Petroleum-Affected Soils Removal and Disposition Report

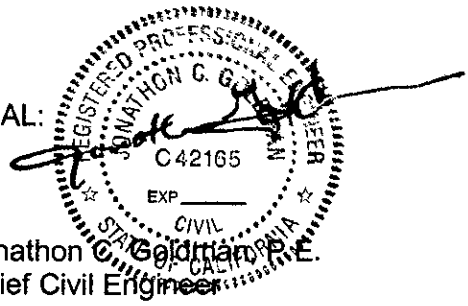
A.P.A. Fund Site
Oakland, California

JANUARY 29, 2001

PREPARED FOR
WRS AND THE A.P.A. FUND

Prepared by
Chaney, Walton & McCall (LLC)

SEAL:



Jonathon C. Goldman, P.E.
Chief Civil Engineer
C042165
Expires 31MAR04

INTRODUCTION

Chaney, Walton & McCall (LLC) has prepared this Petroleum-Affected Soils Removal and Disposition Report ("Report") for WRS and the A.P.A. Fund at the request of Ms. Aniko Molnar. This Report describes remedial actions performed at 2801 Mac Arthur Boulevard in Oakland, California (the "Site")(*see* Figure 1 attached).

OBJECTIVES

The A.P.A. Fund is interested in closure or receipt of a "no further action" letter from the lead environmental agency regulating conditions resulting from historic uses/activities at the Site. The objectives of the petroleum-affected soil removal and disposition are acquisition of such closure and the rapid return of the Site to a condition suitable for use by removing those soils affected by petroleum hydrocarbons at concentrations exceeding the cleanup criteria established for the Site.

PETROLEUM-AFFECTED SOIL REMOVAL AND DISPOSITION

In order to accomplish the project objectives, the following tasks were performed:

- Preparation of a project specific Worker and Community Health and Safety Plan, Stormwater Pollution Prevention Plan, and Hazardous Materials Spill Prevention, Control and Countermeasures Plan.
- Permitting
- Mobilization, temporary shutdown of Site, and installation of access control fencing
- Demolition and disposition of Site features overlying the petroleum-affected soils to be removed (including well destruction)
- Installation of sheet pile shoring where warranted
- Excavation, loading and transportation of petroleum-affected soils
- Excavation and stockpiling of potentially petroleum-affected soils
- Sampling and laboratory analysis of excavation limits and stockpile composites
- Backfilling of the excavation and compaction of the backfill as laboratory analytical results confirmed that cleanup criteria were satisfied
- Loading, transportation and disposition of stockpiled soils
- Demobilization and report preparation

Soil Sampling

Soil samples for laboratory analysis were collected in clean, glass containers provided by the certified analytical laboratory. The soil samples were collected using a clean stainless steel trowel from the side walls and bottom of the excavation or, in the case of stockpile samples, from the stockpile. Soil was packed into the container in order that no headspace was present. After a sample was collected, each container was capped with a polyethylene lid, labeled, and placed in an ice chest and maintained under chain of custody at approximately 4 degrees C through delivery to the laboratory. The locations from which soil samples were collected are shown on the attached Figure 2.

