DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date: 8-25-03

Activity: South Valley
Personel: Bogetti
Air Monitor #:

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 concecutive readings):Stop work until levels reutrn to below 1.0.

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.050	
07:30	.051	
08:00	.037	
08:30	.027	
09:00	.009	
09:30	.007	
10:00	.009	
10:30	.011	
11:00	.014	
11:30	.012	
12:00	.012	
12:30	.014	
13:00	.017	
13:30	.018	
14:00	.013	
14:30	.012	
15:00	.014	
15:30	.014	
16:00	.015	
16:30	.018	
17:00	.017	
18:00		

Fac-States "Dump truck"

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date: 8-25-03

Activity: South Valley
Personel: Thompson
Air Monitor #:

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.019	
07:30	.022	
08:00	.015	
08:30	.075	
09:00	.076	
09:30	.080	
10:00	.088	
10:30	.088	
11:00	.087	
11:30	.085	
12:00	.088	
12:30	.088	
13:00	.084	
13:30	.077	
14:00	.078	
14:30	.076	
15:00	.081	
15:30	.079	
16:00	.079	
16:30	.081	
17:00		
18:00		

Pacific Station Dump Truck #

Tourtelot Project
#1056/7001
By: JWO

Northgate Environmental Management, Inc

Worker Area Air Monitoring Summary for August 26, 2003

Activities Monitored: Hauling North face of South Valley soils

Monitor Placement
Upwind: Approximately 10 feet upwind of active work area
Downwind: Approximately 25 feet downwind of active work area

Dust Concentrations (mg/m^3)			Downwind - Upwind Concentration	
Time	Upwind	Downwind	Concentration*	Action Level**
7:30	---	---	---	1.000
8:00	0.024	0.057	0.033	1.000
8:30	0.029	0.210	0.182	1.000
9:00	0.032	0.173	0.141	1.000
9:30	0.033	0.232	0.199	1.000
10:00	0.028	0.310	0.282	1.000
10:30	0.031	0.395	0.364	1.000
11:00	0.030	0.228	0.199	1.000
11:30	0.023	0.408	0.385	1.000
12:00	0.019	0.136	0.118	1.000
12:30	0.019	0.136	0.117	1.000
13:00	0.014	0.103	0.089	1.000
13:30	0.046	0.098	0.052	1.000
14:00	0.160	0.152	-0.008	1.000
14:30	0.017	0.228	0.211	1.000
15:00	0.018	0.172	0.154	1.000
15:30	0.026	0.091	0.065	1.000
16:00	0.020	0.107	0.087	1.000
16:30	0.030	0.062	0.032	1.000
17:00	0.019	0.058	0.039	1.000
Average	**0.032**	**0.177**	**0.144**	**1.000**

Notes:
*Italicized concentrations indicate a downwind reading without an upwind concentration correction.
**If Downwind - Upwind concentration exceeds 1.0 mg/m3, additional dust control measures are required.

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date:

Activity:_____
Personel:_____
Air Monitor #:_____

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

8/26

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.075	
07:30	.083	
08:00	.058	
08:30	.057	
09:00	.044	
09:30	.039	
10:00	.026	
10:30	.031	
11:00	.029	
11:30	.034	
12:00	.016	
12:30	.023	
13:00	.019	
13:30	.015	
14:00	.016	
14:30	.009	
15:00	.007	
15:30	.011	
16:00	.012	
16:30	.013	
17:00	.011	
18:00		

* Pacific Stat. Dump Truck *

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date: 8/26/03

Activity:_____
Personel:_____
Air Monitor #:_____

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
	.538	
07:00	.528	
07:30	.424	
08:00	.438	
08:30	.400	
09:00	.406	
09:30	.310	
10:00	.402	
10:30	.482	
11:00	.503	
11:30	.473	
12:00	.412	
12:30	.410	
13:00	.424	
13:30	.401	
14:00	.402	
14:30	.423	
15:00	.384	
15:30	.401	
16:00	.465	
16:30	.412	
17:00	.391	
18:00		

Tourtelot Project
#1056/7001
By: JWO

Northgate Environmental Management, Inc

Worker Area Air Monitoring Summary for August 27, 2003

Activities Monitored: Scraping and hauling soils from north face of South Valley.

Monitor Placement
Upwind: Approximately 10 feet upwind of active work area
Downwind: Approximately 25 feet downwind of active work area

	Dust Concentrations (mg/m^3)		Downwind - Upwind Concentration	
Time	Upwind	Downwind	Concentration*	Action Level**
7:30	0.072	0.058	-0.015	1.000
8:00	0.065	0.112	0.047	1.000
8:30	0.046	0.063	0.018	1.000
9:00	0.034	0.031	-0.003	1.000
9:30	0.047	0.043	-0.004	1.000
10:00	0.049	0.052	0.003	1.000
10:30	0.110	0.033	-0.077	1.000
11:00	0.035	0.061	0.026	1.000
11:30	0.020	0.022	0.003	1.000
12:00	0.020	0.017	-0.003	1.000
12:30	0.017	0.018	0.001	1.000
13:00	0.020	0.022	0.001	1.000
13:30	0.020	0.019	-0.001	1.000
14:00	0.016	0.020	0.004	1.000
14:30	0.016	0.021	0.005	1.000
15:00	0.016	0.029	0.013	1.000
15:30	0.012	0.034	0.022	1.000
16:00	0.011	0.012	0.000	1.000
16:30	0.013	0.027	0.015	1.000
17:00	0.013	0.027	0.014	1.000
Average	**0.033**	**0.036**	**0.003**	**1.000**

Notes:
*Italicized concentrations indicate a downwind reading without an upwind concentration correction.
**If Downwind - Upwind concentration exceeds 1.0 mg/m3, additional dust control measures are required.

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date: 8/27/03

Activity:_____
Personel:_____
Air Monitor #:_____

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.523	
07:30	.521	
08:00	.612	
08:30	.601	
09:00	.592	
09:30	.612	
10:00	.578	
10:30	.566	
11:00	.477	
11:30	.501	
12:00	.521	
12:30	.612	
13:00	.617	
13:30	.623	
14:00	.601	
14:30	.591	
15:00	.531	
15:30	.572	
16:00	.591	
16:30	.522	
17:00	.512	
18:00		

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date:

Activity:_____
Personel:_____
Air Monitor #:_____

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

8/27

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.019	
07:30	.034	
08:00	.040	
08:30	.040	
09:00	.035	
09:30	.029	
10:00	.024	
10:30	.019	
11:00	.005	
11:30	.013	
12:00	.014	
12:30	.017	
13:00	.031	
13:30	.033	
14:00	.033	
14:30	.024	
15:00	.037	
15:30	.018	
16:00	.021	
16:30	.019	
17:00	.024	
18:00	.023	

Tourtelot Project
#1056/7001
By: JWO

Northgate Environmental Management, Inc

Worker Area Air Monitoring Summary for August 28, 2003

Activities Monitored: Scraping and hauling soils from faces of South Valley.

Monitor Placement
Upwind: Approximately 10 feet upwind of active work area
Downwind: Approximately 25 feet downwind of active work area

	Dust Concentrations (mg/m^3)		Downwind - Upwind Concentration	
Time	Upwind	Downwind	Concentration*	Action Level**
7:30			0.000	1.000
8:00	0.013	0.023	0.011	1.000
8:30	0.015	0.024	0.009	1.000
9:00	0.021	0.016	-0.005	1.000
9:30	0.022	0.027	0.005	1.000
10:00	0.024	0.018	-0.006	1.000
10:30	0.029	0.024	-0.006	1.000
11:00	0.062	0.021	-0.041	1.000
11:30	0.000	0.035	0.035	1.000
12:00	0.024	0.037	0.014	1.000
12:30	0.017	0.021	0.004	1.000
13:00	0.018	0.048	0.030	1.000
13:30	0.014	0.081	0.067	1.000
14:00	0.012	0.041	0.029	1.000
14:30	0.014	0.022	0.008	1.000
15:00	0.015	0.045	0.030	1.000
15:30	0.018	0.055	0.037	1.000
16:00	0.016	0.059	0.043	1.000
16:30	0.021	0.075	0.054	1.000
17:00	0.015	0.081	0.066	1.000
17:30	0.000	0.042	0.042	1.000
Average	**0.019**	**0.040**	**0.021**	**1.000**

Notes:
*Italicized concentrations indicate a downwind reading without an upwind concentration correction.
**If Downwind - Upwind concentration exceeds 1.0 mg/m3, additional dust control measures are required.

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date:

Activity:_____
Personel:_____
Air Monitor #:_____

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

8/28

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.019	
07:30	.017	
08:00	.024	
08:30	.033	
09:00	.039	
09:30	.041	
10:00	.033	
10:30	.031	
11:00	.021	
11:30	.030	
12:00	.029	
12:30	.024	
13:00	.017	
13:30	.019	
14:00	.025	
14:30	.025	
15:00	.026	
15:30	.031	
16:00	.036	
16:30	.039	
17:00	.047	
18:00	.041	

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date: 8/28/03

Activity:_____
Personel:_____
Air Monitor #:_____

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.002	
07:30	.562	
08:00	.570	
08:30	.415	
09:00	.350	
09:30	.417	
10:00	.391	
10:30	.572	
11:00	.371	
11:30	.378	
12:00	.375	
12:30	.371	
13:00	.375	
13:30	.381	
14:00	.382	
14:30	.385	
15:00	.396	
15:30	.401	
16:00	.404	
16:30	.397	
17:00	.399	
18:00		

Tourtelot Project
#1056/7001
By: JWO

Northgate Environmental Management, Inc

Worker Area Air Monitoring Summary for August 29, 2003

Activities Monitored: Scraping and loading of South Valley face soils.

Monitor Placement
Upwind: Approximately 10 feet upwind of active work area
Downwind: Approximately 25 feet downwind of active work area

	Dust Concentrations (mg/m^3)		Downwind - Upwind Concentration	
Time	Upwind	Downwind	Concentration*	Action Level**
7:30	0.063	0.051	-0.013	1.000
8:00	0.075	0.077	0.002	1.000
8:30	0.044	0.069	0.026	1.000
9:00	0.040	0.045	0.005	1.000
9:30	0.039	0.055	0.016	1.000
10:00	0.037	0.040	0.003	1.000
10:30	0.032	0.039	0.007	1.000
11:00	0.037	0.052	0.015	1.000
11:30	0.033	0.048	0.015	1.000
12:00	0.034	0.055	0.022	1.000
12:30	0.030	0.052	0.022	1.000
13:00	0.027	0.043	0.015	1.000
13:30	0.020	0.063	0.043	1.000
14:00	0.023	0.058	0.035	1.000
14:30	0.026	0.056	0.030	1.000
15:00	0.025	0.051	0.026	1.000
15:30	0.019	0.029	0.011	1.000
16:00	0.017	0.042	0.025	1.000
16:30	0.014	0.075	0.061	1.000
17:00	0.013	0.033	0.020	1.000
17:30	0.011	0.013	0.002	1.000
Average	**0.031**	**0.050**	**0.019**	**1.000**

Notes:
*Italicized concentrations indicate a downwind reading without an upwind concentration correction.
**If Downwind - Upwind concentration exceeds 1.0 mg/m3, additional dust control measures are required.

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date: 8/29

Activity:_____
Personel:_____
Air Monitor #:_____

***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
0-1 mg/m³ above upwind: No Action
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0.

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.040	
07:30	.045	
08:00	.037	
08:30	.110	
09:00	.100	
09:30	.102	
10:00	.101	
10:30	.102	
11:00	.099	
11:30	.097	
12:00	.096	
12:30	.097	
13:00	.096	
13:30	.097	
14:00	.097	
14:30	.099	
15:00	.100	
15:30	.101	
16:00	.106	
16:30	.106	
17:00	.104	
18:00	.103	

Tourtelot Project
#1056/7001
By: JWO

Northgate Environmental Management, Inc

Worker Area Air Monitoring Summary for August 30, 2003

Activities Monitored: Loading of mercury affected soils.

Monitor Placement
Upwind: Approximately 10 feet upwind of active work area
Downwind: Approximately 25 feet downwind of active work area

	Dust Concentrations (mg/m^3)		Downwind - Upwind Concentration	
Time	Upwind	Downwind	Concentration*	Action Level**
7:30	0.042	0.033	-0.009	1.000
8:00	0.067	0.063	-0.004	1.000
8:30	0.048	0.073	0.025	1.000
9:00	0.055	0.283	0.228	1.000
9:30	0.045	0.823	**0.778**	1.000
10:00	0.040	0.326	0.286	1.000
10:30	0.031	0.379	0.348	1.000
11:00	0.018	0.277	0.259	1.000
11:30	0.018	0.150	0.132	1.000
12:00	0.015	0.129	0.113	1.000
12:30	0.014	0.046	0.033	1.000
13:00	0.011	0.032	0.021	1.000
13:30	0.011	0.057	0.046	1.000
14:00	0.011	0.088	0.078	1.000
14:30	0.012	0.083	0.071	1.000
15:00	0.011	0.048	0.037	1.000
15:30	0.011	0.098	0.087	1.000
16:00	0.010	0.061	0.050	1.000
16:30	0.011	0.090	0.079	1.000
17:00	0.010	0.066	0.056	1.000
Average	**0.024**	**0.160**	**0.136**	**1.000**

Notes:
*Italicized concentrations indicate a downwind reading without an upwind concentration correction.
**If Downwind - Upwind concentration exceeds 1.0 mg/m3, additional dust control measures are required.

DAILY PERSONAL AIR MONIORING LOG

Tourtelot Project
Northgate 1056.03.10
Date:

Activity:_____
Personel:_____
Air Monitor #:_____

*
***Manualy record measurements every 30 minutes.**
***Action levels (Refer to addendum 1 SSHP):**
8/30 **0-1 mg/m³ above upwind: No Action**
1.0- 1.5 mg/m³:Implement additional dust mitigation.
> 1.5mg/m³ (after 2 consecutive readings):Stop work until levels reutrn to below 1.0

Notify Northgate if levels reach above 1.0.

Time	Reading (mg/m3	Activity
07:00	.024	
07:30	.037	
08:00	.071	
08:30	.005	
09:00	.000	
09:30	.000	
10:00	.000	
10:30	.010	
11:00	.010	
11:30	.009	
12:00	.006	
12:30	.007	
13:00	.003	
13:30	.004	
14:00	.000	
14:30	.000	
15:00	.006	
15:30	.004	
16:00	.000	
16:30	.000	
17:00	.000	
18:00	.003	

8/12/03

* Tourtelot Worker Air Monitoring

Pacific Station Dump Work

Tourtelot Project
#1056/7001
By: JWO

Northgate Environmental Management, Inc

Worker Area Air Monitoring Summary for August 31, 2003

Activities Monitored: Loading of mercury affected soils.

Monitor Placement
Upwind: Approximately 10 feet upwind of active work area
Downwind: Approximately 25 feet downwind of active work area

	Dust Concentrations (mg/m^3)		Downwind - Upwind Concentration	
Time	Upwind	Downwind	Concentration*	Action Level**
7:30	0.053	0.053	0.000	1.000
8:00	0.077	0.050	-0.026	1.000
8:30	0.080	0.056	-0.024	1.000
9:00	0.083	0.067	-0.016	1.000
9:30	0.070	0.068	-0.002	1.000
10:00	0.061	0.054	-0.007	1.000
10:30	0.043	0.046	0.002	1.000
11:00	0.035	0.042	0.007	1.000
11:30	0.031	0.036	0.005	1.000
12:00	0.027	0.036	0.009	1.000
12:30	0.025	0.117	0.091	1.000
13:00	0.024	0.240	0.216	1.000
13:30	0.020	0.125	0.105	1.000
14:00	0.018	0.031	0.014	1.000
14:30	0.015	0.051	0.036	1.000
15:00	0.015	0.061	0.046	1.000
15:30	0.014	0.065	0.051	1.000
16:00	0.015	0.074	0.060	1.000
16:30	0.014	0.113	0.100	1.000
17:00	0.014	0.168	0.154	1.000
Average	**0.037**	**0.078**	**0.041**	**1.000**

Notes:
*Italicized concentrations indicate a downwind reading without an upwind concentration correction.
**If Downwind - Upwind concentration exceeds 1.0 mg/m3, additional dust control measures are required.

Attachment B-2

northgate

APPENDIX B
SOIL HANDLING PROCEDURES - MANIFESTS

March 22, 2004
Project No. 1056

South Valley and Ridge Area
Non-Ordnance and Explosives
Remediation Report

Compact
Disc

Attachment B-3

northgate
environmental
management, inc.

3629 Grand Avenue
Oakland, CA 94610
510 – 839 0688
Fax 510 – 839 4350

TECHNICAL MEMO

Tuesday, December 9, 2003

To: **Rizgar Ghazi and Brian Davis of the DTSC**

From: Deni Chambers of Northgate
Renee Kalmes of Exponent

Regarding: Use of excavated soils from Demo Site #1 in the South Valley for fill on the Tourtelot Cleanup Site.

Approximately 2,000 cubic yards (cy) of soil were excavated from the Demolition Site #1 in the South Valley. The excavated soil from Demolition Site #1 was placed in a stockpile on the Ridge to be processed for removal of OE. Four four-point composite samples (including one duplicate) were collected from the soil stockpile and analyzed for CAM 17 (Title 22 CCR) metals by EPA Method 6010/7471A, polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8310, explosives by EPA Method 8330, and perchlorate by EPA Method 314. Two samples were analyzed for dioxins and furans by EPA Method 8290.

Analytical results from the Demolition Site #1 stockpile are summarized in Tables 1 through 4, which show that none of the results exceed remedial goals or screening criteria. Explosives, PAHs, and perchlorate were not detected in the samples (Tables 1 through 3). Metals and dioxins/furans results are presented in Tables 3 and 4, respectively. Table 4 includes the 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) toxic equivalencies (TEQs) for the dioxin results. The data validation report and associated tables are attached (Attachment A).

Screening-level health risk estimates were calculated using the maximum concentrations detected in the Demolition Site #1 Stockpile samples, and compared with US EPA Region IX Preliminary Remediation Goals (PRGs) for residential soil (EPA, 2002). The methods used to calculate screening-level health risk estimates are fully described in the *Final Remedial Investigation/Feasibility Study (Earth Tech 2001)* and the *North Valley Non-Ordinance and Explosives Remediation Report* (Northgate 2003).

The results of screening-level risk calculations are presented in Table 5. Based on the maximum detected concentrations, the estimated total excess cancer risk is 2×10^{-7}. On the same basis, the estimated total noncancer hazard index is 0.2. The screening assessment indicates that the risk estimates are less than common regulatory benchmarks (a noncancer hazard index of 1 or a theoretical lifetime excess cancer risk of 1×10^{-6}). Therefore, we believe that these soils are suitable to be used as fill in the North Valley and would like your concurrence with this conclusion. Please let us know if you have any questions.

Table 1

Explosive Results, Demolition Site 1 Stockpile Samples (mg/kg)

Sample ID	Date Sampled	1,3,5-Trinitrobenzene	1,3-Dinitrobenzene	2,4,6-Trinitrotoluene	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Amino-4,6-dinitrotoluene	2-Nitrotoluene	3-Nitrotoluene	4-Amino-2,6-dinitrotoluene	4-Nitrotoluene	HMX	Nitrobenzene	Nitroglycerin	PETN	RDX	Tetryl
SS-1DSP-001	06-Nov-03	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.5	<0.5	<0.25	<0.25
SS-1DSP-002	06-Nov-03	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.5	<0.5	<0.25	<0.25
SS-1DSP-502	06-Nov-03	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.5	<0.5	<0.25	<0.25
SS-1DSP-003	06-Nov-03	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.5	<0.5	<0.25	<0.25

mg/kg milligrams per kilogram

Table 2

PAH Results, Demolition Site 1 Stockpile Samples (mg/kg)

FieldID	Date Sampled	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
SS-1DSP-001	06-Nov-03	<0.012	<0.012	<0.005	<0.005	<0.005	<0.005	<0.012	<0.005	<0.005	<0.012	<0.005	<0.005	<0.012	<0.024	<0.005	<0.005
SS-1DSP-002	06-Nov-03	<0.012	<0.012	<0.006	<0.006	<0.006	<0.006	<0.012	<0.006	<0.006	<0.012	<0.006	<0.006	<0.012	<0.025	<0.006	<0.006
SS-1DSP-502	06-Nov-03	<0.012	<0.012	<0.005	<0.005	<0.005	<0.005	<0.012	<0.005	<0.005	<0.012	<0.005	<0.005	<0.012	<0.023	<0.005	<0.005
SS-1DSP-003	06-Nov-03	<0.011	<0.011	<0.005	<0.005	<0.005	<0.005	<0.011	<0.005	<0.005	<0.011	<0.005	<0.005	<0.011	<0.023	<0.005	<0.005

mg/kg: milligrams per kilogram

Table 3

Metals and Perchlorate Results, Demolition Site 1 Stockpile Samples (mg/kg)

FieldID	DateSampled	Perchlorate	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SS-1DSP-001	06-Nov-03	<0.059	<2.4 R	10 J	220 J	0.51 J	0.02 J	40 J	22 J	59 J	18 J	0.29 J	0.44 J	54 J	0.44 J	0.28 J	<1.2 UJ	52 J	72 J
SS-1DSP-002	06-Nov-03	<0.059	<2.5 R	9.5 J	190 J	0.53 J	<0.62 UJ	40 J	14 J	58 J	16 J	0.091 J	0.4 J	40 J	<2.5 J	0.17 J	0.73 J	51 J	70 J
SS-1DSP-502	06-Nov-03	<0.059	<2.299 R	8.2 J	160 J	0.45 J	0.017 J	36 J	12 J	62 J	21 J	0.094 J	0.28 J	35 J	0.6 J	0.16 J	<1.2 UJ	51 J	70 J
SS-1DSP-003	06-Nov-03	<0.057	<2.299 R	8.7 J	190 J	0.49 J	0.028 J	37 J	16 J	58 J	17 J	0.084 J	0.33 J	41 J	<2.299 J	0.19 J	<1.1 UJ	49 J	93 J

J: The analyte was positively identified; the associated numerical value is the approximate numerical value is the approximate concentration of the analyte iin the sample.

UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

mg/kg: milligrams per kilogram

Table 4
Dioxin/Furan Results, Demoliton Site 1 Stockpile Samples (pg/g)

FieldID	DateSampled	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ
SS-1DSP-002	06-Nov-03	<1	<0.709	<0.349	<0.23	<0.23	<0.219	<0.2	<0.2	<0.219	<0.37	<0.2	<0.2	<0.2	<0.4	<0.36	<4.9	<0.409	0.45
SS-1DSP-003	06-Nov-03	<1.799	<2.099	<0.319	<0.189	<1.799	<0.33	<0.72	<0.589	<0.18	<0.23	<0.819	<1.1	<1.2	<0.379	0.99	<5.199	<1.2	0.94

pg/g: picograms per gram

Table 5
Screening Risk Assessment of Demolition Site 1 Stockpile

Chemical	Number of Samples	Number of detects	Frequency of detection (%)	Maximum Detected Concentration (mg/kg)	95th Percentile of Ambient Soil Samples (mg/kg)	Maximum Detected Concentration Greater than 95th Percentile	U.S. EPA Region IX Residential PRG (mg/kg)			Noncancer Ratio	Cancer Ratio
Dioxin											
2,3,7,8-TCDD Equivalency	2	1	50%	9E-07	NA	NA	3.9E-06	ca		NA	2.3E-01
Metals											
Arsenic	4	4	100%	10	18.2	No	0.39	ca		NA	NA
Barium	4	4	100%	220	448	No	5400	nc		NA	NA
Beryllium	4	4	100%	0.53	0.82	No	150	nc		NA	NA
Cadmium	4	3	75%	0.028	1.4	No	37	nc		NA	NA
Chromium	4	4	100%	40	63	No	210	ca		NA	NA
Cobalt	4	4	100%	22	23.1	No	900	ca		NA	NA
Copper	4	4	100%	62	71.7	No	3100	nc		NA	NA
Lead	4	4	100%	21	69.9	No	150	nc	(1)	NA	NA
Mercury	4	4	100%	0.29	0.26	**Yes**	23	nc		1.3E-02	NA
Molybdenum	4	4	100%	0.44	NA	NA	390	nc		1.1E-03	NA
Nickel	4	4	100%	54	65	No	1600	nc		NA	NA
Selenium	4	2	50%	0.6	NA	NA	390	nc		1.5E-03	NA
Silver	4	4	100%	0.28	NA	NA	390	nc		7.2E-04	NA
Thallium	4	1	25%	0.73	NA	NA	5.2	nc		1.4E-01	NA
Vanadium	4	4	100%	52	96.4	No	550	nc		NA	NA
Zinc	4	4	100%	93	106	No	23000	nc		NA	NA
							Total Hazard Index:			**2E-01**	--
							Total Excess Cancer Risk:			--	**2E-07**

Notes:
nc = PRG based on noncancer effects
ca = PRG based on cancer effects
NA = Not applicable
(1) California-modified PRG.

