigations indicate lead concentrations of up to 50,000 milligrams per kilogram (mg/kg) at the site. Consequently, approximately 15,000 tons of lead-contaminated soil has been removed from the site. Additionally, underground storage tanks, aboveground storage tanks, and asbestos piping have been removed from the site. ESC removed soil from the uncovered areas at the site, then capped these areas with soil to serve as an engineered barrier.

1 S. Wacker Drive, 37th Floor, Chicago, IL 60606
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www.ttemi.com

Earth Tech demolished all free-standing concrete walls and the concrete foundations above each basement area to 2 feet below ground surface (bgs). A total of 1,345 tons of concrete and debris was hauled offsite. Additional concrete was used to fill the tank basement and west basement areas. The concrete floors of the basement were left in place but were broken to allow drainage. Portions of the site were backfilled by Earth Tech using onsite material.

At the request of CDOE, Tetra Tech excavated the concrete that was used to fill the west basement and tank basement areas, and transported the large concrete blocks off-site for disposal. Small concrete pieces, soil, and debris that was placed in the basement areas by Earth Tech was excavated along with the large concrete blocks and placed to the side of the basement areas. CDOE requested the material be removed from the basement areas so that National Lead and it's contractor could access their planned areas of removal. The material remains on site in stockpiles next to the basement areas pending evaluation.

SUBSURFACE SOIL INVESTIGATION

Tetra Tech submitted a draft work plan to CDOE on August 8, 2005, describing the proposed work to be conducted at the site. The sampling was proposed to assess if soil in previously remediated areas was impacted by the material piled on site and to delineate the vertical extent of the impacts if present. In an effort to expedite the schedule, Tetra Tech mobilized to the field to perform the work outlined in the draft work plan. Due to an oversight, CDOE did not provide EPA with sufficient advance notice of the work to allow a review of the draft work plan and to allow EPA to monitor the field effort. However, EPA was present for a portion of the work on August 17, 2005. The work plan was finalized on August 24, 2005, and was submitted to EPA for review. To date, EPA has had no comments on the work plan or the sampling activities performed.

On August 16, 2005, Tetra Tech mobilized to the site and discussed the proposed work with Mr. John Geiger representing CDOE. Tetra Tech performed the work as described in the August 24, 2005, work plan at the direction of Mr. Geiger. To gain access to the sampling areas, Tetra Tech mobilized a back hoe to the site to remove stockpiled material from above previously remediated soil.

Tetra Tech advanced a total of 16 Geoprobe® soil borings at locations prescribed by Mr. Geiger and collected 87 investigative soil samples (see Figure 1-1). The soil borings were drilled using a Geoprobe®, a hydraulically driven sampling device equipped with disposable acetate liners within stainless steel sampling tubes. The sampling tubes were decontaminated prior to each use with an Alconox detergent/water solution and then rinsed with distilled water. The disposable liners were discarded after each single use. Soil samples were continuously collected at one foot intervals to the terminus of the boring. Soil samples were inspected and logged on soil boring logs. The four soil borings closest to the existing basement were advanced to a minimum of 10 feet bgs. The remaining 12 borings were advanced to 4 feet bgs. The locations of the soil borings were recorded using a global positioning system device.

Soil samples were collected from each 1-foot interval for laboratory analysis. Samples were thoroughly mixed and placed in precleaned 4-ounce (oz) glass jars for laboratory analysis and the jars were labeled with indelible ink at the time of sampling. The jars were precleaned to the U.S. EPA standards and sealed with Teflon® lined plastic screw-on lids. Each sample collected from 0 to 1, 1 to 2, 2 to 3, and 3 to 4 foot depth intervals was submitted for total lead analysis. Soil samples collected from 1 foot depth intervals from 4 to 10 feet bgs were archived pending analysis in the event the vertical extent required evaluation. All soil samples were placed in a cooler with ice and were cooled to a temperature of approximately 4°C. The soil samples were transported to the laboratory on ice. A chain-of-custody form was prepared, signed, and dated by Tetra Tech and laboratory representatives.

All cuttings generated during the soil boring were returned to the open borehole at the completion of the sampling. Care was taken to return the soil back to the interval it was collected from. Bentonite chips were used to backfill the borings to grade, as necessary.

The investigated area of the site generally consists of 4 feet of organic silt and topsoil material underlain by 5 to 7 feet of sand, which is in turn underlain by hard gray clay. Groundwater was encountered at about 6 feet bgs in the sand layer.

Figure 1-1 in Enclosure 1 is a site map showing the soil boring locations. Table 2-1 in Enclosure 2 summarizes the samples collected, total lead results, and IEPA Tiered Approach to Correction Action Objectives (TACO) Tier 1 remediation objectives for industrial-commercial properties and for the construction worker scenario. Enclosure 3 provides a copy of the boring logs.

SITE SURVEY

On August 16, 2005, Tetra Tech mobilized a back hoe to the site to locate former concrete structures that were near the ground surface as requested by Mr. Geiger. On August 17, 2005, Alfred Benesch and Company, a licensed land surveyor, collected survey data on the property at the direction of Mr. Geiger, and a scaled site map was generated. This scaled site map was used to develop Figure 1-1.

LABORATORY ANALYTICAL RESULTS

The soil samples were submitted to STAT Analysis Corporation (STAT) of Chicago, Illinois, an IEPA-accredited environmental analytical laboratory. The analyses were conducted utilizing the standard five day turnaround period. Tetra Tech and STAT followed the EPA-approved sampling methods and analytical methods found in *Test Methods for Evaluating Solid Waste (SW-846)* for total lead and moisture content. Figure 1-1 in Enclosure 1 shows the sample locations and Table 2-1 in Enclosure 2 summarize the laboratory results discussed below for the soil samples. Enclosure 4 provides a copy of the laboratory analytical results and Enclosure 5 provides the data evaluation report.

The soil sample laboratory analytical results were compared to the U.S. EPA risk-based cleanup objective for the site of 1,400 milligrams per kilogram (mg/kg) total lead and TACO Tier 1 remediation objectives for industrial-commercial properties and for the construction worker (400 mg/kg).

The results of the data evaluation indicated that percent recoveries for the matrix spike and matrix spike duplicate lead samples were well above the acceptable quality control range. Additionally, 10 of the field duplicate pairs had large relative percent differences. Therefore, soil sample analytical results were flagged "J" and are considered estimated but are still considered valid.

Lead concentrations did not exceed the U.S. EPA risk-based objective (1,400 mg/kg) or the TACO Tier 1 remediation objectives (400 mg/kg) in any of the soil samples collected from the ground surface (0 to 1 foot bgs depth interval). Lead was detected at concentrations exceeding the U.S. EPA risk-based objective in eight samples collected from the 2 to 3 or 3 to 4 foot depth intervals (TT-05-N-01-23 [2 to 3 foot depth], TT-05-N-01-34 [3 to 4 foot depth], TT-05-N-02-34 [3 to 4 foot depth], TT-05-N-03-23 [2 to 3 foot depth], TT-05-N-03-34 [3 to 4 foot depth], TT-05-N-04-34 [3 to 4 foot depth], TT-05-NW-04-34 [3 to 4 foot depth], and TT-05-W-03-34 [3 to 4 foot depth]). Also, total lead concentrations in 16 samples exceeded the TACO Tier 1 remediation objective for the ingestion exposure route for industrial-commercial properties and construction workers (see Table 2-1 and Figure 1-1). Therefore, the lead exceedances were below 2 feet bgs and are present below the capped area. No lead exceedances were detected in the surface soil in the previously remediated areas.

None of the archived samples were analyzed because lead exceedances were not observed in the surface soil in the previously remediated areas.

CONCLUSIONS

The results of the soil sampling conducted by Tetra Tech indicate that lead concentrations do not exceed the U.S. EPA risk-based objective in previously remediated soil in the area of investigation. In addition, the lead concentrations detected in the surface soil samples do not exceed the TACO Tier 1 remediation objectives for industrial-commercial properties or the construction worker scenario. Thus, based on the laboratory analytical results of this investigation, the material that was excavated from the basement areas and staged at the side of these areas has not impacted the previously remediated soil with total lead in the locations sampled.

Additionally, the results of the soil sampling conducted by Tetra Tech indicate that lead remains in site soil at depth beneath the soil cap at concentrations exceeding both the U.S. EPA risk-based objective and the TACO Tier 1 objectives.

If you have any questions about Tetra Tech's subsurface soil sampling or site survey, please call me at (312) 201-7411.