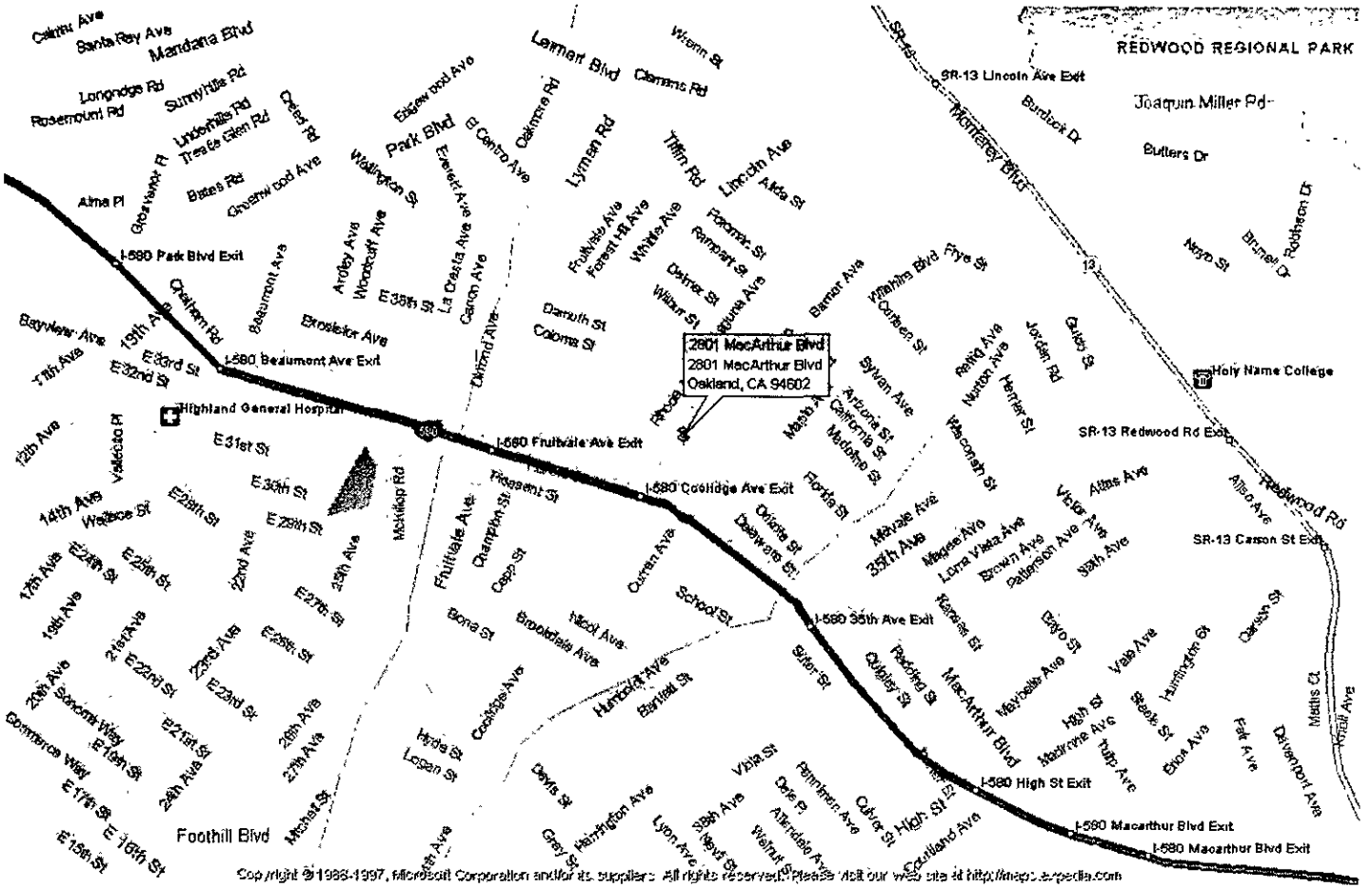
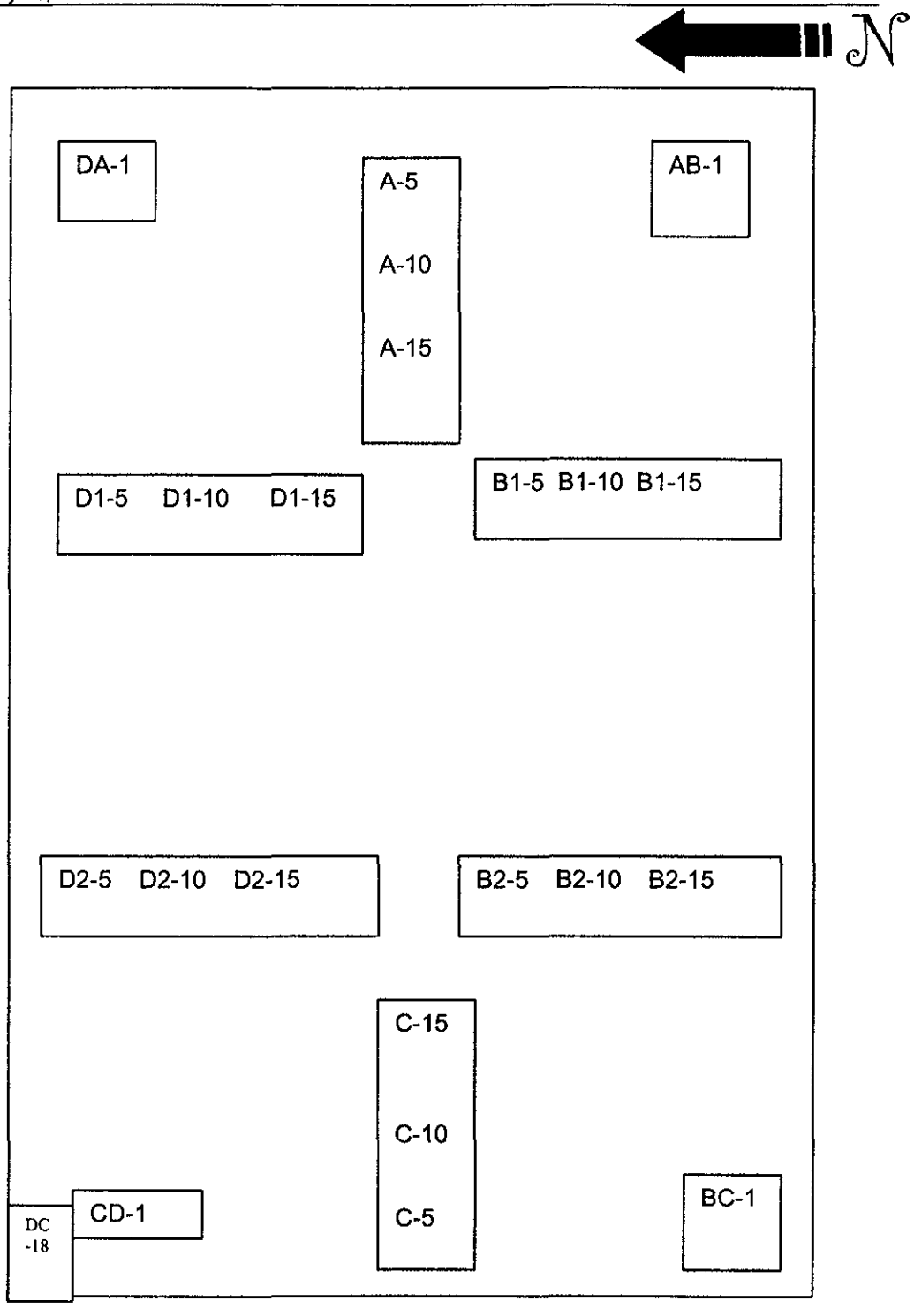