Attachment A
Data Validation Report - Demolition Site 1 Stockpile Samples

1.0 INTRODUCTION

Northgate performed a quality assurance/quality control (QA/QC) evaluation of the analytical data for the investigation and confirmation samples collected on November 6, 2003 from the Demolition Site Stockpile at the Tourtelot Project Site, Benicia, California. The data were reviewed in accordance with the procedures outlined in the Final Non-Ordnance and Explosives Quality Assurance Project Plan for the Remediation of the Tourtelot Project Site, Benicia, California, dated June 7, 2002 (QAPP). This report summarizes the results of the QA/QC data evaluation.

1.1 Data Flagging

Following review of the data, some of the results were flagged with qualifiers, defined as follows:

- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

2.0 DATA ANALYSES

Soil samples were collected and analyzed by one or more of the following methods:

- EPA method 314 for perchlorate
- EPA method 6010 for metals except mercury
- EPA method 7471 for mercury
- EPA method 8290 for dioxins and furans
- EPA method 8310 for polynuclear aromatic hydrocarbons
- EPA method 8330 for explosives

Soil samples were collected by Northgate and submitted for analyses to STL San Francisco, located in Pleasanton California and STL Sacramento, located in Sacramento California.

3.0 DATA VALIDATION

The data are evaluated based on the following parameters according to the QAPP:

- Sample handling and holding times
- Reporting limits
- Method blanks
- System monitoring compound spike recoveries (surrogates)
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs)
- Laboratory control spike laboratory control spike duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs)

These parameters are compared to established limits. Sample handling, holding times, and reporting limits are specified in the QAPP. The laboratory parameters are compared to the control limits established by the laboratories. Table 4-1 of the QAPP, *Data Validation Flagging Conventions*, is followed in determining flags for the data due to exceedances of holding times, cooler temperature, and laboratory parameters.

One duplicate (SS1DSP-502) was taken of the Demolition Site 1 stockpile soil. A comparison has been made of the duplicate data; however data are not flagged based on the comparisons. Although the duplicate data are presented in this report, the comparative evaluation is deferred to the final report for the Tourtelot site.

3.1 Presentation of Data Validation

The data validation is summarized in two tables. Table A1 summarizes exceedances and associated control limits, along with the data qualifiers required due to the exceedances. The qualified results are then listed in the Table A2.

Many of the exceedances and qualified results shown in Tables A1 and A2 are due to MS or MSD recoveries being outside control limits. However, in most cases, the spike percent recoveries (SPRs) and RPDs associated with the batch LCS and LCSD (if done) are within control limits, indicating that the exceedances are due to matrix interference in the samples, and that the laboratory maintained sufficient accuracy and precision.

3.2 Summary of Data Evaluation

Based upon the QA/QC review of the project data, one exceedance is serious enough to warrant data rejection. Due to antimony SPR exceedances in the MS/MSD for batch 200311110215, the non-detected antimony results in samples SS-1DSP-001, SS-1DSP-002, duplicate SS-1DSP-502, and SS-1DSP-003 (2003110280-1 through 4), are rejected. It appears that the remaining data are valid with the qualifications noted and are available for use.

Table A1. Summary of QC Sample Exceedances for Demolition Site 1 Stockpile Samples
Submission Nos. 2003-11-0280 and G3K070179
Tourtelot Property, Benicia, California

Lab Sample ID	Matrix	Batch Number	QC Sample Type	Compound	Analytical Method	QC Parameter	QC Parameter Value	Lower Control Limit	Upper Control Limit	Required Data Qualifiers
G3K070179002	SOLID	3317381	SUR	3,4 Dinitrotoluene	8330	SPR	107 %	86	105	Explosive results for parent sample will be flagged with 'J' if detected.
G3K070179005	WATER	3318318	ER	1,3,5-Trinitrobenzene	8330	Conc	0.074 ug/L		ND	The 1,3,5-Trinitrobenzene result for G3K070179005 will be flagged 'J' because it is less than 5 times the Conc in the MB. That is the only sample in the batch. No soil samples taken on the day of the ER contained 1,3,5-Trinitrobenzene .
G3K140000318	WATER	3318318	MB	1,3,5-Trinitrobenzene	8330	Conc	0.039 ug/L		ND	
G3K070179005	WATER	3318318	FS	All by Method	8330	HT	8 days		7	Results in the batch will be flagged 'J' if detected and 'UJ' if not detected.
2003110280-48	Soil	200311100216	MS	Mercury	7471A	SPR	140.6 %	85	115	Mercury results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-49	Soil	200311100216	MSD	Mercury	7471A	RPD	33.7 %		20	
2003110280-78	Soil	2.00311E+11	MS	Antimony	6010B	SPR	9.1 %	75	125	Antimony results within batch will be flagged with 'J' if detected and 'R' if not detected.
2003110280-79	Soil	200311110215	MSD	Antimony	6010B	SPR	8.5 %	75	125	
2003110280-78	Soil	200311110215	MS	Arsenic	6010B	SPR	63.1 %	75	125	Arsenic results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Arsenic	6010B	SPR	62.1 %	75	125	
2003110280-78	Soil	200311110215	MS	Barium	6010B	SPR	17.1 %	75	125	Barium results within batch will be flagged with 'J' if detected and 'R' if not detected.
2003110280-79	Soil	200311110215	MSD	Barium	6010B	SPR	14.3 %	75	125	
2003110280-78	Soil	200311110215	MS	Beryllium	6010B	SPR	70.1 %	75	125	Beryllium results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Beryllium	6010B	SPR	69.1 %	75	125	
2003110280-78	Soil	200311110215	MS	Cadmium	6010B	SPR	63.9 %	75	125	Cadmium results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Cadmium	6010B	SPR	62.3 %	75	125	

Table A1. Summary of QC Sample Exceedances for Demolition Site 1 Stockpile Samples
Submission Nos. 2003-11-0280 and G3K070179
Tourtelot Property, Benicia, California

Lab Sample ID	Matrix	Batch Number	QC Sample Type	Compound	Analytical Method	QC Parameter	QC Parameter Value	Lower Control Limit	Upper Control Limit	Required Data Qualifiers
2003110280-78	Soil	200311110215	MS	Chromium	6010B	SPR	60.4 %	75	125	Chromium results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Chromium	6010B	SPR	61.1 %	75	125	
2003110280-78	Soil	200311110215	MS	Cobalt	6010B	SPR	58.9 %	75	125	Cobalt results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Cobalt	6010B	SPR	56.4 %	75	125	
2003110280-78	Soil	200311110215	MS	Copper	6010B	SPR	74.3 %	75	125	Copper results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Copper	6010B	SPR	74.7 %	75	125	
2003110280-78	Soil	200311110215	MS	Lead	6010B	SPR	73.3 %	75	125	Lead results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Lead	6010B	SPR	65.7 %	75	125	
2003110280-78	Soil	200311110215	MS	Molybdenum	6010B	SPR	53.2 %	75	125	Molybdenum results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Molybdenum	6010B	SPR	51.5 %	75	125	
2003110280-78	Soil	200311110215	MS	Nickel	6010B	SPR	53.9 %	75	125	Nickel results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Nickel	6010B	SPR	51.3 %	75	125	
2003110280-78	Soil	200311110215	MS	Selenium	6010B	SPR	62.8 %	75	125	Selenium results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Selenium	6010B	SPR	60 %	75	125	
2003110280-78	Soil	200311110215	MS	Silver	6010B	SPR	74.4 %	75	125	Silver results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Silver	6010B	SPR	73.1 %	75	125	

Table A1. Summary of QC Sample Exceedances for Demolition Site 1 Stockpile Samples
Submission Nos. 2003-11-0280 and G3K070179
Tourtelot Property, Benicia, California

Lab Sample ID	Matrix	Batch Number	QC Sample Type	Compound	Analytical Method	QC Parameter	QC Parameter Value	Lower Control Limit	Upper Control Limit	Required Data Qualifiers
2003110280-78	Soil	200311110215	MS	Thallium	6010B	SPR	59.8 %	75	125	Thallium results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Thallium	6010B	SPR	58.3 %	75	125	
2003110280-78	Soil	200311110215	MS	Vanadium	6010B	SPR	66 %	75	125	Vanadium results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Vanadium	6010B	SPR	67.4 %	75	125	
2003110280-78	Soil	200311110215	MS	Zinc	6010B	SPR	56.2 %	75	125	Zinc results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003110280-79	Soil	200311110215	MSD	Zinc	6010B	SPR	59.4 %	75	125	

Conc - Concentration
DUP - Duplicate
FS - Regular Field Sample
HT - Holding Time
LCSD - Laboratory Control Spike Duplicate
LCS - Laboratory Control Spike
MB - Method Blank

mg/kg - milligram per kilogram
mg/l - milligram per liter
MS SUR - Surrogate of Matrix Spike
MSD SUR - Surrogate of Matrix Spike Duplicate
MSD - Matrix Spike Duplicate
MS - Matrix Spike
NC - Not Calculated

ND - not detected
RL - Reporting Limit
SPR - Spike Percent Recovery
SUR - Surrogate
Temp - Sample temperature when sample arrived at laboratory

Reviewed by: T. Bennett

Table A2. Summary of Qualified Results for Demolition Site 1 Stockpile Samples
Submission Nos. 2003-11-0280 and G3K070179
Tourtelot Property, Benicia, California

Field ID	Batch Number	Lab Sample ID	Analytical Method	Compound	Result	Reporting Limit	Units	Qualifier
ER-1DSP-001	3318318	G3K070179005	8330	1,3,5-Trinitrobenzene	0.074	0.10	ug/L	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Antimony	ND	2.40	mg/Kg	R
SS-1DSP-001	200311110215	2003110280-1	6010B	Arsenic	10	1.20	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Barium	220	1.2	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Beryllium	0.51	0.59	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Cadmium	0.020	0.59	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Chromium	40	1.20	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Cobalt	22	1.20	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Copper	59	1.20	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Lead	18	1.20	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Molybdenum	0.44	1.20	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Nickel	54	1.2	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Selenium	0.44	2.4	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Silver	0.28	1.2	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Thallium	ND	1.20	mg/Kg	UJ
SS-1DSP-001	200311110215	2003110280-1	6010B	Vanadium	52	1.20	mg/Kg	J
SS-1DSP-001	200311110215	2003110280-1	6010B	Zinc	72	1.20	mg/Kg	J
SS-1DSP-001	200311100216	2003110280-1	7471A	Mercury	0.29	0.06	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Antimony	ND	2.50	mg/Kg	R
SS-1DSP-002	200311110215	2003110280-2	6010B	Arsenic	9.5	1.2	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Barium	190	1.2	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Beryllium	0.53	0.62	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Cadmium	ND	0.62	mg/Kg	UJ
SS-1DSP-002	200311110215	2003110280-2	6010B	Chromium	40	1.20	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Cobalt	14	1.20	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Copper	58	1.20	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Lead	16	1.20	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Molybdenum	0.40	1.2	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Nickel	40	1.2	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Selenium	ND	2.5	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Silver	0.17	1.20	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Thallium	0.73	1.20	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Vanadium	51	1.20	mg/Kg	J
SS-1DSP-002	200311110215	2003110280-2	6010B	Zinc	70	1.20	mg/Kg	J
SS-1DSP-002	200311100216	2003110280-2	7471A	Mercury	0.091	0.06	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Antimony	ND	2.3	mg/Kg	R
SS-1DSP-003	200311110215	2003110280-3	6010B	Arsenic	8.7	1.1	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Barium	190	1.1	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Beryllium	0.49	0.57	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Cadmium	0.028	0.57	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Chromium	37	1.10	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Cobalt	16	1.10	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Copper	58	1.10	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Lead	17	1.1	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Molybdenum	0.33	1.1	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Nickel	41	1.1	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Selenium	ND	2.30	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Silver	0.19	1.10	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Thallium	ND	1.10	mg/Kg	UJ

Table A2. Summary of Qualified Results for Demolition Site 1 Stockpile Samples
Submission Nos. 2003-11-0280 and G3K070179
Tourtelot Property, Benicia, California

Field ID	Batch Number	Lab Sample ID	Analytical Method	Compound	Result	Reporting Limit	Units	Qualifier
SS-1DSP-003	200311110215	2003110280-3	6010B	Vanadium	49	1.10	mg/Kg	J
SS-1DSP-003	200311110215	2003110280-3	6010B	Zinc	93	1.10	mg/Kg	J
SS-1DSP-003	200311100216	2003110280-3	7471A	Mercury	0.084	0.057	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Antimony	ND	2.3	mg/Kg	R
SS-1DSP-502	200311110215	2003110280-4	6010B	Arsenic	8.2	1.2	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Barium	160	1.20	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Beryllium	0.45	0.58	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Cadmium	0.017	0.58	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Chromium	36	1.20	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Cobalt	12	1.20	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Copper	82	1.2	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Lead	21	1.2	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Molybdenum	0.28	1.2	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Nickel	35	1.20	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Selenium	0.60	2.30	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Silver	0.16	1.20	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Thallium	ND	1.20	mg/Kg	UJ
SS-1DSP-502	200311110215	2003110280-4	6010B	Vanadium	51	1.20	mg/Kg	J
SS-1DSP-502	200311110215	2003110280-4	6010B	Zinc	70	1.2	mg/Kg	J
SS-1DSP-502	200311100216	2003110280-4	7471A	Mercury	0.094	0.058	mg/Kg	J

mg/kg - milligram per kilogram
ug/L - microgram per liter
J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
ND - Not detected
NR - Not reported. For method 8290, the reporting limit is not quantified when the compound is detected.
R - Result rejected based on QC evaluations.
UJ - The analyte was not detected. However, the reported quantitation limit is approximate and may or may not represent the actual limits of quantitation necessary to accurately and precisely measure the analyte in the sample.

Reviewed by T. Bennett

Attachment B-4

northgate
environmental
management, inc.

October 16, 2003

Rizgar Ghazi
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

Subject: Demolition Site 3 and Mercury Impacted Soil Stockpiles, Tourtelot Cleanup Project, Benicia, California

Dear Mr. Ghazi:

The updated data validation report for analysis of soil samples collected from the Demolition Site 3 and mercury impacted soil stockpiles at the Tourtelot site in Benicia, California is enclosed. Northgate Environmental Management, Inc. ("Northgate") prepared this data validation report to respond to the Department of Toxic Substances Control's (DTSC's) and the United States Army Corps of Engineers' (USACE's) questions regarding inorganic analysis results for soil samples submitted to STL San Francisco, a California-certified laboratory in Pleasanton, California.

As you requested, we have attached all of the correspondence pertaining to our request to use the Demolition Site 3 and mercury-impacted soil stockpiles as fill in the North Valley.

Please contact me at (510) 839-0751 if you have any questions regarding the enclosed report.

Sincerely,

Deni Chambers, C.Hg., C.E.G.
Principal

3629 Grand Avenue, Oakland, California 94610 510 839-0688 fax 510 839-4350
Other office in San Rafael, California 415 492-0310 fax 415 492-0542

Attachments:

A. Technical Memorandum from Northgate to DTSC dated September 25, 2003
B. Memorandum from Northgate to RWQCB dated October 10, 2003
   Table: Summary of Mercury Data in South Valley Groundwater and Surface Water
   Table 4-9 from RI/FS (Earth Tech, 2001): Summary of Well Construction Details
   Table 4-11 from RI/FS (Earth Tech, 2001): Summary of Groundwater Elevation Data
   Figure: Locations of South Valley Groundwater Monitoring Wells
C. Responses to USACE comments dated October 9, 2003
D. Data Validation Report
   Table 1: Summary of Sample Exceedances for Demolition Site 3 and Mercury-Impacted Area Stockpiles
   Table 2: Summary of Qualified Results for Demolition Site 3 and Mercury-Impacted Area Stockpiles
   STL San Francisco Laboratory Report 2003-10-0029
   STL San Francisco Laboratory Report 2003-08-0646
   STL Sacramento Laboratory Report G3I160341
E. Letter from STL San Francisco dated September 29, 2003

cc: Brian Davis, DTSC
Renee Kalmes, Exponent
Scott Goldie, Pacific Bay Homes

northgate
environmental
management, inc.

3629 Grand Avenue
Oakland, CA 94610
510 – 839 0688
Fax 510 – 839 4350

TECHNICAL MEMO

Thursday, September 25, 2003 -- 12:55 PM

To: **Rizgar Ghazi and Brian Davis of the DTSC**
cc: Gary Riley and Roger Brewer of the RWQCB

From: Deni Chambers of Northgate
Renee Kalmes and Greg Brorby of Exponent

Regarding: Use of excavated soils from the South Valley for fill in the North Valley of the Tourtelot Cleanup Site.

Approximately 10,000 cubic yards (cy) of soil were excavated from the Demolition Site #3 in the South Valley, and approximately 6,500 cy of soil were excavated from the area of potentially mercury-affected soils surrounding Demolition Site #3. The excavated soils from inside and outside Demolition Site #3 were placed in separate stockpiles on the Ridge to be sifted for OE. Ten four-point composite samples were collected from each of the soil stockpiles and analyzed for CAM 17 (Title 22 CCR) metals using EPA Method 6010/7471A, including mercury. Two samples were analyzed for dioxin by EPA Method 8290 and perchlorate by EPA Method 160.3.

Analytical results for metals and dioxins are summarized in Table 1 and 2, respectively. Table 2 also presents the calculation of the 2,3,7,8 Tetrachloradibenzo-p-dioxin toxicity equivalency Factor (TEQ) for the dioxin results. Perchlorates were not detected in either sample.

The human heath screening results are presented in Table 3. Screening-level health risk estimates were calculated using the maximum concentration detected in 20 composite samples of the two stockpiles, along with EPA Region IX Preliminary Remediation Goals (PRGs) for residential soil (EPA, 2002). The estimated total excess cancer risk is 3×10^{-8}. The estimated total noncancer hazard index is 0.8. The screening assessment indicates that the risk estimates are less than common regulatory benchmarks (a noncancer hazard index of 1 or a theoretical lifetime excess cancer risk of 1 x 10-6). These results indicate that the soils of these stockpiles are adequately protective of human health for use as fill in the North Valley.

The ecological screening assessment is presented in Table 4. With the exception of copper and mercury all maximum detected concentrations are below the conservative ecological screening criteria. The ecological screening criteria for mercury and copper are based on plant toxicity which were the most conservative values developed for these chemicals. If the maximum detected copper and mercury concentrations are compared to alternate ecological screening based on invertebrates and mammal toxicity (Appendix F of RIFS), they are substantially below those ecological screening criteria. Regardless, comparison of the stockpile data to any ecological criteria is not relevant because the planned use for these soils will be as fill to the North Valley. A previous ecological screening risk assessment, conducted as part of the RI/FS, indicated that the significant movement of soils and disruption of grassland and habitat, along with placement of homes above this area, precludes the possibility of significant ecological habitat to be present in this area

As requested by DTSC, we are meeting with Roger Brewer of the RWQCB on Friday, September 26th to discuss leaching potential for the soils and we plan to follow up with Gary Riley of the RWQCB on Thursday, October 2nd. Based on the historical data from the site, neither surface water nor groundwater has shown impacts due to leaching of mercury from the soils. Additionally, it should be noted that the volume of soil from the subject stockpiles is relatively minimal compared to the total volume of fill in the North Valley.

Based on our evaluation, we believe that these soils are suitable to be used as fill in the North Valley. Please let us know if you have any questions.

Deni Chambers
Northgate

Renee Kalmes
Exponent

Table 1
Demo Site 3 and Mercury Impacted Area Stockpiles
Organic Analytical Results
(concentrations expressed in mg/kg)

Sample ID	Sample Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Demo Site 3																			
SS-3DSP1-001	20-Aug-03	mg/Kg	<2.1	13	270	<0.54	<0.54	8.4	16	53	16	0.26	<1.1	33	<2.1	<1.1	<1.1	22	90
SS-3DSP1-002	20-Aug-03	mg/Kg	<2.1	13	300	<0.52	0.61	7.3	18	59	49	0.71	<1	30	<2.1	<1	<1	21	94
SS-3DSP1-003	20-Aug-03	mg/Kg	2.1	12	250	<0.52	0.76	8.1	21	89	57	2.8	<1	40	<2.1	<1	<1	21	110
SS-3DSP1-004	20-Aug-03	mg/Kg	<2.2	14	250	<0.54	1.2	8.9	19	110	78	3.1	<1.1	39	<2.2	<1.1	<1.1	22	130
SS-3DSP1-005	20-Aug-03	mg/Kg	<2.1	16	180	<0.53	<0.53	8.3	25	63	8.1	0.33	<1.1	39	<2.1	<1.1	<1.1	20	99
SS-3DSP1-006	20-Aug-03	mg/Kg	<2.1	12	280	<0.53	0.73	7.5	22	58	20	0.92	<1.1	34	<2.1	<1.1	<1.1	22	93
SS-3DSP1-007	20-Aug-03	mg/Kg	<2.1	13	280	<0.53	<0.53	8.2	24	51	19	0.18	<1.1	45	<2.1	<1.1	<1.1	20	87
SS-3DSP1-008	20-Aug-03	mg/Kg	<2.2	15	240	<0.54	0.86	6.8	18	67	22	0.56	<1.1	32	<2.2	<1.1	<1.1	21	94
SS-3DSP1-009	20-Aug-03	mg/Kg	<2.1	14	230	<0.53	<0.53	8.3	18	72	17	1.4	<1.1	40	<2.1	<1.1	<1.1	20	110
SS-3DSP1-010	20-Aug-03	mg/Kg	<2.1	13	240	<0.53	1.7	8.6	18	270	58	3.6	<1.1	41	<2.1	<1.1	<1.1	21	190
Mercury Impacted Area																			
SS-3DSP2-001	20-Aug-03	mg/Kg	<2.2	13	260	<0.54	<0.54	9.3	18	67	26	0.88	<1.1	42	<2.2	<1.1	<1.1	21	110
SS-3DSP2-002	20-Aug-03	mg/Kg	<2.2	14	270	<0.56	0.60	9.2	18	67	34	0.91	<1.1	40	<2.2	<1.1	<1.1	22	110
SS-3DSP2-003	20-Aug-03	mg/Kg	<2.1	13	230	<0.53	<0.53	8.2	17	55	28	0.75	<1.1	36	<2.1	<1.1	<1.1	21	87
SS-3DSP2-004	20-Aug-03	mg/Kg	<2.2	13	240	<0.54	<0.54	8.5	17	56	30	0.55	<1.1	36	<2.2	<1.1	<1.1	22	89
SS-3DSP2-005	20-Aug-03	mg/Kg	<2.2	12	250	<0.54	<0.54	8.0	18	53	21	1.7	<1.1	33	<2.2	<1.1	<1.1	21	85
SS-3DSP2-006	20-Aug-03	mg/Kg	<2.2	13	240	<0.54	0.85	11	21	110	41	0.47	<1.1	51	<2.2	<1.1	<1.1	19	140
SS-3DSP2-007	20-Aug-03	mg/Kg	<2.3	11	210	<0.57	<0.57	7.4	18	45	16	0.27	<1.1	29	<2.3	<1.1	<1.1	22	76
SS-3DSP2-008	20-Aug-03	mg/Kg	<2.2	11	240	<0.54	<0.54	9.2	16	49	13	1.6	<1.1	39	<2.2	<1.1	<1.1	21	82
SS-3DSP2-009	20-Aug-03	mg/Kg	<2.2	14	260	<0.55	0.84	10	18	78	22	1.2	<1.1	43	<2.2	<1.1	<1.1	22	110
SS-3DSP2-010	20-Aug-03	mg/Kg	<2.2	12	260	<0.54	<0.54	8.5	16	54	20	1.1	<1.1	35	<2.2	<1.1	<1.1	21	88

Notes
mg/kg milligram per kilogram

Table 2
Demo Site 3 and Mercury Impacted Area Stockpiles
Dioxin Data and TEQ
(concentrations expressed in pg/g)

	Data (pg/g)			TEQs (pg/g)	
	SS-3DsP1-010	SS-3DSP2-002	TEF	SS-3DsP1-010	SS-3DSP2-002
2,3,7,8-TCDD	ND	ND	1	ND	ND
1,2,3,7,8-PeCDD	ND	ND	0.5	ND	ND
1,2,3,4,7,8-HxCDD	ND	ND	0.1	ND	ND
1,2,3,6,7,8-HxCDD	ND	ND	0.1	ND	ND
1,2,3,7,8,9-HxCDD	ND	ND	0.1	ND	ND
1,2,3,4,6,7,8-HpCDD	55	30	0.01	0.55	0.3
OCDD	370	190	0.001	0.37	0.19
2,3,7,8-TCDF	ND	ND	0.1	ND	ND
1,2,3,7,8-PeCDF	ND	ND	0.05	ND	ND
2,3,4,7,8-PeCDF	ND	ND	0.5	ND	ND
1,2,3,4,7,8-HxCDF	ND	ND	0.1	ND	ND
1,2,3,6,7,8-HxCDF	ND	ND	0.1	ND	ND
2,3,4,6,7,8-HxCDF	ND	ND	0.1	ND	ND
1,2,3,7,8,9-HxCDF	ND	ND	0.1	ND	ND
1,2,3,4,6,7,8-HpCDF	6.2	ND	0.01	0.062	ND
1,2,3,4,7,8,9-HpCDF	ND	ND	0.01	ND	ND
OCDF	26	9.4	0.001	0.026	0.0094
			TOTAL (pg/g)	**1.008**	**0.4994**
			TOTAL (mg/kg)	**1.01E-06**	**4.99E-07**

Notes
pg/g picograms per gram
mg/kg milligram per kilogram

Table 3
Demo Site 3 and Mercury Impacted Area Stockpiles
Human Health Screening Health Risk Assessment

Chemical	Number of Samples	Number of detects	Frequency of detection (%)	Maximum Detected Concentration (mg/kg)	95th Percentile of Ambient Soil Samples (mg/kg)	Maximum Detected Concentration Greater than 95th Percentile	U.S. EPA Region IX Residential PRG (mg/kg)			Noncancer Ratio	Cancer Ratio
Metals											
Antimony	20	1	5%	2.1	2.31	No	31	nc		NA	NA
Arsenic	20	15	75%	16	18.2	No	0.39	ca		NA	NA
Barium	20	17	85%	300	448	No	5400	nc		NA	NA
Cadmium	20	9	45%	1.7	1.4	**Yes**	37	nc		4.6E-02	NA
Chromium	20	1	5%	11	63	No	210	ca		NA	NA
Cobalt	20	20	100%	25	23.1	**Yes**	900	ca		NA	2.8E-02
Copper	20	20	100%	270	71.7	**Yes**	3100	nc		8.7E-02	NA
Lead	20	19	95%	78	69.9	**Yes**	150	nc	(1)	5.2E-01	NA
Mercury	20	20	100%	3.6	0.26	**Yes**	23	nc		1.6E-01	NA
Nickel	20	18	90%	51	65	No	1600	nc		NA	NA
Vanadium	20	20	100%	22	96.4	No	550	nc		NA	NA
Zinc	20	18	90%	190	106	**Yes**	23000	nc		8.3E-03	NA
Dioxin											
2,3,7,8-TCDD	3	2	67%	1.0E-06	NA	NA	4E-06	ca		NA	2.6E-01
									Total Hazard Index:	**8E-01**	--
									Total Excess Cancer Risk:	--	**3E-08**

Notes:
nc = PRG based on noncancer effects
ca = PRG based on cancer effects
NA = Not applicable
(1) California-modified PRG.