Sincerely,

Carol Nissen

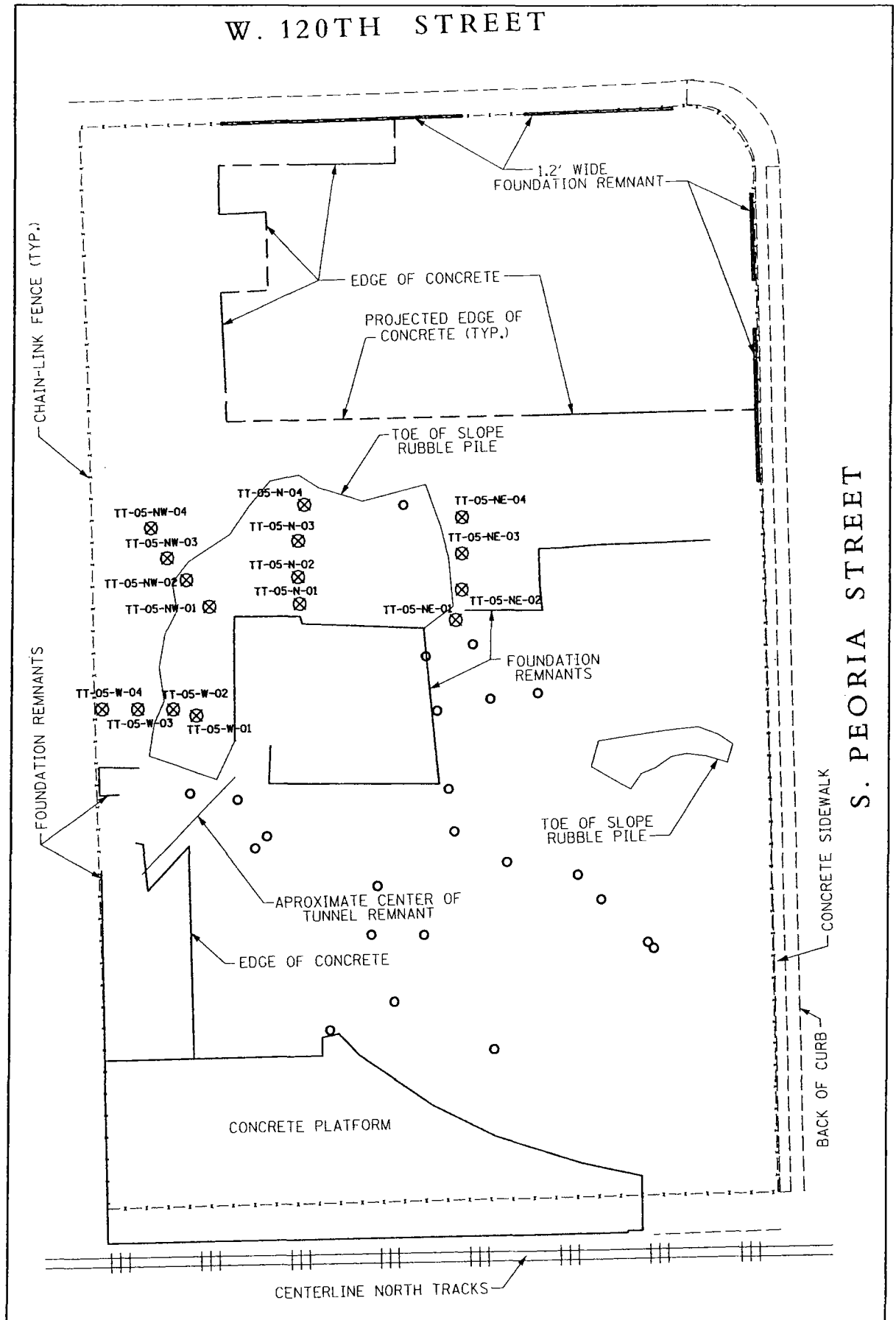
Carol Nissen
Project Manager

Enclosures (5)

ENCLOSURE 1

FIGURE

(One Sheet)



⊗ SOIL BORING LOCATION

O EXISTING SOIL BORING LOCATION

NOTES:
- Partial foundations obscured by soil and debris.
- Northerly fence is anchored into what appears to be foundation remnant.
- Assumed 100.00' elevation on cross cut pt100 on concrete platform.
- Projected edge of concrete based on information provided by others.
- Measurements hereon based on field locations.

N

0 25 50
SCALE IN FEET

FORMER DUTCH BOY SITE
CHICAGO, ILLINOIS

FIGURE 1-1
SOIL BORING LOCATIONS

Tetra Tech EM Inc.

ENCLOSURE 2

TABLE 2-1,
SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS FOR TOTAL LEAD

(One Sheet)

TABLE 2-1
SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS FOR TOTAL LEAD
STUDY AREA NO. 13, WEST PULLMAN INDUATRIAL REDEVELOPMENT AREA
CHICAGO, ILLINOIS

Sample Number	Date Collected	Total Lead (mg/kg)	Background Concentration (mg/kg)	Remediation Objectives/Industrial-Commercial Construction Worker (mg/kg)		Residential (mg/kg)	
				Exposure Route	Tier 1 Value	Exposure Route	Tier 1 Value
TT-05-N-01-01	8/16/2005	32 J	1,400	400	NE	400	NE
TT-05-N-01-12	8/16/2005	26 J	1,400	400	NE	400	NE
TT-05-N-01-23	8/16/2005	**2,200 J**	1,400	400	NE	400	NE
TT-05-N-01-34	8/16/2005	**8,200 J**	1,400	400	NE	400	NE
TT-05-N-02-01	8/16/2005	210 J	1,400	400	NE	400	NE
TT-05-N-02-12	8/16/2005	23 J	1,400	400	NE	400	NE
TT-05-N-02-23	8/16/2005	**1,100 J**	1,400	400	NE	400	NE
TT-05-N-02-34	8/16/2005	**3,100 J**	1,400	400	NE	400	NE
TT-05-N-03-01	8/16/2005	260 J	1,400	400	NE	400	NE
TT-05-N-03-12	8/16/2005	28 J	1,400	400	NE	400	NE
TT-05-N-03-23	8/16/2005	**10,000 J**	1,400	400	NE	400	NE
TT-05-N-03-34	8/16/2005	**6,300 J**	1,400	400	NE	400	NE
TT-05-N-04-01	8/16/2005	48 J	1,400	400	NE	400	NE
TT-05-N-04-12	8/16/2005	**1,000 J**	1,400	400	NE	400	NE
TT-05-N-04-23	8/16/2005	**500 J**	1,400	400	NE	400	NE
TT-05-N-04-34	8/16/2005	**1,700 J**	1,400	400	NE	400	NE
TT-05-NE-01-01	8/16/2005	33 J	1,400	400	NE	400	NE
TT-05-NE-01-12	8/16/2005	32 J	1,400	400	NE	400	NE
TT-05-NE-01-23	8/16/2005	**580 J**	1,400	400	NE	400	NE
TT-05-NE-01-34	8/16/2005	**1,000 J**	1,400	400	NE	400	NE
TT-05-NE-02-12	8/16/2005	34 J	1,400	400	NE	400	NE
TT-05-NE-02-23	8/16/2005	37 J	1,400	400	NE	400	NE
TT-05-NE-02-34	8/16/2005	38 J	1,400	400	NE	400	NE
TT-05-NE-03-01	8/16/2005	220 J	1,400	400	NE	400	NE
TT-05-NE-03-12	8/16/2005	42 J	1,400	400	NE	400	NE
TT-05-NE-03-23	8/16/2005	31 J	1,400	400	NE	400	NE
TT-05-NE-03-34	8/16/2005	270 J	1,400	400	NE	400	NE
TT-05-NE-04-01	8/16/2005	32 J	1,400	400	NE	400	NE
TT-05-NE-04-12	8/16/2005	31 J	1,400	400	NE	400	NE
TT-05-NE-04-23	8/16/2005	29 J	1,400	400	NE	400	NE
TT-05-NE-04-34	8/16/2005	35 J	1,400	400	NE	400	NE
TT-05-NW-01-01	8/16/2005	290 J	1,400	400	NE	400	NE
TT-05-NW-01-12	8/16/2005	26 J	1,400	400	NE	400	NE
TT-05-NW-01-23	8/16/2005	230 J	1,400	400	NE	400	NE
TT-05-NW-01-34	8/16/2005	**690 J**	1,400	400	NE	400	NE
TT-05-NW-02-01	8/16/2005	41 J	1,400	400	NE	400	NE
TT-05-NW-02-12	8/16/2005	26 J	1,400	400	NE	400	NE
TT-05-NW-02-23	8/16/2005	26 J	1,400	400	NE	400	NE
TT-05-NW-02-34	8/16/2005	21 J	1,400	400	NE	400	NE
TT-05-NW-03-01	8/16/2005	45 J	1,400	400	NE	400	NE
TT-05-NW-03-12	8/16/2005	27 J	1,400	400	NE	400	NE
TT-05-NW-03-23	8/16/2005	27 J	1,400	400	NE	400	NE
TT-05-NW-03-34	8/16/2005	**730 J**	1,400	400	NE	400	NE
TT-05-NW-04-01	8/16/2005	380 J	1,400	400	NE	400	NE
TT-05-NW-04-12	8/16/2005	28 J	1,400	400	NE	400	NE
TT-05-NW-04-23	8/16/2005	29 J	1,400	400	NE	400	NE
TT-05-NW-04-34	8/16/2005	**2,400 J**	1,400	400	NE	400	NE
TT-05-W-01-01	8/16/2005	48 J	1,400	400	NE	400	NE
TT-05-W-01-12	8/16/2005	24 J	1,400	400	NE	400	NE
TT-05-W-01-23	8/16/2005	25 J	1,400	400	NE	400	NE
TT-05-W-01-34	8/16/2005	250 J	1,400	400	NE	400	NE
TT-05-W-02-01	8/16/2005	74 J	1,400	400	NE	400	NE
TT-05-W-02-12	8/16/2005	38 J	1,400	400	NE	400	NE
TT-05-W-02-23	8/16/2005	25 J	1,400	400	NE	400	NE
TT-05-W-02-34	8/16/2005	250 J	1,400	400	NE	400	NE
TT-05-W-03-01	8/16/2005	33 J	1,400	400	NE	400	NE
TT-05-W-03-12	8/16/2005	25 J	1,400	400	NE	400	NE
TT-05-W-03-23	8/16/2005	29 J	1,400	400	NE	400	NE
TT-05-W-03-34	8/16/2005	**3,800 J**	1,400	400	NE	400	NE
TT-05-W-04-01	8/16/2005	**750 J**	1,400	400	NE	400	NE
TT-05-W-04-12	8/16/2005	26 J	1,400	400	NE	400	NE
TT-05-W-04-23	8/16/2005	33 J	1,400	400	NE	400	NE
TT-05-W-04-34	8/16/2005	28 J	1,400	400	NE	400	NE

Notes

IEPA = Illinois Environmental Protection Agency
J = Result is estimated
mg/kg = Milligram per kilogram
NE = Not established
TACO = Tiered Approach to Corrective Action Objectives
U.S. EPA = United States Environmental Protection Agency
Bold values = Exceed IEPA TACO Tier 1 remediation objectives
Shaded value = Exceed U.S. EPA risk-based cleanup objective

ENCLOSURE 3

BORING LOGS

(16 Sheets)

