Soil Boring/Surface Sample Investigation Report West Lake Landfill Radiological Areas 1 & 2

APPENDICES C cont., D, E, F

Bridgeton, Missouri

November 26, 1996

West Lake Landfill
MOD079900932
Site: 3.3
Other: OU#1 McLaren Hart
11-26-96
115181

Prepared for:
West Lake Respondent Group

Prepared by:
McLaren Hart
Environmental Engineering Corp

S00115652
SUPERFUND RECORDS

McLaren Hart®
ENVIRONMENTAL ENGINEERING CORPORATION

LP 12966

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

Quanterra Environmental Services

COPY

November 7, 1995

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following samples:

St. Louis Project ID	: 570.03
Date Received	: October 9, 1995
Number of Samples	: Twenty-four (24)
Samples Type	: Soil

I. INTRODUCTION

On October 9, 1995, twenty-four (24) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Gross Alpha, Gamma Scan, Isotopic Uranium, Isotopic Thorium, and Rad Screen. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

Allen M. Field
Quanterra Project Manager

cc: David Heinze

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-120-50	9506-001	Soil
WL-119B-50	9506-002	Soil
WL-119-50	9506-003	Soil
WL-119-50	9506-003DUP	Soil
WL-119-50	9506-003MS	Soil
WL-119-50	9506-003MSD	Soil
WL-120B-50	9506-004	Soil
WL-117-25	9506-005	Soil
WL-116B-5	9506-006	Soil
WL-113B-5	9506-007	Soil
WL-241-5	9506-008	Soil
WL-114-5	9506-009	Soil
WL-114-5	9506-009DUP	Soil
WL-114-5	9506-009MS	Soil
WL-114-5	9506-009MSD	Soil
WL-114-15	9506-010	Soil
WL-114-15	9506-010DUP	Soil
WL-114-15	9506-010MS	Soil
WL-114-15	9506-010MSD	Soil
WL-118-5	9506-011	Soil
WL-118-10	9506-012	Soil
WL-119-5	9506-013	Soil
WL-120-5	9506-014	Soil
WL-113-5	9506-015	Soil
WL-113-10	9506-016	Soil
WL-115-40	9506-017	Soil
WL-115-5	9506-018	Soil
WL-117-10	9506-019	Soil
WL-239-25	9506-020	Soil
WL-239-5	9506-021	Soil
WL-116-5	9506-022	Soil
WL-116-10	9506-023	Soil
WL-241-15	9506-024	Soil

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Gamma Scan	EPA 901.1
Isotopic Thorium	Th-NAS-NS-3004
Isotopic Uranium	U-NAS-NS-3050

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank, matrix spike, matrix spike duplicate, and laboratory control sample were analyzed with the samples for Isotopic Thorium and Isotopic Uranium. A method blank, sample duplicate, and laboratory control sample were analyzed with the samples for Gamma Scan.

IV. NONCONFORMANCES

Sample WL-117-10 (9506-019) originally had a chemical yield of 12.2% which was below the lower acceptance limit of 20%. This sample was reanalyzed. The LCS for batch 81905 had an acceptable chemical yield but had a recovery of 190 % for U-238 which is outside the acceptance criteria and 155% for U-234 . The LCS Dup for this batch had a recovery of 137% for U-238 and 145% for U-234, both of which were acceptable. The entire batch was reanalyzed. The LCS for the reanalyzed samples had a chemical yield of 18.78% which is slightly below the acceptance criteria of 20 %. The U-238 recovery was 134% and 158% for U-234, , both of which were acceptable. The sample data from the first batch was compared to the initial analysis and the data are in agreement. Therefore, the data from the initial and the reanalysis are being reported.
See NCM # 2115.

V. COMMENTS

Login 9506 was received at a temperature of 20°C.

Analytical Notes

Isotopic Thorium

The blank (81092) has Th-230 activity (1.161 E -1 pCi/g) above the MDA (7.082 E -2 pCi/g) but below the CRDL (1 pCi/g).

Isotopic Uranium

See Nonconformance Section.

VI. ABBREVIATIONS/DEFINITIONS

NA	=	Not Applicable.
ND	=	Parameter was analyzed for but not detected.
pCi/G	=	Picocurries per gram.
pCi/FIL	=	Picocurries per filter.
pCi/L	=	Picocurries per liter.
%REC	=	Percent Recovery.
QCBLK	=	Method Blank.
QCLCS	=	Laboratory Control Sample.
MDA	=	Minimum Detectable Activity.