Table 4
Demo Site 3 and Mercury Impacted Area Stockpiles
Ecological Screening Health Risk Assessment
(concentrations expressed in mg/kg)

Chemical	Number of Samples	Number of detects	Frequency of detection (%)	Maximum Detected Concentration (mg/kg)	95th Percentile of Ambient Soil Samples (mg/kg)	Maximum Detected Concentration Greater than 95th Percentile	Ecological Screening Criteria (mg/kg)	Basis for Criteria	Ratio
Metals									
Antimony	20	1	5%	2.1	2.31	No	5	Plants	4.2E-01
Arsenic	20	15	75%	16	18.2	No	60	Invertebrates	2.7E-01
Barium	20	17	85%	300	448	No	500	Plants	6.0E-01
Cadmium	20	9	45%	1.7	1.4	Yes	4	Plants	4.3E-01
Chromium	20	1	5%	11	63	No	240	Bird - Hawk	4.6E-02
Cobalt	20	20	100%	25	23.1	Yes	220	Bird - Hawk	1.1E-01
Copper	20	20	100%	270*	71.7	Yes	100	Plants	2.7E+00
Lead	20	19	95%	78	89.9	Yes	170	Bird - Hawk	4.6E-01
Mercury	20	20	100%	3.6*	0.26	Yes	0.3	Plants	1.2E+01
Nickel	20	18	90%	51	65	No	200	Invertebrates	2.6E-01
Vanadium	20	20	100%	22	98.4	No	1900	Bird - Hawk	1.2E-02
Zinc	20	18	90%	190	106	Yes	200	Invertebrates	9.5E-01
Dioxin									
2,3,7,8-TCDD Equivalents	3	2	67%	1.0E-06	NA	NA	0.00031	Mammal - Deer	3.3E-03

Notes
mg/kg milligrams per kilogram
NA = Not applicable
* 95% UCL concetraion for mercury and copper are 1.9 mg/kg and 124 mg/kg respectively

From: Deni Chambers [deni.chambers@ngem.com]
Sent: Friday, October 10, 2003 7:45 PM
To: Gary Riley; Roger Brewer
Cc: Rizgar Ghazi; Ted Splitter
Subject: Tourtelot Site- Demo Site #3 Soil Stockpile- Additional Information

Roger,
Thanks again for meeting with Greg Brorby and me to discuss the Demo Site #3 soils. Sorry for the delay in getting back to you, but we wanted to validate the data prior to finalizing this request. The data has been validated and is in review by the DTSC. As requested, we are providing the following additional information to you regarding the Demolition site soils and groundwater:

1) Mercury Concentrations in Demo site #3:

Demo Site #3 is situated on the north side of the South Valley. This site was previously used for demolition of ordnance and recently for 9 blow-in-place of unexploded ordnance. Mercury concentrations were previously detected in the Demo Site soil in investigation samples (maximum concentration 12 ppm). During OE remediation, blow-in-place of OE was required and each location was sampled and found to have mercury ranging in concentration from 0.38 ppm to 50 ppm. The BIP soil volume represents approximately 2 cubic yards of the 16,500 cubic yards of Demolition Site #3 soils.

The soil from the Demo Site and from the area surrounding the Demo Site ("potentially mercury impacted soils") was excavated and stockpiled separately on the Ridge. Ten four-point composites were collected from each stockpile and tested for metals, including mercury. The results show that the maximum concentration of mercury is 3.6 ppm, and the average concentration is 1.7 ppm. These concentrations are within the background concentrations reported for the Bay Area (USGS Professional Paper 1270).

2) Well construction data and depth to groundwater data for the South Valley (see fax w/ figure and tables):

Three monitoring wells were installed in the South Valley (MW-10, -11, and -12). MW-12 was originally installed as a temporary well and was previously named TW-12. Well completion details are shown in Table 4-9 of the RI (faxed to you).

Well MW-10 was installed upgradient of the Demolition Site and Flare Site in the South Valley. Well MW-11 was installed adjacent to the south side of the wetland, between the wetland and the Flare Site. Well MW-12 was installed on the east side of the McAllister Drive Land Bridge, near the toe of the slope. (see figure faxed to you).

Groundwater was encountered in the boreholes during drilling of MW-10 and MW-11 at 3.5 feet and 14 feet, respectively. The depth to groundwater in well MW-10 ranged from 8.54 to 9.30 feet in May and August 2000, respectively. The depth to groundwater in well MW-11 ranged from 9.62 to 10.85 feet in May and August 2000, respectively (Table 4-9 faxed to you).

3) Groundwater / surfacewater mercury data for the South Valley

A summary of mercury results in the groundwater and surface water samples collected from the South Valley has been faxed to you. A seep sample (SV-S1) was collected from a seep on the south side of the South Valley in April 2000. Surface water samples (SW-1 and SW-2) were collected from the wetland in December 1998 (SECOR) and December 1999 (Earth Tech). SW-1 is located upgradient of the Demolition Site and SW-2 is located downgradient of the Demolition Site. As shown on this table, mercury has not been detected in filtered groundwater and surface water samples in the South Valley.

Being Faxed:
1) Well completion detail table.
2) Depth to GW Table.
3) Map showing location of groundwater well and seep sampling locations.
4) Groundwater and Surfacewater data.

Please let me know if you have any additional questions or need additional information.
Deni

northgate environmental management, inc.

3629 Grand Avenue
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510 – 839 0688
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FACSIMILE COVER SHEET

To: **Roger Brewer, RWQCB** **Fax No.:** **(510) 622-2460**
Gary Riley, RWQCB
cc: **Rizgar Ghazi, DTSC** **(916) 255-3734**

From: Deni Chambers

Date: Friday, October 10, 2003

Number of Pages (including cover sheet): 5 pages

COMMENTS

Re: Tourtelot Project, Benicia, California

Roger:

The following are provided as discussed in my e-mail to you today.

- Table summarizing mercury analytical results for groundwater and surface water samples collected in the South Valley.
- Tables 4-9 and 4-11 from the RI (Earth Tech) showing well construction and groundwater elevation data
- Figure showing a portion of the South Valley with the locations of wells MW-10, MW-11, and MW-12 and the seep (SV-S1)

Please call me at (510) 839-0751 if you have any questions or need further information.

Sincerely,

Deni Chambers
Principal

If you do not receive all of the pages, please call us at (510) 839-0688.

Summary of Mercury Data in South Valley Groundwater and Surface Water

FieldID	DateSampled	Units	mercury (unfiltered)	mercury (filtered)
Monitoring Wells				
MW-10	20-Apr-00	MG/L		<0.0002
	Aug-00		<0.0002	<0.0002
MW-11	20-Apr-00	MG/L		<0.0002
	Aug-00		0.000065	<0.0002
TW-12	22-Dec-99	MG/L	0.0017	<0.0002
	Aug-00		<0.0002	<0.0002
TW-12/A	22-Dec-99	MG/L		<0.0002
Seep				
SV-S1	29-Mar-00	MG/L		<0.0002
Surface Water				
SW-1	23-Dec-99	MG/L	0.000077	<0.0002
SW-2	23-Dec-99	MG/L	<0.0002	<0.0002

Table 4-9. Summary of Well Construction Details

Well ID	Date Installed	Driller	Total Depth Borehole (ft.bgs)	Borehole Diameter (inches)	Well Size and Material	Screen Interval (ft.bgs)	Screen Slot Size	Filter Pack Material	Filter Pack Interval (ft.bgs)	Bentonite Seal (ft.bgs)	Grout Sanitary Seal Interval (ft.bgs)
MW-5	2/24/00	Clear Heart	11.5	6	2-inch Sch 40 PVC	6 - 11	0.01-inch	#2/12 Lonestar Sand (Native Fill 11 - 11.5 ft.bgs)	4 - 11	2 -4	0 -2
MW-6	4/5/00	All Terrain	20	8	2-inch Sch 40 PVC	15 - 20	0.01-inch	#2/12 Lonestar Sand	13.5 - 20	11.5 - 13.5	0 - 11.5
MW-7	2/25/00	Clear Heart	9.5	6	2-inch Sch 40 PVC	4 - 9	0.01-inch	#2/12 Lonestar Sand (Native Fill 9 - 9.5 ft.bgs)	2.5 - 9	1.5 - 2.5	0 - 1.5
MW-8	2/24/00	Clear Heart	15.5	6	2-inch Sch 40 PVC	10.5 - 15.5	0.01-inch	#2/12 Lonestar Sand	8.5 - 15.5	6.5 - 8.5	0 - 6.5
MW-8	2/25/00	Clear Heart	15.5	6	2-inch Sch 40 PVC	7-15	0.01-inch	#2/12 Lonestar Sand (Native Fill 15-15.5 ft.bgs)	5 - 15	3 - 5	0 - 3
MW-10	3/28/00	Clear Heart	15	6	2-inch Sch 40 PVC	10 - 15	0.01-inch	#2/12 Lonestar Sand	8 - 15	6 - 8	0 - 6
MW-11	3/29/00	Clear Heart	23	6	2-inch Sch 40 PVC	13 - 23	0.01-inch	#2/12 Lonestar Sand	10.5 - 23	8.5 - 10.5	0 - 8.5
MW-12 (TW-12)	12/16/99	Clear Heart	28	6	1-inch Sch 40 PVC	18 - 28	0.01-inch	#2/12 Lonestar Sand	14.5 - 28	12.5 - 14.5	0 - 12.5
MW-13	3/29/00	Clear Heart	19	6	2-inch Sch 40 PVC	9 - 19	0.01-inch	#2/12 Lonestar Sand	7 - 19	5 - 7	0 - 5
MW-14	3/29/00	Clear Heart	13	6	2-inch Sch 40 PVC	8 - 13	0.01-inch	#2/12 Lonestar Sand	6 - 13	4 - 6	0 - 4
MW-15	3/30/00	Clear Heart	22	6	2-inch Sch 40 PVC	17 - 22	0.01-inch	#2/12 Lonestar Sand	15 - 22	13 - 15	0 - 13

South valley wells

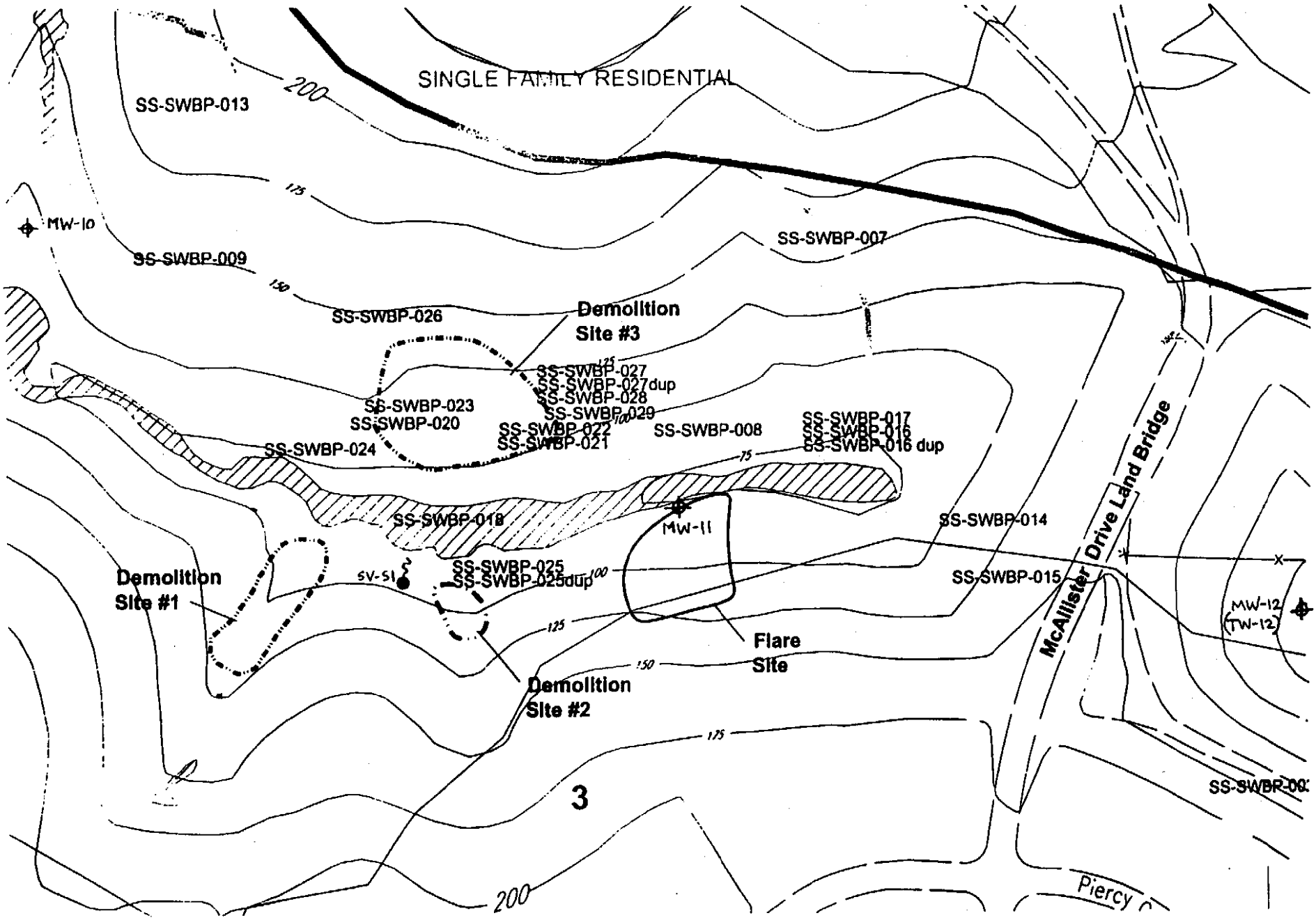
Notes: *Well is grout-impacted
ft. bgs = feet below ground surface
PVC = Polyvinyl chloride

Table 4-11. Summary of Groundwater Elevation Data

Well I.D.	Top of Well Casing (ft. msl)	Depth to Groundwater 5/30/00 (ft.)	Groundwater Elevation 5/30/00 (ft. msl)	Depth to Groundwater 8/02/00 (ft.)	Groundwater Elevation 8/02/00 (ft. msl)	Change in Water Level May to August (ft.)
Alluvial and Interface Wells						
MW-1	157.67	10.43	147.24	17.38	140.29	6.95
MW-2	115.39	5.82	109.57	7.54	107.85	1.72
MW-4 (TW-4)	140.16/139.91*	9.16	131.00	16.06	123.85	7.15
MW-5	156.45	10.96	145.49	dry	<142.45	>3.04
MW-7	162.30	10.05	152.25	dry	<150.30	>2.19
MW-8	162.15	9.66	152.49	13.53	148.62	3.87
MW-9	148.29	11.80	136.49	15.42	132.87	3.62
MW-10	116.18	8.54	107.64	9.30	106.88	0.76
MW-11	81.50	9.62	71.88	10.85	70.65	1.23
MW-12 (TW-12)	67.30	17.33	49.97	18.50	48.80	1.17
MW-14	109.95	7.08	102.87	8.77	101.18	1.69
MW-15	140.12	17.60	122.52	23.59	116.53	5.99
Bedrock Wells						
MW-3 (TW-3)	128.97	8.10	120.87	13.81	115.16	5.71
MW-3B	129.46	5.97	123.49	12.03	117.43	6.06
MW-4A	140.02	9.55	130.47	16.56	123.46	7.01
MW-6	156.43	2.71	153.72	10.83	145.60	8.12
MW-13	148.43	18.44	129.99	21.20	127.23	2.76

South Valley wells

ft. msl = feet above mean sea level
* well repaired and resurveyed on 7/21/00


SINGLE FAMILY RESIDENTIAL
SS-SWBP-013
200
175
MW-10
SS-SWBP-009
150
SS-SWBP-007
SS-SWBP-026
Demolition Site #3
125
SS-SWBP-027
SS-SWBP-027dup
SS-SWBP-028
SS-SWBP-029
100
SS-SWBP-023
SS-SWBP-020
SS-SWBP-022
SS-SWBP-021
SS-SWBP-008
SS-SWBP-017
SS-SWBP-016
SS-SWBP-016 dup
SS-SWBP-024
75
SS-SWBP-018
MW-11
SS-SWBP-014
McAllister Drive Land Bridge
Demolition Site #1
SV-S1
SS-SWBP-025
SS-SWBP-025dup
100
SS-SWBP-015
MW-12 (TW-12)
125
Flare Site
150
Demolition Site #2
175
3
SS-SWBP-00
200
Piercy

Responses to USACE Comments dated October 9, 2003

Comment No.	Report & Section	Page	Comment	Responses to Comments
1	General	General	This review is limited in scope because no raw data package was received. **Info.**	No response required.
2	2003-08-0646 Cover Letter	2	A transcription error was mentioned for seven samples, but the nature of the error was not specified and the correction measure (if executed) was also not specified. **CONCUR**	STL San Francisco prepared a letter dated Sept. 29, 2003 (see Attachment E) that described the manual data transcription error and the corrective measures that are being implemented to address this problem.
3	2003-08-0646 Cover Letter	2-6	The chain of custody form requested the metals be tested under EPA method #6010B, but the actual method was 6020. No explanation was given for this variance. **CONCUR**	After the soil samples were submitted, STL San Francisco informed Northgate in a telephone call that the instrument for EPA 6010B analysis was down, and stated that the analysis could be performed using EPA method 6020 (ICP/MS), which is a newer EPA method that is considered more sensitive for analyzing inorganics. Northgate accepted the change in analysis method because it was expected that there would be no decrease in data quality using EPA method 6020.

4	2003-08-0646 Cover Letter	2-6	While method 6020 is an equivalent method to 6010B, it was not specified in the QAPP (Ref 3). Some explanation needs to be given as to why this method was used and the procedure used to approve the method for use at Tourtelot. **CONCUR**	See response to Comment 3.
5	2003-08-0646 Analysis Report	2-28	The CAM-17 metals were tested under EPA method 6020, but each page of the report states the method was 6010B. A note ("icpms") on these pages refers the reader to the back page to clarify this discrepancy. Recommend that the page states the actual test method, to avoid confusion. **CONCUR - lab report should be revised.**	Northgate has requested STL San Francisco reissue the report stating at the top of each page that the method used was EPA 6020.

Responses to USACE Comments dated October 9, 2003

6	2003-08-0646 Analysis Report	2-28	The data for the internal standards is not presented, nor is it flagged. From the data validation report, the recoveries were higher than normal. **CONCUR - recoveries appear to be higher than normal.**	Northgate's third-party reviewer, Kari Filigenzi, reported that the recovery of internal standards was high, but did not invalidate the results. The internal standards recovery data is included in the raw data package, but is not routinely included in the final laboratory report.
7	G3I160341 Analysis Report	General	The chain of custody form showing the perchlorate and dioxin/furan testing request for the samples in question was not included. **Concur**	Samples for perchlorate and dioxin/furan analysis were submitted to STL Sacramento under a separate chain-of-custody form. A copy of the chain of custody form for these samples is included in the STL Sacramento report for submission no. G3I160341 (Attachment D).
8	Data Valida-tion Report	General	The report does not mention the transcription error. Presumably this was rectified, but information as to the error itself and the correction procedures should be given, as this may affect the quality of the data. **Concur**	A discussion of the transcription error and the corrective actions implemented by the laboratory has been incorporated into the data validation report (Attachment D).

9	Data Validation Report	General	The report does not mention that 6010B was specified for the metals analysis. Even though 6020 is an equivalent method, there should be a discussion as to the reason behind the change and the approval procedure used. **Concur**	A discussion regarding the change in analysis method from EPA 6010B to EPA 6020 has been incorporated into the data validation report.
10	Data Validation Report	Tables 1 & 2	The tables show method 6010B instead of 6020. Please state the method actually used. **Concur**	The tables have been corrected in the revised data validation report to show the analysis method actually used.
11	Data Validation Report	Table 1	The table only gives the lab sample ID and not the Field ID number. This inconveniences the reader. **Info.**	The Field ID numbers are added to Table 1 in the revised data validation report.
12	Data Validation Report	Raw Data Results Summary	The data presented in the "Raw Data Results Summary" table does not agree with the data presented in STL's report 2003-08-0646. See table below. **Concur - it appears further attention to this matter is warranted.**	The "Raw Data Results Summary" was not corrected for the moisture content of the samples. The raw data values were presented in Northgate's data validation report to show that the measured concentrations of arsenic, vanadium, and zinc in the samples had more variation than was apparent in STL's final report 2003-06-0646. The final results in STL's report reflect adjustments for both moisture content and rounding to 2 significant figures.

Data Validation Report: Demolition Site 3 and Mercury Impacted Area Stockpile Samples

1.0 INTRODUCTION

Northgate performed a quality assurance/quality control (QA/QC) evaluation of the analytical data associated with the Demolition Site 3 and Mercury Impacted Area Stockpiles. The data were reviewed in accordance with the procedures outlined in the Final Non-Ordnance and Explosives Quality Assurance Project Plan for the Remediation of the Tourtelot Project Site, Benicia, California, dated June 7, 2002 (QAPP). This report summarizes the results of the QA/QC data evaluation.

2.0 DATA ANALYSES

The soil samples were collected from the Tourtelot Project Site, located in Benicia, California, on August 20 and September 12 and 15, 2003. Soil samples were collected and analyzed by one or more of the following methods:

- EPA method 6020 (ICP/MS) for metals (Laboratory Submission No. 2003-08-0646)[1]
- EPA method 6010 (ICP) for retest of antimony, beryllium, and molybdenum (Laboratory Submission No. 2003-10-0029)
- EPA method 7471A for mercury (Laboratory Submission No. 2003-08-0646)
- EPA method 8290 for dioxins/furans (Laboratory Submission No. G3I160341)
- EPA method 314 for perchlorate (Laboratory Submission No. G3I160341)

Soil samples were collected by Northgate and submitted for analysis to STL San Francisco, located in Pleasanton California (Laboratory Submission Nos. 2003-08-0646 and 2003-10-0029), and to STL Sacramento, located in Sacramento California (Laboratory Submission No. G3I160341).

3.0 RAW DATA REVIEW

The raw data for Laboratory Submission No. 2003-08-0646 was reviewed for validity. The data was questioned because some of the reported results (arsenic, vanadium, and zinc) appeared to be identical in different samples. Northgate retained a third party QA reviewer, Kari Filigenzi, to evaluate the raw data package provided by STL San Francisco. The raw data for all analytes were checked, and the identical reported results were found to result from rounding during data reduction, although the raw data for individual samples do vary, as shown in the following table (raw data are not adjusted for moisture content):

[1] The chain of custody form for Submission No. 2003-08-0646 requested analysis of metals using EPA method 6010B, as specified in the QAPP. After the soil samples were submitted, STL San Francisco informed Northgate in a telephone call that the instrument for EPA 6010B analysis was down, and stated that the analysis could be performed using EPA method 6020 (ICP/MS), which is a newer EPA method that is considered more sensitive for analyzing inorganics. Northgate accepted the change in analysis method because it was expected that there would be no decrease in data quality using EPA method 6020.