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-N-01

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Silt*** Dry, brown, organic topsoil	1	TT-05-N-01-01	Total Lead	
2			2	TT-05-N-01-12	Total Lead	
3		***Sand*** Dry to moist, light brown, fine-grained	3	TT-05-N-01-23	Total Lead	
4			4	TT-05-N-01-34	Total Lead	
5		***Clayey Sand*** Moist, brown and gray, fine-grained. Becomes wet at 6 feet bgs	5	TT-05-N-01-45	Archived	
6			6	TT-05-N-01-56	Archived	
7			7	TT-05-N-01-67	Archived	
8		***Clay*** Moist, gray	8	TT-05-N-01-78	Archived	
9			9	TT-05-N-01-89	Archived	
10			10	TT-05-N-01-910	Archived	
11			11			
12		End of Borehole	12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-N-02

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, brown, organic topsoil		TT-05-N-02-01	Total Lead	
1			1	TT-05-N-02-12	Total Lead	
2			2	TT-05-N-02-23	Total Lead	
3		***Sand*** Dry, light brown, fine-grained	3	TT-05-N-02-34	Total Lead	
4		***Gravel Fill*** Moist to wet, dark brown and black gravel fill mixed with slag	4			
5		End of Borehole	5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-N-03

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, brown, organic topsoil		TT-05-N-03-01	Total Lead	
1			1			
				TT-05-N-03-12	Total Lead	
2			2			
				TT-05-N-03-23	Total Lead	
3		***Sand*** Moist, black, fine-grained	3			
				TT-05-N-03-34	Total Lead	
4		***Sand*** Moist, orange, gray, and yellow, fine-grained	4			
5		End of Borehole	5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-N-04

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, black, organic topsoil		TT-05-N-04-01	Total Lead	
1			1	TT-05-N-04-12	Total Lead	
2		***Sand*** Dry, black and dark brown, fine-grained	2	TT-05-N-04-23	Total Lead	
3			3	TT-05-N-04-34	Total Lead	
4		***Sand*** Moist, brown and gray, fine-grained	4			
5		End of Borehole	5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NE-01

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, black, organic topsoil		TT-05-NE-01-01	Total Lead	
1			1			
				TT-05-NE-01-12	Total Lead	
2			2			
				TT-05-NE-01-23	Total Lead	
3		***Sand*** Dry, light brown, fine-grained	3	TT-05-NE-01-34	Total Lead	
4		***Sand*** Moist, brown, fine-grained. Becomes wet at 6 feet bgs	4	TT-05-NE-01-45	Archived	
5			5	TT-05-NE-01-56	Archived	
6			6	TT-05-NE-01-67	Archived	
7			7	TT-05-NE-01-78	Archived	
8		***Clay*** Moist, gray. Becomes dry at 11.5 feet bgs	8	TT-05-NE-01-89	Archived	
9			9	TT-05-NE-01-910	Archived	
10			10			
11			11			
12		End of Borehole	12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NE-02

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Concrete and Gravel				
1		***Silt***	1	TT-05-NE-02-12	Total Lead	
2		Dry, black, organic topsoil, becomes brown at 1 foot bgs	2	TT-05-NE-02-23	Total Lead	
3		***Sand***	3	TT-05-NE-02-34	Total Lead	
4		Dry, light brown, fine-grained, mixed with concrete	4			
5		***Sand*** Dry, orange and gray mottled, fine-grained	5			
6		End of Borehole	6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NE-03

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Silt*** Dry, black, organic topsoil with roots	1	TT-05-NE-03-01	Total Lead	
2			2	TT-05-NE-03-12	Total Lead	
3			3	TT-05-NE-03-23	Total Lead	
4			4	TT-05-NE-03-34	Total Lead	
5		End of Borehole	5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NE-04

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Silt*** Dry, black, organic topsoil with roots	1	TT-05-NE-04-01	Total Lead	
2			2	TT-05-NE-04-12	Total Lead	
3			3	TT-05-NE-04-23	Total Lead	
4			4	TT-05-NE-04-34	Total Lead	
5		End of Borehole	5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NW-01

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Silt*** Dry, brown, organic topsoil	1	TT-05-NW-01-01	Total Lead	
2			2	TT-05-NW-01-12	Total Lead	
3			3	TT-05-NW-01-23	Total Lead	
4		***Sand*** Dry, light brown, fine-grained	4	TT-05-NW-01-34	Total Lead	
5		***Silt and Sand*** Moist, black and gray, some concrete, strong gasoline odor	5	TT-05-NW-01-45	Archived	
6		***Sand*** Moist, light brown, fine-grained, strong gasoline odor. Becomes wet at 6 feet bgs, gravel at 8 feet bgs.	6	TT-05-NW-01-56	Archived	
7			7	TT-05-NW-01-67	Archived	
8			8	TT-05-NW-01-78	Archived	
9			9	TT-05-NW-01-89	Archived	
10		***Clay*** Moist, gray	10	TT-05-NW-01-910	Archived	
11			11			
12		End of Borehole	12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NW-02

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, black, organic topsoil, becomes brown at 1 foot bgs		TT-05-NW-02-01	Total Lead	
1			1	TT-05-NW-02-12	Total Lead	
2			2	TT-05-NW-02-23	Total Lead	
3			3	TT-05-NW-02-34	Total Lead	
4		End of Borehole	4			
5			5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NW-03

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, brown, organic topsoil		TT-05-NW-03-01	Total Lead	
1			1	TT-05-NW-03-12	Total Lead	
2			2	TT-05-NW-03-23	Total Lead	
3			3	TT-05-NW-03-34	Total Lead	
4		***Sand*** Dry, light brown, fine-grained	4			
5		End of Borehole	5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-NW-04

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, brown, organic topsoil		TT-05-NW-04-01	Total Lead	
1			1	TT-05-NW-04-12	Total Lead	
2			2	TT-05-NW-04-23	Total Lead	
3			3	TT-05-NW-04-34	Total Lead	
4		***Sand*** Dry, light brown, fine-grained	4			
5		End of Borehole	5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-W-01

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, brown, organic topsoil, becoming moist at 3 feet bgs		TT-05-W-01-01	Total Lead	
1			1	TT-05-W-01-12	Total Lead	
2			2	TT-05-W-01-23	Total Lead	
3			3	TT-05-W-01-34	Total Lead	
4		***Sand*** Moist, yellow and light gray, fine-grained	4	TT-05-W-01-45	Archived	
5		***Sand*** Moist, light gray, coarse-grained	5	TT-05-W-01-56	Archived	
6			6	TT-05-W-01-67	Archived	
7		***Sand*** Wet, light gray, fine-grained	7	TT-05-W-01-78	Archived	
8			8	TT-05-W-01-89	Archived	
9			9	TT-05-W-01-910	Archived	
10			10			
11			11			
12		End of Borehole	12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-W-02

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, brown, organic topsoil, becoming moist at 3 feet bgs		TT-05-W-02-01	Total Lead	
1			1	TT-05-W-02-12	Total Lead	
2			2	TT-05-W-02-23	Total Lead	
3		***Clayey Sand*** Moist, dark brown, fine-grained	3	TT-05-W-02-34	Total Lead	
4		End of Borehole	4			
5			5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-W-03

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Silt*** Dry, brown, organic topsoil, becoming moist at 3 feet bgs	1	TT-05-W-03-01	Total Lead	
				TT-05-W-03-12	Total Lead	
2			2	TT-05-W-03-23	Total Lead	
3		***Clayey Sand*** Moist, dark brown, fine-grained	3	TT-05-W-03-34	Total Lead	
4		End of Borehole	4			
5			5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

Project: Ductch Boy/National Lead

Location: Chicago, IL

Date: August 16, 2005

Field Personnel: Dave Franc

Borehole #: TT-05-W-04

SUBSURFACE PROFILE						
Depth (feet bgs)	Symbol	Description	Elevation	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Silt Dry, brown, organic topsoil, becoming moist at 3 feet bgs		TT-05-W-04-01	Total Lead	
1			1	TT-05-W-04-12	Total Lead	
2			2	TT-05-W-04-23	Total Lead	
3		***Clayey Sand*** Moist, dark brown, fine-grained	3	TT-05-W-04-34	Total Lead	
4		End of Borehole	4			
5			5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			
16			16			
17			17			
18			18			
19			19			
20			20			

Driller: Terra Trace

Drill Method: Direct Push

Hole Size: 2-inch

Sheet: 1 of 1

Tetra Tech EM Inc.

ENCLOSURE 4

LABORATORY ANALYTICAL RESULTS

(33 Sheets)

STAT Analysis Corporation
2255 West Harrison St., Suite B, Chicago, IL 60612-3505
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 10248; NVLAP LabCode 101202-0

August 29, 2005

Tetra Tech EM Inc.
200 E. Randolph Drive
Suite 4700
Chicago, IL 60601
Telephone: (312) 856-8700
Fax: (312) 938-0118

RE: Dutch Boy, 120th & Peoria STAT Project No: 05080730

Dear Carol Nissen:

STAT Analysis received 75 samples for the referenced project on 8/18/2005. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 563-0371.