Figure 1
Site Location

not to scale



not to scale

Figure 2
Soil Sampling Locations

Laboratory Analyses

The samples collected were analyzed by Curtis & Tompkins, Ltd. for:

- total petroleum hydrocarbons as gasoline (TPHg) using EPA Method 5030 (extraction), and the California Leaking Underground Fuel Tank Manual Method (EPA Method 8015 Modified) by gas chromatography/flame ionization detector (GC/FID);
- benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Methods 5030 (extraction) and 8021B (GC); and
- total lead using EPA Methods 3050 (extraction) and 6010B (atomic absorption spectroscopy)

from the following schedule:

Schedule of Sample Analyses
Petroleum-Affected Soil Removal and Disposition Project
A.P.A. Fund Site
Oakland, California

Sample Number	TPHg	BTEX	Total Lead
A-5		X	
A-10		X	
A-15		X	
B-1-5		X	
B-1-10		X	
B-1-15		X	
B-2-5		X	
B-2-10		X	
B-2-15		X	
C-5		X	
C-10		X	
C-15		X	
D-2-5		X	
D-2-10		X	
D-2-15		X	
D-1-5		X	
D-1-10		X	
D-1-15		X	
DA-1		X	
AB-1		X	
BC-1		X	
CD-1		X	
DC-18		X	
COMP1	X	X	X
COMP2	X	X	X

A summary of the analytical results follows: (laboratory analysis reports are included in Appendix A)

Summary of Laboratory Analytical Results for Soil Samples
Petroleum-Affected Soil Removal and Disposition Project
A.P.A. Fund Site
Oakland, California
(see Notes next page)

Sample Number	TPHg (mg/Kg)	BTEX (ug/Kg)	Total Lead (mg/Kg)
A-5		<4.6	
A-10		<5.1	
A-15		<5.2	
B-1-5		<5.2	
B-1-10		<4.9	
B-1-15		<5.2	
B-2-5		<5.3	
B-2-10		<5.3	
B-2-15		<4.9	
C-5		<5.2	
C-10		<5.3	
C-15		<5.0	
D-2-5		<4.9	
D-2-10		B: <5.3 T: <5.3 **E: 54 C** **m,pX: 23** **oX: 13 C**	
D-2-15		<4.8	
D-1-5		B: <5.1 T: <5.1 **E: 12 C** **m,pX: 11** **oX: 8.8**	
D-1-10		B: <25 **T: 260** E: <25 **m,pX: 3,800** **oX: 2,900**	
D-1-15		B: <5.1 **T: 25 C** **E: 61 C** **m,pX: 110** **oX: 73**	
DA-1		B: <5.4 **T: 15 C** **E: 200** **m,pX: 520** **oX: 190**	
AB-1		<4.8	
BC-1		<5.1	