Quanterra Environmental Services

L 94 2115 page 1 of 2

LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): 570.03
NCM INITIATED BY (Name/Date): Don Dihl 11/7/95
PARAMETER(S): Ion U
SAMPLE NUMBER(S) AFFECTED: 9506-019, -021, -022, -023, -024

AREA:
- [ ] SHIP/REC
- [ ] GC
- [ ] GEN CHEM
- [ ] BIOASSAY
- [ ] IH
- [ ] ORG EXT
- [ ] HPLC
- [ ] METALS
- [ ] RADIOCHEM
- [ ] DATA VERIFICATION
- [ ] INORG PREP
- [ ] GCMS
- [ ] GEO
- [ ] COUNTING
- [ ] REPORTING
- [ ] OTHER

NONCONFORMANCE [check appropriate item(s)]:

1. [ ] Not enough sample received for proper analysis.
2. [ ] Holding time exceeded by _____ days due to:
   - 2.1 [ ] CATEGORY I: Out of Laboratory Control
     - [ ] Holding time expired at receipt.
   - 2.2 [ ] CATEGORY II: Laboratory Dependent
     - [ ] work backlog
     - [ ] instrument failure
     - [ ] communication
     - [ ] other (see #10)
   - 2.3 [ ] CATEGORY III: Laboratory Reruns
     - 2.3.1 [ ] *QA/QC:*
       - [ ] surrogates
       - [ ] internal standards
       - [ ] spike recoveries
       - [ ] blank contamination
     - 2.3.2 [ ] *CONFIRMATION:*
       - [ ] second column
       - [ ] contamination check
       - [ ] other (see #10)
     - 2.3.3 [ ] *DILUTION:*
       - [ ] over calibration
       - [ ] under calibration
       - [ ] other (see #10)
     - 2.3.4 [ ] *OTHER: (see #10)*
3. [ ] Sample lost during extraction/analysis, no re-prep or re-analysis possible
4. [x] QC data reported to client outside of:
   - [x] method limits
   - [ ] internal limits
   - [ ] QAPP limits
   - [ ] contract limits
   - [ ] regulatory limits
   - [ ] blank criteria
5. [ ] Incorrect procedure(s) used. (See #10)
6. [ ] Invalid instrument calibration. (See #10)
7. [ ] Incorrect/incomplete data reported to client. (See #10)
8. [ ] Reported detection limit(s) higher than:
   - [ ] method limits
   - [ ] QAPP limits
   - [ ] contract limits
   - [ ] other (see #10)

   Due to:
   - [ ] sample matrix
   - [ ] insufficient sample
   - [ ] instrumentation
   - [ ] other (see #10)
9. [ ] Other (specify):
10. [ ] Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. [x] Client notified by (name and date): Don Dihle
   - [x] in writing
   - [ ] by FAX
   - [ ] by phone
   - [ ] Other (explain)
2. [x] Client's name Allen Field and response
   - [ ] process "as is"
   - [ ] resample
   - [ ] on hold til ____
   - [ ] Other (explain)

PROJECT MANAGER (signature & date): Allen Field

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

CORRECTIVE ACTION

☒ ROOT CAUSE: See attached memo INITIALS/DATE 11/7/95

☒ CORRECTIVE ACTION: See attached memo INITIALS/DATE 11/7/95

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☒ ACTIONS TO PREVENT RECURRENCE: Discuss erratic results with analyst. INITIALS/DATE 11/7/95

FIRST LEVEL SUPERVISOR: DATE: 11-7-95

RESPONSIBLE MANAGER: DATE: 11-7-95

QC REVIEW

☒ NONCONFORMANCE ☐ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO

QC COORDINATOR: DATE: 11-7-95

CORRECTIVE ACTION VERIFICATION

☐ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: DATE:

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☐ PROJECT FILE

Quanterra October 10, 1995 10:57 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9506

Project Manager: A. Field

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / # Comments / Data:	Client ID / Container Type	C-Matrix / Analysis	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
9506-001	WL-120-50	Soil	29-SEP-95 15:00	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-024
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185554:100 185555:99)
2		RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96	R15B		(185554:100 185555:99)
1		RAD/SCREEN/Q4	S COLD	01-NOV-95	06-APR-96	R15B		(185554:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185552:100 185553:99)
9506-002	WL-119B-50	Soil	29-SEP-95 10:25	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-023
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185558:100 185559:99)
2		RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96	R15B		(185558:100 185559:99)
1		RAD/SCREEN/Q4	S COLD	01-NOV-95	06-APR-96	R15B		(185558:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185556:100 185557:99)
9506-003	WL-119-50	Soil	29-SEP-95 10:25	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-022
4	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185562:100 185563:99 185568:99 185569: 99)
4		RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96	R15B		(185562:100 185563:99 185568:99 185569: 99)
1		RAD/SCREEN/Q4	S COLD	01-NOV-95	06-APR-96	R15B		(185562:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185560:100 185561:99)
9506-003DUP	WL-119-50	Soil	29-SEP-95 10:25	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-022
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185560:100 185561:99)
9506-003MS	WL-119-50	Soil	29-SEP-95 10:25	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-022
4	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185562:100 185563:99 185568:99 185569: 99)
4		RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96	R15B		(185562:100 185563:99 185568:99 185569: 99)
9506-003MSD	WL-119-50	Soil	29-SEP-95 10:25	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-022
4	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S COLD	01-NOV-95	29-MAR-96	R15B		(185562:100 185563:99 185568:99 185569:

3*=Sample has not been rad screened.