Sincerely,

Craig Chawla
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

STAT Analysis Corporation

Date: August 29, 2005

Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria
Lab Order: 05080730

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
05080730-001A	TT-05N-01-01		8/16/2005 10:50:00 AM	8/18/2005
05080730-002A	TT-05-N-01-12		8/16/2005 10:55:00 AM	8/18/2005
05080730-003A	TT-05-N-01-12D		8/16/2005 10:55:00 AM	8/18/2005
05080730-004A	TT-05-N-01-23		8/16/2005 11:00:00 AM	8/18/2005
05080730-005A	TT-05-N-01-34		8/16/2005 11:05:00 AM	8/18/2005
05080730-006A	TT-05-N-02-01		8/16/2005 11:30:00 AM	8/18/2005
05080730-007A	TT-05-N-02-01D		8/16/2005 11:30:00 AM	8/18/2005
05080730-008A	TT-05-N-02-12		8/16/2005 11:32:00 AM	8/18/2005
05080730-009A	TT-05-N-02-23		8/16/2005 11:33:00 AM	8/18/2005
05080730-010A	TT-05-N-02-34		8/16/2005 11:34:00 AM	8/18/2005
05080730-011A	TT-05-N-03-01		8/16/2005 11:45:00 AM	8/18/2005
05080730-012A	TT-05-N-03-01D		8/16/2005 11:45:00 AM	8/18/2005
05080730-013A	TT-05-N-03-12		8/16/2005 11:50:00 AM	8/18/2005
05080730-014A	TT-05-N-03-23		8/16/2005 11:55:00 AM	8/18/2005
05080730-015A	TT-05-N-03-34		8/16/2005 12:00:00 PM	8/18/2005
05080730-016A	TT-05-N-04-01		8/16/2005 12:05:00 PM	8/18/2005
05080730-017A	TT-05-N-04-01D		8/16/2005 12:05:00 PM	8/18/2005
05080730-018A	TT-05-N-04-12		8/16/2005 12:08:00 PM	8/18/2005
05080730-019A	TT-05-N-04-23		8/16/2005 12:10:00 PM	8/18/2005
05080730-020A	TT-05-N-04-34		8/16/2005 12:12:00 PM	8/18/2005
05080730-021A	TT-05-NE-01-01		8/16/2005 9:30:00 AM	8/18/2005
05080730-022A	TT-05-NE-01-12		8/16/2005 9:34:00 AM	8/18/2005
05080730-023A	TT-05-NE-01-23		8/16/2005 9:35:00 AM	8/18/2005
05080730-024A	TT-05-NE-01-23D		8/16/2005 9:35:00 AM	8/18/2005
05080730-025A	TT-05-NE-01-34		8/16/2005 9:40:00 AM	8/18/2005
05080730-026A	TT-05-NE-02-12		8/16/2005 8:20:00 AM	8/18/2005
05080730-027A	TT-05-NE-02-23		8/16/2005 8:30:00 AM	8/18/2005
05080730-028A	TT-05-NE-02-34		8/16/2005 8:35:00 AM	8/18/2005
05080730-029A	TT-05-NE-03-01		8/16/2005 8:40:00 AM	8/18/2005
05080730-030A	TT-05-NE-03-12		8/16/2005 8:45:00 AM	8/18/2005
05080730-031A	TT-05-NE-03-23		8/16/2005 8:55:00 AM	8/18/2005
05080730-032A	TT-05-NE-03-34		8/16/2005 8:57:00 AM	8/18/2005
05080730-033A	TT-05-NE-04-01		8/16/2005 9:00:00 AM	8/18/2005
05080730-034A	TT-05-NE-04-12		8/16/2005 9:05:00 AM	8/18/2005
05080730-035A	TT-05-NE-04-23		8/16/2005 9:10:00 AM	8/18/2005
05080730-036A	TT-05-NE-04-34		8/16/2005 9:15:00 AM	8/18/2005
05080730-037A	TT-05-NW-01-01		8/16/2005 12:15:00 PM	8/18/2005
05080730-038A	TT-05-NW-01-01D		8/16/2005 12:15:00 PM	8/18/2005

Client:	Tetra Tech EM Inc.
Project:	Dutch Boy, 120th & Peoria
Lab Order:	05080730

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
05080730-039A	TT-05-NW-01-12		8/16/2005 12:17:00 PM	8/18/2005
05080730-040A	TT-05-NW-01-23		8/16/2005 12:18:00 PM	8/18/2005
05080730-041A	TT-05-NW-01-34		8/16/2005 12:19:00 PM	8/18/2005
05080730-042A	TT-05-NW-02-01		8/16/2005 1:00:00 PM	8/18/2005
05080730-043A	TT-05-NW-02-01D		8/16/2005 1:00:00 PM	8/18/2005
05080730-044A	TT-05-NW-02-12		8/16/2005 1:05:00 PM	8/18/2005
05080730-045A	TT-05-NW-02-23		8/16/2005 1:10:00 PM	8/18/2005
05080730-046A	TT-05-NW-02-34		8/16/2005 1:15:00 PM	8/18/2005
05080730-047A	TT-05-NW-03-01		8/16/2005 1:20:00 PM	8/18/2005
05080730-048A	TT-05-NW-03-01D		8/16/2005 1:20:00 PM	8/18/2005
05080730-049A	TT-05-NW-03-12		8/16/2005 1:25:00 PM	8/18/2005
05080730-050A	TT-05-NW-03-23		8/16/2005 1:30:00 PM	8/18/2005
05080730-051A	TT-05-NW-03-34		8/16/2005 1:35:00 PM	8/18/2005
05080730-052A	TT-05-NW-04-01		8/16/2005 1:40:00 PM	8/18/2005
05080730-053A	TT-05-NW-04-01D		8/16/2005 1:40:00 PM	8/18/2005
05080730-054A	TT-05-NW-04-12		8/16/2005 1:45:00 PM	8/18/2005
05080730-055A	TT-05-NW-04-23		8/16/2005 1:50:00 PM	8/18/2005
05080730-056A	TT-05-NW-04-34		8/16/2005 1:55:00 PM	8/18/2005
05080730-057A	TT-05-W-01-01		8/16/2005 2:00:00 PM	8/18/2005
05080730-058A	TT-05-W-01-01D		8/16/2005 2:00:00 PM	8/18/2005
05080730-059A	TT-05-W-01-12		8/16/2005 2:02:00 PM	8/18/2005
05080730-060A	TT-05-W-01-23		8/16/2005 2:04:00 PM	8/18/2005
05080730-061A	TT-05-W-01-34		8/16/2005 2:05:00 PM	8/18/2005
05080730-062A	TT-05-W-02-01		8/16/2005 2:22:00 PM	8/18/2005
05080730-063A	TT-05-W-02-01D		8/16/2005 2:22:00 PM	8/18/2005
05080730-064A	TT-05-W-02-12		8/16/2005 2:25:00 PM	8/18/2005
05080730-065A	TT-05-W-02-23		8/16/2005 2:28:00 PM	8/18/2005
05080730-066A	TT-05-W-02-34		8/16/2005 2:30:00 PM	8/18/2005
05080730-067A	TT-05-W-03-01		8/16/2005 2:32:00 PM	8/18/2005
05080730-068A	TT-05-W-03-01D		8/16/2005 2:32:00 PM	8/18/2005
05080730-069A	TT-05-W-03-12		8/16/2005 2:33:00 PM	8/18/2005
05080730-070A	TT-05-W-03-23		8/16/2005 2:35:00 PM	8/18/2005
05080730-071A	TT-05-W-03-34		8/16/2005 2:37:00 PM	8/18/2005
05080730-072A	TT-05-W-04-01		8/16/2005 2:40:00 PM	8/18/2005
05080730-073A	TT-05-W-04-12		8/16/2005 2:45:00 PM	8/18/2005
05080730-074A	TT-05-W-04-23		8/16/2005 2:50:00 PM	8/18/2005
05080730-075A	TT-05-W-04-34		8/16/2005 2:55:00 PM	8/18/2005

The MS/MSD prepared from sample TT-05-N-02-01 (05080730-006) had recovery outside of control limits for Lead (35%/171% recovery, QC limits 75-125%; RPD 49%, QC limit <20%). The redigest had recovery outside of control limits for Lead (444%/111% recovery, QC limits 75-125%; RPD 33%, QC limit <20%).

The MS/MSD prepared from sample TT-05-N-03-01 (05080730-011) had recovery outside of control limits for Lead (93%/1540% recovery, QC limits 75-125%; RPD 104%, QC limit <20%). The redigest had recovery outside of control limits for Lead (141%/153% recovery, QC limits 75-125%).

STAT Analysis Corporation
2255 West Harrison St., Suite B, Chicago, IL 60612-3505
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 10248; NVLAP LabCode 101202-0

Date Reported: August 29, 2005
Date Printed: August 29, 2005

Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-001 **Collection Date:** 8/16/2005 10:50:00 AM
Client Sample ID: TT-05N-01-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/22/2005**		Analyst: **JG**
Lead	32	0.57		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	16.7	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-002 **Collection Date:** 8/16/2005 10:55:00 AM
Client Sample ID: TT-05-N-01-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/22/2005**		Analyst: **JG**
Lead	26	0.56		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	16.3	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-003 **Collection Date:** 8/16/2005 10:55:00 AM
Client Sample ID: TT-05-N-01-12D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/22/2005**		Analyst: **JG**
Lead	23	0.55		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	15.3	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-004 **Collection Date:** 8/16/2005 11:00:00 AM
Client Sample ID: TT-05-N-01-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/22/2005**		Analyst: **JG**
Lead	2200	0.51		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	5.43	0.01	*	wt%	1	8/24/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2255 West Harrison St., Suite B, Chicago, IL 60612-3505
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 10248; NVLAP LabCode 101202-0

Date Reported: August 29, 2005
Date Printed: August 29, 2005

Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-005 **Collection Date:** 8/16/2005 11:05:00 AM
Client Sample ID: TT-05-N-01-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	8200	5.3		mg/Kg-dry	100	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	10.5	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-006 **Collection Date:** 8/16/2005 11:30:00 AM
Client Sample ID: TT-05-N-02-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/25/2005**		Analyst: **JG**
Lead	210	0.56		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	13.8	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-007 **Collection Date:** 8/16/2005 11:30:00 AM
Client Sample ID: TT-05-N-02-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	29	0.55		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	13.5	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-008 **Collection Date:** 8/16/2005 11:32:00 AM
Client Sample ID: TT-05-N-02-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	23	0.55		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	14.4	0.01	*	wt%	1	8/24/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-009 **Collection Date:** 8/16/2005 11:33:00 AM
Client Sample ID: TT-05-N-02-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	1100	0.52		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	6.74	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-010 **Collection Date:** 8/16/2005 11:34:00 AM
Client Sample ID: TT-05-N-02-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	4100	0.53		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	9.56	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-011 **Collection Date:** 8/16/2005 11:45:00 AM
Client Sample ID: TT-05-N-03-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	160	0.54		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	12.9	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-012 **Collection Date:** 8/16/2005 11:45:00 AM
Client Sample ID: TT-05-N-03-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	260	0.54		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	12.7	0.01	*	wt%	1	8/24/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
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E - Value above quantitation range
H - Holding time exceeded