Summary of Laboratory Analytical Results for Soil Samples (cont'd)
Petroleum-Affected Soil Removal and Disposition Project
A.P.A. Fund Site
Oakland, California

Sample Number	TPHg (mg/Kg)	BTEX (ug/Kg)	Total Lead (mg/Kg)
CD-1		**B: 99** **T: 450** **E: 240** **m,pX: 610** **oX: 370**	
DC-18		B: <5.2 T: <5.2 **E: 13 C** **m,pX: 10** **oX: 9.9 C**	
COMP1	**2.2**	<4.9	**3.9**
COMP2	**2.1**	B: <4.7 T: <4.7 E: <4.7 **m,pX: 7.2** **oX: 5.0**	**4.8**

Notes:

Detections shown in **Boldface**
mg/Kg: milligrams per kilogram
ug/Kg: micrograms per kilogram
BTEX: benzene, toluene, ethylbenzene, xylenes
m,pX: *meta-* and *para*-xylenes (isomers)
oX: *ortho*-xylene
C: laboratory assigned data qualifier, "presence confirmed but confirmation concentration differed by more than a factor of two."
<: not detected above following reporting limit

See laboratory analysis reports in Appendix A.

Well Destruction
Destruction of one existing shallow groundwater monitoring well onsite was performed by a licensed C-57 water well drilling contractor under a permit from Alameda County.

Loading, Transportation and Disposition of Soils
Soils removed were loaded and transported under non-hazardous waste manifest to the Newby Island Sanitary Landfill. The generator's copies of manifest numbers 93172 and 93172, and 93221 through 93271 for all of the soils loaded, transported and disposed of from the Site are included in Appendix B.

Backfilling and Compaction

Excavated areas were backfilled and compacted in lifts. Field compaction was tested by a qualified testing firm. The results of compaction testing are included in Appendix C.

Appendices

A Laboratory Analytical Reports
B Waste Manifests
C Compaction Tests

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Chaney,Walton & McCall
No.35 Embarcadero Cove
Oakland, CA 94606-5203

Date: 29-NOV-00
Lab Job Number: 148696
Project ID: 600911
Location: McAurther/OAK

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: Paul Rendergast
Project Manager

Reviewed by:
Operations Manager

CA ELAP # 1459

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 148696

Sampler: Michael Sweeney

Project No: 600911

Report To:

Project Name: McArthur/Oak

Company: Chaney Walton & McCall

Project P.O.:

Telephone: 510-534-5100

Turnaround Time: 3 days

Fax: (510) 534-5528

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCl	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Field Notes	Analyses: 8260 Benzene BTXE
-1	A-5	11-13 PM	X			1				X		√
-2	A-10		X			1				X		√
-3	A-15		X			1				X		√
-4	B-1-5		X			1				X		√
-5	B-1-10		X			1				X		√
-6	B-1-15		X			1				X		√
-7	B-2-5		X			1				X		√
-8	B-2-10		X			1				X		√
-9	B-2-15		X			1				X		√
-10	C-5		X			1				X		√
-11	C-10		X			1				X		√
-12	C-15		X			1				X		√
-13	D-2-5		X			1				X		√

Notes:

Preservation Correct? ☐ Yes ☐ No ☒ N/A

Received ☐ On Ice ☒ Cold ☐ Ambient ☒ Intact

RELINQUISHED BY:	RECEIVED BY:
11/14/00 10:00 DATE/TIME	11/14/00 10:00pm DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Signature

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 148696

Sampler: Michael Swaney

Project No: 600911
Report To:
Project Name: McArthur / OAK
Company: Chaney, Walton & McCall
Project P.O.:
Telephone: 510 534-5100
Turnaround Time: 3 day
Fax: 510 534-5528

Analyses: 8020 BTEX, TPH gas; TLC Pb

Laboratory Number	Sample ID.	Sampling Date Time	Soil	Water	Waste	# of Containers	HCL	H2SO	HNO3	ICE	Field Notes	8020 BTEX TPH gas	TLC Pb
-14	D-2-10	11-13- PM	X			1				X		X	
-15	D-2-15		X			1				X			
-16	D-1-5		X			1				X			
-17	D-1-10		X			1				X			
-18	D-1-15		X			1				X			
-19	DA-1		X			1				X			
-20	AB-1		X			1				X			
-21	BC-1		X			1				X			
-22	CD-1		X			1				X			
-23	DC-1B		X			1				X			
-24	COMP1.		X			1				X		X	X
-25	COMP2		X			1				X		X	X

Notes:

Preservation Correct? ☐ Yes ☐ No ☒ N/A

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
[signature]	11/14/00 10:00AM	[signature]	11/14/00 10:00AM
	DATE/TIME		DATE/TIME
	DATE/TIME		DATE/TIME

Received ☐ On Ice ☒ Cold ☐ Ambient ☒ Intact

Signature

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8015M
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Sampled:	11/13/00
Basis:	wet	Received:	11/14/00

Field ID: COMP1
Type: SAMPLE
Lab ID: 148696 024

Batch#: 59574
Analyzed: 11/15/00

Analyte	Result	RL
Gasoline C7-C12	2.2	0.93

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	62-138
Bromofluorobenzene (FID)	103	46-150

Field ID: COMP2
Type: SAMPLE
Lab ID: 148696-025

Batch#: 59574
Analyzed: 11/15/00

Analyte	Result	RL
Gasoline C7-C12	2.1	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	62-138
Bromofluorobenzene (FID)	104	46-150

Type: BLANK
Lab ID: QC130206

Batch#: 59574
Analyzed: 11/14/00

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	62-138
Bromofluorobenzene (FID)	109	46-150

Type: BLANK
Lab ID: QC130417

Batch#: 59631
Analyzed: 11/15/00

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	104	62-138
Bromofluorobenzene (FID)	103	46-150

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8015M
Type:	LCS	Basis:	wet
Lab ID:	QC130207	Diln Fac:	1.000
Matrix:	Soil	Batch#:	59574
Units:	mg/Kg	Analyzed:	11/14/00

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	9.648	96	75-123

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	62-138
Bromofluorobenzene (FID)	97	46-150

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8015M
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	148691-001	Batch#:	59574
Matrix:	Soil	Sampled:	11/13/00
Units:	mg/Kg	Received:	11/14/00
Basis:	wet		

Type: MS Analyzed: 11/14/00
Lab ID: QC130208

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.1000	9.524	8.442	89	41-132

Surrogate	%REC	Limits
Trifluorotoluene (FID)	106	62-138
Bromofluorobenzene (FID)	104	46-150

Type: MSD Analyzed: 11/15/00
Lab ID: QC130209

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.259	7.958	86	41-132	3	25

Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	62-138
Bromofluorobenzene (FID)	101	46-150

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	A S	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-001	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	4.6
Toluene	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

Surrogate	%REC	Limits
Trifluorotoluene (PID)	93	65-134
Bromofluorobenzene (PID)	88	55-138

Field ID:	A-10	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-002	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	5.1
Toluene	ND	5.1
Ethylbenzene	ND	5.1
m,p-Xylenes	ND	5.1
o-Xylene	ND	5.1

Surrogate	%REC	Limits
Trifluorotoluene (PID)	94	65-134
Bromofluorobenzene (PID)	91	55-138

Field ID:	A-15	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-003	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	5.2
Toluene	ND	5.2
Ethylbenzene	ND	5.2
m,p-Xylenes	ND	5.2
o-Xylene	ND	5.2

Surrogate	%REC	Limits
Trifluorotoluene (PID)	96	65-134
Bromofluorobenzene (PID)	93	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	B-1-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-004	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	5.2
Toluene	ND	5.2
Ethylbenzene	ND	5.2
m,p-Xylenes	ND	5.2
o-Xylene	ND	5.2

Surrogate	%REC	Limits
Trifluorotoluene (PID)	95	65-134
Bromofluorobenzene (PID)	92	55-138

Field ID:	B-1-10	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-005	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	4.9
Toluene	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

Surrogate	%REC	Limits
Trifluorotoluene (PID)	97	65-134
Bromofluorobenzene (PID)	96	55-138

Field ID:	B-1-15	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-006	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	5.2
Toluene	ND	5.2
Ethylbenzene	ND	5.2
m,p-Xylenes	ND	5.2
o-Xylene	ND	5.2

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	96	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	B-2-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-007	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	5.3
Toluene	ND	5.3
Ethylbenzene	ND	5.3
m,p-Xylenes	ND	5.3
o-Xylene	ND	5.3

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	97	55-138

Field ID:	B 2-10	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-008	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	5.3
Toluene	ND	5.3
Ethylbenzene	ND	5.3
m,p-Xylenes	ND	5.3
o-Xylene	ND	5.3

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	96	55-138

Field ID:	B-2-15	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-009	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	4.9
Toluene	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	97	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	C-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-010	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.2
Toluene	ND	5.2
Ethylbenzene	ND	5.2
m,p-Xylenes	ND	5.2
o-Xylene	ND	5.2