Quanterra October 10, 1995 10:57 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9506

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Rad Category / Site	Rad Sample No. / (Container Numbers:% Filled)
								99)
4		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185562:100 185563:99 185568:99 185569: 99)
9506-004	WL-1208-50	Soil	29-SEP-95 15:00	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-021
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	29-MAR-96	R15B	(185566:100 185567:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185566:100 185567:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185566:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	29-MAR-96	R15B	(185564:100 185565:99)
9506-005	WL-117-25	Soil	27-SEP-95 08:40	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-020
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B	(185572:100 185573:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185572:100 185573:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185572:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B	(185570:100 185571:99)
9506-006	WL-1168-5	Soil	26-SEP-95 12:40	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-019
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	26-MAR-96	R15B	(185576:100 185577:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185576:100 185577:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185576:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	26-MAR-96	R15B	(185574:100 185575:99)
9506-007	WL-1138-5	Soil	25-SEP-95 08:30	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-018
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B	(185580:100 185581:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185580:100 185581:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185580:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B	(185578:100 185579:99)
9506-008	WL-241-5	Soil	28-SEP-95 10:00	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-017
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	28-MAR-96	R15B	(185584:100 185585:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185584:100 185585:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185584:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	28-MAR-96	R15B	(185582:100 185583:99)

3*=Sample has not been rad screened.

Quanterra October 10, 1995 10:57 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9506

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
# Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site		(Container Numbers:% Filled)
Data:								
9506-009	WL-114-5	Soil	25-SEP-95 12:30	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-016
4 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185588:100 185589:99 185598:99 1855(99)
4	RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185588:100 185589:99 185598:99 185599: 99)
1	RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185588:100)
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185586:100 185587:99)
9506-009DUP	WL-114-5	Soil	25-SEP-95 12:30	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-016
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185586:100 185587:99)
9506-009MS	WL-114-5	Soil	25-SEP-95 12:30	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-016
4 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185588:100 185589:99 185598:99 185599: 99)
4	RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185588:100 185589:99 185598:99 185599: 99)
9506-009MSD	WL-114-5	Soil	25-SEP-95 12:30	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-016
4 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185588:100 185589:99 185598:99 1855(99)
4	RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185588:100 185589:99 185598:99 185599: 99)
9506-010	WL-114-15	Soil	25-SEP-95 12:45	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-015
4 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185592:100 185593:99 185600:99 185601: 99)
4	RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185592:100 185593:99 185600:99 185601: 99)
1	RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185592:100)
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185590:100 185591:99)

3*=Sample has not been rad screened.

Quanterra October 10, 1995 10:57 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9506

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / # Comments / Container Type	Client ID	C-Matrix	Analysis	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No. (Container Numbers:% Filled)
9506-010DUP	WL-114-15	Soil		25-SEP-95 12:45	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-015
2 GW - Glass Jar-8oz			RAD/GAMMA/Q4	S COLD	01-NOV-95	25-MAR-96 R15B			(185590:100 185591:99)
9506-010MS	WL-114-15	Soil		25-SEP-95 12:45	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-015
4 GW - Glass Jar-4oz			RAD/ISOTH/Q4	S COLD	01-NOV-95	25-MAR-96 R15B			(185592:100 185593:99 185600:99 185601:99)
4			RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185592:100 185593:99 185600:99 185601:99)
9506-010MSD	WL-114-15	Soil		25-SEP-95 12:45	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-015
4 GW - Glass Jar-4oz			RAD/ISOTH/Q4	S COLD	01-NOV-95	25-MAR-96 R15B			(185592:100 185593:99 185600:99 185601:99)
4			RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185592:100 185593:99 185600:99 185601:99)
9506-011	WL-118-5	Soil		28-SEP-95 13:50	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-014
2 GW - Glass Jar-4oz			RAD/ISOTH/Q4	S COLD	01-NOV-95	28-MAR-96 R15B			(185596:100 185597:99)
2			RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185596:100 185597:99)
1			RAD/SCREEN/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185596:100)
2 GW - Glass Jar-8oz			RAD/GAMMA/Q4	S COLD	01-NOV-95	28-MAR-96 R15B			(185594:100 185595:99)
9506-012	WL-118-10	Soil		28-SEP-95 14:00	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-013
2 GW - Glass Jar-4oz			RAD/ISOTH/Q4	S COLD	01-NOV-95	28-MAR-96 R15B			(185604:100 185605:99)
2			RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185604:100 185605:99)
1			RAD/SCREEN/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185604:100)
2 GW - Glass Jar-8oz			RAD/GAMMA/Q4	S COLD	01-NOV-95	28-MAR-96 R15B			(185602:100 185603:99)
9506-013	WL-119-5	Soil		29-SEP-95 08:15	09-OCT-95 08:45	08-NOV-95	FED-EX	3*	R4311-012
2 GW - Glass Jar-4oz			RAD/ISOTH/Q4	S COLD	01-NOV-95	28-MAR-96 R15B			(185608:100 185609:99)
2			RAD/ISOU/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185608:100 185609:99)
1			RAD/SCREEN/Q4	S COLD	01-NOV-95	06-APR-96 R15B			(185608:100)