RAW DATA RESULTS SUMMARY
(concentrations in milligrams per kilogram)

Lab Sample ID	Field Sample ID	Arsenic	Vanadium	Zinc
2003-08-0646-1	SS-3DSP1-001	12.293	20.422	83.861
2003-08-0646-2	SS-3DSP1-002	12.461	20.687	90.724
2003-08-0646-3	SS-3DSP1-003	11.951	20.561	105.237
2003-08-0646-4	SS-3DSP1-004	12.644	20.241	121.617
2003-08-0646-5	SS-3DSP1-005	15.386	18.773	93.285
2003-08-0646-6	SS-3DSP1-006	11.042	20.493	87.827
2003-08-0646-7	SS-3DSP1-007	11.883	19.018	82.964
2003-08-0646-8	SS-3DSP1-008	14.095	19.801	87.234
2003-08-0646-9	SS-3DSP1-009	13.359	19.382	100.282
2003-08-0646-10	SS-3DSP1-010	12.407	19.527	177.524
2003-08-0646-11	SS-3DSP2-001	12.216	19.643	97.984
2003-08-0646-12	SS-3DSP2-002	12.331	19.739	97.989
2003-08-0646-13	SS-3DSP2-003	12.008	19.633	82.200
2003-08-0646-14	SS-3DSP2-004	11.873	19.870	81.991
2003-08-0646-15	SS-3DSP2-005	10.661	19.731	78.166
2003-08-0646-16	SS-3DSP2-006	12.157	17.395	131.601
2003-08-0646-17	SS-3DSP2-007	9.770	19.600	67.013
2003-08-0646-18	SS-3DSP2-008	9.989	19.275	75.530
2003-08-0646-19	SS-3DSP2-009	12.495	20.192	97.597
2003-08-0646-20	SS-3DSP2-010	10.902	19.710	81.702

Discrepancies were noted in the reporting of metals analysis results for Submission No. 2003-08-0646. Northgate requested that STL San Francisco conduct an internal review to determine the source of these discrepancies. STL San Francisco summarized the results of their internal review in a letter dated September 29, 2003. STL San Francisco concluded that the discrepancies were caused by a transcription error during manual data entry of the results obtained using the ICP/MS instrument for EPA method 6020. Manual data entry was performed as an interim measure until the laboratory completed configuration of the automated data upload system for the ICP/MS instrument. STL's September 29 letter detailed the corrective measures the laboratory has implemented to prevent recurrence of the data transcription error.

Northgate's third-party QA reviewer performed a comprehensive review of the method 6020 analyses, including the raw data, and the analyses were found to meet all method criteria with the following exceptions:

- The associated matrix spike/matrix spike duplicate (MS/MSD) report shows antimony, barium, beryllium, chromium, copper, lead, molybdenum, vanadium, and zinc below QC criteria due to matrix interference. The MS/MSD samples were re-analyzed with similar results.
- The percent recoveries of scandium and yttrium (method recommended internal standards) are higher than normal due to the presence of those two elements, or interfering elements, in the native samples. Therefore the results of some associated elements (beryllium, chromium, molybdenum, and vanadium) are likely biased low.

4.0 DATA VALIDATION

The data were evaluated based on the following parameters according to the QAPP:

- Sample handling and holding times
- Reporting limits
- Method Blanks
- System monitoring compound (surrogate) spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs)
- Laboratory control spike/laboratory control spike duplicate (LCS/LCSD) recoveries and RPDs

These parameters were compared to established limits. Sample handling, holding times, and reporting limits are specified in the QAPP.

4.1 Data Flagging

The laboratory parameters were compared to the control limits established by the laboratories. Table 4-1 of the QAPP, *Data Validation Flagging Conventions*, was followed in determining flags for the data due to exceedances of holding times, cooler temperature, and laboratory parameters.

Following review of the data, some of the results were flagged with qualifiers, defined as follows:

- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

4.2 Presentation of Data Validation

Data validation is summarized in Table 1 and Table 2. Exceedances of established limits are presented in Table 1, along with the data qualifiers required due to the exceedances. The qualified results are then listed in Table 2.

4.3 Results of Data Evaluation

Perchlorate data were flagged for samples G3I160341-001 and G3I160341-002, because they were held 29 days before analysis, 1 day over the recommended holding time. The perchlorate data, which showed no detections, were flagged with 'UJ's.

Mercury data for batch 200308220166 were flagged because the RPD for the MS/MSD exceeded the control limit. Mercury results for this batch were flagged with 'J' if detected, and 'UJ' if not detected.

Some data in Laboratory Submission No. 2003-08-0646 was flagged, as noted in Table 2. Certain metals data (antimony, barium, beryllium, chromium, copper, lead, molybdenum, vanadium and zinc) in batch 200308220315 reported poor spike percent recovery (SPR) in the MS/MSDs (Table 1). However, the SPRs and RPDs associated with the batch LCS/LCSD were within control limits. This indicates that matrix interference in the samples caused the low recoveries in the MS/MSD, and that the laboratory maintained sufficient accuracy and precision. Following the QAPP guidelines, some data were rejected, while some were flagged with 'J' or 'UJ' . As shown in Table 2, the rejected data are the non-detected results for antimony, beryllium, and molybdenum.

Samples were reanalyzed for antimony, beryllium, and molybdenum using EPA Method 6010 (Laboratory Submission No. 2003-10-0029). Data flagging was again required, due to poor MS/MSD recoveries in batch 200310010115. The LCS/LCSD data for the batch were within control limits, confirming that the low recoveries were due to matrix interference, similar to the results for Submission No. 2003-08-0646. Flags were assigned to the data according to QAPP guidelines.

5.0 DATA VALIDATION SUMMARY

The laboratory analyses appear to have been done with sufficient care, accuracy, and precision. Metals, perchlorate, and dioxins/furans data were found to be valid with the qualifications noted and are available for use.

Most of the EPA method 6020 metals data are also valid with the qualifications noted. However, some of the metals results obtained by method 6020 (antimony, beryllium, and molybdenum) were affected by matrix interference. Because of problems with matrix interference in the method 6020 analyses, the metals antimony, beryllium, and molybdenum, for which non-detections using EPA method 6020 had been rejected, were reanalyzed by method 6010B. There were similar matrix effects on antimony using method 6010B, but the results for beryllium and molybdenum were deemed valid, because of improved MS/MSD recoveries. Based on this evaluation, the non-detected results for antimony using either method 6020 or 6010B are rejected, in accordance with the QAPP.

Table 1. Summary of QC Sample Exceedances for Demolition Site 3 and Mercury Impacted Area Stockpiles
Submission Nos. 2003-08-0646 , 2003-10-0029, and G3I160341
Tourtelot Property, Benicia, California

Lab Sample ID	Matrix	Batch Number	QC Sample Type	Compound	Analytical Method	QC Parameter	QC Parameter Value	Lower Control Limit	Upper Control Limit	Required Data Qualifiers
G3I160341001	Soil	3265381	FS	Perchlorate	314	HT	29 days		28	Perchlorate results will be flagged with 'J' if detected and 'UJ' if not detected.
G3I160341002	Soil	3265381	FS	Perchlorate	314	HT	29 days		28	Perchlorate results will be flagged with 'J' if detected and 'UJ' if not detected.
2003080646-17	Soil	200308220116	MSD	Mercury	7471A	RPD	52.1 %		20	Mercury results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003080646-17	Soil	200308220116	MSD	Mercury	7471A	SPR	168 %	85	115	
2003080646-4	Soil	200308220315	MS	Antimony	6020	SPR	20.1 %	75	125	Antimony results within batch will be flagged with 'J' if detected and 'R' if not detected. Because data is rejected, samples were reanalyzed by 6010.
2003080646-5	Soil	200308220315	MSD	Antimony	6020	SPR	24.4 %	75	125	
2003080646-5	Soil	200308220315	MSD	Barium	6020	SPR	71 %	75	125	Data will not be flagged because the SPR of the MSD was within control limits.
2003080646-4	Soil	200308220315	MS	Beryllium	6020	SPR	22.7 %	75	125	Beryllium results within batch will be flagged with 'J' if detected and 'R' if not detected. Because data is rejected, samples were reanalyzed by 6010.
2003080646-5	Soil	200308220315	MSD	Beryllium	6020	SPR	23.3 %	75	125	
2003080646-4	Soil	200308220315	MS	Chromium	6020	SPR	22.2 %	75	125	Chromium results within batch will be flagged with 'J' if detected and 'R' if not detected.
2003080646-5	Soil	200308220315	MSD	Chromium	6020	SPR	22.5 %	75	125	
2003080646-4	Soil	200308220315	MS	Copper	6020	SPR	72 %	75	125	Copper results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003080646-5	Soil	200308220315	MSD	Copper	6020	SPR	72 %	75	125	
2003080646-4	Soil	200308220315	MS	Lead	6020	SPR	74.6 %	75	125	Data will not be flagged because the SPR of the MSD was within control limits.
2003080646-4	Soil	200308220315	MS	Molybdenum	6020	SPR	19.1 %	75	125	Molybdenum results within batch will be flagged with 'J' if detected and 'R' if not detected. Because data is rejected, samples were reanalyzed by 6010.
2003080646-5	Soil	200308220315	MSD	Molybdenum	6020	SPR	20.4 %	75	125	

Table 1. Summary of QC Sample Exceedances for Demolition Site 3 and Mercury Impacted Area Stockpiles
Submission Nos. 2003-08-0646 , 2003-10-0029, and G3I160341
Tourtelot Property, Benicia, California

Lab Sample ID	Matrix	Batch Number	QC Sample Type	Compound	Analytical Method	QC Parameter	QC Parameter Value	Lower Control Limit	Upper Control Limit	Required Data Qualifiers
2003080646-5	Soil	200308220315	MSD	Thallium	6020	RPD	25.9 %		20	Data will not be flagged because the SPR of the MS was within control limits.
2003080646-4	Soil	200308220315	MS	Vanadium	6020	SPR	23.1 %	75	125	Vanadium results within batch will be flagged with 'J' if detected and 'R' if not detected.
2003080646-5	Soil	200308220315	MSD	Vanadium	6020	SPR	24.8 %	75	125	
2003080646-4	Soil	200308220315	MS	Zinc	6020	SPR	74.9 %	75	125	Zinc results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003080646-5	Soil	200308220315	MSD	Zinc	6020	SPR	73.9 %	75	125	
2003100029-120	Soil	200310010115	MS	Antimony	6010B	SPR	26 %	75	125	Antimony results within batch will be flagged with 'J' if detected and 'R' if not detected.
2003100029-121	Soil	200310010115	MSD	Antimony	6010B	SPR	25.3 %	75	125	
2003100029-120	Soil	200310010115	MS	Beryllium	6010B	SPR	63.1 %	75	125	Beryllium results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003100029-121	Soil	200310010115	MSD	Beryllium	6010B	SPR	63.1 %	75	125	
2003100029-120	Soil	200310010115	MS	Molybdenum	6010B	SPR	56.3 %	75	125	Molybdenum results within batch will be flagged with 'J' if detected and 'UJ' if not detected.
2003100029-121	Soil	200310010115	MSD	Molybdenum	6010B	SPR	55.1 %	75	125	

Conc - Concentration
DUP - Duplicate
FS - Regular Field Sample
HT - Holding Time
LCSD - Laboratory Control Spike Duplicate
LCS - Laboratory Control Spike
MB - Method Blank

mg/kg - milligram per kilogram
mg/l - milligram per liter
MS SUR - Surrogate of Matrix Spike
MSD SUR - Surrogate of Matrix Spike Duplicate
MSD - Matrix Spike Duplicate
MS - Matrix Spike
NC - Not Calculated

ND - not detected
RL - Reporting Limit
SPR - Spike Percent Recovery
SUR - Surrogate
Temp - Sample temperature when sample arrived at laboratory

Reviewed by: T. Bennett

Table 2. Summary of Qualified Results for Demolition Site 3 and Mercury Impacted Area Stockpiles
Submission Nos. 2003-08-0646, 2003-10-0029 and G3I160341
Tourtelot Property, Benicia, California

Field ID	Batch Number	Lab Sample ID	Analytical Method	Compound	Result	Reporting Limit	Units	Qualifier
SS-3DSP1-001	200308220315	2003080646-1	6020	Chromium	8.4	1.10	mg/Kg	J
SS-3DSP1-001	200308220315	2003080646-1	6020	Copper	53	1.10	mg/Kg	J
SS-3DSP1-001	200308220315	2003080646-1	6020	Vanadium	22	1.10	mg/Kg	J
SS-3DSP1-001	200308220315	2003080646-1	6020	Zinc	90	1.10	mg/Kg	J
SS-3DSP1-001	200310010115	2003100029-1	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-001	200310010115	2003100029-1	6010B	Beryllium	0.32	0.5	mg/Kg	J
SS-3DSP1-001	200310010115	2003100029-1	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-001	200308220116	2003080646-1	7471A	Mercury	0.26	0.05	mg/Kg	J
SS-3DSP1-002	200308220315	2003080646-2	6020	Chromium	7.3	1.00	mg/Kg	J
SS-3DSP1-002	200308220315	2003080646-2	6020	Copper	59	1.00	mg/Kg	J
SS-3DSP1-002	200308220315	2003080646-2	6020	Vanadium	21	1.00	mg/Kg	J
SS-3DSP1-002	200308220315	2003080646-2	6020	Zinc	94	1.00	mg/Kg	J
SS-3DSP1-002	200310010115	2003100029-2	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-002	200310010115	2003100029-2	6010B	Beryllium	0.26	0.5	mg/Kg	J
SS-3DSP1-002	200310010115	2003100029-2	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-002	200308220116	2003080646-2	7471A	Mercury	0.71	0.05	mg/Kg	J
SS-3DSP1-003	200308220315	2003080646-3	6020	Chromium	8.1	1.00	mg/Kg	J
SS-3DSP1-003	200308220315	2003080646-3	6020	Copper	89	1.00	mg/Kg	J
SS-3DSP1-003	200308220315	2003080646-3	6020	Vanadium	21	1.00	mg/Kg	J
SS-3DSP1-003	200308220315	2003080646-3	6020	Zinc	110	1.00	mg/Kg	J
SS-3DSP1-003	200310010115	2003100029-3	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-003	200310010115	2003100029-3	6010B	Beryllium	0.25	0.5	mg/Kg	J
SS-3DSP1-003	200310010115	2003100029-3	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-003	200308220116	2003080646-3	7471A	Mercury	2.8	0.52	mg/Kg	J
SS-3DSP1-004	200308220315	2003080646-4	6020	Chromium	8.9	1.10	mg/Kg	J
SS-3DSP1-004	200308220315	2003080646-4	6020	Copper	110	1.10	mg/Kg	J
SS-3DSP1-004	200308220315	2003080646-4	6020	Vanadium	22	1.10	mg/Kg	J
SS-3DSP1-004	200308220315	2003080646-4	6020	Zinc	130	1.10	mg/Kg	J
SS-3DSP1-004	200310010115	2003100029-4	6010B	Antimony	1.9	2	mg/Kg	J
SS-3DSP1-004	200310010115	2003100029-4	6010B	Beryllium	0.26	0.5	mg/Kg	J
SS-3DSP1-004	200310010115	2003100029-4	6010B	Molybdenum	0.62	1	mg/Kg	J
SS-3DSP1-004	200308220116	2003080646-4	7471A	Mercury	3.1	0.54	mg/Kg	J
SS-3DSP1-005	200308220315	2003080646-5	6020	Chromium	8.3	1.10	mg/Kg	J
SS-3DSP1-005	200308220315	2003080646-5	6020	Copper	63	1.10	mg/Kg	J
SS-3DSP1-005	200308220315	2003080646-5	6020	Vanadium	20	1.10	mg/Kg	J
SS-3DSP1-005	200308220315	2003080646-5	6020	Zinc	99	1.10	mg/Kg	J
SS-3DSP1-005	200310010115	2003100029-5	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-005	200310010115	2003100029-5	6010B	Beryllium	0.26	0.5	mg/Kg	J
SS-3DSP1-005	200310010115	2003100029-5	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-005	200308220116	2003080646-5	7471A	Mercury	0.33	0.05	mg/Kg	J
SS-3DSP1-006	200308220315	2003080646-6	6020	Chromium	7.5	1.10	mg/Kg	J
SS-3DSP1-006	200308220315	2003080646-6	6020	Copper	58	1.10	mg/Kg	J
SS-3DSP1-006	200308220315	2003080646-6	6020	Vanadium	22	1.10	mg/Kg	J
SS-3DSP1-006	200308220315	2003080646-6	6020	Zinc	93	1.10	mg/Kg	J
SS-3DSP1-006	200310010115	2003100029-6	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-006	200310010115	2003100029-6	6010B	Beryllium	0.27	0.5	mg/Kg	J
SS-3DSP1-006	200310010115	2003100029-6	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-006	200308220116	2003080646-6	7471A	Mercury	0.92	0.05	mg/Kg	J

Table 2. Summary of Qualified Results for Demolition Site 3 and Mercury Impacted Area Stockpiles
Submission Nos. 2003-08-0646, 2003-10-0029 and G3I160341
Tourtelot Property, Benicia, California

Field ID	Batch Number	Lab Sample ID	Analytical Method	Compound	Result	Reporting Limit	Units	Qualifier
SS-3DSP1-007	200308220315	2003080646-7	6020	Chromium	8.2	1.10	mg/Kg	J
SS-3DSP1-007	200308220315	2003080646-7	6020	Copper	51	1.10	mg/Kg	J
SS-3DSP1-007	200308220315	2003080646-7	6020	Vanadium	20	1.10	mg/Kg	J
SS-3DSP1-007	200308220315	2003080646-7	6020	Zinc	87	1.10	mg/Kg	J
SS-3DSP1-007	200310010115	2003100029-7	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-007	200310010115	2003100029-7	6010B	Beryllium	0.31	0.5	mg/Kg	J
SS-3DSP1-007	200310010115	2003100029-7	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-007	200308220116	2003080646-7	7471A	Mercury	0.18	0.05	mg/Kg	J
SS-3DSP1-008	200308220315	2003080646-8	6020	Chromium	6.8	1.10	mg/Kg	J
SS-3DSP1-008	200308220315	2003080646-8	6020	Copper	67	1.10	mg/Kg	J
SS-3DSP1-008	200308220315	2003080646-8	6020	Vanadium	21	1.10	mg/Kg	J
SS-3DSP1-008	200308220315	2003080646-8	6020	Zinc	94	1.10	mg/Kg	J
SS-3DSP1-008	200310010115	2003100029-8	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-008	200310010115	2003100029-8	6010B	Beryllium	0.21	0.5	mg/Kg	J
SS-3DSP1-008	200310010115	2003100029-8	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-008	200308220116	2003080646-8	7471A	Mercury	0.56	0.05	mg/Kg	J
SS-3DSP1-009	200308220315	2003080646-9	6020	Chromium	8.3	1.10	mg/Kg	J
SS-3DSP1-009	200308220315	2003080646-9	6020	Copper	72	1.10	mg/Kg	J
SS-3DSP1-009	200308220315	2003080646-9	6020	Vanadium	20	1.10	mg/Kg	J
SS-3DSP1-009	200308220315	2003080646-9	6020	Zinc	110	1.10	mg/Kg	J
SS-3DSP1-009	200310010115	2003100029-9	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP1-009	200310010115	2003100029-9	6010B	Beryllium	0.28	0.5	mg/Kg	J
SS-3DSP1-009	200310010115	2003100029-9	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-009	200308220116	2003080646-9	7471A	Mercury	1.4	0.05	mg/Kg	J
SS-3DSP1-010	3265381	G3I160341001	314.0	Perchlorate	ND	0.05	mg/kg	UJ
SS-3DSP1-010	200308220315	2003080646-10	6020	Chromium	8.6	1.10	mg/Kg	J
SS-3DSP1-010	200308220315	2003080646-10	6020	Copper	270	1.10	mg/Kg	J
SS-3DSP1-010	200308220315	2003080646-10	6020	Vanadium	21	1.10	mg/Kg	J
SS-3DSP1-010	200308220315	2003080646-10	6020	Zinc	190	1.10	mg/Kg	J
SS-3DSP1-010	200310010115	2003100029-10	6010B	Antimony	1.0	2	mg/Kg	J
SS-3DSP1-010	200310010115	2003100029-10	6010B	Beryllium	0.26	0.5	mg/Kg	J
SS-3DSP1-010	200310010115	2003100029-10	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP1-010	200308220116	2003080646-10	7471A	Mercury	3.6	0.53	mg/Kg	J
SS-3DSP2-001	200308220315	2003080646-11	6020	Chromium	9.3	1.10	mg/Kg	J
SS-3DSP2-001	200308220315	2003080646-11	6020	Copper	67	1.10	mg/Kg	J
SS-3DSP2-001	200308220315	2003080646-11	6020	Vanadium	21	1.10	mg/Kg	J
SS-3DSP2-001	200308220315	2003080646-11	6020	Zinc	110	1.10	mg/Kg	J
SS-3DSP2-001	200310010115	2003100029-11	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-001	200310010115	2003100029-11	6010B	Beryllium	0.35	0.5	mg/Kg	J
SS-3DSP2-001	200310010115	2003100029-11	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP2-001	200308220116	2003080646-11	7471A	Mercury	0.88	0.05	mg/Kg	J
SS-3DSP2-002	3265381	G3I160341002	314.0	Perchlorate	ND	0.06	mg/kg	UJ
SS-3DSP2-002	200308220315	2003080646-12	6020	Chromium	9.2	1.10	mg/Kg	J
SS-3DSP2-002	200308220315	2003080646-12	6020	Copper	67	1.10	mg/Kg	J
SS-3DSP2-002	200308220315	2003080646-12	6020	Vanadium	22	1.10	mg/Kg	J
SS-3DSP2-002	200308220315	2003080646-12	6020	Zinc	110	1.10	mg/Kg	J
SS-3DSP2-002	200310010115	2003100029-12	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-002	200310010115	2003100029-12	6010B	Beryllium	0.35	0.5	mg/Kg	J

Table 2. Summary of Qualified Results for Demolition Site 3 and Mercury Impacted Area Stockpiles
Submission Nos. 2003-08-0646, 2003-10-0029 and G3I160341
Tourtelot Property, Benicia, California

Field ID	Batch Number	Lab Sample ID	Analytical Method	Compound	Result	Reporting Limit	Units	Qualifier
SS-3DSP2-002	200310010115	2003100029-12	6010B	Molybdenum	0.54	1	mg/Kg	J
SS-3DSP2-002	200308220116	2003080646-12	7471A	Mercury	0.91	0.06	mg/Kg	J
SS-3DSP2-003	200308220315	2003080646-13	6020	Chromium	8.2	1.10	mg/Kg	J
SS-3DSP2-003	200308220315	2003080646-13	6020	Copper	55	1.10	mg/Kg	J
SS-3DSP2-003	200308220315	2003080646-13	6020	Vanadium	21	1.10	mg/Kg	J
SS-3DSP2-003	200308220315	2003080646-13	6020	Zinc	87	1.10	mg/Kg	J
SS-3DSP2-003	200310010115	2003100029-13	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-003	200310010115	2003100029-13	6010B	Beryllium	0.30	0.5	mg/Kg	J
SS-3DSP2-003	200310010115	2003100029-13	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP2-003	200308220116	2003080646-13	7471A	Mercury	0.75	0.05	mg/Kg	J
SS-3DSP2-004	200308220315	2003080646-14	6020	Chromium	8.5	1.10	mg/Kg	J
SS-3DSP2-004	200308220315	2003080646-14	6020	Copper	56	1.10	mg/Kg	J
SS-3DSP2-004	200308220315	2003080646-14	6020	Vanadium	22	1.10	mg/Kg	J
SS-3DSP2-004	200308220315	2003080646-14	6020	Zinc	89	1.10	mg/Kg	J
SS-3DSP2-004	200310010115	2003100029-14	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-004	200310010115	2003100029-14	6010B	Beryllium	0.28	0.5	mg/Kg	J
SS-3DSP2-004	200310010115	2003100029-14	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP2-004	200308220116	2003080646-14	7471A	Mercury	0.55	0.05	mg/Kg	J
SS-3DSP2-005	200308220315	2003080646-15	6020	Chromium	8.0	1.10	mg/Kg	J
SS-3DSP2-005	200308220315	2003080646-15	6020	Copper	53	1.10	mg/Kg	J
SS-3DSP2-005	200308220315	2003080646-15	6020	Vanadium	21	1.10	mg/Kg	J
SS-3DSP2-005	200308220315	2003080646-15	6020	Zinc	85	1.10	mg/Kg	J
SS-3DSP2-005	200310010115	2003100029-15	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-005	200310010115	2003100029-15	6010B	Beryllium	0.42	0.5	mg/Kg	J
SS-3DSP2-005	200310010115	2003100029-15	6010B	Molybdenum	0.20	1	mg/Kg	J
SS-3DSP2-005	200308220116	2003080646-15	7471A	Mercury	1.7	0.05	mg/Kg	J
SS-3DSP2-006	200308220315	2003080646-16	6020	Chromium	11	1.10	mg/Kg	J
SS-3DSP2-006	200308220315	2003080646-16	6020	Copper	110	1.10	mg/Kg	J
SS-3DSP2-006	200308220315	2003080646-16	6020	Vanadium	19	1.10	mg/Kg	J
SS-3DSP2-006	200308220315	2003080646-16	6020	Zinc	140	1.10	mg/Kg	J
SS-3DSP2-006	200310010115	2003100029-16	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-006	200310010115	2003100029-16	6010B	Beryllium	0.27	0.5	mg/Kg	J
SS-3DSP2-006	200310010115	2003100029-16	6010B	Molybdenum	0.083	1	mg/Kg	J
SS-3DSP2-006	200308220116	2003080646-16	7471A	Mercury	0.47	0.05	mg/Kg	J
SS-3DSP2-007	200308220315	2003080646-17	6020	Chromium	7.4	1.10	mg/Kg	J
SS-3DSP2-007	200308220315	2003080646-17	6020	Copper	45	1.10	mg/Kg	J
SS-3DSP2-007	200308220315	2003080646-17	6020	Vanadium	22	1.10	mg/Kg	J
SS-3DSP2-007	200308220315	2003080646-17	6020	Zinc	76	1.10	mg/Kg	J
SS-3DSP2-007	200310010115	2003100029-17	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-007	200310010115	2003100029-17	6010B	Beryllium	0.35	0.5	mg/Kg	J
SS-3DSP2-007	200310010115	2003100029-17	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP2-007	200308220116	2003080646-17	7471A	Mercury	0.27	0.06	mg/Kg	J
SS-3DSP2-008	200308220315	2003080646-18	6020	Chromium	9.2	1.10	mg/Kg	J
SS-3DSP2-008	200308220315	2003080646-18	6020	Copper	49	1.10	mg/Kg	J
SS-3DSP2-008	200308220315	2003080646-18	6020	Vanadium	21	1.10	mg/Kg	J
SS-3DSP2-008	200308220315	2003080646-18	6020	Zinc	82	1.10	mg/Kg	J
SS-3DSP2-008	200310010115	2003100029-18	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-008	200310010115	2003100029-18	6010B	Beryllium	0.34	0.5	mg/Kg	J
SS-3DSP2-008	200310010115	2003100029-18	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP2-008	200308220116	2003080646-18	7471A	Mercury	1.6	0.05	mg/Kg	J
SS-3DSP2-009	200308220315	2003080646-19	6020	Chromium	10	1.10	mg/Kg	J
SS-3DSP2-009	200308220315	2003080646-19	6020	Copper	78	1.10	mg/Kg	J
SS-3DSP2-009	200308220315	2003080646-19	6020	Vanadium	22	1.10	mg/Kg	J
SS-3DSP2-009	200308220315	2003080646-19	6020	Zinc	110	1.10	mg/Kg	J
SS-3DSP2-009	200310010115	2003100029-19	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-009	200310010115	2003100029-19	6010B	Beryllium	0.31	0.5	mg/Kg	J
SS-3DSP2-009	200310010115	2003100029-19	6010B	Molybdenum	ND	1	mg/Kg	UJ