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	101	55-138

Field ID:	C-10	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-011	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.3
Toluene	ND	5.3
Ethylbenzene	ND	5.3
m,p-Xylenes	ND	5.3
o-Xylene	ND	5.3

Surrogate	%REC	Limits
Trifluorotoluene (PID)	97	65-134
Bromofluorobenzene (PID)	94	55-138

Field ID:	C-15	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-012	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	97	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	D-2-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-013	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	4.9
Toluene	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	98	55-138

Field ID:	D-2-10	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-014	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.3
Toluene	ND	5.3
Ethylbenzene	54 C	5.3
m,p-Xylenes	23	5.3
o-Xylene	13 C	5.3

Surrogate	%REC	Limits
Trifluorotoluene (PID)	99	65-134
Bromofluorobenzene (PID)	110	55-138

Field ID:	D 2 15	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-015	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	4.8
Toluene	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

Surrogate	%REC	Limits
Trifluorotoluene (PID)	96	65-134
Bromofluorobenzene (PID)	93	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	D-1-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-016	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.1
Toluene	ND	5.1
Ethylbenzene	12 C	5.1
m,p-Xylenes	11	5.1
o-Xylene	8.8	5.1

Surrogate	%REC	Limits
Trifluorotoluene (PID)	99	65-134
Bromofluorobenzene (PID)	98	55-138

Field ID:	D-1-10	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	59648
Lab ID:	148696-017	Analyzed:	11/17/00

Analyte	Result	RL
Benzene	ND	25
Toluene	260	25
Ethylbenzene	ND	25
m,p-Xylenes	3,800	25
o-Xylene	2,900	25

Surrogate	%REC	Limits
Trifluorotoluene (PID)	130	65-134
Bromofluorobenzene (PID)	137	55-138

Field ID:	D-1-15	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-018	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.1
Toluene	25 C	5.1
Ethylbenzene	61 C	5.1
m,p-Xylenes	110	5.1
o-Xylene	73	5.1

Surrogate	%REC	Limits
Trifluorotoluene (PID)	109	65-134
Bromofluorobenzene (PID)	130	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	DA-1	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696-019	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.4
Toluene	(15) C	5.4
Ethylbenzene	200	5.4
m,p-Xylenes	520	5.4
o-Xylene	190	5.4

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	111	55-138

Field ID:	AB-1	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59613
Lab ID:	148696 020	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	4.8
Toluene	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

Surrogate	%REC	Limits
Trifluorotoluene (PID)	97	65-134
Bromofluorobenzene (PID)	97	55-138

Field ID:	BC-1	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59631
Lab ID:	148696-021	Analyzed:	11/15/00

Analyte	Result	RL
Benzene	ND	5.1
Toluene	ND	5.1
Ethylbenzene	ND	5.1
m,p-Xylenes	ND	5.1
o-Xylene	ND	5.1

Surrogate	%REC	Limits
Trifluorotoluene (PID)	113	65-134
Bromofluorobenzene (PID)	116	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	CD-1	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59671
Lab ID:	148696-022	Analyzed:	11/17/00

Analyte	Result	RL
Benzene	99	9.8
Toluene	450	9.8
Ethylbenzene	240	9.8
m,p-Xylenes	610	9.8
o-Xylene	370	9.8

Surrogate	%REC	Limits
Trifluorotoluene (PID)	120	65-134
Bromofluorobenzene (PID)	115	55-138

Field ID:	DC-18	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59631
Lab ID:	148696-023	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	5.2
Toluene	ND	5.2
Ethylbenzene	13 C	5.2
m,p-Xylenes	10	5.2
o-Xylene	9.9 C	5.2

Surrogate	%REC	Limits
Trifluorotoluene (PID)	116	65-134
Bromofluorobenzene (PID)	119	55-138

Field ID:	COMP1	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59631
Lab ID:	148696-024	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	4.9
Toluene	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

Surrogate	%REC	Limits
Trifluorotoluene (PID)	114	65-134
Bromofluorobenzene (PID)	116	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney, Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Field ID:	COMP2	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	59631
Lab ID:	148696-025	Analyzed:	11/16/00

Analyte	Result	RL
Benzene	ND	4.7
Toluene	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	7.2	4.7
o-Xylene	5.0	4.7

Surrogate	%REC	Limits
Trifluorotoluene (PID)	115	65-134
Bromofluorobenzene (PID)	120	55-138

Type:	BLANK	Batch#:	59613
Lab ID:	QC130344	Analyzed:	11/15/00
Diln Fac:	1.000		

Analyte	Result	RL
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Trifluorotoluene (PID)	94	65-134
Bromofluorobenzene (PID)	89	55-138