3*=Sample has not been rad screened.

Quanterra October 10, 1995 10:57 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9506

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / # Data:	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled) / Comments
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	28-MAR-96	R15B		(185606:100 185607:99)
9506-014	WL-120-5	Soil	29-SEP-95 13:00	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-011
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	29-MAR-96	R15B		(185612:100 185613:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185612:100 185613:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185612:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	29-MAR-96	R15B		(185610:100 185611:99)
9506-015	WL-113-5	Soil	25-SEP-95 08:30	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-010
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185616:100 185617:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185616:100 185617:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185616:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185614:100 185615:99)
9506-016	WL-113-10	Soil	25-SEP-95 08:35	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185620:100 185621:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185620:100 185621:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185620:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	25-MAR-96	R15B		(185618:100 185619:99)
9506-017	WL-115-40	Soil	27-SEP-95 08:15	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-008
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185624:100 185625:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185624:100 185625:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185624:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185622:100 185623:99)
9506-018	WL-115-5	Soil	27-SEP-95 07:55	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-007
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185628:100 185629:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185628:100 185629:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185628:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185626:100 185627:99)

3*=Sample has not been rad screened.

Quanterra October 10, 1995 10:57 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9506

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / # Data:	Client ID / Comments / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
9506-019	WL-117-10	Soil	27-SEP-95 08:05	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-006
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185632:100 185633:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185632:100 185633:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185632:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185630:100 185631:99)
9506-020	WL-239-25	Soil	27-SEP-95 12:25	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-005
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185636:100 185637;99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185636:100 185637:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185636:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185634:100 185635:99)
9506-021	WL-239-5	Soil	27-SEP-95 12:35	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-004
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185640:100 185641:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185640:100 185641:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185640:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	27-MAR-96	R15B		(185638:100 185639:99)
9506-022	WL-116-5	Soil	26-SEP-95 12:40	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-003
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	26-MAR-96	R15B		(185644:100 185645:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185644:100 185645:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185644:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	26-MAR-96	R15B		(185642:100 185643:99)
9506-023	WL-116-10	Soil	26-SEP-95 12:55	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-002
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	26-MAR-96	R15B		(185648:100 185649:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185648:100 185649:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B		(185648:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	26-MAR-96	R15B		(185646:100 185647:99)
9506-024	WL-241-15	Soil	28-SEP-95 10:20	09-OCT-95 08:45	08-NOV-95	FED-EX		3*	R4311-001

3*=Sample has not been rad screened.

Quanterra October 10, 1995 10:57 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9506

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
Data:								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	01-NOV-95	28-MAR-96	R15B	(185652:100 185653:99)
2		RAD/ISOU/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185652:100 185653:99)
1		RAD/SCREEN/Q4	S	COLD	01-NOV-95	06-APR-96	R15B	(185652:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	01-NOV-95	28-MAR-96	R15B	(185650:100 185651:99)

3*=Sample has not been rad screened.

Environmental Services

Work Order No.: 2506

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: MBT ENVIRONMENTAL

Date: 10-9-95

Project No: 570.03

Initiated by: [illegible]

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: # 15522

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1	NA	Not enough sample received for proper analysis. Received approximately:	8	☐	Custody tape disturbed/broken/missing.
			9.	NA	Sample splits performed by lab.
2	☐	Sample received broken/leaking.	10.	NA	Volatile sample received with approximately _____ mm headspace.
3	☐	Sample received without proper preservative.			
	☒	Cooler temperature not within 4°C ± 2°C Record temperature: 20°	11	☐	Sample ID on container does not match sample ID on paperwork. Explain:
	☐	pH			
	☐	other:			
4	☐	Sample received in improper container.	12	☐	All coolers on airbill not received with shipment.
5	☐	Sample received without proper paperwork. Explain:	13.	☐	Other (explain below): Shipping containers not rad surveyed.
6	☐	Paperwork received without sample.			
7	☐	No sample ID on sample container.			