Table 2. Summary of Qualified Results for Demolition Site 3 and Mercury Impacted Area Stockpiles
Submission Nos. 2003-08-0646, 2003-10-0029 and G3I160341
Tourtelot Property, Benicia, California

Field ID	Batch Number	Lab Sample ID	Analytical Method	Compound	Result	Reporting Limit	Units	Qualifier
SS-3DSP2-009	200308220116	2003080646-19	7471A	Mercury	1.2	0.06	mg/Kg	J
SS-3DSP2-010	200308220315	2003080646-20	6020	Chromium	8.5	1.10	mg/Kg	J
SS-3DSP2-010	200308220315	2003080646-20	6020	Copper	54	1.10	mg/Kg	J
SS-3DSP2-010	200308220315	2003080646-20	6020	Vanadium	21	1.10	mg/Kg	J
SS-3DSP2-010	200308220315	2003080646-20	6020	Zinc	88	1.10	mg/Kg	J
SS-3DSP2-010	200310010115	2003100029-20	6010B	Antimony	ND	2	mg/Kg	R
SS-3DSP2-010	200310010115	2003100029-20	6010B	Beryllium	0.30	0.5	mg/Kg	J
SS-3DSP2-010	200310010115	2003100029-20	6010B	Molybdenum	ND	1	mg/Kg	UJ
SS-3DSP2-010	200308220116	2003080646-20	7471A	Mercury	1.1	0.05	mg/Kg	J

mg/kg - milligram per kilogram
ug/L - microgram per liter

J[1] - The concentration is approximate because it is less than the reporting limit.
J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
ND - Not detected
NR - Not reported. For method 8290, the reporting limit is not quantified when the compound is detected.
R - Result rejected based on QC evaluations.
UJ - The analyte was not detected. However, the reported quantitation limit is approximate and may or may not represent the actual limits of quantitation necessary to accurately and precisely measure the analyte in the sample.

Reviewed by T. Bennett

SEVERN TRENT STL

Submission#: 2003-10-0029

Northgate Environmental, Oakland

October 06, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Tourtelot

Attached is our report for your samples received on 08/21/2003 13:02
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

The report contains a Case Narrative detailing sample receipt and analysis.

Please note that any unused portion of the samples will be discarded after 10/05/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: ssidhu@stl-inc.com

Sincerely,

Surinder Sidhu

Surinder Sidhu
Project Manager

SEVERN TRENT STL

Northgate Environmental, Oakland

October 06, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Tourtelot

Case Narrative

General and Sample Comments

We (STL San Francisco) received 22 Soil samples , on Thursday, August 21, 2003 1:02 PM.
Metals -
The % difference on the serial dilution for barium exceeded QC limits.

MS/MSD Report:
Batch 2003/10/01-01.15 - MS/MSD recoveries for all elements were outside QC limits due to matrix interferences, confirmed by reanalysis. LCS/LCSD verifiec accuracy and precision.

Batch 2003/10/01-02.15 - MS/MSD were analyzed on sample from anothei submission. LCS/LCSD verified accuracy and precision.

Analysis Coments and Flags by QC Batch

MISC metals - No Hg	Soil	QC Batch#: 2003/10/01-01.15

SS-3DSP1-001 >> MS 2003/10/01-01.15-120
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

SS-3DSP1-001 >> MSD 2003/10/01-01.15-121
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

MISC metals - No Hg	Soil	QC Batch#: 2003/10/01-02.15

SS-FISP1-001 >> MS 2003/10/01-02.15-153
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

SS-FISP1-001 >> MSD 2003/10/01-02.15-156
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

SS-FISP1-001 >> MSD 2003/10/01-02.15-156
Compound Flag(s)

2003-10-0029

SEVERN TRENT SERVICES

STL San Francisco

ADD ON/CHANGE ORDER

New Submission No.: _____

Reference No.: 79345

ORIGINAL SUBMISSION INFORMATION

Name of Caller: Dan Chamber

Bill To: _____

Client Name: Northgate Environmental

Call Date: 09/30/03

Attn.: _____

Project Mgr.: Dan Chamber

Add on Due Date: 10/02/03

Comments: _____

Project Name: Tourtelot

48hrs Rush metals

Project No.: 1056.03

PO#: _____

Date Received: 08/21/03

Submission No.: 2003-08-0646

ANALYSIS REQUEST

Sample ID	Date	Time	Mat rix	Prov. Spl. #	TPH (EPA 8015, 8020/8021) ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX (EPA 8020/8021)	TEPH (EPA 8015M) ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	Fuel Oxygenates (8260B): ☐ DCA, EDB ☐ Full Oxygenate List ☐ MTBE ☐ BTEX	Purgeable Halocarbons (HVOCs) (EPA 8010/8021)	Volatile Organics GC/MS (VOCs) (EPA 8260A/8260B)	Semivolatiles GC/MS (EPA 8270)	Oil & Grease (EPA 1664) ☐ Petrol ☐ Total	☐ Pesticides (EPA 8081) ☐ PCBs (EPA 8082)	PH Assay ☐ 8270 ☐ 8310	CAM 17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other ___	☐ W.E.T. (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24 hr. hold time for H_2O)	☐ Spec. Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: ☐ Br ☐ NO_2 ☐ PO_4 ☐ F ☐ Cl ☐ SO_4 ☐ NO_3	Camila Wolfs	Z. Morgan			NUMBER OF CONTAINERS
SS-3DSP1-001	8/22/03	15:00	S	1																						
-002		1505		2																						
003		1510		3																						
004		1515		4																						
-005		1520		5																						
-006		1525		6																						
-007		1530		7																						
-008		1535		8																						
-009		1540		9																						
-010		1545		10																						

ASAP

2003-10-0029

SEVERN TRENT SERVICES

STL San Francisco

ADD ON/CHANGE ORDER

New Submission No.: _____

Reference No.: _____

ORIGINAL SUBMISSION INFORMATION

Name of Caller: _____

Bill To: _____

Client Name: _____

Call Date: _____

Attn.: _____

Project Mgr.: _____

Add on Due Date: _____

Comments: _____

Project Name: _____

Project No.: _____

PO#: _____

Date Received: _____

Submission No.: _____

ANALYSIS REQUEST

Sample ID	Date	Time	Matrix	Prev. Spl #	TPH (EPA 8015, 5020/5021) ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX (EPA 8020/8021)	TEPH (EPA 8015M) ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	Fuel Oxygenates (8260B) ☐ DCA, EDB ☐ Full Oxygenate List ☐ MTBE ☐ BTEX	Purgeable Halocarbons (HVOCs) (EPA 8010/8021)	Volatile Organics GC/MS (VOCs) (EPA 8260A/8260B)	Semivolatiles GC/MS (EPA 8270)	Oil & Grease ☐ Petrol (EPA 1664) ☐ Total	☐ Pesticides (EPA 8081) ☐ PCBs (EPA 8082)	PNAs by ☐ 8270 ☐ 8310	CAM 17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other ___	☐ WET (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24 hr. hold time for H_2O)	☐ Spec. Cond. ☐ Alkalinity ☐ TDS	Anions: ☐ Br ☐ NO_2 ☐ PO_4 ☐ F ☐ ☐ ☐ SO_4 ☐ NO_3	Cr16 Mo Hg	% moist			NUMBER OF CONTAINERS
SS-3DSP2-001	8/20/03	1200	S	11																						
-002		1210		12																						
-003		1230		13																						
-004		1245		14																						
-005		1330		15																						
-006		1255		16																						
-007		1305		17																						
-008		1315		18																						
-009		1340		19																						
SS-3DSP2-010		1345		20																						

RUSH

2003-10-0029

SEVERN TRENT SERVICES

STL San Francisco

ADD ON/CHANGE ORDER

New Submission No.: _____

Reference No.: _____

ORIGINAL SUBMISSION INFORMATION

Name of Caller: _____

Bill To: _____

Client Name: _____

Call Date: _____

Attn.: _____

Project Mgr.: _____

Add on Due Date: _____

Comments: _____

Project Name: _____

Project No.: _____

PO#: _____

Date Received: _____

Submission No.: _____

ANALYSIS REQUEST

Sample ID	Date	Time	Matrix	Prev. Spl. #	TPH (EPA 8015, 8020/8021) ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX (EPA 8020/8021)	TEPH (EPA 8015M) ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	Fuel Oxygenates (8260B): ☐ DCA, EDB ☐ Full Oxygenate List ☐ MTBE ☐ BTEX	Purgeable Halocarbons (HVOCs) (EPA 8010/8021)	Volatile Organics GC/MS (VOCs) (EPA 8260A/8260B)	Semivolatiles GC/MS (EPA 8270)	Oil & Grease (EPA 1664) ☐ Petrol ☐ Total	☐ Pesticides (EPA 8081) ☐ PCBs (EPA 8082)	PNAs by ☐ 8270 ☐ 8310	CAM 17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other ___	☐ WET (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24 hr. hold time for H_2O)	☐ Spec. Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: ☐ Br ☐ NO_2 ☐ PO_4 ☐ F ☐ ☐ SO_4 ☐ NO_3	Cam16	NO HS			NUMBER OF CONTAINERS
SSNVWC-013	8/20	1410	S	21																						
SS-NVWC-014	8/20	1415	↓	22																						

RUSH

Submission #: 2003-10-0029

Metals

Northgate Environmental, Oakland

Attn.: Deni Chambers
3629 Grand Ave, Suite 313
Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

SEVERN TRENT LABORATORY

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Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
SS-3DSP1-001	08/20/2003 15:00	Soil	1
SS-3DSP1-002	08/20/2003 15:05	Soil	2
SS-3DSP1-003	08/20/2003 15:10	Soil	3
SS-3DSP1-004	08/20/2003 15:15	Soil	4
SS-3DSP1-005	08/20/2003 15:20	Soil	5
SS-3DSP1-006	08/20/2003 15:25	Soil	6
SS-3DSP1-007	08/20/2003 15:30	Soil	7
SS-3DSP1-008	08/20/2003 15:35	Soil	8
SS-3DSP1-009	08/20/2003 15:40	Soil	9
SS-3DSP1-010	08/20/2003 15:45	Soil	10
SS-3DSP2-001	08/20/2003 12:00	Soil	11
SS-3DSP2-002	08/20/2003 12:10	Soil	12
SS-3DSP2-003	08/20/2003 12:30	Soil	13
SS-3DSP2-004	08/20/2003 12:45	Soil	14
SS-3DSP2-005	08/20/2003 13:30	Soil	15
SS-3DSP2-006	08/20/2003 12:55	Soil	16
SS-3DSP2-007	08/20/2003 13:05	Soil	17
SS-3DSP2-008	08/20/2003 13:15	Soil	18
SS-3DSP2-009	08/20/2003 13:40	Soil	19
SS-3DSP2-010	08/20/2003 13:45	Soil	20
SS-NVWC-013	08/20/2003 14:10	Soil	21
SS-NVWC-014	08/20/2003 14:15	Soil	22

Submission #: 2003-10-0029

Metals

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CA DHS ELAP# 2496

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-001**	Lab ID:	2003-10-0029 - 1
Sampled:	08/20/2003 15:00	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0749	QC Batch#:	2003/10/01-01.15

Analysis Flag: .. (See Legend and Note Section)

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 20:28	
Beryllium	0.32	0.019	0.50	mg/K	1.00	10/02/2003 20:28	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 20:28	

Submission #: 2003-10-0029

Metals

Northgate Environmental, Oakland

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-002**	Lab ID:	2003-10-0029 - 2
Sampled:	08/20/2003 15:05	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0449	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:04	
Beryllium	0.26	0.019	0.50	mg/K	1.00	10/02/2003 21:04	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:04	

Submission #: 2003-10-0029

Metals

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-003**	Lab ID:	2003-10-0029 - 3
Sampled:	08/20/2003 15:10	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0581	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:07	
Beryllium	0.25	0.019	0.50	mg/K	1.00	10/02/2003 21:07	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:07	

Submission #: 2003-10-0029

Metals

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-004**	Lab ID:	2003-10-0029 - 4
Sampled:	08/20/2003 15:15	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0801	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	1.9	0.11	2.0	mg/K	1.00	10/02/2003 21:10	J
Beryllium	0.26	0.019	0.50	mg/K	1.00	10/02/2003 21:10	J
Molybdenum	0.62	0.028	1.0	mg/K	1.00	10/02/2003 21:10	J

Submission #: 2003-10-0029

Metals

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Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-005**	Lab ID:	2003-10-0029 - 5
Sampled:	08/20/2003 15:20	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0585	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:14	
Beryllium	0.26	0.019	0.50	mg/K	1.00	10/02/2003 21:14	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:14	

Submission #: 2003-10-0029

Metals

Northgate Environmental, Oakland

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-006**	Lab ID:	2003-10-0029 - 6
Sampled:	08/20/2003 15:25	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0579	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:17	
Beryllium	0.27	0.019	0.50	mg/K	1.00	10/02/2003 21:17	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:17	

Submission #: 2003-10-0029

Metals

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-007**	Lab ID:	2003-10-0029 - 7
Sampled:	08/20/2003 15:30	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0528	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:40	
Beryllium	0.31	0.019	0.50	mg/K	1.00	10/02/2003 21:40	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:40	

Submission #: 2003-10-0029

Metals

Northgate Environmental, Oakland

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

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Pleasanton, CA 94566

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-008**	Lab ID:	2003-10-0029 - 8
Sampled:	08/20/2003 15:35	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0674	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:43	
Beryllium	0.21	0.019	0.50	mg/K	1.00	10/02/2003 21:43	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:43	

Submission #: 2003-10-0029

Metals

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CA DHS ELAP# 2496

Northgate Environmental, Oakland

Attn.: Deni Chambers
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Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-009**	Lab ID:	2003-10-0029 - 9
Sampled:	08/20/2003 15:40	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0495	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:47	
Beryllium	0.28	0.019	0.50	mg/K	1.00	10/02/2003 21:47	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:47	

Submission #: 2003-10-0029

Metals

SEVERN TRENT LABORATORY

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CA DHS ELAP# 2496

Northgate Environmental, Oakland

Attn.: Deni Chambers
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Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP1-010**	Lab ID:	2003-10-0029 - 10
Sampled:	08/20/2003 15:45	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0609	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	1.0	0.11	2.0	mg/K	1.00	10/02/2003 21:50	J
Beryllium	0.26	0.019	0.50	mg/K	1.00	10/02/2003 21:50	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:50	

Submission #: 2003-10-0029

Metals

Northgate Environmental, Oakland

Attn.: Deni Chambers
3629 Grand Ave, Suite 313
Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

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CA DHS ELAP# 2496

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-001**	Lab ID:	2003-10-0029 - 11
Sampled:	08/20/2003 12:00	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0895	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:53	
Beryllium	0.35	0.019	0.50	mg/K	1.00	10/02/2003 21:53	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:53	

Submission #: 2003-10-0029

Metals

SEVERN
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CA DHS ELAP# 2496

Northgate Environmental, Oakland

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Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-002**	Lab ID:	2003-10-0029 - 12
Sampled:	08/20/2003 12:10	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0851	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:56	
Beryllium	0.35	0.019	0.50	mg/K	1.00	10/02/2003 21:56	J
Molybdenum	0.54	0.028	1.0	mg/K	1.00	10/02/2003 21:56	J

Submission #: 2003-10-0029

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-003**	Lab ID:	2003-10-0029 - 13
Sampled:	08/20/2003 12:30	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0621	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 21:59	
Beryllium	0.30	0.019	0.50	mg/K	1.00	10/02/2003 21:59	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 21:59	

Submission #: 2003-10-0029

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Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-004**	Lab ID:	2003-10-0029 - 14
Sampled:	08/20/2003 12:45	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0590	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 22:02	
Beryllium	0.28	0.019	0.50	mg/K	1.00	10/02/2003 22:02	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 22:02	

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Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-005**	Lab ID:	2003-10-0029 - 15
Sampled:	08/20/2003 13:30	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0803	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 22:05	
Beryllium	0.42	0.019	0.50	mg/K	1.00	10/02/2003 22:05	J
Molybdenum	0.20	0.028	1.0	mg/K	1.00	10/02/2003 22:05	J

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-006**	Lab ID:	2003-10-0029 - 16
Sampled:	08/20/2003 12:55	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0815	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 22:09	
Beryllium	0.27	0.019	0.50	mg/K	1.00	10/02/2003 22:09	J
Molybdenum	0.083	0.028	1.0	mg/K	1.00	10/02/2003 22:09	J

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Tourtelot

Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-007**	Lab ID:	2003-10-0029 - 17
Sampled:	08/20/2003 13:05	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0797	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 22:29	
Beryllium	0.35	0.019	0.50	mg/K	1.00	10/02/2003 22:29	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 22:29	

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Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-008**	Lab ID:	2003-10-0029 - 18
Sampled:	08/20/2003 13:15	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0946	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 22:32	
Beryllium	0.34	0.019	0.50	mg/K	1.00	10/02/2003 22:32	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 22:32	

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Project: 1056.03
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Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-009**	Lab ID:	2003-10-0029 - 19
Sampled:	08/20/2003 13:40	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0899	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 22:35	
Beryllium	0.31	0.019	0.50	mg/K	1.00	10/02/2003 22:35	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 22:35	

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Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-3DSP2-010**	Lab ID:	2003-10-0029 - 20
Sampled:	08/20/2003 13:45	Extracted:	10/1/2003 13:46
Matrix:	Soil Moisture: 1.0809	QC Batch#:	2003/10/01-01.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.0	mg/K	1.00	10/02/2003 22:39	
Beryllium	0.30	0.019	0.50	mg/K	1.00	10/02/2003 22:39	J
Molybdenum	ND	0.028	1.0	mg/K	1.00	10/02/2003 22:39	

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Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-NVWC-013**	Lab ID:	2003-10-0029 - 21
Sampled:	08/20/2003 14:10	Extracted:	10/1/2003 14:16
Matrix:	Soil Moisture: 1.0360	QC Batch#:	2003/10/01-02.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.11	2.1	mg/K	1.00	10/02/2003 23:51	
Beryllium	0.37	0.020	0.52	mg/K	1.00	10/02/2003 23:51	J
Molybdenum	ND	0.029	1.0	mg/K	1.00	10/02/2003 23:51	

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Project: 1056.03
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Received: 08/21/2003 13:02

Prep(s):	3050B	Test(s):	6010B
Sample ID:	**SS-NVWC-014**	Lab ID:	2003-10-0029 - 22
Sampled:	08/20/2003 14:15	Extracted:	10/1/2003 14:16
Matrix:	Soil Moisture: 1.0777	QC Batch#:	2003/10/01-02.15

Compound	Conc.	MDL	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	0.12	2.2	mg/K	1.00	10/02/2003 23:54	
Beryllium	0.42	0.020	0.54	mg/K	1.00	10/02/2003 23:54	J
Molybdenum	ND	0.030	1.1	mg/K	1.00	10/02/2003 23:54	

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 3050B
Method Blank
MB: 2003/10/01-01.15-113

Soil

Test(s): 6010B
QC Batch # 2003/10/01-01.15
Date Extracted: 10/01/2003 13:46

Compound	Conc.	MDL	RL	Unit	Analyzed	Flag
Antimony	ND	0.107	2.0	mg/K	10/02/2003 20:16	
Beryllium	ND	0.019	0.50	mg/K	10/02/2003 20:16	
Molybdenum	ND	0.028	1.0	mg/K	10/02/2003 20:16	

Submission #: 2003-10-0029

Metals

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Project: 1056.03
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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 3050B
Method Blank

Soil

Test(s): 6010B
QC Batch # 2003/10/01-02.15

MB: 2003/10/01-02.15-148

Date Extracted: 10/01/2003 14:16

Compound	Conc.	MDL	RL	Unit	Analyzed	Flag
Antimony	ND	0.107	2.0	mg/K	10/02/2003 22:51	
Beryllium	ND	0.019	0.50	mg/K	10/02/2003 22:51	
Molybdenum	ND	0.028	1.0	mg/K	10/02/2003 22:51	

Submission #: 2003-10-0029

Metals

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Laboratory Control Spike **Soil** **QC Batch # 2003/10/01-01.15**

LCS 2003/10/01-01.15-114 Extracted: 10/01/2003 Analyzed: 10/02/2003 20:21

LCSD 2003/10/01-01.15-115 Extracted: 10/01/2003 Analyzed: 10/02/2003 20:24

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Antimony	102	104	100.0	102.0	104.0	1.9	80-120	20		
Beryllium	99.3	100	100.0	99.3	100.0	0.7	80-120	20		
Molybdenum	99.3	101	100.0	99.3	101.0	1.7	80-120	20		

Submission #: 2003-10-0029

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Laboratory Control Spike **Soil** **QC Batch # 2003/10/01-02.15**

LCS 2003/10/01-02.15-149 Extracted: 10/01/2003 Analyzed: 10/02/2003 22:55

LCSD 2003/10/01-02.15-150 Extracted: 10/01/2003 Analyzed: 10/02/2003 22:58

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Antimony	98.2	101	100.0	98.2	101.0	2.8	80-120	20		
Beryllium	99.1	99.5	100.0	99.1	99.5	0.4	80-120	20		
Molybdenum	93.8	96.3	100.0	93.8	96.3	2.6	80-120	20		

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Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Matrix Spike (MS / MSD) **Soil** **QC Batch # 2003/10/01-01.15**

SS-3DSP1-001 >> MS

Lab ID: 2003-10-0029 - 001

MS: 2003/10/01-01.15-120 Extracted: 10/01/2003 Analized: 10/02/2003 20:51
Dilution: 1.00

MSD: 2003/10/01-01.15-121 Extracted: 10/01/2003 Analized: 10/02/2003 20:55
Dilution: 1.00

Dry Weight Factor: 1.0749

Compound	Conc. mg/Kg			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	mg/Kg	MS	MSD	RPD	Rec.	RPD	MS	MSD
Antimony	27.6	26.8	ND	106	26.0	25.3	2.7	75-125	20	mso	mso
Beryllium	66.9	66.9	ND	106	63.1	63.1	0.0	75-125	20	mso	mso
Molybdenum	59.7	58.4	ND	106	56.3	55.1	2.2	75-125	20	mso	mso

Submission #: 2003-10-0029

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Legend and Notes

Analysis Flag

..