Type:	BLANK	Batch#:	59631
Lab ID:	QC130417	Analyzed:	11/15/00
Diln Fac:	1.000		

Analyte	Result	RL
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Trifluorotoluene (PID)	112	65-134
Bromofluorobenzene (PID)	115	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Type:	BLANK	Batch#:	59648
Lab ID:	QC130482	Analyzed:	11/16/00
Diln Fac:	1.000		

Analyte	Result	RL
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Trifluorotoluene (PID)	100	65-134
Bromofluorobenzene (PID)	97	55-138

Type:	BLANK	Batch#:	59671
Lab ID:	QC130577	Analyzed:	11/17/00
Diln Fac:	1.000		

Analyte	Result	RL
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Trifluorotoluene (PID)	108	65-134
Bromofluorobenzene (PID)	106	55-138

C = Presence confirmed, but confirmation concentration differed by more than a factor of two
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Type:	LCS	Basis:	wet
Lab ID:	QC130343	Dil'n Fac:	1.000
Matrix:	Soil	Batch#:	59613
Units:	ug/Kg	Analyzed:	11/15/00

Analyte	Spiked	Result	%REC	Limits
Benzene	100.0	81.66	82	68-117
Toluene	100.0	96.26	96	70-120
Ethylbenzene	100.0	103.6	104	67-124
m,p-Xylenes	200.0	205.8	103	72-124
o-Xylene	100.0	100.2	100	72-123

Surrogate	%REC	Limits
Trifluorotoluene (PID)	95	65-134
Bromofluorobenzene (PID)	91	55-138

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Type:	LCS	Basis:	wet
Lab ID:	QC130418	Diln Fac:	1.000
Matrix:	Soil	Batch#:	59631
Units:	ug/Kg	Analyzed:	11/15/00

Analyte	Spiked	Result	%REC	Limits
Benzene	100.0	75.36	75	68-117
Toluene	100.0	87.68	88	70-120
Ethylbenzene	100.0	97.08	97	67-124
m,p-Xylenes	200.0	197.6	99	72-124
o-Xylene	100.0	102.5	103	72-123

Surrogate	%REC	Limits
Trifluorotoluene (PID)	114	65-134
Bromofluorobenzene (PID)	117	55-138

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Diln Fac:	1.000
Units:	ug/Kg	Batch#:	59648
Basis:	wet	Analyzed:	11/16/00

Type: BS Lab ID: QC130480

Analyte	Spiked	Result	%REC	Limits
Benzene	100.0	74.01	74	68-117
Toluene	100.0	94.52	95	70-120
Ethylbenzene	100.0	100.9	101	67-124
m,p-Xylenes	200.0	206.3	103	72-124
o-Xylene	100.0	102.3	102	72-123

Surrogate	%REC	Limits
Trifluorotoluene (PID)	101	65-134
Bromofluorobenzene (PID)	96	55-138

Type: BSD Lab ID: QC130481

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	100.0	74.63	75	68-117	1	20
Toluene	100.0	94.92	95	70-120	0	20
Ethylbenzene	100.0	101.7	102	67-124	1	20
m,p-Xylenes	200.0	210.2	105	72-124	2	20
o-Xylene	100.0	103.1	103	72-123	1	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	102	65-134
Bromofluorobenzene (PID)	98	55-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Matrix:	Soil	Diln Fac:	1.000
Units:	ug/Kg	Batch#:	59671
Basis:	wet	Analyzed:	11/17/00

Type: BS Lab ID: QC130578

Analyte	Spiked	Result	%REC	Limits
Benzene	100.0	95.49	95	68-117
Toluene	100.0	92.52	93	70-120
Ethylbenzene	100.0	99.92	100	67-124
m,p-Xylenes	200.0	203.5	102	72-124
o-Xylene	100.0	98.96	99	72-123

Surrogate	%REC	Limits
Trifluorotoluene (PID)	106	65-134
Bromofluorobenzene (PID)	105	55-138

Type: BSD Lab ID: QC130579

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	100.0	90.55	91	68-117	5	20
Toluene	100.0	88.98	89	70-120	4	20
Ethylbenzene	100.0	95.51	96	67-124	5	20
m,p-Xylenes	200.0	195.7	98	72-124	4	20
o-Xylene	100.0	94.26	94	72-123	5	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	106	65-134
Bromofluorobenzene (PID)	105	55-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Field ID:	B-1-15	Diln Fac:	1.000
MSS Lab ID:	148696-006	Batch#:	59613
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet	Analyzed:	11/15/00