Notes: Missing Samples (WL 11950 2x 8 oz) ~~Missing Samples (WL 114-15 2x 8 oz MS/MSD~~ ~~Missing Samples (WL 114-5 MS/MSD 2x8 oz)~~ MS/MSD to be taken from original sample Dan Jea

Corrective Action:

☒ Client's Name: McLaren Hart Informed verbally on: 10/9/95 By: Allen Field

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) [illegible] Date: 10-9-95

roject Management Review: [illegible] Date: 10-9-95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

MB' Ironmental Labo...ories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15522

S. ...IDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07.0803035.003.005
Project Location: (State) MISSOURI

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN								
1	WL-120-50	9/29	1500	AREA 1	50'	4	2-802G 2-402G	SOIL	—	STD	X	X	X								
2	WL-119B-50	9/29	1025	AREA 1	50'	↓	↓	↓	—	↓	X	X	X								
3	WL-119-50-MS/MSD	9/29	1025	AREA 1	50'	↓	↓	↓	—	↓	X	X	X								
4	WL-120B-50	9/29	1500	AREA 1	50'	↓	↓	↓	—	↓	X	X	X								
5	WL-117-25	9/27	0840	AREA 1	25'	↓	↓	↓	—	↓	X	X	X								
6	WL-116B-5	9/26	1240	AREA 1	5'	↓	↓	↓	—	↓	X	X	X								
7	WL-113B-5	9/25	830	AREA 1	5'	↓	↓	↓	—	↓	X	X	X								
8																					
9																					
10																					

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGGS
Address 502 EARTH CITY EXPRESSWAY STE 206 ST LOUIS MO 63045
Phone 3147709233 Fax 3147709884

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
REFER TO PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL S. RIGGS
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By: [signature] Date/Time 10/6/95 1130
Received By or Method of Shipment/Shipment I.D. [signature] Date/Time 0845 10-5-95

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15521

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07-0803035.003.005
Project Location: (State) MISSOURI

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN							
1	WL-241-S	9/28	1000	AREA 2	5'	4	2-8026 2-4026	SOIL	—	STD	X	X	X							
2	WL-114-S	9/25	1230	AREA 1	5'	↓	↓	↓	—	↓	X	X	X							
3	WL-114-S-MS/MSD	9/25	1230	AREA 1	5'	↓	↓	↓	—	↓	X	X	X							
4	WL-114-15	9/25	1245	AREA 1	15'	↓	↓	↓	—	↓	X	X	X							
5	WL-114-15-MS/MSD	9/25	1245	AREA 1	15'	↓	↓	↓	—	↓	X	X	X							
6	WL-118-S	9/28	1350	AREA 1	5'	↓	↓	↓	—	↓	X	X	X							
7	WL-118-10	9/28	1400	AREA 1	10'	↓	↓	↓	—	↓	X	X	X							
8	WL-119-S	9/29	815	AREA 1	5'	↓	↓	↓	—	↓	X	X	X							
9	WL-119-50	9/29	1025	AREA 1	50'	↓	↓	↓	—	↓	X	X	X							
10	WL-120-S	9/29	1300	AREA 1	5'	↓	↓	↓	—	↓	X	X	X							

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGGS
Address 502 GARAGE CITY EXPRESSWAY
STE 206 ST LOUIS MO 63045
Phone 3147709233 Fax 3147709884

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
REFER TO PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL S RIGGS
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
[signature]	10/6/95 1130	[signature]	10-9-95 0845
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity
* Specify Total or Dissolved

MB Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15520

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 070803035.003.005
Project Location: (State) MISSOURI

FOR LABORATORY USE ONLY
Laboratory Project #: _____ *Storage ID:* _____
Sample Condition Upon Receipt: Temp: _____ °C _____ *Geiger:* _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN
1	WL-113-S	9/25	830	AREA 1	5'	4	2-8026 2-9026	SOIL	—	STD	X	X	X
2	WL-113-10	9/25	835	AREA 1	10'				—		X	X	X
3	WL-115-10	9/27	815	AREA 1	15'				—		X	X	X
4	WL-115-S	9/27	755	AREA 1	5'				—		X	X	X
5	WL-117-10	9/27	805	AREA 1	10'				—		X	X	X
6	WL-239-25	9/27	1325	AREA 2	25'				—		X	X	X
7	WL-239-S	9/27	1235	AREA 2	5'				—		X	X	X
8	WL-116-5	9/26	1240	AREA 1	5'				—		X	X	X
9	WL-116-10	9/26	1255	AREA 1	10'				—		X	X	X
10	WL-241-15	9/28	1070	AREA 2	15'				—		X	X	X