Result Flag

J

Estimated value, less than reporting limits, but over the method detection limits.

mso

MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

per cent Moisture

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Received: 08/21/2003 13:02

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
SS-3DSP1-001	08/20/2003 15:00	Soil	1
SS-3DSP1-002	08/20/2003 15:05	Soil	2
SS-3DSP1-003	08/20/2003 15:10	Soil	3
SS-3DSP1-004	08/20/2003 15:15	Soil	4
SS-3DSP1-005	08/20/2003 15:20	Soil	5
SS-3DSP1-006	08/20/2003 15:25	Soil	6
SS-3DSP1-007	08/20/2003 15:30	Soil	7
SS-3DSP1-008	08/20/2003 15:35	Soil	8
SS-3DSP1-009	08/20/2003 15:40	Soil	9
SS-3DSP1-010	08/20/2003 15:45	Soil	10
SS-3DSP2-001	08/20/2003 12:00	Soil	11
SS-3DSP2-002	08/20/2003 12:10	Soil	12
SS-3DSP2-003	08/20/2003 12:30	Soil	13
SS-3DSP2-004	08/20/2003 12:45	Soil	14
SS-3DSP2-005	08/20/2003 13:30	Soil	15
SS-3DSP2-006	08/20/2003 12:55	Soil	16
SS-3DSP2-007	08/20/2003 13:05	Soil	17
SS-3DSP2-008	08/20/2003 13:15	Soil	18
SS-3DSP2-009	08/20/2003 13:40	Soil	19
SS-3DSP2-010	08/20/2003 13:45	Soil	20
SS-NVWC-013	08/20/2003 14:10	Soil	21
SS-NVWC-014	08/20/2003 14:15	Soil	22

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per cent Moisture

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Project: 1056.03
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Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-001**	Lab ID:	2003-10-0029 - 1
Sampled:	08/20/2003 15:00	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0749	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	5.5	0.1	%	1.00	10/02/2003 07:52	

per cent Moisture

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Project: 1056.03
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Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-002**	Lab ID:	2003-10-0029 - 2
Sampled:	08/20/2003 15:05	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0449	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	3.6	0.1	%	1.00	10/02/2003 07:53	

SEVERN TRENT STL

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-003**	Lab ID:	2003-10-0029 - 3
Sampled:	08/20/2003 15:10	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0581	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	4.5	0.1	%	1.00	10/02/2003 07:53	

per cent Moisture

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Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-004**	Lab ID:	2003-10-0029 - 4
Sampled:	08/20/2003 15:15	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0801	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.0	0.1	%	1.00	10/02/2003 07:54	

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Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

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SEVERN TRENT STL

per cent Moisture

Northgate Environmental, Oakland

Attn.: Deni Chambers

3629 Grand Ave, Suite 313
Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-005**	Lab ID:	2003-10-0029 - 5
Sampled:	08/20/2003 15:20	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0585	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	4.4	0.1	%	1.00	10/02/2003 07:59	

STL

per cent Moisture

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Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-006**	Lab ID:	2003-10-0029 - 6
Sampled:	08/20/2003 15:25	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0579	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	4.3	0.1	%	1.00	10/02/2003 07:59	

SEVERN TRENT STL

per cent Moisture

Northgate Environmental, Oakland

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Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-007**	Lab ID:	2003-10-0029 - 7
Sampled:	08/20/2003 15:30	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0528	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	3.9	0.1	%	1.00	10/02/2003 07:59	

STL

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-008**	Lab ID:	2003-10-0029 - 8
Sampled:	08/20/2003 15:35	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0674	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	5.1	0.1	%	1.00	10/02/2003 07:58	

SEVERN TRENT STL

per cent Moisture

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Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-009**	Lab ID:	2003-10-0029 - 9
Sampled:	08/20/2003 15:40	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0495	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	3.7	0.1	%	1.00	10/02/2003 07:58	

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP1-010**	Lab ID:	2003-10-0029 - 10
Sampled:	08/20/2003 15:45	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0609	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	4.6	0.1	%	1.00	10/02/2003 07:57	

STL

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-001**	Lab ID:	2003-10-0029 - 11
Sampled:	08/20/2003 12:00	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0895	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.4	0.1	%	1.00	10/02/2003 07:57	

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-002**	Lab ID:	2003-10-0029 - 12
Sampled:	08/20/2003 12:10	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0851	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.3	0.1	%	1.00	10/02/2003 07:55	

SEVERN TRENT STL

per cent Moisture

Northgate Environmental, Oakland
Attn.: Deni Chambers

3629 Grand Ave, Suite 313
Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-003**	Lab ID:	2003-10-0029 - 13
Sampled:	08/20/2003 12:30	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0621	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	4.7	0.1	%	1.00	10/02/2003 07:57	

STL

per cent Moisture

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Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-004**	Lab ID:	2003-10-0029 - 14
Sampled:	08/20/2003 12:45	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0590	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	4.6	0.1	%	1.00	10/02/2003 07:58	

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-005**	Lab ID:	2003-10-0029 - 15
Sampled:	08/20/2003 13:30	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0803	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.2	0.1	%	1.00	10/02/2003 07:58	

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-006**	Lab ID:	2003-10-0029 - 16
Sampled:	08/20/2003 12:55	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0815	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.1	0.1	%	1.00	10/02/2003 07:56	

SEVERN TRENT STL

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-007**	Lab ID:	2003-10-0029 - 17
Sampled:	08/20/2003 13:05	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0797	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.0	0.1	%	1.00	10/02/2003 07:49	

per cent Moisture

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Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-008**	Lab ID:	2003-10-0029 - 18
Sampled:	08/20/2003 13:15	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0946	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.9	0.1	%	1.00	10/02/2003 07:47	

SEVERN TRENT STL

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-009**	Lab ID:	2003-10-0029 - 19
Sampled:	08/20/2003 13:40	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0899	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.6	0.1	%	1.00	10/02/2003 07:48	

STL

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-3DSP2-010**	Lab ID:	2003-10-0029 - 20
Sampled:	08/20/2003 13:45	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0809	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.6	0.1	%	1.00	10/02/2003 07:50	

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-NVWC-013**	Lab ID:	2003-10-0029 - 21
Sampled:	08/20/2003 14:10	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0360	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	2.7	0.1	%	1.00	10/02/2003 07:51	

per cent Moisture

Northgate Environmental, Oakland
Attn.: Deni Chambers

3629 Grand Ave, Suite 313
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Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Prep(s):	Moisture	Test(s):	Moisture
Sample ID:	**SS-NVWC-014**	Lab ID:	2003-10-0029 - 22
Sampled:	08/20/2003 14:15	Extracted:	10/1/2003 00:00
Matrix:	Soil Moisture: 1.0777	QC Batch#:	2003/10/01-02.35

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Moisture, percent	6.1	0.1	%	1.00	10/02/2003 07:51	

STL

per cent Moisture

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Project: 1056.03
Tourtelot

Received: 08/21/2003 13:02

Batch QC Report

Prep(s): Moisture
Method Blank
MB: 2003/10/01-02.35-001

Soil

Test(s): Moisture
QC Batch # 2003/10/01-02.35
Date Extracted: 10/01/2003 13:48

Compound	Conc.	RL	Unit	Analyzed	Flag
Moisture, percent	ND	0.1	%	10/02/2003 07:46	

SEVERN TRENT STL

Submission#: 2003-08-0646

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Attached is our report for your samples received on 08/21/2003 17:15
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

The report contains a Case Narrative detailing sample receipt and analysis.

Please note that any unused portion of the samples will be discarded after 10/05/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: ssidhu@stl-inc.com

Sincerely,

Surinder Sidhu

Surinder Sidhu
Project Manager

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

General and Sample Comments

We (STL San Francisco) received 22 Soil samples , on Thursday, August 21, 2003 5:15 PM.
Samples were received in good condition with no discrepancies documented.

Metals by ICP-MS - EPA 6020:

The ICP-MS report was revised due to transcription error affecting the following sample results on the original report:
SS-3DSP1-003
SS-3DSP1-004
SS-3DSP1-006
SS-3DSP1-007
SS-3DSP1-009
SS-3DSP2-003
SS-3DSP2-005

Analysis Coments and Flags by QC Batch

CAM 17 metals	Soil	QC Batch#: 2003/08/22-01.16

SS-3DSP1-001 2003-08-0646-001
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-002 2003-08-0646-002
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-003 2003-08-0646-003
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-004 2003-08-0646-004
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-005 2003-08-0646-005
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-006 2003-08-0646-006
Analysis Flag(s)

SEVERN TRENT STL

CAM 17 Metals

Northgate Environmental, Oakland
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Oakland, CA 94610
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Project: 1056.03
Totrtelot

Received: 08/21/2003 17:15

Legend and Notes

Result Flag

mso

MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

rpd

Analyte RPD was out of QC limits due to sample heterogeneity.

SEVERN TRENT STL

CAM 17 Metals

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Project: 1056.03
Totrtelot

Received: 08/21/2003 17:15

Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Matrix Spike (MS / MSD) **Soil** **QC Batch # 2003/08/22-03.15**

SS-3DSP1-001 >> MS

Lab ID: 2003-08-0646 - 001

MS: 2003/08/22-03.15-004 Extracted: 08/22/2003 Analyzed: 08/28/2003 21:02
Dilution: 10.00

MSD: 2003/08/22-03.15-005 Extracted: 08/22/2003 Analyzed: 08/28/2003 21:06
Dilution: 10.00

Dry Weight Factor: 1.0736

Compound	Conc. mg/Kg			Spk Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	mg/Kg	MS	MSD	RPD	Rec.	RPD	MS	MSD
Antimony	20.9	25.4	ND	104.2	20.1	24.4	19.3	75-125	20	mso	mso
Arsenic	104	110	13.2	104.2	87.1	92.9	6.4	75-125	20		
Barium	356	342	268	104.2	84.5	71.0	17.4	75-125	20		mso
Beryllium	23.7	24.3	ND	104.2	22.7	23.3	2.6	75-125	20	mso	mso
Cadmium	102	103	ND	104.2	97.9	98.8	0.9	75-125	20		
Chromium	31.6	31.9	8.42	104.2	22.2	22.5	1.3	75-125	20	mso	mso
Cobalt	100	100	16.3	104.2	80.3	80.3	0.0	75-125	20		
Copper	128	128	53.0	104.2	72.0	72.0	0.0	75-125	20	mso	mso
Lead	93.5	110	15.8	104.2	74.6	90.4	19.2	75-125	20	mso	
Molybdenum	19.9	21.3	ND	104.2	19.1	20.4	6.6	75-125	20	mso	mso
Nickel	117	115	32.6	104.2	81.0	79.1	2.4	75-125	20		
Selenium	87.6	87.6	ND	104.2	84.1	84.1	0.0	75-125	20		
Silver	96.1	97.5	ND	104.2	92.2	93.6	1.5	75-125	20		
Thallium	81.7	106	ND	104.2	78.4	101.7	25.9	75-125	20		rpd
Vanadium	46.0	47.7	21.9	104.2	23.1	24.8	7.1	75-125	20	mso	mso
Zinc	168	167	90.0	104.2	74.9	73.9	1.3	75-125	20	mso	mso

SEVERN TRENT STL

CAM 17 Metals

Northgate Environmental, Oakland
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Oakland, CA 94610
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Project: 1056.03
Totrtelot

Received: 08/21/2003 17:15

Batch QC Report

Prep(s): 7471A

Test(s): 7471A

Matrix Spike (MS / MSD) **Soil** **QC Batch # 2003/08/22-01.16**

SS-3DSP1-001 >> MS

Lab ID: 2003-08-0646 - 001

MS: 2003/08/22-01.16-016 Extracted: 08/22/2003 Analyzed: 08/22/2003 15:42
Dilution: 1.00

MSD: 2003/08/22-01.16-017 Extracted: 08/22/2003 Analyzed: 08/22/2003 15:43
Dilution: 1.00

Compound	Conc. mg/Kg			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	mg/Kg	MS	MSD	RPD	Rec.	RPD	MS	MSD
Mercury	0.775	1.12	0.297	0.485	98.6	168.0	52.1	85-115	20		

SEVERN TRENT STL

CAM 17 Metals

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Project: 1056.03
Totrtelot

Received: 08/21/2003 17:15

Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Laboratory Control Spike **Soil** **QC Batch # 2003/08/22-03.15**

LCS 2003/08/22-03.15-002 Extracted: 08/22/2003 Analyzed: 08/28/2003 20:44

LCSD 2003/08/22-03.15-003 Extracted: 08/22/2003 Analyzed: 08/28/2003 20:47

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Antimony	99.6	98.0	100.0	99.6	98.0	1.6	80-120	20		
Arsenic	93.1	93.3	100.0	93.1	93.3	0.2	80-120	20		
Barium	99.4	97.4	100.0	99.4	97.4	2.0	80-120	20		
Beryllium	99.3	98.7	100.0	99.3	98.7	0.6	80-120	20		
Cadmium	99.5	98.2	100.0	99.5	98.2	1.3	80-120	20		
Chromium	101	98.9	100.0	101.0	98.9	2.1	80-120	20		
Cobalt	84.5	85.1	100.0	84.5	85.1	0.7	80-120	20		
Copper	88.6	88.2	100.0	88.6	88.2	0.5	80-120	20		
Lead	93.7	92.2	100.0	93.7	92.2	1.6	80-120	20		
Molybdenum	97.2	97.3	100.0	97.2	97.3	0.1	80-120	20		
Nickel	85.9	85.9	100.0	85.9	85.9	0.0	80-120	20		
Selenium	95.8	96.3	100.0	95.8	96.3	0.5	80-120	20		
Silver	97.1	95.6	100.0	97.1	95.6	1.6	80-120	20		
Thallium	92.1	92.7	100.0	92.1	92.7	0.6	80-120	20		
Vanadium	102	100	100.0	102.0	100.0	2.0	80-120	20		
Zinc	97.1	93.2	100.0	97.1	93.2	4.1	80-120	20		

SEVERN TRENT STL

CAM 17 Metals

Northgate Environmental, Oakland
Attn.: Deni Chambers

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Project: 1056.03
Totrtelot

Received: 08/21/2003 17:15

Batch QC Report

Prep(s): 7471A

Test(s): 7471A

Laboratory Control Spike **Soil** **QC Batch # 2003/08/22-01.16**

LCS 2003/08/22-01.16-012 Extracted: 08/22/2003 Analyzed: 08/22/2003 15:37

LCSD 2003/08/22-01.16-013 Extracted: 08/22/2003 Analyzed: 08/22/2003 15:38

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Mercury	0.555	0.571	0.500	111.0	114.2	2.8	85-115	20		

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Project: 1056.03
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Received: 08/21/2003 17:15

Batch QC Report

Prep(s): 3050B

Test(s): 6010B

Method Blank

Soil

QC Batch # 2003/08/22-03.15

MB: 2003/08/22-03.15-001

Date Extracted: 08/22/2003 09:23

Compound	Conc.	RL	Unit	Analyzed	Flag
Antimony	ND	2.0	mg/Kg	08/28/2003 20:40	
Arsenic	ND	1.0	mg/Kg	08/28/2003 20:40	
Barium	ND	1.0	mg/Kg	08/28/2003 20:40	
Beryllium	ND	0.50	mg/Kg	08/28/2003 20:40	
Cadmium	ND	0.50	mg/Kg	08/28/2003 20:40	
Chromium	ND	1.0	mg/Kg	08/28/2003 20:40	
Cobalt	ND	1.0	mg/Kg	08/28/2003 20:40	
Copper	ND	1.0	mg/Kg	08/28/2003 20:40	
Lead	ND	1.0	mg/Kg	08/28/2003 20:40	
Molybdenum	ND	1.0	mg/Kg	08/28/2003 20:40	
Nickel	ND	1.0	mg/Kg	08/28/2003 20:40	
Selenium	ND	2.0	mg/Kg	08/28/2003 20:40	
Silver	ND	1.0	mg/Kg	08/28/2003 20:40	
Thallium	ND	1.0	mg/Kg	08/28/2003 20:40	
Vanadium	ND	1.0	mg/Kg	08/28/2003 20:40	
Zinc	ND	1.0	mg/Kg	08/28/2003 20:40	

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Project: 1056.03
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Received: 08/21/2003 17:15

Batch QC Report

Prep(s): 7471A

Test(s): 7471A

Method Blank

Soil

QC Batch # 2003/08/22-01.16

MB: 2003/08/22-01.16-011

Date Extracted: 08/22/2003 09:24

Compound	Conc.	RL	Unit	Analyzed	Flag
Mercury	ND	0.050	mg/Kg	08/22/2003 15:36	

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Totrtelot

Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-010**	Lab ID:	2003-08-0646 - 20
Sampled:	08/20/2003 13:45	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0756	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:47	
Arsenic	12	1.1	mg/Kg	1.00	08/29/2003 12:47	
Barium	260	1.1	mg/Kg	1.00	08/29/2003 12:47	
Beryllium	ND	0.54	mg/Kg	1.00	08/29/2003 12:47	
Cadmium	ND	0.54	mg/Kg	1.00	08/29/2003 12:47	
Chromium	8.5	1.1	mg/Kg	1.00	08/29/2003 12:47	
Cobalt	16	1.1	mg/Kg	1.00	08/29/2003 12:47	
Copper	54	1.1	mg/Kg	1.00	08/29/2003 12:47	
Lead	20	1.1	mg/Kg	1.00	08/29/2003 12:47	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:47	
Nickel	35	1.1	mg/Kg	1.00	08/29/2003 12:47	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:47	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:47	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:47	
Vanadium	21	1.1	mg/Kg	1.00	08/29/2003 12:47	
Zinc	88	1.1	mg/Kg	1.00	08/29/2003 12:47	
Mercury	1.1	0.054	mg/Kg	1.00	08/22/2003 16:11	

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Totrtelot

Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-009**	Lab ID:	2003-08-0646 - 19
Sampled:	08/20/2003 13:40	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0902	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:44	
Arsenic	14	1.1	mg/Kg	1.00	08/29/2003 12:44	
Barium	260	1.1	mg/Kg	1.00	08/29/2003 12:44	
Beryllium	ND	0.55	mg/Kg	1.00	08/29/2003 12:44	
Cadmium	0.84	0.55	mg/Kg	1.00	08/29/2003 12:44	
Chromium	10	1.1	mg/Kg	1.00	08/29/2003 12:44	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 12:44	
Copper	78	1.1	mg/Kg	1.00	08/29/2003 12:44	
Lead	22	1.1	mg/Kg	1.00	08/29/2003 12:44	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:44	
Nickel	43	1.1	mg/Kg	1.00	08/29/2003 12:44	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:44	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:44	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:44	
Vanadium	22	1.1	mg/Kg	1.00	08/29/2003 12:44	
Zinc	110	1.1	mg/Kg	1.00	08/29/2003 12:44	
Mercury	1.2	0.055	mg/Kg	1.00	08/22/2003 16:10	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-008**	Lab ID:	2003-08-0646 - 18
Sampled:	08/20/2003 13:15	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0842	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:40	
Arsenic	11	1.1	mg/Kg	1.00	08/29/2003 12:40	
Barium	240	1.1	mg/Kg	1.00	08/29/2003 12:40	
Beryllium	ND	0.54	mg/Kg	1.00	08/29/2003 12:40	
Cadmium	ND	0.54	mg/Kg	1.00	08/29/2003 12:40	
Chromium	9.2	1.1	mg/Kg	1.00	08/29/2003 12:40	
Cobalt	16	1.1	mg/Kg	1.00	08/29/2003 12:40	
Copper	49	1.1	mg/Kg	1.00	08/29/2003 12:40	
Lead	13	1.1	mg/Kg	1.00	08/29/2003 12:40	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:40	
Nickel	39	1.1	mg/Kg	1.00	08/29/2003 12:40	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:40	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:40	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:40	
Vanadium	21	1.1	mg/Kg	1.00	08/29/2003 12:40	
Zinc	82	1.1	mg/Kg	1.00	08/29/2003 12:40	
Mercury	1.6	0.054	mg/Kg	1.00	08/22/2003 16:09	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-007**	Lab ID:	2003-08-0646 - 17
Sampled:	08/20/2003 13:05	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.1311	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.3	mg/Kg	1.00	08/29/2003 12:36	
Arsenic	11	1.1	mg/Kg	1.00	08/29/2003 12:36	
Barium	210	1.1	mg/Kg	1.00	08/29/2003 12:36	
Beryllium	ND	0.57	mg/Kg	1.00	08/29/2003 12:36	
Cadmium	ND	0.57	mg/Kg	1.00	08/29/2003 12:36	
Chromium	7.4	1.1	mg/Kg	1.00	08/29/2003 12:36	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 12:36	
Copper	45	1.1	mg/Kg	1.00	08/29/2003 12:36	
Lead	16	1.1	mg/Kg	1.00	08/29/2003 12:36	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:36	
Nickel	29	1.1	mg/Kg	1.00	08/29/2003 12:36	
Selenium	ND	2.3	mg/Kg	1.00	08/29/2003 12:36	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:36	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:36	
Vanadium	22	1.1	mg/Kg	1.00	08/29/2003 12:36	
Zinc	76	1.1	mg/Kg	1.00	08/29/2003 12:36	
Mercury	0.27	0.057	mg/Kg	1.00	08/22/2003 16:08	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-006**	Lab ID:	2003-08-0646 - 16
Sampled:	08/20/2003 12:55	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0832	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:25	
Arsenic	13	1.1	mg/Kg	1.00	08/29/2003 12:25	
Barium	240	1.1	mg/Kg	1.00	08/29/2003 12:25	
Beryllium	ND	0.54	mg/Kg	1.00	08/29/2003 12:25	
Cadmium	0.85	0.54	mg/Kg	1.00	08/29/2003 12:25	
Chromium	11	1.1	mg/Kg	1.00	08/29/2003 12:25	
Cobalt	21	1.1	mg/Kg	1.00	08/29/2003 12:25	
Copper	110	1.1	mg/Kg	1.00	08/29/2003 12:25	
Lead	41	1.1	mg/Kg	1.00	08/29/2003 12:25	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:25	
Nickel	51	1.1	mg/Kg	1.00	08/29/2003 12:25	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:25	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:25	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:25	
Vanadium	19	1.1	mg/Kg	1.00	08/29/2003 12:25	
Zinc	140	1.1	mg/Kg	1.00	08/29/2003 12:25	
Mercury	0.47	0.054	mg/Kg	1.00	08/22/2003 16:06	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-005**	Lab ID:	2003-08-0646 - 15
Sampled:	08/20/2003 13:30	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0884	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:21	
Arsenic	12	1.1	mg/Kg	1.00	08/29/2003 12:21	
Barium	250	1.1	mg/Kg	1.00	08/29/2003 12:21	
Beryllium	ND	0.54	mg/Kg	1.00	08/29/2003 12:21	
Cadmium	ND	0.54	mg/Kg	1.00	08/29/2003 12:21	
Chromium	8.0	1.1	mg/Kg	1.00	08/29/2003 12:21	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 12:21	
Copper	53	1.1	mg/Kg	1.00	08/29/2003 12:21	
Lead	21	1.1	mg/Kg	1.00	08/29/2003 12:21	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:21	
Nickel	33	1.1	mg/Kg	1.00	08/29/2003 12:21	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:21	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:21	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:21	
Vanadium	21	1.1	mg/Kg	1.00	08/29/2003 12:21	
Zinc	85	1.1	mg/Kg	1.00	08/29/2003 12:21	
Mercury	1.7	0.054	mg/Kg	1.00	08/22/2003 16:05	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-004**	Lab ID:	2003-08-0646 - 14
Sampled:	08/20/2003 12:45	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0871	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:18	
Arsenic	13	1.1	mg/Kg	1.00	08/29/2003 12:18	
Barium	240	1.1	mg/Kg	1.00	08/29/2003 12:18	
Beryllium	ND	0.54	mg/Kg	1.00	08/29/2003 12:18	
Cadmium	ND	0.54	mg/Kg	1.00	08/29/2003 12:18	
Chromium	8.5	1.1	mg/Kg	1.00	08/29/2003 12:18	
Cobalt	17	1.1	mg/Kg	1.00	08/29/2003 12:18	
Copper	56	1.1	mg/Kg	1.00	08/29/2003 12:18	
Lead	30	1.1	mg/Kg	1.00	08/29/2003 12:18	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:18	
Nickel	36	1.1	mg/Kg	1.00	08/29/2003 12:18	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:18	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:18	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:18	
Vanadium	22	1.1	mg/Kg	1.00	08/29/2003 12:18	
Zinc	89	1.1	mg/Kg	1.00	08/29/2003 12:18	
Mercury	0.55	0.054	mg/Kg	1.00	08/22/2003 16:01	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-003**	Lab ID:	2003-08-0646 - 13
Sampled:	08/20/2003 12:30	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0640	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/29/2003 12:14	
Arsenic	13	1.1	mg/Kg	1.00	08/29/2003 12:14	
Barium	230	1.1	mg/Kg	1.00	08/29/2003 12:14	
Beryllium	ND	0.53	mg/Kg	1.00	08/29/2003 12:14	
Cadmium	ND	0.53	mg/Kg	1.00	08/29/2003 12:14	
Chromium	8.2	1.1	mg/Kg	1.00	08/29/2003 12:14	
Cobalt	17	1.1	mg/Kg	1.00	08/29/2003 12:14	
Copper	55	1.1	mg/Kg	1.00	08/29/2003 12:14	
Lead	28	1.1	mg/Kg	1.00	08/29/2003 12:14	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:14	
Nickel	36	1.1	mg/Kg	1.00	08/29/2003 12:14	
Selenium	ND	2.1	mg/Kg	1.00	08/29/2003 12:14	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:14	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:14	
Vanadium	21	1.1	mg/Kg	1.00	08/29/2003 12:14	
Zinc	87	1.1	mg/Kg	1.00	08/29/2003 12:14	
Mercury	0.75	0.053	mg/Kg	1.00	08/22/2003 16:00	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-002**	Lab ID:	2003-08-0646 - 12
Sampled:	08/20/2003 12:10	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.1205	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:10	
Arsenic	14	1.1	mg/Kg	1.00	08/29/2003 12:10	
Barium	270	1.1	mg/Kg	1.00	08/29/2003 12:10	
Beryllium	ND	0.56	mg/Kg	1.00	08/29/2003 12:10	
Cadmium	0.60	0.56	mg/Kg	1.00	08/29/2003 12:10	
Chromium	9.2	1.1	mg/Kg	1.00	08/29/2003 12:10	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 12:10	
Copper	67	1.1	mg/Kg	1.00	08/29/2003 12:10	
Lead	34	1.1	mg/Kg	1.00	08/29/2003 12:10	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:10	
Nickel	40	1.1	mg/Kg	1.00	08/29/2003 12:10	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:10	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:10	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:10	
Vanadium	22	1.1	mg/Kg	1.00	08/29/2003 12:10	
Zinc	110	1.1	mg/Kg	1.00	08/29/2003 12:10	
Mercury	0.91	0.056	mg/Kg	1.00	08/22/2003 15:59	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP2-001**	Lab ID:	2003-08-0646 - 11
Sampled:	08/20/2003 12:00	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0791	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 12:07	
Arsenic	13	1.1	mg/Kg	1.00	08/29/2003 12:07	
Barium	260	1.1	mg/Kg	1.00	08/29/2003 12:07	
Beryllium	ND	0.54	mg/Kg	1.00	08/29/2003 12:07	
Cadmium	ND	0.54	mg/Kg	1.00	08/29/2003 12:07	
Chromium	9.3	1.1	mg/Kg	1.00	08/29/2003 12:07	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 12:07	
Copper	67	1.1	mg/Kg	1.00	08/29/2003 12:07	
Lead	26	1.1	mg/Kg	1.00	08/29/2003 12:07	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:07	
Nickel	42	1.1	mg/Kg	1.00	08/29/2003 12:07	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 12:07	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:07	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:07	
Vanadium	21	1.1	mg/Kg	1.00	08/29/2003 12:07	
Zinc	110	1.1	mg/Kg	1.00	08/29/2003 12:07	
Mercury	0.88	0.054	mg/Kg	1.00	08/22/2003 15:58	