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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-013 **Collection Date:** 8/16/2005 11:50:00 AM
Client Sample ID: TT-05-N-03-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	28	0.54		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/23/2005**		Analyst: **RW**
Percent Moisture	13.5	0.01	*	wt%	1	8/24/2005

Lab ID: 05080730-014 **Collection Date:** 8/16/2005 11:55:00 AM
Client Sample ID: TT-05-N-03-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	10000	5.2		mg/Kg-dry	100	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	8.98	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-015 **Collection Date:** 8/16/2005 12:00:00 PM
Client Sample ID: TT-05-N-03-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	8300	5.5		mg/Kg-dry	100	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	13.4	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-016 **Collection Date:** 8/16/2005 12:05:00 PM
Client Sample ID: TT-05-N-04-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	48	0.56		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	14.3	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-017 **Collection Date:** 8/16/2005 12:05:00 PM
Client Sample ID: TT-05-N-04-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	27	0.55		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	14.3	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-018 **Collection Date:** 8/16/2005 12:08:00 PM
Client Sample ID: TT-05-N-04-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	1000	0.52		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.4	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-019 **Collection Date:** 8/16/2005 12:10:00 PM
Client Sample ID: TT-05-N-04-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	500	0.5		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	5.28	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-020 **Collection Date:** 8/16/2005 12:12:00 PM
Client Sample ID: TT-05-N-04-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/22/2005**		Analyst: **JG**
Lead	1700	0.54		mg/Kg-dry	10	8/23/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.8	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-021 **Collection Date:** 8/16/2005 9:30:00 AM
Client Sample ID: TT-05-NE-01-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/23/2005**		Analyst: **JG**
Lead	33	0.57		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	15.2	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-022 **Collection Date:** 8/16/2005 9:34:00 AM
Client Sample ID: TT-05-NE-01-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/23/2005**		Analyst: **JG**
Lead	32	0.58		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	17.0	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-023 **Collection Date:** 8/16/2005 9:35:00 AM
Client Sample ID: TT-05-NE-01-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/23/2005**		Analyst: **JG**
Lead	330	0.56		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	15.4	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-024 **Collection Date:** 8/16/2005 9:35:00 AM
Client Sample ID: TT-05-NE-01-23D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/23/2005**		Analyst: **JG**
Lead	580	0.55		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	14.4	0.01	*	wt%	1	8/25/2005

Qualifiers:
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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
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R - RPD outside accepted recovery limits
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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria
Lab Order: 05080730

Lab ID: 05080730-025 **Collection Date:** 8/16/2005 9:40:00 AM
Client Sample ID: TT-05-NE-01-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	1000	0.51		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	7.41	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-026 **Collection Date:** 8/16/2005 8:20:00 AM
Client Sample ID: TT-05-NE-02-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	34	0.54		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	13.7	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-027 **Collection Date:** 8/16/2005 8:30:00 AM
Client Sample ID: TT-05-NE-02-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	37	0.57		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	17.0	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-028 **Collection Date:** 8/16/2005 8:35:00 AM
Client Sample ID: TT-05-NE-02-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	38	0.52		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.3	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-029 **Collection Date:** 8/16/2005 8:40:00 AM
Client Sample ID: TT-05-NE-03-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	220	0.57		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	16.9	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-030 **Collection Date:** 8/16/2005 8:45:00 AM
Client Sample ID: TT-05-NE-03-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	42	0.56		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	16.2	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-031 **Collection Date:** 8/16/2005 8:55:00 AM
Client Sample ID: TT-05-NE-03-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	31	0.55		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	16.8	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-032 **Collection Date:** 8/16/2005 8:57:00 AM
Client Sample ID: TT-05-NE-03-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	270	0.55		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.6	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
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R - RPD outside accepted recovery limits
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H - Holding time exceeded

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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-033 **Collection Date:** 8/16/2005 9:00:00 AM
Client Sample ID: TT-05-NE-04-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	32	0.55		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	15.3	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-034 **Collection Date:** 8/16/2005 9:05:00 AM
Client Sample ID: TT-05-NE-04-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	31	0.57		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	15.6	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-035 **Collection Date:** 8/16/2005 9:10:00 AM
Client Sample ID: TT-05-NE-04-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	29	0.55		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	14.3	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-036 **Collection Date:** 8/16/2005 9:15:00 AM
Client Sample ID: TT-05-NE-04-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/23/2005**		Analyst: **JG**
Lead	35	0.55		mg/Kg-dry	10	8/24/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	15.1	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
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Date Reported: August 29, 2005
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-037 **Collection Date:** 8/16/2005 12:15:00 PM
Client Sample ID: TT-05-NW-01-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	290	0.54		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.7	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-038 **Collection Date:** 8/16/2005 12:15:00 PM
Client Sample ID: TT-05-NW-01-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	28	0.54		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	13.0	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-039 **Collection Date:** 8/16/2005 12:17:00 PM
Client Sample ID: TT-05-NW-01-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	26	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.9	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-040 **Collection Date:** 8/16/2005 12:18:00 PM
Client Sample ID: TT-05-NW-01-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	230	0.52		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.8	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-041 **Collection Date:** 8/16/2005 12:19:00 PM
Client Sample ID: TT-05-NW-01-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	690	0.54		mg/Kg-dry	10	8/27/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	9.57	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-042 **Collection Date:** 8/16/2005 1:00:00 PM
Client Sample ID: TT-05-NW-02-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	17	0.57		mg/Kg-dry	10	8/27/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.4	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-043 **Collection Date:** 8/16/2005 1:00:00 PM
Client Sample ID: TT-05-NW-02-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	41	0.56		mg/Kg-dry	10	8/28/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.2	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-044 **Collection Date:** 8/16/2005 1:05:00 PM
Client Sample ID: TT-05-NW-02-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	26	0.55		mg/Kg-dry	10	8/28/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.3	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-045 **Collection Date:** 8/16/2005 1:10:00 PM
Client Sample ID: TT-05-NW-02-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	26	0.57		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.9	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-046 **Collection Date:** 8/16/2005 1:15:00 PM
Client Sample ID: TT-05-NW-02-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	21	0.54		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	6.65	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-047 **Collection Date:** 8/16/2005 1:20:00 PM
Client Sample ID: TT-05-NW-03-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	26	0.55		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	9.39	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-048 **Collection Date:** 8/16/2005 1:20:00 PM
Client Sample ID: TT-05-NW-03-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	45	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	9.93	0.01	*	wt%	1	8/25/2005

Qualifiers:
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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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E - Value above quantitation range
H - Holding time exceeded

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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-049 **Collection Date:** 8/16/2005 1:25:00 PM
Client Sample ID: TT-05-NW-03-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/24/2005**		Analyst: **JG**
Lead	27	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.6	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-050 **Collection Date:** 8/16/2005 1:30:00 PM
Client Sample ID: TT-05-NW-03-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/24/2005**		Analyst: **JG**
Lead	27	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.3	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-051 **Collection Date:** 8/16/2005 1:35:00 PM
Client Sample ID: TT-05-NW-03-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/24/2005**		Analyst: **JG**
Lead	730	0.52		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	7.61	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-052 **Collection Date:** 8/16/2005 1:40:00 PM
Client Sample ID: TT-05-NW-04-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **8/24/2005**		Analyst: **JG**
Lead	380	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.1	0.01	*	wt%	1	8/25/2005

Qualifiers:
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-053 **Collection Date:** 8/16/2005 1:40:00 PM
Client Sample ID: TT-05-NW-04-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	22	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.3	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-054 **Collection Date:** 8/16/2005 1:45:00 PM
Client Sample ID: TT-05-NW-04-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	28	0.55		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	9.27	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-055 **Collection Date:** 8/16/2005 1:50:00 PM
Client Sample ID: TT-05-NW-04-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	29	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.2	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-056 **Collection Date:** 8/16/2005 1:55:00 PM
Client Sample ID: TT-05-NW-04-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	2100	0.55		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	9.52	0.01	*	wt%	1	8/25/2005

Qualifiers:
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-057 **Collection Date:** 8/16/2005 2:00:00 PM
Client Sample ID: TT-05-W-01-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	48	0.55		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	9.6	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-058 **Collection Date:** 8/16/2005 2:00:00 PM
Client Sample ID: TT-05-W-01-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	25	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.4	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-059 **Collection Date:** 8/16/2005 2:02:00 PM
Client Sample ID: TT-05-W-01-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	24	0.57		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.8	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-060 **Collection Date:** 8/16/2005 2:04:00 PM
Client Sample ID: TT-05-W-01-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	25	0.58		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	13.8	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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E - Value above quantitation range
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-061 **Collection Date:** 8/16/2005 2:05:00 PM
Client Sample ID: TT-05-W-01-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	250	0.58		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	14.4	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-062 **Collection Date:** 8/16/2005 2:22:00 PM
Client Sample ID: TT-05-W-02-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	32	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.5	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-063 **Collection Date:** 8/16/2005 2:22:00 PM
Client Sample ID: TT-05-W-02-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	74	0.56		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.5	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-064 **Collection Date:** 8/16/2005 2:25:00 PM
Client Sample ID: TT-05-W-02-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	38	0.57		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.7	0.01	*	wt%	1	8/25/2005

Qualifiers:
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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-065 **Collection Date:** 8/16/2005 2:28:00 PM
Client Sample ID: TT-05-W-02-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	25	0.55		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.1	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-066 **Collection Date:** 8/16/2005 2:30:00 PM
Client Sample ID: TT-05-W-02-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	250	0.55		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.3	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-067 **Collection Date:** 8/16/2005 2:32:00 PM
Client Sample ID: TT-05-W-03-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	33	0.54		mg/Kg-dry	10	8/25/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	9.62	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-068 **Collection Date:** 8/16/2005 2:32:00 PM
Client Sample ID: TT-05-W-03-01D **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	30	0.52		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.4	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-069 **Collection Date:** 8/16/2005 2:33:00 PM
Client Sample ID: TT-05-W-03-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	25	0.55		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.2	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-070 **Collection Date:** 8/16/2005 2:35:00 PM
Client Sample ID: TT-05-W-03-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	29	0.54		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.5	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-071 **Collection Date:** 8/16/2005 2:37:00 PM
Client Sample ID: TT-05-W-03-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	3800	0.53		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.2	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-072 **Collection Date:** 8/16/2005 2:40:00 PM
Client Sample ID: TT-05-W-04-01 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	750	0.55		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.5	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 10248; NVLAP LabCode 101202-0