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGET
Address 502 EARTH CITY EXPRESSWAY STE 206 ST LOUIS MO 63045
Phone 314 770 9233 Fax 314 770 9234

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
REFER TO PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL J. RIGET
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
[signature]	10/6/95 1130	[signature]	10-9-95 0945
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method)
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

ory: Gamma Spec.
d: HASL 300
Matrix: Soil

Report Date: 11/06/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-120-50	9506-001	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.069
WL-120-50	9506-001	Potassium-40	10/17/95	10/24/95	13.5	PCI/G	1.8	0.6
WL-120-50	9506-001	Thallium-208	10/17/95	10/24/95	0.32	PCI/G	0.07	0.07
WL-120-50	9506-001	Lead-210	10/17/95	10/24/95	ND	PCI/G		9.35
WL-120-50	9506-001	Lead-212	10/17/95	10/24/95	1.12	PCI/G	0.15	0.08
WL-120-50	9506-001	Bismuth 214	10/17/95	10/24/95	1.04	PCI/G	0.16	0.11
WL-120-50	9506-001	Lead-214	10/17/95	10/24/95	0.85	PCI/G	0.13	0.11
WL-120-50	9506-001	Radium-226	10/17/95	10/24/95	0.92	PCI/G	0.10	0.11
WL-120-50	9506-001	Radium-228	10/17/95	10/24/95	0.91	PCI/G	0.21	0.22
WL-120-50	9506-001	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.59
WL-120-50	9506-001	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.96

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119B-50	9506-002	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.028
WL-119B-50	9506-002	Potassium-40	10/17/95	10/24/95	15.7	PCI/G	1.8	0.3
WL-119B-50	9506-002	Thallium-208	10/17/95	10/24/95	0.17	PCI/G	0.04	0.03
WL-119B-50	9506-002	Lead-210	10/17/95	10/24/95	0.62	PCI/G	0.38	0.37
WL-119B-50	9506-002	Bismuth 212	10/17/95	10/24/95	0.33	PCI/G	0.29	0.23
WL-119B-50	9506-002	Lead-212	10/17/95	10/24/95	0.47	PCI/G	0.06	0.03
WL-119B-50	9506-002	Bismuth 214	10/17/95	10/24/95	0.46	PCI/G	0.07	0.06
WL-119B-50	9506-002	Lead-214	10/17/95	10/24/95	0.43	PCI/G	0.06	0.04
WL-119B-50	9506-002	Radium-224	10/17/95	10/24/95	1.66	PCI/G	0.57	0.39
WL-119B-50	9506-002	Radium-226	10/17/95	10/24/95	0.45	PCI/G	0.05	0.06
WL-119B-50	9506-002	Radium-228	10/17/95	10/24/95	0.50	PCI/G	0.10	0.12
WL-119B-50	9506-002	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.14
WL-119B-50	9506-002	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.71
W 3-50	9506-002	Thorium-234	10/17/95	10/24/95	0.50	PCI/G	0.30	0.24

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WL-119-50	9506-003	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.027
WL-119-50	9506-003	Potassium-40	10/17/95	10/24/95	16.1	PCI/G	1.8	0.2
WL-119-50	9506-003	Thallium-208	10/17/95	10/24/95	0.15	PCI/G	0.03	0.02
WL-119-50	9506-003	Lead-210	10/17/95	10/24/95	ND	PCI/G		0.35
WL-119-50	9506-003	Bismuth 212	10/17/95	10/24/95	0.42	PCI/G	0.20	0.20
WL-119-50	9506-003	Lead-212	10/17/95	10/24/95	0.51	PCI/G	0.05	0.03
WL-119-50	9506-003	Bismuth 214	10/17/95	10/24/95	0.48	PCI/G	0.07	0.04
WL-119-50	9506-003	Lead-214	10/17/95	10/24/95	0.44	PCI/G	0.06	0.04
WL-119-50	9506-003	Radium-224	10/17/95	10/24/95	1.77	PCI/G	0.45	0.34
WL-119-50	9506-003	Radium-226	10/17/95	10/24/95	0.46	PCI/G	0.05	0.04
WL-119-50	9506-003	Radium-228	10/17/95	10/24/95	0.41	PCI/G	0.09	0.10
WL-119-50	9506-003	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.13
WL-119-50	9506-003	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.63