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CAM 17 Metals

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Project: 1056.03
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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-010**	Lab ID:	2003-08-0646 - 10
Sampled:	08/20/2003 15:45	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0665	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/29/2003 12:03	
Arsenic	13	1.1	mg/Kg	1.00	08/29/2003 12:03	
Barium	240	1.1	mg/Kg	1.00	08/29/2003 12:03	
Beryllium	ND	0.53	mg/Kg	1.00	08/29/2003 12:03	
Cadmium	1.7	0.53	mg/Kg	1.00	08/29/2003 12:03	
Chromium	8.6	1.1	mg/Kg	1.00	08/29/2003 12:03	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 12:03	
Copper	270	1.1	mg/Kg	1.00	08/29/2003 12:03	
Lead	58	1.1	mg/Kg	1.00	08/29/2003 12:03	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 12:03	
Nickel	41	1.1	mg/Kg	1.00	08/29/2003 12:03	
Selenium	ND	2.1	mg/Kg	1.00	08/29/2003 12:03	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 12:03	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 12:03	
Vanadium	21	1.1	mg/Kg	1.00	08/29/2003 12:03	
Zinc	190	1.1	mg/Kg	1.00	08/29/2003 12:03	
Mercury	3.6	0.53	mg/Kg	10.00	08/22/2003 16:42	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-009**	Lab ID:	2003-08-0646 - 9
Sampled:	08/20/2003 15:40	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0576	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/29/2003 11:59	
Arsenic	14	1.1	mg/Kg	1.00	08/29/2003 11:59	
Barium	230	1.1	mg/Kg	1.00	08/29/2003 11:59	
Beryllium	ND	0.53	mg/Kg	1.00	08/29/2003 11:59	
Cadmium	ND	0.53	mg/Kg	1.00	08/29/2003 11:59	
Chromium	8.3	1.1	mg/Kg	1.00	08/29/2003 11:59	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 11:59	
Copper	72	1.1	mg/Kg	1.00	08/29/2003 11:59	
Lead	17	1.1	mg/Kg	1.00	08/29/2003 11:59	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 11:59	
Nickel	40	1.1	mg/Kg	1.00	08/29/2003 11:59	
Selenium	ND	2.1	mg/Kg	1.00	08/29/2003 11:59	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 11:59	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 11:59	
Vanadium	20	1.1	mg/Kg	1.00	08/29/2003 11:59	
Zinc	110	1.1	mg/Kg	1.00	08/29/2003 11:59	
Mercury	1.4	0.053	mg/Kg	1.00	08/22/2003 15:55	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-008**	Lab ID:	2003-08-0646 - 8
Sampled:	08/20/2003 15:35	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0814	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/29/2003 11:56	
Arsenic	15	1.1	mg/Kg	1.00	08/29/2003 11:56	
Barium	240	1.1	mg/Kg	1.00	08/29/2003 11:56	
Beryllium	ND	0.54	mg/Kg	1.00	08/29/2003 11:56	
Cadmium	0.86	0.54	mg/Kg	1.00	08/29/2003 11:56	
Chromium	6.8	1.1	mg/Kg	1.00	08/29/2003 11:56	
Cobalt	18	1.1	mg/Kg	1.00	08/29/2003 11:56	
Copper	67	1.1	mg/Kg	1.00	08/29/2003 11:56	
Lead	22	1.1	mg/Kg	1.00	08/29/2003 11:56	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 11:56	
Nickel	32	1.1	mg/Kg	1.00	08/29/2003 11:56	
Selenium	ND	2.2	mg/Kg	1.00	08/29/2003 11:56	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 11:56	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 11:56	
Vanadium	21	1.1	mg/Kg	1.00	08/29/2003 11:56	
Zinc	94	1.1	mg/Kg	1.00	08/29/2003 11:56	
Mercury	0.56	0.054	mg/Kg	1.00	08/22/2003 15:54	

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Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-007**	Lab ID:	2003-08-0646 - 7
Sampled:	08/20/2003 15:30	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0544	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/29/2003 11:52	
Arsenic	13	1.1	mg/Kg	1.00	08/29/2003 11:52	
Barium	280	1.1	mg/Kg	1.00	08/29/2003 11:52	
Beryllium	ND	0.53	mg/Kg	1.00	08/29/2003 11:52	
Cadmium	ND	0.53	mg/Kg	1.00	08/29/2003 11:52	
Chromium	8.2	1.1	mg/Kg	1.00	08/29/2003 11:52	
Cobalt	24	1.1	mg/Kg	1.00	08/29/2003 11:52	
Copper	51	1.1	mg/Kg	1.00	08/29/2003 11:52	
Lead	19	1.1	mg/Kg	1.00	08/29/2003 11:52	
Molybdenum	ND	1.1	mg/Kg	1.00	08/29/2003 11:52	
Nickel	45	1.1	mg/Kg	1.00	08/29/2003 11:52	
Selenium	ND	2.1	mg/Kg	1.00	08/29/2003 11:52	
Silver	ND	1.1	mg/Kg	1.00	08/29/2003 11:52	
Thallium	ND	1.1	mg/Kg	1.00	08/29/2003 11:52	
Vanadium	20	1.1	mg/Kg	1.00	08/29/2003 11:52	
Zinc	87	1.1	mg/Kg	1.00	08/29/2003 11:52	
Mercury	0.18	0.053	mg/Kg	1.00	08/22/2003 15:53	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-006**	Lab ID:	2003-08-0646 - 6
Sampled:	08/20/2003 15:25	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0571	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/28/2003 21:31	
Arsenic	12	1.1	mg/Kg	1.00	08/28/2003 21:31	
Barium	280	1.1	mg/Kg	1.00	08/28/2003 21:31	
Beryllium	ND	0.53	mg/Kg	1.00	08/28/2003 21:31	
Cadmium	0.73	0.53	mg/Kg	1.00	08/28/2003 21:31	
Chromium	7.5	1.1	mg/Kg	1.00	08/28/2003 21:31	
Cobalt	22	1.1	mg/Kg	1.00	08/28/2003 21:31	
Copper	58	1.1	mg/Kg	1.00	08/28/2003 21:31	
Lead	20	1.1	mg/Kg	1.00	08/28/2003 21:31	
Molybdenum	ND	1.1	mg/Kg	1.00	08/28/2003 21:31	
Nickel	34	1.1	mg/Kg	1.00	08/28/2003 21:31	
Selenium	ND	2.1	mg/Kg	1.00	08/28/2003 21:31	
Silver	ND	1.1	mg/Kg	1.00	08/28/2003 21:31	
Thallium	ND	1.1	mg/Kg	1.00	08/28/2003 21:31	
Vanadium	22	1.1	mg/Kg	1.00	08/28/2003 21:31	
Zinc	93	1.1	mg/Kg	1.00	08/28/2003 21:31	
Mercury	0.92	0.053	mg/Kg	1.00	08/22/2003 15:52	

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Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-005**	Lab ID:	2003-08-0646 - 5
Sampled:	08/20/2003 15:20	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0574	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/28/2003 21:28	
Arsenic	16	1.1	mg/Kg	1.00	08/28/2003 21:28	
Barium	180	1.1	mg/Kg	1.00	08/28/2003 21:28	
Beryllium	ND	0.53	mg/Kg	1.00	08/28/2003 21:28	
Cadmium	ND	0.53	mg/Kg	1.00	08/28/2003 21:28	
Chromium	8.3	1.1	mg/Kg	1.00	08/28/2003 21:28	
Cobalt	25	1.1	mg/Kg	1.00	08/28/2003 21:28	
Copper	63	1.1	mg/Kg	1.00	08/28/2003 21:28	
Lead	8.1	1.1	mg/Kg	1.00	08/28/2003 21:28	
Molybdenum	ND	1.1	mg/Kg	1.00	08/28/2003 21:28	
Nickel	39	1.1	mg/Kg	1.00	08/28/2003 21:28	
Selenium	ND	2.1	mg/Kg	1.00	08/28/2003 21:28	
Silver	ND	1.1	mg/Kg	1.00	08/28/2003 21:28	
Thallium	ND	1.1	mg/Kg	1.00	08/28/2003 21:28	
Vanadium	20	1.1	mg/Kg	1.00	08/28/2003 21:28	
Zinc	99	1.1	mg/Kg	1.00	08/28/2003 21:28	
Mercury	0.33	0.053	mg/Kg	1.00	08/22/2003 15:50	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-004**	Lab ID:	2003-08-0646 - 4
Sampled:	08/20/2003 15:15	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0760	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.2	mg/Kg	1.00	08/28/2003 21:24	
Arsenic	14	1.1	mg/Kg	1.00	08/28/2003 21:24	
Barium	250	1.1	mg/Kg	1.00	08/28/2003 21:24	
Beryllium	ND	0.54	mg/Kg	1.00	08/28/2003 21:24	
Cadmium	1.2	0.54	mg/Kg	1.00	08/28/2003 21:24	
Chromium	8.9	1.1	mg/Kg	1.00	08/28/2003 21:24	
Cobalt	19	1.1	mg/Kg	1.00	08/28/2003 21:24	
Copper	110	1.1	mg/Kg	1.00	08/28/2003 21:24	
Lead	78	1.1	mg/Kg	1.00	08/28/2003 21:24	
Molybdenum	ND	1.1	mg/Kg	1.00	08/28/2003 21:24	
Nickel	39	1.1	mg/Kg	1.00	08/28/2003 21:24	
Selenium	ND	2.2	mg/Kg	1.00	08/28/2003 21:24	
Silver	ND	1.1	mg/Kg	1.00	08/28/2003 21:24	
Thallium	ND	1.1	mg/Kg	1.00	08/28/2003 21:24	
Vanadium	22	1.1	mg/Kg	1.00	08/28/2003 21:24	
Zinc	130	1.1	mg/Kg	1.00	08/28/2003 21:24	
Mercury	3.1	0.54	mg/Kg	10.00	08/22/2003 16:41	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-003**	Lab ID:	2003-08-0646 - 3
Sampled:	08/20/2003 15:10	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0405	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	2.1	2.1	mg/Kg	1.00	08/28/2003 21:20	
Arsenic	12	1.0	mg/Kg	1.00	08/28/2003 21:20	
Barium	250	1.0	mg/Kg	1.00	08/28/2003 21:20	
Beryllium	ND	0.52	mg/Kg	1.00	08/28/2003 21:20	
Cadmium	0.76	0.52	mg/Kg	1.00	08/28/2003 21:20	
Chromium	8.1	1.0	mg/Kg	1.00	08/28/2003 21:20	
Cobalt	21	1.0	mg/Kg	1.00	08/28/2003 21:20	
Copper	89	1.0	mg/Kg	1.00	08/28/2003 21:20	
Lead	57	1.0	mg/Kg	1.00	08/28/2003 21:20	
Molybdenum	ND	1.0	mg/Kg	1.00	08/28/2003 21:20	
Nickel	40	1.0	mg/Kg	1.00	08/28/2003 21:20	
Selenium	ND	2.1	mg/Kg	1.00	08/28/2003 21:20	
Silver	ND	1.0	mg/Kg	1.00	08/28/2003 21:20	
Thallium	ND	1.0	mg/Kg	1.00	08/28/2003 21:20	
Vanadium	21	1.0	mg/Kg	1.00	08/28/2003 21:20	
Zinc	110	1.0	mg/Kg	1.00	08/28/2003 21:20	
Mercury	2.8	0.52	mg/Kg	10.00	08/22/2003 16:40	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-002**	Lab ID:	2003-08-0646 - 2
Sampled:	08/20/2003 15:05	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0332	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/28/2003 21:17	
Arsenic	13	1.0	mg/Kg	1.00	08/28/2003 21:17	
Barium	300	1.0	mg/Kg	1.00	08/28/2003 21:17	
Beryllium	ND	0.52	mg/Kg	1.00	08/28/2003 21:17	
Cadmium	0.61	0.52	mg/Kg	1.00	08/28/2003 21:17	
Chromium	7.3	1.0	mg/Kg	1.00	08/28/2003 21:17	
Cobalt	18	1.0	mg/Kg	1.00	08/28/2003 21:17	
Copper	59	1.0	mg/Kg	1.00	08/28/2003 21:17	
Lead	49	1.0	mg/Kg	1.00	08/28/2003 21:17	
Molybdenum	ND	1.0	mg/Kg	1.00	08/28/2003 21:17	
Nickel	30	1.0	mg/Kg	1.00	08/28/2003 21:17	
Selenium	ND	2.1	mg/Kg	1.00	08/28/2003 21:17	
Silver	ND	1.0	mg/Kg	1.00	08/28/2003 21:17	
Thallium	ND	1.0	mg/Kg	1.00	08/28/2003 21:17	
Vanadium	21	1.0	mg/Kg	1.00	08/28/2003 21:17	
Zinc	94	1.0	mg/Kg	1.00	08/28/2003 21:17	
Mercury	0.71	0.052	mg/Kg	1.00	08/22/2003 15:44	

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Received: 08/21/2003 17:15

Prep(s):	6020 7471A	Test(s):	6020 7471A
Sample ID:	**SS-3DSP1-001**	Lab ID:	2003-08-0646 - 1
Sampled:	08/20/2003 15:00	Extracted:	8/22/2003 09:24 8/22/2003 09:22
Matrix:	Soil Moisture: 1.0736	QC Batch#:	2003/08/22-01.16 2003/08/22-03.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	ND	2.1	mg/Kg	1.00	08/28/2003 20:58	
Arsenic	13	1.1	mg/Kg	1.00	08/28/2003 20:58	
Barium	270	1.1	mg/Kg	1.00	08/28/2003 20:58	
Beryllium	ND	0.54	mg/Kg	1.00	08/28/2003 20:58	
Cadmium	ND	0.54	mg/Kg	1.00	08/28/2003 20:58	
Chromium	8.4	1.1	mg/Kg	1.00	08/28/2003 20:58	
Cobalt	16	1.1	mg/Kg	1.00	08/28/2003 20:58	
Copper	53	1.1	mg/Kg	1.00	08/28/2003 20:58	
Lead	16	1.1	mg/Kg	1.00	08/28/2003 20:58	
Molybdenum	ND	1.1	mg/Kg	1.00	08/28/2003 20:58	
Nickel	33	1.1	mg/Kg	1.00	08/28/2003 20:58	
Selenium	ND	2.1	mg/Kg	1.00	08/28/2003 20:58	
Silver	ND	1.1	mg/Kg	1.00	08/28/2003 20:58	
Thallium	ND	1.1	mg/Kg	1.00	08/28/2003 20:58	
Vanadium	22	1.1	mg/Kg	1.00	08/28/2003 20:58	
Zinc	90	1.1	mg/Kg	1.00	08/28/2003 20:58	
Mercury	0.26	0.054	mg/Kg	1.00	08/22/2003 15:39	

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Oakland, CA 94610
Phone: (510) 839-0751 Fax: (510) 839-4350

Project: 1056.03
Totrtelot

Received: 08/21/2003 17:15

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
SS-3DSP1-001	08/20/2003 15:00	Soil	1
SS-3DSP1-002	08/20/2003 15:05	Soil	2
SS-3DSP1-003	08/20/2003 15:10	Soil	3
SS-3DSP1-004	08/20/2003 15:15	Soil	4
SS-3DSP1-005	08/20/2003 15:20	Soil	5
SS-3DSP1-006	08/20/2003 15:25	Soil	6
SS-3DSP1-007	08/20/2003 15:30	Soil	7
SS-3DSP1-008	08/20/2003 15:35	Soil	8
SS-3DSP1-009	08/20/2003 15:40	Soil	9
SS-3DSP1-010	08/20/2003 15:45	Soil	10
SS-3DSP2-001	08/20/2003 12:00	Soil	11
SS-3DSP2-002	08/20/2003 12:10	Soil	12
SS-3DSP2-003	08/20/2003 12:30	Soil	13
SS-3DSP2-004	08/20/2003 12:45	Soil	14
SS-3DSP2-005	08/20/2003 13:30	Soil	15
SS-3DSP2-006	08/20/2003 12:55	Soil	16
SS-3DSP2-007	08/20/2003 13:05	Soil	17
SS-3DSP2-008	08/20/2003 13:15	Soil	18
SS-3DSP2-009	08/20/2003 13:40	Soil	19
SS-3DSP2-010	08/20/2003 13:45	Soil	20

northgate environmental management, inc.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

03.08.0646

pg 2/2

Project No.: 1056.03
Project Location: BENICIA, CA
Date: 8/21/03
Serial No.: 0541
Project Name: TOURTELOT
Field Logbook No.:
Sampler (Signature)
Samplers: JWO, MJS

	Samples						ANALYSES								
	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	METALS * 6010B	MERCURY 7471	WET LEAD STLC				HOLD	RUSH	REMARKS
14	SS-3DSP2-004	8/20/03	1245		1	SOIL	X	X						X	RUSH 48 Hr TAT
15	SS-3DSP2-005		1330				X	X						X	
16	SS-3DSP2-006		1255				X	X						X	* CAM 17 METALS
17	SS-3DSP2-007		1305				X	X						X	
18	SS-3DSP2-008		1315				X	X						X	
19	SS-3DSP2-009		1340				X	X						X	
20	SS-3DSP2-010		1345				X	X						X	
21	SS-NVWC-013	8/20/03	1410		1	SOIL			X					X	RUSH
22	SS-NVWC-014		1415						X					X	

Relinquished by: (Signature) Michael Stoll	Date 8-21-03	Time 1615	Received By: (Signature) Alex Tabrizi
Relinquished by: (Signature) Alex Tabrizi	Date 8/21/03	Time 17:15	Received By: (Signature)
Relinquished by: (Signature)	Date	Time	Received By: (Signature) Nouna K.
Method of Shipment: courier	~~Date~~	~~Time~~	Lab Comments:

Received By: Date 8/21/03 Time 16:15

Received By: Date Time

Received By: Date 8/21/03 Time 1715

Sample Collector: Northgate Environmental Management, Inc.
3629 Grand Avenue
Oakland, California 94610
(510) 839 0688

Analytical Laboratory: STL - SAN FRANCISCO

77215

northgate environmental management, inc.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

2003.08.0646

pg 1/2

Project No.: 1056.03 | Project Location: BENICIA, CA | Date: 8/21/03 | Serial No.: 0542

Project Name: TOURTELOT | Field Logbook No.:

Sampler (Signature): [signature] | Samplers: JWO, MJS

	Samples						ANALYSES								
	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	METALS * 6010B	MERCURY 7471					HOLD	RUSH	REMARKS
1	SS-3DSP1-001	8/20/03	1500		1	SOIL	X	X						X	RUSH 48 hr TAT
2	SS-3DSP1-002		1505				X	X						X	
3	SS-3DSP1-003		1510				X	X						X	* METALS = CAM 17
4	SS-3DSP1-004		1515				X	X						X	
5	SS-3DSP1-005		1520				X	X						X	
6	SS-3DSP1-006		1525				X	X						X	
7	SS-3DSP1-007		1530				X	X						X	
8	SS-3DSP1-008		1535				X	X						X	
9	SS-3DSP1-009		1540				X	X						X	RUSH
10	SS-3DSP1-010		1545				X	X						X	
11	SS-3DSP2-001	8/20/03	1200		1	SOIL	X	X						X	
12	SS-3DSP2-002		1210				X	X						X	
13	SS-3DSP2-003		1230				X	X						X	

Relinquished by: (Signature) [signature]	Date 8-21-03	Time 1615	Received By: (Signature) Alex Tabizi	Date 8/21/03	Time 16:15
Relinquished by: (Signature) Alex Tabizi	Date 8/21/03	Time 17:15	Received By: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received By: (Signature) [signature]	Date 8/21/03	Time 1715
Method of Shipment: courier	Date	Time	Lab Comments: 5.2°C		

Sample Collector: Northgate Environmental Management, Inc.
3629 Grand Avenue
Oakland, California 94610
(510) 839 0688

Analytical Laboratory: STL - SAN FRANCISCO

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-008 2003-08-0646-008
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-009 2003-08-0646-009
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-010 2003-08-0646-010
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-001 2003-08-0646-011
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-002 2003-08-0646-012
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-003 2003-08-0646-013
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-004 2003-08-0646-014
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-005 2003-08-0646-015
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-006 2003-08-0646-016
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-007 2003-08-0646-017
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-008 2003-08-0646-018
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-009 2003-08-0646-019
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-010 2003-08-0646-020

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-010 2003-08-0646-020
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

CAM 17 metals	Soil	QC Batch#: 2003/08/22-03.15

SS-3DSP1-001 >> MS 2003/08/22-03.15-004
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

SS-3DSP1-001 >> MSD 2003/08/22-03.15-005
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

SS-3DSP1-001 >> MSD 2003/08/22-03.15-005
Compound Flag(s)
rpd Analyte RPD was out of QC limits due to sample heterogeneity.

SS-3DSP1-001 2003-08-0646-001
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-002 2003-08-0646-002
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-003 2003-08-0646-003
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-004 2003-08-0646-004
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-005 2003-08-0646-005
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-006 2003-08-0646-006
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-007 2003-08-0646-007
Analysis Flag(s)

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-007 2003-08-0646-007
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-008 2003-08-0646-008
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-009 2003-08-0646-009
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-010 2003-08-0646-010
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-001 2003-08-0646-011
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-002 2003-08-0646-012
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-003 2003-08-0646-013
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-004 2003-08-0646-014
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-005 2003-08-0646-015
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-006 2003-08-0646-016
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-007 2003-08-0646-017
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-008 2003-08-0646-018
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-009 2003-08-0646-019

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

General and Sample Comments

We (STL San Francisco) received 22 Soil samples , on Thursday, August 21, 2003 5:15 PM.
Samples were received in good condition with no discrepancies documented.

Metals by ICP-MS - EPA 6020:

The ICP-MS report was revised due to transcription error affecting the following sample results on the original report:
SS-3DSP1-003
SS-3DSP1-004
SS-3DSP1-006
SS-3DSP1-007
SS-3DSP1-009
SS-3DSP2-003
SS-3DSP2-005

Analysis Coments and Flags by QC Batch

CAM 17 metals	Soil	QC Batch#: 2003/08/22-01.16

SS-3DSP1-001 2003-08-0646-001
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-002 2003-08-0646-002
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-003 2003-08-0646-003
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-004 2003-08-0646-004
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-005 2003-08-0646-005
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-006 2003-08-0646-006
Analysis Flag(s)

SEVERN TRENT STL

Submission#: 2003-08-0646

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Attached is our report for your samples received on 08/21/2003 17:15
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

The report contains a Case Narrative detailing sample receipt and analysis.

Please note that any unused portion of the samples will be discarded after 10/05/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: ssidhu@stl-inc.com

Sincerely,

Surinder Sidhu

Surinder Sidhu
Project Manager

SEVERN TRENT STL

September 30, 2003

STL SACRAMENTO PROJECT NUMBER: G3I160341

Deni Chambers
Northgate Environmental Inc
3629 Grand Avenue
Suite 101
Oakland, CA 95610

Dear Ms. Chambers,

This report contains the analytical results for the samples received under chain of custody by STL Sacramento on September 16, 2003. These samples are associated with your Benicia Tourtelot project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4414.

Sincerely,

Bonnie McNeill

Bonnie J. McNeill
Project Manager

TABLE OF CONTENTS

STL SACRAMENTO PROJECT NUMBER G3I160341

Case Narrative .....