Date Reported: August 29, 2005
Date Printed: August 29, 2005

Client: Tetra Tech EM Inc.
Project: Dutch Boy, 120th & Peoria **Lab Order:** 05080730

Lab ID: 05080730-073 **Collection Date:** 8/16/2005 2:45:00 PM
Client Sample ID: TT-05-W-04-12 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	26	0.54		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	10.7	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-074 **Collection Date:** 8/16/2005 2:50:00 PM
Client Sample ID: TT-05-W-04-23 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	33	0.55		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	11.7	0.01	*	wt%	1	8/25/2005

Lab ID: 05080730-075 **Collection Date:** 8/16/2005 2:55:00 PM
Client Sample ID: TT-05-W-04-34 **Matrix:** Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/24/2005**		Analyst: **JG**
Lead	28	0.53		mg/Kg-dry	10	8/26/2005
Percent Moisture	**D2974**			Prep Date: **8/24/2005**		Analyst: **RW**
Percent Moisture	12.1	0.01	*	wt%	1	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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CHAIN OF CUSTODY RECORD

Nº: 809748 **Page:** 1 of 5

Company: Tetra Tech
Project Number: Client Tracking No.:
Project Name: Dutch Boy
Location/Address: 120TH + Peoria
Sampler(s): Dave Frame
Report To: Carol Nisson Phone:
QC Level: 1 ___ 2 ___ 3 ___ 4 ___ Fax:
Regulatory Program: NPEDS/MWRD RCRA SDWA SRP TACO Other:

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Total Load	HOLD!	Remarks	Lab No.
TT-05-N-01-01	8/16/05	1050	S	X			1	X		0508730	[illegible]
TT-05-N-01-12		1055						X			[illegible]
TT-05-N-01-12D		1055						X			[illegible]
TT-05-N-01-23		1100						X			[illegible]
TT-05-N-01-34		1105						X			[illegible]
TT-05-N-01-45		1110							X	0508731	[illegible]
TT-05-N-01-56		1114							X		[illegible]
TT-05-N-01-67		1120							X		[illegible]
TT-05-N-01-78		1117							X		[illegible]
TT-05-N-01-89		1122							X		[illegible]
TT-05-N-01-910		1125							X		[illegible]
TT-05-N-02-01		1130					2	X		MS/MSD 0508	[illegible]
TT-05-N-02-01D		1130					1	X			[illegible]
TT-05-N-02-12		1132						X			[illegible]
TT-05-N-02-23		1133						X			[illegible]
TT-05-N-02-34		1134						X			[illegible]
TT-05-N-03-01		1145					2	X		MS/MSD	[illegible]
TT-05-N-03-01D		1145					1	X			[illegible]
TT-05-N-03-12		1150						X			[illegible]
TT-05-N-03-23		1155						X			[illegible]

Relinquished by: (Signature) [signature] Date/Time: 8/18/05, 1:52
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received for lab by: (Signature) [signature] Date/Time: 8/18/05
Relinquished by: (Signature) Date/Time: 1532

Laboratory Use: Sample Verification:
Container OK Yes X No
Sample Tracking Yes X No
Refrigerated Temp Yes X No
Sample Label Match Sample ID Yes X No

Work Order No.: 0508730 0508731

Preservation Code:
A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore

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CHAIN OF CUSTODY RECORD **Nº:** 809749 **Page:** 2 of 5

Company: Tetra Tech
Project Number: Client Tracking No.:
Project Name: Dutch Bay
Location/Address: 120TH + Pacific
Sampler(s): Dave Frame
Report To: Carol Nisson Phone:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ Fax:
Regulatory Program: NPEDS/MWRD RCRA SDWA SRP TACO Other:

P.O. No.:
Quote No.:
Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Total Lead HOLD!											Remarks	[redacted]
TT-05-N-03-34	8/16/05	1200	S	X			1	X											0508730	[redacted]
TT-05-N-04-01		1205						X												[redacted]
TT-05-N-04-01D		1205						X												[redacted]
TT-05-N-04-12		1208						X												[redacted]
TT-05-N-04-23		1210						X												[redacted]
TT-05-N-04-34		1212						X												[redacted]
TT-05-NE-01-01		0932						X												[redacted]
TT-05-NE-01-12		0934						X												[redacted]
TT-05-NE-01-23		0935						X												[redacted]
TT-05-NE-01-23D		0935						X												[redacted]
TT-05-NE-01-34		0940						X												[redacted]
TT-05-NE-01-45		0945								X									0508731	[redacted]
TT-05-NE-01-56		0942								X										[redacted]
TT-05-NE-01-67		0946								X										[redacted]
TT-05-NE-01-78		0948								X										[redacted]
TT-05-NE-01-89		0948								X										[redacted]
TT-05-NE-01-910		0950								X										[redacted]
~~TT-05-NE-02-01~~																				[redacted]
TT-05-NE-02-12		0820						X											0508730	[redacted]
TT-05-NE-02-23		0830						X												[redacted]

Relinquished by: (Signature)	Date/Time: 8/18/05 1520	[redacted]
Received by: (Signature)	Date/Time:	[redacted]
Relinquished by: (Signature)	Date/Time:	[redacted]
Received for lab by: (Signature)	Date/Time: 8/18/05 1532	[redacted]
Relinquished by: (Signature)	Date/Time:	[redacted]

Preservation Code:
A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore

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CHAIN OF CUSTODY RECORD

Nº: 809750 **Page:** 3 of 5

Company: Tetra Tech
Project Number: Client Tracking No.:
Project Name: Dutch Bay
Location/Address: 120TH + Peoria
Sampler(s): Dave Frame
Report To: Carol Nissen Phone:
QC Level: 1 ___ 2 ___ 3 ___ 4 ___ Fax:
Regulatory Program: NPEDS/MWRD RCRA SDWA SRP TACO Other:

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Total Load HOLD!

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers												Remarks	Lab No.
TT-05-NE-02-34	8/16/05	0835	S	X			1	X											0508730	[illegible]
TT-05-NE-03-01		0840						X												[illegible]
TT-05-NE-03-12		0845						X												[illegible]
TT-05-NE-03-23		0855						X												[illegible]
TT-05-NE-03-34		0857						X												[illegible]
TT-05-NE-04-01		0900						X												[illegible]
TT-05-NE-04-12		0905						X												[illegible]
TT-05-NE-04-23		0910						X												[illegible]
TT-05-NE-04-34		0915						X												[illegible]
TT-05-NW-01-01		1215					2	X											MS/MSD	[illegible]
TT-05-NW-01-01D		1215					1	X												[illegible]
TT-05-NW-01-12		1217						X												[illegible]
TT-05-NW-01-23		1218						X												[illegible]
TT-05-NW-01-34		1219						X												[illegible]
TT-05-NW-01-45		1225							X										0508731	[illegible]
TT-05-NW-01-56		1230							X											[illegible]
TT-05-NW-01-67		1235							X											[illegible]
TT-05-NW-01-78		1240							X											[illegible]
TT-05-NW-01-89		1245							X											[illegible]
TT-05-NW-01-910		1250							X											[illegible]

Relinquished by: (Signature) [signature] Date/Time: 8/18/05 1500
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received for lab by: (Signature) [signature] Date/Time: 8/15/05
Relinquished by: (Signature) Date/Time: 1532

Laboratory Use: Sample Verification
Container ID: No
Sample Leaking: No
Refrigerated Sample: No
Sample Lab # Match Sample ID: No

Work Order No.: [illegible]

Preservation Code:
A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore

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CHAIN OF CUSTODY RECORD

№: 809751

Company: Tetra Tech
Project Number: Client Tracking No.:
Project Name: Dutch Boy
Location/Address: 120TH + Peoria
Sampler(s): Dave Frame
Report To: Carol Nissen Phone:
QC Level: 1 ___ 2 ___ 3 ___ 4 ___ Fax:
Regulatory Program: NPEDS/MWRD RCRA SDWA SRP TACO Other:

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Total Level

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers		Remarks
TT-05-NW-02-01	8/16/05	1300					2	X	0508730 MS/MSD
TT-05-NW-02-01D		1300					1	X	
TT-05-NW-02-12		1305						X	
TT-05-NW-02-23		1310						X	
TT-05-NW-02-34		1315						X	
TT-05-NW-03-01		1320					2	X	MS/MSD
TT-05-NW-03-01D		1320					1	X	
TT-05-NW-03-12		1325						X	
TT-05-NW-03-23		1330						X	
TT-05-NW-03-34		1335						X	
TT-05-NW-04-01		1340						X	
TT-05-NW-04-01D		1340						X	
TT-05-NW-04-12		1345						X	
TT-05-NW-04-23		1350						X	
TT-05-NW-04-34		1355						X	
TT-05-W-01-01		1400					2	X	MS/MSD
TT-05-W-01-01D		1400					1	X	
TT-05-W-01-12		1402						X	
TT-05-W-01-23		1404						X	
TT-05-W-01-34		1405						X	

Relinquished by: (Signature) [signature] Date/Time: 8/17/05 1532
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received for lab by: (Signature) [signature] Date/Time: 8/18/05
Relinquished by: (Signature) Date/Time: 1532

Laboratory Use: Sample Verification: Work Order No.:

Preservation Code:
A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore

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CHAIN OF CUSTODY RECORD

Nº: 809752 **Page:** 5 of 5

Company: Tetra Tech
Project Number: Client Tracking No.:
Project Name: Dutch Boy
Location/Address: 120th + Peoria
Sampler(s): Dave Frame
Report To: Carol Nisson Phone:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ Fax:
Regulatory Program: NPEDS/MWRD RCRA SDWA SRP TACO Other:

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Total Lead	HOLD!	Remarks
TT-05-W-01-45	8/16/05	1407	S	X			1		X	0508731
TT-05-W-01-56		1409							X	
TT-05-W-01-67		1412							X	
TT-05-W-01-78		1415							X	
TT-05-W-01-89		1418							X	
TT-05-W-01-910		1420							X	
TT-05-W-02-01		1422						X		0508730
TT-05-W-02-01D		1422						X		
TT-05-W-02-12		1425						X		
TT-05-W-02-23		1428						X		
TT-05-W-02-34		1430						X		
TT-05-W-03-01		1432						X		
TT-05-W-03-01D		1432						X		
TT-05-W-03-12		1433						X		
TT-05-W-03-23		1435						X		
TT-05-W-03-34		1437						X		
TT-05-W-04-01		1440						X		
TT-05-W-04-12		1445						X		
TT-05-W-04-23		1450						X		
TT-05-W-04-34		1455						X		

Relinquished by: (Signature) [signature] Date/Time: 8/18/05 1532
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received for lab by: (Signature) [signature] Date/Time: 8/18/05
Relinquished by: (Signature) Date/Time: 1532

Laboratory Use: Sample Verification: Work Order No.:

Preservation Code:
A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore

STAT Analysis Corporation

Sample Receipt Checklist

Client Name TETRA CHICAGO | Date and Time Received: 08/18/2005

Work Order Number 0508730 | Received by: JC

Checklist completed by: Jesus Cantu (Signature) 8/18/05 (Date) | Reviewed by: (Initials) 8/29/2005 (Date)

Matrix | Carrier name | Client Delivered

	Yes	No	Not Present
Shipping container/cooler in good condition?	☑	☐	
Custody seals intact on shippping container/cooler?	☐	☐	☑
Custody seals intact on sample bottles?	☐	☐	☑
Chain of custody present?	☑	☐	
Chain of custody signed when relinquished and received?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container or Temp Blank temperature in compliance?	☑	☐	Temperature 4 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes	No
Water - Samples properly preserved/ pH checked?	Yes	No	
	Adjusted?	Checked by	

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding

Comments:

Corrective Action

CLIENT: Tetra Tech EM Inc.
Work Order: 05080730
Project: Dutch Boy, 120th & Peoria

ANALYTICAL QC SUMMARY REPORT

BatchID: 16161

Sample ID **05080730-006AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/25/2005** Run ID: **ICPMS_050825B**
Client ID: **TT-05-N-02-01** Batch ID: **16161** TestNo: **SW6020** Analysis Date: **8/26/2005** SeqNo: **464433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	330.1	0.56	27.94	206	444	75	125	0	0		S

Sample ID **05080730-011AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/25/2005** Run ID: **ICPMS_050825B**
Client ID: **TT-05-N-03-01** Batch ID: **16161** TestNo: **SW6020** Analysis Date: **8/26/2005** SeqNo: **464438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	72.62	0.55	27.36	33.95	141	75	125	0	0		S

Sample ID **05080730-006AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/25/2005** Run ID: **ICPMS_050825B**
Client ID: **TT-05-N-02-01** Batch ID: **16161** TestNo: **SW6020** Analysis Date: **8/26/2005** SeqNo: **464436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	237.1	0.56	28.05	206	111	75	125	330.1	32.8	20	R

Sample ID **05080730-011AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/25/2005** Run ID: **ICPMS_050825B**
Client ID: **TT-05-N-03-01** Batch ID: **16161** TestNo: **SW6020** Analysis Date: **8/26/2005** SeqNo: **464443**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	76.39	0.55	27.68	33.95	153	75	125	72.62	5.07	20	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blanl

CLIENT: Tetra Tech EM Inc.
Work Order: 05080730
Project: Dutch Boy, 120th & Peoria

ANALYTICAL QC SUMMARY REPORT

BatchID: 16170

Sample ID **05080730-006AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/23/2005** Run ID: **ICPMS-2_050823B**
Client ID: **TT-05-N-02-01** Batch ID: **16170** TestNo: **SW6020** Analysis Date: **8/24/2005** SeqNo: **462106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	59.11	0.55	27.57	49.47	35	75	125	0	0		S

Sample ID **05080730-011AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/23/2005** Run ID: **ICPMS-2_050823B**
Client ID: **TT-05-N-03-01** Batch ID: **16170** TestNo: **SW6020** Analysis Date: **8/24/2005** SeqNo: **462110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	184.9	0.54	27.1	159.8	92.5	75	125	0	0		

Sample ID **05080730-006AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/23/2005** Run ID: **ICPMS-2_050823B**
Client ID: **TT-05-N-02-01** Batch ID: **16170** TestNo: **SW6020** Analysis Date: **8/24/2005** SeqNo: **462107**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	96.97	0.56	27.83	49.47	171	75	125	59.11	48.5	20	SR

Sample ID **05080730-011AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/23/2005** Run ID: **ICPMS-2_050823B**
Client ID: **TT-05-N-03-01** Batch ID: **16170** TestNo: **SW6020** Analysis Date: **8/24/2005** SeqNo: **462111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	586.8	0.55	27.68	159.8	1540	75	125	184.9	104	20	SR

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blanl

CLIENT: Tetra Tech EM Inc.
Work Order: 05080730
Project: Dutch Boy, 120th & Peoria

ANALYTICAL QC SUMMARY REPORT

BatchID: 16186

Sample ID **05080730-037AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS_050824B**
Client ID: **TT-05-NW-01-01** Batch ID: **16186** TestNo: **SW6020** Analysis Date: **8/25/2005** SeqNo: **463497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	287.1	0.54	27.15	290.9	-13.9	75	125	0	0		S

Sample ID **05080730-042AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS_050827B**
Client ID: **TT-05-NW-02-01** Batch ID: **16186** TestNo: **SW6020** Analysis Date: **8/27/2005** SeqNo: **465708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	44.83	0.54	26.95	16.51	105	75	125	0	0		

Sample ID **05080730-037AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS_050824B**
Client ID: **TT-05-NW-01-01** Batch ID: **16186** TestNo: **SW6020** Analysis Date: **8/25/2005** SeqNo: **463498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	273.9	0.54	27.23	290.9	-62.6	75	125	287.1	4.73	20	S

Sample ID **05080730-042AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS_050827B**
Client ID: **TT-05-NW-02-01** Batch ID: **16186** TestNo: **SW6020** Analysis Date: **8/27/2005** SeqNo: **465709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	45.25	0.55	27.57	16.51	104	75	125	44.83	0.937	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blanl

CLIENT: Tetra Tech EM Inc.
Work Order: 05080730
Project: Dutch Boy, 120th & Peoria

ANALYTICAL QC SUMMARY REPORT

BatchID: 16194

Sample ID **05080730-047AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS-2_050824B**
Client ID: **TT-05-NW-03-01** Batch ID: **16194** TestNo: **SW6020** Analysis Date: **8/25/2005** SeqNo: **463416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	59.76	0.55	27.59	26.45	121	75	125	0	0		

Sample ID **05080730-057AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS-2_050824B**
Client ID: **TT-05-W-01-01** Batch ID: **16194** TestNo: **SW6020** Analysis Date: **8/25/2005** SeqNo: **463436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	76.71	0.55	27.65	47.8	105	75	125	0	0		

Sample ID **05080730-047AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS-2_050824B**
Client ID: **TT-05-NW-03-01** Batch ID: **16194** TestNo: **SW6020** Analysis Date: **8/25/2005** SeqNo: **463417**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	55.84	0.55	27.59	26.45	107	75	125	59.76	6.78	20	

Sample ID **05080730-057AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/24/2005** Run ID: **ICPMS-2_050824B**
Client ID: **TT-05-W-01-01** Batch ID: **16194** TestNo: **SW6020** Analysis Date: **8/25/2005** SeqNo: **463437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	78.65	0.55	27.65	47.8	112	75	125	76.71	2.49	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blanl

ENCLOSURE 5

DATA EVALUATION REPORT

(Four Pages)

DATA EVALUATION

Tetra Tech EM Inc. (Tetra Tech) collected 63 soil samples and 12 field duplicate samples on August 16, 2005, at the Dutch Boy/National Lead site in Chicago, Illinois. The soil samples were analyzed by STAT Analysis Corporation (STAT) in Chicago, Illinois, for lead using U.S. Environmental Protection Agency (EPA) SW-846 Method 6020. STAT divided the samples into five data packages and prepared and analyzed each package separately.

Tetra Tech evaluated analytical data in the five data packages in accordance with the "U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated October 2004. The packages were evaluated for the following parameters:

- Holding times
- Initial and continuing calibrations
- Blanks
- Internal standard recoveries
- Laboratory control sample (LCS) analyses
- Matrix spike/matrix spike duplicate (MS/MSD) analyses
- Field duplicate samples

The following sections discuss the validation of each data package. The final section of this enclosure provides an overall assessment of the analyses and sample results.

1.0 DATA PACKAGE NO. 16153

This data package had no problems related to holding times, initial and continuing calibrations, blanks, internal standard recoveries, or LCS analyses.

MS/MSD analyses were performed on sample TT-05-N-04-34, but the unspiked lead concentration was more than 60 times the spike concentration; therefore, spike recoveries could not be determined. No qualifications are warranted for this data gap. The relative percent difference (RPD) between the MS and MSD concentrations was 19 percent, which is within quality control (QC) limits, so no qualifications are warranted for MS/MSD irregularities.

One field duplicate pair in this data package for sample TT-05-N-01-12 had an acceptable RPD of 12 percent, but the other field duplicate pair for sample TT-05-N-04-01 had an RPD of 56 percent, indicating significant heterogeneity for samples collected from that location. The results associated with the latter pair of field duplicates were flagged "J" to indicate that they are considered estimated. Two additional field duplicate samples were analyzed with this data package, but their primary samples were analyzed in another data package. These field duplicate sample results are therefore discussed with the data package that includes the primary samples (data package No. 16170).

2.0 DATA PACKAGE NO. 16161

This data package had no problems related to holding times, initial and continuing calibrations, internal standard recoveries, or LCS samples.