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WL-119-50	9506-003DUP	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.034
WL-119-50	9506-003DUP	Potassium-40	10/17/95	10/24/95	16.5	PCI/G	1.8	0.3
WL-119-50	9506-003DUP	Thallium-208	10/17/95	10/24/95	0.13	PCI/G	0.04	0.03
WL-119-50	9506-003DUP	Lead-210	10/17/95	10/24/95	ND	PCI/G		2.39
WL-119-50	9506-003DUP	Lead-212	10/17/95	10/24/95	0.49	PCI/G	0.07	0.05
WL-119-50	9506-003DUP	Bismuth 214	10/17/95	10/24/95	0.46	PCI/G	0.07	0.06
WL-119-50	9506-003DUP	Lead-214	10/17/95	10/24/95	0.49	PCI/G	0.07	0.06
WL-119-50	9506-003DUP	Radium-224	10/17/95	10/24/95	1.83	PCI/G	0.72	0.55
WL-119-50	9506-003DUP	Radium-226	10/17/95	10/24/95	0.48	PCI/G	0.05	0.06
WL-119-50	9506-003DUP	Radium-228	10/17/95	10/24/95	0.44	PCI/G	0.10	0.12
WL-119-50	9506-003DUP	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.31
WL-119-50	9506-003DUP	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.99

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WL-120B-50	9506-004	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.049
WL-120B-50	9506-004	Potassium-40	10/17/95	10/24/95	16.1	PCI/G	1.9	0.3
WL-120B-50	9506-004	Thallium-208	10/17/95	10/24/95	0.33	PCI/G	0.06	0.04
WL-120B-50	9506-004	Lead-210	10/17/95	10/24/95	1.03	PCI/G	0.63	0.81
WL-120B-50	9506-004	Bismuth 212	10/17/95	10/24/95	0.75	PCI/G	0.32	0.39
WL-120B-50	9506-004	Lead-212	10/17/95	10/24/95	1.00	PCI/G	0.14	0.06
WL-120B-50	9506-004	Bismuth 214	10/17/95	10/24/95	1.11	PCI/G	0.13	0.09
WL-120B-50	9506-004	Lead-214	10/17/95	10/24/95	1.05	PCI/G	0.12	0.08
WL-120B-50	9506-004	Radium-224	10/17/95	10/24/95	3.07	PCI/G	0.94	0.67
WL-120B-50	9506-004	Radium-226	10/17/95	10/24/95	1.07	PCI/G	0.09	0.09
WL-120B-50	9506-004	Radium-228	10/17/95	10/24/95	1.04	PCI/G	0.18	0.17
WL-120B-50	9506-004	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.41
WL-120B-50	9506-004	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.33
W B-50	9506-004	Thorium-234	10/17/95	10/24/95	0.76	PCI/G	0.54	0.64

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-117-25	9506-005	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.038
WL-117-25	9506-005	Potassium-40	10/17/95	10/24/95	13.3	PCI/G	1.6	0.3
WL-117-25	9506-005	Thallium-208	10/17/95	10/24/95	0.18	PCI/G	0.05	0.03
WL-117-25	9506-005	Lead-210	10/17/95	10/24/95	ND	PCI/G		1.14
WL-117-25	9506-005	Bismuth 212	10/17/95	10/24/95	0.64	PCI/G	0.25	0.21
WL-117-25	9506-005	Lead-212	10/17/95	10/24/95	0.59	PCI/G	0.09	0.05
WL-117-25	9506-005	Bismuth 214	10/17/95	10/24/95	0.68	PCI/G	0.09	0.05
WL-117-25	9506-005	Lead-214	10/17/95	10/24/95	0.58	PCI/G	0.08	0.06
WL-117-25	9506-005	Radium-224	10/17/95	10/24/95	1.92	PCI/G	0.71	0.52
WL-117-25	9506-005	Radium-226	10/17/95	10/24/95	0.62	PCI/G	0.06	0.05
WL-117-25	9506-005	Radium-228	10/17/95	10/24/95	0.64	PCI/G	0.12	0.12
WL-117-25	9506-005	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.27
WL-117-25	9506-005	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.94

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116B-5	9506-006	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.073
WL-116B-5	9506-006	Potassium-40	10/17/95	10/24/95	14.1	PCI/G	2.1	0.5
WL-116B-5	9506-006	Thallium-208	10/17/95	10/24/95	0.37	PCI/G	0.09	0.07
WL-116B-5	9506-006	Lead-210	10/17/95	10/24/95	ND	PCI/G		11.3
WL-116B-5	9506-006	Bismuth 212	10/17/95	10/24/95	0.89	PCI/G	0.59	0.61
WL-116B-5	9506-006	Lead-212	10/17/95	10/24/95	1.02	PCI/G	0.17	0.10
WL-116B-5	9506-006	Bismuth 214	10/17/95	10/24/95	1.24	PCI/G	0.18	0.13
WL-116B-5	9506-006	Lead-214	10/17/95	10/24/95	1.11	PCI/G	0.17	0.13
WL-116B-5	9506-006	Radium-226	10/17/95	10/24/95	1.18	PCI/G	0.13	0.13
WL-116B-5	9506-006	Radium-228	10/17/95	10/24/95	1.00	PCI/G	0.23	0.28
WL-116B-5	9506-006	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.68
WL-116B-5	9506-006	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		2.26