STL Sacramento Quality Assurance Program .....

Sample Description Information .....

Chain of Custody Documentation .....

Lot Receipt Checklist .....

Summary Report .....

SOLID, 8290, Dioxins/Furans, HRGC/HRMS .....
Sample: 7
- Raw Data Package
  - Run/Batch and CCV Data
  - Initial Calibration
  - Sample Extraction/Preparation Logs

General Chemistry - Various Methods .....
Samples: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
- Raw Data Package

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G3I160341

General Comments

Samples were received at 3 degrees Centigrade. Samples SS-3DSP1-010 and SS-3DSP2-002 were received previously and re-submitted per your request for analysis. All results are dry weight corrected.

Perchlorate Method 314.0

The sample SS-3DSP2-002 was processed one day outside of holding time. This sample was re-submitted from another SDG with insufficient time to met the holding time.

There were no anomalies associated with this project.

SEVERN TRENT STL

ACCREDITED IN ACCORDANCE WITH nelac

STL Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	Oregon	CA 200005
Arizona	AZ0616	Pennsylvania	68-1272
Arkansas	NA	South Carolina	87014001
California	01119CA	Texas	TX 270 2003A
Colorado	NA	Utah	QUAN1
Connecticut	PH-0691	Virginia	00178
Florida	E87570	Washington	C087
Georgia	960	West Virginia	9930C, 334
Hawaii	NA	Wisconsin	998204680
Louisiana*	01944	NFESC	NA
Nevada	CA044	USACE	NA
New Jersey*	CA005	USDA Foreign Plant	37-82605
New York*	11666	USDA Foreign Soil	S-46613

*NELAP accredited. A more detailed parameter list is available upon request.

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Revised 9/9/03 PAS

Sample Summary
G3I160341

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
F0GJV	1	SS-3DSP1-010	8/20/03 03:45 PM	8/21/03 06:45 PM
F0GJV	1	SS-3DSP1-010 DUP	8/20/03 03:45 PM	8/21/03 06:45 PM
F0GJ1	2	SS-3DSP2-002	8/20/03 12:10 PM	8/21/03 06:45 PM
F0GJ2	3	SS-3DSW-027	9/15/03 05:13 PM	9/16/03 06:00 PM
F0GJ3	4	SS-3DSW-028	9/15/03 04:55 PM	9/16/03 06:00 PM
F0GJ4	5	SS-3DSW-029	9/15/03 05:25 PM	9/16/03 06:00 PM
F0GJ5	6	SS-3DSW-035	9/15/03 04:50 PM	9/16/03 06:00 PM
F0GJ6	7	SS-3DBE-036	9/15/03 05:03 PM	9/16/03 06:00 PM
F0GJ7	8	SS-3DBE-037	9/15/03 04:57 PM	9/16/03 06:00 PM
F0GJ8	9	SS-3DBE-038	9/15/03 04:40 PM	9/16/03 06:00 PM
F0GJ9	10	SS-3DSW-039	9/15/03 04:53 PM	9/16/03 06:00 PM
F0GKA	11	SS-3DSW-045	9/15/03 04:30 PM	9/16/03 06:00 PM
F0GKC	12	SS-3DBE-046	9/15/03 04:48 PM	9/16/03 06:00 PM
F0GKE	13	SS-3DBE-047	9/15/03 04:40 PM	9/16/03 06:00 PM
F0GKF	14	SS-3DBE-048	9/15/03 04:34 PM	9/16/03 06:00 PM
F0GKG	15	SS-3DBE-049	9/15/03 04:25 PM	9/16/03 06:00 PM
F0GKH	16	SS-3DBE-050	9/15/03 03:37 PM	9/16/03 06:00 PM
F0GKL	17	SS-3DBE-051	9/15/03 03:32 PM	9/16/03 06:00 PM
F0GKM	18	SS-3DBE-052	9/15/03 03:24 PM	9/16/03 06:00 PM
F0GKN	19	SS-3DBE-053	9/15/03 03:18 PM	9/16/03 06:00 PM
F0GKP	20	SS-3DBE-056	9/15/03 04:05 PM	9/16/03 06:00 PM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

Pg 1/3

RECEIVED IN GOOD CONDITION
UNDER COC
SEP 16 2003
INI

northgate environmental management, inc.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1056.03
Project Location: BENICIA, CA
Date: 9/16/03
Serial No.: ~~0612~~ 613
Project Name: TOURTELOT
Field Logbook No.:
Sampler (Signature)
Samplers: JWO, SEM, MJS

Samples

Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	PERCHLORATE	DIOXIN/FURANS					HOLD	RUSH	REMARKS
SS-3DSW-027	9/15/03	1713		1	SOIL	X							X	SUBMIT EDP ON
SS-3DSW-028		1655				X							X	These SAMPLES
SS-3DSW-029		1725				X							X	"SS-3DSW-028": HOMOGENIZE
SS-3DSW-035		1650				X							X	PRIOR TO ANALYSIS
SS-3DBE-036		1703				X	X						X	RUSH = 5 DAY TAT
SS-3DBE-037		1657				X							X	
SS-3DBE-038		1640				X							X	(Dioxin/Furan not 5-day
SS-3DSW-039		1653				X							X	but RUSH PER BONNE
SS-3DSW-045		1630				X							X	McNEIL)
SS-3DBE-046		1648				X							X	
SS-3DBE-047		1640				X							X	MS/MSD on 5% of
SS-3DBE-048		1634				X							X	samples
SS-3DBE-049		1625				X							X	
SS-3DBE-050		1537				X							X	

Relinquished by: (Signature)	Date 9-16-03	Time 15:00	Received By: (Signature)	Date 10-16-03	Time ~~1400~~ 1500
Relinquished by: (Signature)	Date 9-16-03	Time 1700	Received By: (Signature)	Date 09/16/03	Time 1800
Relinquished by: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Method of Shipment: courier
~~Date~~ ~~Time~~
Lab Comments:

Sample Collector: Northgate Environmental Management, Inc.
3629 Grand Avenue
Oakland, California 94610
(510) 839 0688

Analytical Laboratory: STL SACRAMENTO

RECEIVED IN GOOD CONDITION
UNDER COC
SEP 16 2003
INI

northgate environmental management, inc.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1036.03
Project Location: BENICIA, CA
Date: 9/16/03
Serial No.: ~~[illegible]~~ 614
Project Name: TOURTELOT
Field Logbook No.:
Sampler (Signature): [signature]
Samplers: JWO, SEM, MJS

Samples						ANALYSES								
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	PERCHLORATE	DIOXIN/FURANS					HOLD	RUSH	REMARKS
SS-3DBE-051	9/16/03	1532		1	SOIL	X							X	SUBMIT EDP ON THESE SAMPLES
SS-3DBE-052		1524				X							X	
SS-3DBE-053		1518				X							X	
SS-3DBE-056		1605				X							X	RUSH = 5 DAY TAT
SS-3DBE-058		1618				X							X	(DIOXIN/FURAN not sticky
SS-3DSW-057		1628				X	X						X	but RUSH PER BONNIE
SS-3DBE-064		1512				X							X	MCNEIL)
SS-3DBE-066		1600				X							X	
SS-3DBE-067		1559				X							X	
SS-3DBE-068		1554				X							X	MS/MSD on 5% of
SS-3DBE-069		1550				X							X	SAMPLES
SS-3DBE-070		1547				X							X	
SS-3DBE-071		1543				X	X						X	
SS-3DBE-077		1503				X	X						X	

Relinquished by: (Signature)	Date	Time	Received By: (Signature)	Date	Time
[signature]	9-16-03	15:00	[signature]	9-16-03	1500
[signature]	9-16-03	1800	[signature]	09/16/03	1800

Method of Shipment: courier
~~Date~~ ~~Time~~
Lab Comments:

Sample Collector: Northgate Environmental Management, Inc.
3629 Grand Avenue
Oakland, California 94610
(510) 839 0688

Analytical Laboratory: STL SACRAMENTO

LOT RECEIPT CHECKLIST

SEVERN TRENT STL

STL Sacramento

CLIENT Northgate Environmental PM BTM LOG # 230730

LOT# (QUANTIMS ID) 6311603341 QUOTE# 47050 LOCATION W19C

		Initials	Date
DATE RECEIVED 09/16/03 TIME RECEIVED 1800			
DELIVERED BY	☐ FEDEX ☐ CA OVERNIGHT ☐ CLIENT ☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL ☐ UPS ☒ BAX GLOBAL ☐ GO-GETTERS ☐ STL COURIER ☒ COURIERS ON DEMAND ☐ OTHER		
CUSTODY SEAL STATUS	☐ INTACT ☐ BROKEN ☒ N/A		
CUSTODY SEAL #(S)			
SHIPPPING CONTAINER(S)	☒ STL ☐ CLIENT ☐ N/A		
TEMPERTURE RECORD (IN °C)	IR 1 ☒ 2 ☐ ☐ OTHER		
COC #(S)	615, 614, 613		
TEMPERATURE BLANK			
SAMPLE TEMPERATURE	3°		
COLLECTOR'S NAME:	☒ Verified from COC ☐ Not on COC		
pH MEASURED	☐ YES ☐ ANOMALY ☒ N/A		
LABELED BY			
LABELS CHECKED BY			
SHORT HOLD TEST NOTIFICATION	SAMPLE RECEIVING ☒ WETCHEM ☒ N/A VOA - Encores ☒ N/A		
☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☒ N/A			
☒ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☐ N/A			
☐ Clouseau	☐ TEMPERATURE EXCEEDED (2 °-6 °C) ☒ N/A		
☐ WET ICE	☐ BLUE ICE ☐ GEL PACK		
☐ PM NOTIFIED	☐ NO COOLING AGENTS USED		

Notes:

LEAVE NO SPACES BLANK. USE "N/A" IF NOT APPLICABLE. INITIAL AND DATE ALL "N/A" ENTRIES.

QA185 8/00 NEK

NORTHGATE ENVIRONMENTAL INC

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: SS-3DBE-036

Lot-Sample #...:	G3I160341 - 007	**Work Order #...:**	F0GJ61AD	**Matrix....:**	SOLID
Date Sampled...:	09/15/03	**Date Received..:**	09/16/03	**Instrument:**	8D5
Prep Date.....:	09/17/03	**Analysis Date..:**	09/20/03	**Units.....:**	pg/g
Prep Batch #...:	3260438	**Dilution Factor:**	1	**% Moisture:**	8.7

PARAMETER	RESULT	DETECTION LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND	0.10	1.0	0.050
1,2,3,7,8-PeCDD	ND	0.22	0.50	0.055
1,2,3,4,7,8-HxCDD	ND	0.15	0.10	0.0075
1,2,3,6,7,8-HxCDD	ND	0.15	0.10	0.0075
1,2,3,7,8,9-HxCDD	ND	0.14	0.10	0.0070
1,2,3,4,6,7,8-HpCDD	ND	0.18	0.010	0.00090
OCDD	ND	1.3	0.0010	0.00065
2,3,7,8-TCDF	ND	0.18	0.10	0.0090
1,2,3,7,8-PeCDF	ND	0.16	0.050	0.0040
2,3,4,7,8-PeCDF	ND	0.16	0.50	0.040
1,2,3,4,7,8-HxCDF	ND	0.090	0.10	0.0045
1,2,3,6,7,8-HxCDF	ND	0.089	0.10	0.0044
2,3,4,6,7,8-HxCDF	ND	0.091	0.10	0.0046
1,2,3,7,8,9-HxCDF	ND	0.094	0.10	0.0047
1,2,3,4,6,7,8-HpCDF	ND	0.097	0.010	0.00049
1,2,3,4,7,8,9-HpCDF	ND	0.11	0.010	0.00055
OCDF	ND	0.19	0.0010	0.000095
Total TEQ Concentration				0.20

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	75	40 - 135
13C-1,2,3,7,8-PeCDD	68	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	76	40 - 135
13C-OCDD	76	40 - 135
13C-2,3,7,8-TCDF	65	40 - 135
13C-1,2,3,7,8-PeCDF	66	40 - 135
13C-1,2,3,4,7,8-HxCDF	74	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	75	40 - 135

Notes:

ND TEQ Conc. = (EDL/2) * TEF Factor

TEF values used are cited in U.S. Environmental Protection Agency. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. U.S. Envrionmental Protection Agency, Risk Assessment forum, Washington, DC; EPA/625/3-89/016.

QC DATA ASSOCIATION SUMMARY

G3I160341

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
002	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
003	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
004	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
005	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
006	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
007	SOLID	SW846 8290		3260438	
	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
008	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
009	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
010	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
011	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
012	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
013	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
014	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

G3I160341

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
015	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
016	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
017	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
018	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
019	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
020	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G3I160341
MB Lot-Sample #: G3I170000-438

Work Order #...: F0JHM1AA

Matrix.....: SOLID

Prep Date.....: 09/17/03
Prep Batch #...: 3260438

Analysis Date..: 09/20/03
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.36	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	0.75	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.55	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.46	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.47	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	0.52	pg/g	SW846 8290
OCDD	ND	0.57	pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.27	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	0.40	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.41	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.31	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.26	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.32	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.36	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	0.36	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.42	pg/g	SW846 8290
OCDF	ND	0.72	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	83	(40 - 135)
13C-1,2,3,7,8-PeCDD	83	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	73	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	82	(40 - 135)
13C-OCDD	77	(40 - 135)
13C-2,3,7,8-TCDF	85	(40 - 135)
13C-1,2,3,7,8-PeCDF	82	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	83	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	90	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G3I160341 Work Order #...: F0JHM1AC Matrix.....: SOLID
LCS Lot-Sample#: G3I170000-438
Prep Date.....: 09/17/03 Analysis Date..: 09/20/03
Prep Batch #...: 3260438
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
2,3,7,8-TCDD	20.0	20.1	pg/g	100	SW846 8290
1,2,3,7,8-PeCDD	100	103	pg/g	103	SW846 8290
1,2,3,4,7,8-HxCDD	100	117	pg/g	117	SW846 8290
1,2,3,6,7,8-HxCDD	100	102	pg/g	102	SW846 8290
1,2,3,7,8,9-HxCDD	100	114	pg/g	114	SW846 8290
1,2,3,4,6,7,8-HpCDD	100	101	pg/g	101	SW846 8290
OCDD	200	205	pg/g	102	SW846 8290
2,3,7,8-TCDF	20.0	21.1	pg/g	105	SW846 8290
1,2,3,7,8-PeCDF	100	107	pg/g	107	SW846 8290
2,3,4,7,8-PeCDF	100	103	pg/g	103	SW846 8290
1,2,3,4,7,8-HxCDF	100	97.2	pg/g	97	SW846 8290
1,2,3,6,7,8-HxCDF	100	94.0	pg/g	94	SW846 8290
2,3,4,6,7,8-HxCDF	100	101	pg/g	101	SW846 8290
1,2,3,7,8,9-HxCDF	100	108	pg/g	108	SW846 8290
1,2,3,4,6,7,8-HpCDF	100	96.2	pg/g	96	SW846 8290
1,2,3,4,7,8,9-HpCDF	100	97.2	pg/g	97	SW846 8290
OCDF	200	219	pg/g	109	SW846 8290

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(40 - 135)
13C-1,2,3,7,8-PeCDD	86	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	81	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	94	(40 - 135)
13C-OCDD	93	(40 - 135)
13C-2,3,7,8-TCDF	90	(40 - 135)
13C-1,2,3,7,8-PeCDF	87	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	95	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G3I160341 Work Order #...: F0JHM1AC Matrix.....: SOLID
LCS Lot-Sample#: G3I170000-438
Prep Date.....: 09/17/03 Analysis Date..: 09/20/03
Prep Batch #...: 3260438
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	100	(65 - 132)	SW846 8290
1,2,3,7,8-PeCDD	103	(73 - 132)	SW846 8290
1,2,3,4,7,8-HxCDD	117	(63 - 141)	SW846 8290
1,2,3,6,7,8-HxCDD	102	(67 - 137)	SW846 8290
1,2,3,7,8,9-HxCDD	114	(63 - 149)	SW846 8290
1,2,3,4,6,7,8-HpCDD	101	(69 - 135)	SW846 8290
OCDD	102	(71 - 137)	SW846 8290
2,3,7,8-TCDF	105	(63 - 141)	SW846 8290
1,2,3,7,8-PeCDF	107	(69 - 136)	SW846 8290
2,3,4,7,8-PeCDF	103	(59 - 141)	SW846 8290
1,2,3,4,7,8-HxCDF	97	(71 - 130)	SW846 8290
1,2,3,6,7,8-HxCDF	94	(66 - 140)	SW846 8290
2,3,4,6,7,8-HxCDF	101	(66 - 150)	SW846 8290
1,2,3,7,8,9-HxCDF	108	(62 - 143)	SW846 8290
1,2,3,4,6,7,8-HpCDF	96	(70 - 135)	SW846 8290
1,2,3,4,7,8,9-HpCDF	97	(60 - 142)	SW846 8290
OCDF	109	(64 - 140)	SW846 8290

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(40 - 135)
13C-1,2,3,7,8-PeCDD	86	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	81	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	94	(40 - 135)
13C-OCDD	93	(40 - 135)
13C-2,3,7,8-TCDF	90	(40 - 135)
13C-1,2,3,7,8-PeCDF	87	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	95	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSP1-010

General Chemistry

Lot-Sample #...: G3I160341-001 Work Order #...: F0GJV Matrix.....: SOLID
Date Sampled...: 08/20/03 Date Received..: 08/21/03
% Moisture.....: 7.2

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	7.2	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.054	mg/kg	EPA-DW1 314.0	09/18/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSP2-002

General Chemistry

Lot-Sample #...: G3I160341-002 Work Order #...: F0GJ1 Matrix.....: SOLID
Date Sampled...: 08/20/03 Date Received..: 08/21/03
% Moisture.....: 9.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	9.5	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.055	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSW-027

General Chemistry

Lot-Sample #...: G3I160341-003 Work Order #...: F0GJ2 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 5.2

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	5.2	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.053	mg/kg	EPA-DW1 314.0	09/18/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSW-028

General Chemistry

Lot-Sample #...: G3I160341-004 Work Order #...: F0GJ3 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 4.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	4.3	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.052	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSW-029

General Chemistry

Lot-Sample #...: G3I160341-005 Work Order #...: F0GJ4 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	10.5	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.056	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSW-035

General Chemistry

Lot-Sample #...: G3I160341-006 Work Order #...: F0GJ5 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 5.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	5.5	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.053	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-036

General Chemistry

Lot-Sample #...: G3I160341-007 Work Order #...: F0GJ6 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 8.7

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	8.7	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.055	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-037

General Chemistry

Lot-Sample #...: G3I160341-008 Work Order #...: F0GJ7 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	13.2	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.058	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-038

General Chemistry

Lot-Sample #...: G3I160341-009 Work Order #...: F0GJ8 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	17.8	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.061	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSW-039

General Chemistry

Lot-Sample #...: G3I160341-010 Work Order #...: F0GJ9 Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 9.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	9.9	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.056	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DSW-045

General Chemistry

Lot-Sample #...: G3I160341-011 Work Order #...: F0GKA Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 8.7

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	8.7	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.055	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-046

General Chemistry

Lot-Sample #...: G3I160341-012 Work Order #...: F0GKC Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	14.0	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.058	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-047

General Chemistry

Lot-Sample #...: G3I160341-013 Work Order #...: F0GKE Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	12.1	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.057	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-048

General Chemistry

Lot-Sample #...: G3I160341-014 Work Order #...: F0GKF Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 8.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	8.5	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.055	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBB-049

General Chemistry

Lot-Sample #...: G3I160341-015 Work Order #...: F0GKG Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	14.8	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.059	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-050

General Chemistry

Lot-Sample #...: G3I160341-016 Work Order #...: F0GKH Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	11.6	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.057	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-052

General Chemistry

Lot-Sample #...: G3I160341-018 Work Order #...: F0GKM Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	12.7	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.057	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBE-053

General Chemistry

Lot-Sample #...: G3I160341-019 Work Order #...: F0GKN Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	10.6	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.056	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

NORTHGATE ENVIRONMENTAL INC

Client Sample ID: SS-3DBB-056

General Chemistry

Lot-Sample #...: G3I160341-020 Work Order #...: F0GKP Matrix.....: SOLID
Date Sampled...: 09/15/03 Date Received..: 09/16/03
% Moisture.....: 3.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	3.3	0.10	%	ASTM D 2216-90	09/22-09/23/03	3265477
		Dilution Factor: 1				
Perchlorate	ND	0.052	mg/kg	EPA-DW1 314.0	09/18-09/19/03	3265381
		Dilution Factor: 1				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

QC DATA ASSOCIATION SUMMARY

G3I160341

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
002	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
003	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
004	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
005	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
006	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
007	SOLID	SW846 8290		3260438	
	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
008	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
009	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
010	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
011	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
012	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
013	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
014	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

G3I160341

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
015	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
016	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
017	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
018	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
019	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192
020	SOLID	ASTM D 2216-90		3265477	3265267
	SOLID	EPA-DW1 314.0		3265381	3265192

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: G3I160341 Matrix.....: SOLID
Date Sampled...: 08/20/03 Date Received..: 08/21/03

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
					% Moisture.....: 7.2				
Perchlorate			WO#: F0GJV1AD-MS/F0GJV1AE-MSD				MS Lot-Sample #: G3I160341-001		
	ND	0.539	0.517	mg/kg	96		EPA-DW1 314.0	09/18/03	3265381
	ND	0.539	0.514	mg/kg	95	0.43	EPA-DW1 314.0	09/18/03	3265381

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: G3I160341 Matrix.....: SOLID
Date Sampled...: 08/20/03 Date Received..: 08/21/03

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
						% Moisture.....: 7.2	
Perchlorate		WO#: F0GJV1AD-MS/F0GJV1AE-MSD				MS Lot-Sample #: G3I160341-001	
	96	(75 - 125)			EPA-DW1 314.0	09/18/03	3265381
	95	(75 - 125)	0.43	(0-20)	EPA-DW1 314.0	09/18/03	3265381
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SEVERN TRENT STL

Submission#: 2003-08-0646

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Attached is our report for your samples received on 08/21/2003 17:15
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

The report contains a Case Narrative detailing sample receipt and analysis.

Please note that any unused portion of the samples will be discarded after 10/05/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: ssidhu@stl-inc.com

Sincerely,

Surinder Sidhu

Surinder Sidhu
Project Manager

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

General and Sample Comments

We (STL San Francisco) received 22 Soil samples , on Thursday, August 21, 2003 5:15 PM.
Samples were received in good condition with no discrepancies documented.

Metals by ICP-MS - EPA 6020:

The ICP-MS report was revised due to transcription error affecting the following sample results on the original report:
SS-3DSP1-003
SS-3DSP1-004
SS-3DSP1-006
SS-3DSP1-007
SS-3DSP1-009
SS-3DSP2-003
SS-3DSP2-005

Analysis Coments and Flags by QC Batch

CAM 17 metals	Soil	QC Batch#: 2003/08/22-01.16

SS-3DSP1-001 2003-08-0646-001
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-002 2003-08-0646-002
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-003 2003-08-0646-003
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-004 2003-08-0646-004
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-005 2003-08-0646-005
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-006 2003-08-0646-006
Analysis Flag(s)

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-007 2003-08-0646-007
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-008 2003-08-0646-008
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-009 2003-08-0646-009
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-010 2003-08-0646-010
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-001 2003-08-0646-011
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-002 2003-08-0646-012
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-003 2003-08-0646-013
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-004 2003-08-0646-014
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-005 2003-08-0646-015
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-006 2003-08-0646-016
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-007 2003-08-0646-017
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-008 2003-08-0646-018
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-009 2003-08-0646-019

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-010 2003-08-0646-020
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

CAM 17 metals	Soil	QC Batch#: 2003/08/22-03.15

SS-3DSP1-001 >> MS 2003/08/22-03.15-004
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

SS-3DSP1-001 >> MSD 2003/08/22-03.15-005
Compound Flag(s)
mso MS/MSD spike recoveries were out of QC limits due to matrix interference. Precision and Accuracy were verified by LCS/LCSD.

SS-3DSP1-001 >> MSD 2003/08/22-03.15-005
Compound Flag(s)
rpd Analyte RPD was out of QC limits due to sample heterogeneity.

SS-3DSP1-001 2003-08-0646-001
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-002 2003-08-0646-002
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-003 2003-08-0646-003
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-004 2003-08-0646-004
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-005 2003-08-0646-005
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-006 2003-08-0646-006
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-007 2003-08-0646-007
Analysis Flag(s)

Northgate Environmental, Oakland

September 04, 2003

3629 Grand Ave, Suite 313
Oakland, CA 94610

Attn.: Deni Chambers

Project#: 1056.03
Project: Totrtelot

Case Narrative

icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-008 2003-08-0646-008
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-009 2003-08-0646-009
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP1-010 2003-08-0646-010
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-001 2003-08-0646-011
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-002 2003-08-0646-012
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-003 2003-08-0646-013
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-004 2003-08-0646-014
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-005 2003-08-0646-015
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-006 2003-08-0646-016
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-007 2003-08-0646-017
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-008 2003-08-0646-018
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-009 2003-08-0646-019
Analysis Flag(s)
icpms Sample was analyzed using EPA 6020 (ICP/MS) method.

SS-3DSP2-010 2003-08-0646-020

APPENDIX C