A low-level concentration of lead was detected in the method blank. No qualifications are warranted because the sample results were greater than 10 times the blank concentration.

MS/MSD analyses were performed on sample TT-05-N-02-01, but the unspiked sample contained more than seven times the spike concentration, so recoveries could not be determined. No qualifications are warranted for this data gap; however, the RPD between the MS and MSD results was 33 percent, which exceeds the QC limit of 20 percent. The unspiked sample result was therefore flagged "J" to indicate that it is considered estimated. MS/MSD analyses were also performed on sample TT-05-W-02-34, but the unspiked sample contained more than nine times the spike concentration, so recoveries could not be determined. No qualifications are warranted for this data gap because the RPD was well within the QC limit of 20 percent. MS/MSD analyses were also performed on sample TT-05-N-03-01. Recoveries were 141 and 153 percent, well above the QC limits of 75 to 125 percent. Although the RPD was an acceptable 5 percent, the MS/MSD recoveries (and the field duplicate results for this sample discussed in the next paragraph) indicate heterogeneity of lead concentrations in portions of the parent sample. The parent sample result is therefore flagged "J" to indicate that it is considered estimated.

Three field duplicate pairs were included in this data package. The RPD for the pair for sample TT-05-W-03-01 was less than 10 percent, so no qualifications are warranted for that sample; however, the RPD for the pairs for samples TT-05-N-02-01 (151 percent) and TT-05-N-03-01 (48 percent) were considerably higher, so associated sample results were flagged "J" to indicate that they are considered estimated.

3.0 DATA PACKAGE NO. 16170

This data package had no problems related to holding times, initial and continuing calibrations, internal standard recoveries, or LCS analyses.

A low-level concentration of lead was detected in the method blank. No qualifications are warranted because the sample results were greater than 10 times the blank concentration.

This data package included new MS/MSD analyses prepared from the same samples as those used for data package No. 16161. The recoveries for the MS/MSD samples from sample TT-05-N-03-01 could not be determined because the unspiked sample result was greater than five times the spike concentration. The RPD between recoveries was 104 percent, well above the QC limit of 20 percent, so the "J" flag for the parent sample result in data package No. 16161 is confirmed. The recovery for the MS sample from sample TT-05-02-01 was only 35 percent, and the recovery from the MSD sample was 171 percent. These results exhibited an RPD of 48 percent, so the "J" flag for the parent sample result is also confirmed.

The only field duplicate pair in this data package is associated with sample TT-05-NE-01-23. The pair had an RPD of 55 percent; therefore, the results for samples associated with the duplicate pair were flagged "J" to indicate that they are considered estimated because of apparent heterogeneity.

4.0 DATA PACKAGE NO. 16186

This data package had no problems related to holding times, initial and continuing calibrations, internal standard recoveries, or LCS analyses.

A low-level concentration of lead was detected in the method blank. No qualifications are warranted because the sample results were greater than 10 times the blank concentration.

Recoveries for the MS/MSD analyses performed on sample TT-05-NW-01-01 could not be determined because the sample result was much higher than the spike concentration. The RPD from these MS/MSD

analyses and both recoveries, and the RPD for the other MS/MSD analyses (performed on sample TT-05-NW-02-02) were within QC limits, so no qualifications are warranted for MS/MSD irregularities.

Two field duplicate pairs were included in this data package. The pair for sample TT-05-NW-01-01 had an RPD of 165 percent because one sample contained more than 10 times the lead concentration of the other sample. The pair for sample TT-05-NW-02-01 had an RPD of 83 percent. Because of this heterogeneity, the results for samples associated with both duplicate pairs were flagged "J" to indicate that they are considered estimated.

5.0 DATA PACKAGE NO. 16194

This data package had no problems related to holding times, initial and continuing calibrations, blanks, internal standard recoveries, LCS analyses, or MS/MSD analyses. Unlike most other data packages, the MS/MSD analyses performed for samples TT-05-NW-03-01 and TT-05-W-01-01 exhibited accuracy and precision results within QC limits.

All four field duplicate pairs yielded excessive RPDs. For the pair for sample TT-05-NW-03-01, the RPD was 54 percent. For the pair for sample TT-05-NW-04-01, the RPD was 178 percent because the primary sample contained more than 17 times the lead concentration of its field duplicate sample. For the pair for sample TT-05-W-01-01, the RPD was 63 percent. For the pair for sample TT-05-W-02-01, the RPD was 79 percent. The results associated with these four sample pairs were flagged "J" to indicate that they are considered estimated because of the uncertainty in the true concentration of lead in those samples.

6.0 SYSTEM PERFORMANCE

The only quality control problem observed for these analyses resulted from the irregularity of lead distribution within many of the soils sampled. This irregularity is demonstrated by the highly variable results for spiked recoveries (when they could be determined) and the variable RPDs for both the MS/MSD analyses and field duplicate pairs. The irregularity is especially evident in samples used for both field duplicate samples and spiked analyses. This problem is well illustrated by sample TT-05-NW-01-01, whose field duplicate sample (separated from the primary sample in the field) yielded an RPD of 165 percent while the MS/MSD samples (separated from the primary sample in the laboratory) yielded an RPD of less than 5 percent.

Normal data validation practice is to apply qualifications for MS/MSD irregularities to all samples of a similar matrix. Because of the observed lead concentration irregularities in different portions of the same primary samples (including sample TT-05-NW-01-01 and less extreme cases), these qualifications were applied only to the samples used for the MS/MSD analyses. It is notable that 10 of 12 field duplicate pairs and 3 of 8 MS/MSD pairs yielded excessive RPDs, demonstrating that the lead concentrations in the site soil are apparently heterogenous. This situation is commonly seen at firing ranges and similar sites where it is known that the lead contamination is present in particulate form. Different 1-gram portions of soil (the quantity used for each sample analysis) therefore contain different numbers of particles and therefore different apparent lead concentrations.

Because of this heterogeneity problem, no single sample result can be considered to be representative of the area from which it was collected. Multiple samples and an appropriate measure of central tendency (the 95 percent upper confidence limit on the mean [95UCL] is commonly used) are necessary for decision making. For example, consider the surface soil sample results in the attachment with sample identifications ending in "-01." Based on the ordinary sampling assumption that neither of the field duplicate pairs is more representative than the other, the averaged duplicate results from 15 soil concentrations ranging from 29 milligrams per kilogram (mg/kg) for sample TT-05-NW-02-01 (the

average of a field duplicate pair) to 750 mg/kg for sample TT-05-W-04-01 (which had no field duplicate sample) results in an average lead concentration of 133 mg/kg and a 95UCL of 217 mg/kg, well below the cleanup objective of 1,400 mg/kg.

Based on the analytical data presented in Table 1-1 in Enclosure 1, soil lead concentrations exceeding the U.S. EPA risk-based objective of 1,400 milligrams per kilogram (mg/kg) exist at the site. This objective was developed by U.S. EPA in a memorandum dated March 20, 1996. Some of the exceedances are present at depth below the cap in the remediated areas (Tt-05-N-01, Tt-05-N-02, Tt-05-N-03, Tt-05-N-04, Tt-05-NW-04, Tt-05-W-03).

Some of the exceedances are in areas that were indicated as remediated by ESC (ESC36, ESC-37, RSB-15, RSB-15A, SB-15, SB-14, ESC-42, ESC-43). Some of the exceedances were in areas that formerly were covered by concrete (DB-9, SB-23, RSB-23, ESC-10A, SB-20, RSB-20, SB-26, RSB-25, ESC-18, ESC-18A, ESC-19, ESC-19A). Therefore, soil exceeding the U.S. EPA risk-based objective of 1,400 mg/kg remain at the site in uncapped areas. Figure 2-2 in Enclosure 2 is a site map showing the areas of total lead exceedances.

One exceedance was beneath the existing concrete platform on the south side of the site (SB-30). Thus, soil exceeding the U.S. EPA risk-based objective of 1,400 mg/kg remains beneath the elevated concrete platform. Figure 2-2 in Enclosure 2 is a site map showing the areas of total lead exceedances. Total lead exceedances that exist near the ground surface are shown in Figure 2-4 in Enclosure 2.

TCLP lead at concentrations exceeding 5 milligrams per liter (mg/L) was identified at the site at the following locations at varying depths: SB-15, SB-23, SB-26, SB-30, B5, DB-7, DB-10, DB-18, RSB-15, RSB-20, RSB-23, GRAB, RSB-15A, ESC-3A, ESC-10, ESC-18, ESC-20, ESC-36, ESC-37, ESC-41, ESC-42, and ESC-43. Therefore, soil exceeding hazardous waste criteria for lead (5 mg/L) currently remains at the site. Some of the locations are in uncapped, exposed areas, at or near the ground surface. Figure 2-3 in Enclosure 2 is a site map showing the areas of TCLP lead exceedances.
For details of sampling methodology, field findings, soil boring logs, analytical reports, and data evaluations, please refer to the reports cited above.

CONCLUSIONS

The results of the soil sampling conducted by ESC, Earth Tech, and Tetra Tech indicate that lead remains in site soil at depth beneath the soil cap at concentrations exceeding both the U.S. EPA risk-based objective and the Title 35 of the Illinois Administrative Code Tiered Approach to Corrective Action Objectives (TACO) Tier 1 remediation objective (400 mg/kg).

Additionally, total lead concentrations exceeding the U.S. EPA risk-based objective (1,400 mg/kg) and the TACO Tier 1 remediation objective (400 mg/kg) is present at the site in locations that are uncapped, exposed, and at or near the ground surface and beneath the elevated concrete dock. TCLP lead concentrations exceeding hazardous waste criteria (5 mg/L) remain at the site in locations that are uncapped, exposed, and at or near the ground surface.

If you have any questions about this site summary, please call me at (312) 201-7411.

Sincerely,

Carol Nissen

Carol Nissen
Project Manager

Enclosures (2)

cc: Brad Bradley, U.S. EPA

ENCLOSURE 1

SUMMARY OF SOIL SAMPLE ANALYTICAL DATA

TABLE 1-1

(Five Pages)