Type: MS Lab ID: QC130345

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.5300	103.1	80.30	78	62-117
Toluene	<0.4700	103.1	95.85	93	55-121
Ethylbenzene	<0.5700	103.1	104.5	101	46-128
m,p-Xylenes	<0.7000	206.2	201.6	98	33-141
o-Xylene	<0.9800	103.1	99.31	96	40-136

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	96	55-138

Type: MSD Lab ID: QC130346

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	103.1	77.27	75	62-117	4	20
Toluene	103.1	94.60	92	55-121	1	20
Ethylbenzene	103.1	101.6	99	46-128	3	20
m,p-Xylenes	206.2	190.2	92	33-141	6	20
o-Xylene	103.1	96.58	94	40-136	3	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	65-134
Bromofluorobenzene (PID)	97	55-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Field ID:	BC 1	Diln Fac:	1.000
MSS Lab ID:	148696-021	Batch#:	59631
Matrix:	Soil	Sampled:	11/13/00
Units:	ug/Kg	Received:	11/14/00
Basis:	wet		

Type: MS Analyzed: 11/15/00
Lab ID: QC130419

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.3265	102.0	77.02	75	62-117
Toluene	<0.2755	102.0	90.63	89	55-121
Ethylbenzene	<0.3571	102.0	99.95	98	46-128
m,p-Xylenes	<0.5714	204.1	204.8	100	33-141
o-Xylene	<0.6224	102.0	105.4	103	40-136

Surrogate	%REC	Limits
Trifluorotoluene (PID)	116	65-134
Bromofluorobenzene (PID)	117	55-138

Type: MSD Analyzed: 11/16/00
Lab ID: QC130420

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	97.09	73.16	75	62-117	0	20
Toluene	97.09	86.32	89	55-121	0	20
Ethylbenzene	97.09	95.27	98	46-128	0	20
m,p-Xylenes	194.2	192.7	99	33-141	1	20
o-Xylene	97.09	100.9	104	40-136	1	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	115	65-134
Bromofluorobenzene (PID)	118	55-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 5030
Project#:	600911	Analysis:	EPA 8021B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	148731-025	Batch#:	59671
Matrix:	Soil	Sampled:	11/15/00
Units:	ug/Kg	Received:	11/15/00
Basis:	wet	Analyzed:	11/17/00

Type: MS Lab ID: QC130580

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	<0.3400	91.74	83.00	90	62-117
Toluene	<0.2900	91.74	74.62	81	55-121
Ethylbenzene	<0.3800	91.74	77.76	85	46-128
m,p-Xylenes	<0.6000	183.5	159.0	87	33-141
o-Xylene	<0.6600	91.74	84.63	92	40-136

Surrogate	%REC	Limits
Trifluorotoluene (PID)	107	65-134
Bromofluorobenzene (PID)	106	55-138

Type: MSD Lab ID: QC130581

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	93.46	80.16	86	62-117	5	20
Toluene	93.46	74.36	80	55-121	2	20
Ethylbenzene	93.46	77.20	83	46-128	3	20
m,p-Xylenes	186.9	155.4	83	33-141	4	20
o-Xylene	93.46	85.12	91	40-136	1	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	103	65-134
Bromofluorobenzene (PID)	102	55-138

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Lead

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 3050
Project#:	600911	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	11/13/00
Units:	mg/Kg	Received:	11/14/00
Basis:	wet	Prepared:	11/14/00
Diln Fac:	1.000	Analyzed:	11/15/00
Batch#:	59598		

Field ID	Type	Lab ID	Matrix	Result	RL
COMP1	SAMPLE	148696-024	Soil	3.9	0.15
COMP2	SAMPLE	148696-025	Soil	4.8	0.15
	BLANK	QC130281	Miscell.	ND	0.15

ND = Not Detected
RL = Reporting Limit

Lead

Lab #:	148696	Location:	McAurther/OAK
Client:	Chaney,Walton & McCall	Prep:	EPA 3050
Project#:	600911	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	59598
MSS Lab ID:	148656-001	Sampled:	10/29/00
Matrix:	Miscell.	Received:	11/10/00
Units:	mg/Kg	Prepared:	11/14/00
Basis:	wet	Analyzed:	11/15/00

Type	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim
BS	QC130282		100.0	86.50		87	70-110		
BSD	QC130283		100.0	88.00		88	70-110	2	20
SDUP	QC130284	221.1		214.5	0.15			3	40
SSPIKE	QC130285	221.1	98.52	311.8		92	31-133		

RL = Reporting Limit
RPD= Relative Percent Difference