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WL-113B-5	9506-007	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.034
WL-113B-5	9506-007	Potassium-40	10/17/95	10/24/95	15.3	PCI/G	1.7	0.3
WL-113B-5	9506-007	Thallium-208	10/17/95	10/24/95	0.31	PCI/G	0.05	0.03
WL-113B-5	9506-007	Lead-210	10/17/95	10/24/95	1.41	PCI/G	0.54	0.44
WL-113B-5	9506-007	Bismuth 212	10/17/95	10/24/95	1.06	PCI/G	0.31	0.23
WL-113B-5	9506-007	Lead-212	10/17/95	10/24/95	1.00	PCI/G	0.12	0.04
WL-113B-5	9506-007	Bismuth 214	10/17/95	10/24/95	1.06	PCI/G	0.12	0.06
WL-113B-5	9506-007	Lead-214	10/17/95	10/24/95	1.05	PCI/G	0.10	0.05
WL-113B-5	9506-007	Radium-224	10/17/95	10/24/95	2.86	PCI/G	0.60	0.48
WL-113B-5	9506-007	Radium-226	10/17/95	10/24/95	1.06	PCI/G	0.08	0.06
WL-113B-5	9506-007	Radium-228	10/17/95	10/24/95	0.98	PCI/G	0.13	0.13
WL-113B-5	9506-007	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.17
WL-113B-5	9506-007	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.72
W 3B-5	9506-007	Thorium-234	10/17/95	10/24/95	0.83	PCI/G	0.40	0.31

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WL-241-5	9506-008	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.065
WL-241-5	9506-008	Potassium-40	10/17/95	10/24/95	7.58	PCI/G	1.29	0.69
WL-241-5	9506-008	Thallium-208	10/17/95	10/24/95	0.28	PCI/G	0.06	0.06
WL-241-5	9506-008	Lead-210	10/17/95	10/24/95	26.7	PCI/G	3.6	1.1
WL-241-5	9506-008	Bismuth 214	10/17/95	10/24/95	12.6	PCI/G	0.6	0.1
WL-241-5	9506-008	Lead-214	10/17/95	10/24/95	12.5	PCI/G	0.9	0.1
WL-241-5	9506-008	Radium-226	10/17/95	10/24/95	12.9	PCI/G	0.54	0.1
WL-241-5	9506-008	Actinium-227	10/17/95	10/24/95	4.22	PCI/G	0.53	0.33
WL-241-5	9506-008	Protactinium-231	10/17/95	10/24/95	4.09	PCI/G	1.06	1.78

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WL-114-5	9506-009	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.041
WL-114-5	9506-009	Potassium-40	10/17/95	10/24/95	5.71	PCI/G	0.86	0.46
WL-114-5	9506-009	Thallium-208	10/17/95	10/24/95	0.16	PCI/G	0.05	0.04
WL-114-5	9506-009	Lead-210	10/17/95	10/24/95	3.29	PCI/G	1.00	0.95
WL-114-5	9506-009	Lead-212	10/17/95	10/24/95	0.43	PCI/G	0.08	0.06
WL-114-5	9506-009	Bismuth 214	10/17/95	10/24/95	2.60	PCI/G	0.20	0.06
WL-114-5	9506-009	Lead-214	10/17/95	10/24/95	2.52	PCI/G	0.27	0.25
WL-114-5	9506-009	Radium-224	10/17/95	10/24/95	6.15	PCI/G	1.05	0.68
WL-114-5	9506-009	Radium-226	10/17/95	10/24/95	2.59	PCI/G	0.17	0.06
WL-114-5	9506-009	Actinium-227	10/17/95	10/24/95	1.20	PCI/G	0.23	0.22
WL-114-5	9506-009	Radium-228	10/17/95	10/24/95	0.39	PCI/G	0.12	0.16
WL-114-5	9506-009	Protactinium-231	10/17/95	10/24/95	1.93	PCI/G	0.72	1.09
WL-114-5	9506-009	Uranium-235	10/17/95	10/24/95	0.32	PCI/G	0.06	0.27

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WL-114-5	9506-009DUP	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.042
WL-114-5	9506-009DUP	Potassium-40	10/17/95	10/24/95	5.59	PCI/G	0.81	0.36
WL-114-5	9506-009DUP	Thallium-208	10/17/95	10/24/95	0.16	PCI/G	0.05	0.04
WL-114-5	9506-009DUP	Lead-210	10/17/95	10/24/95	ND	PCI/G		2.34
WL-114-5	9506-009DUP	Bismuth 212	10/17/95	10/24/95	0.35	PCI/G	0.22	0.27
WL-114-5	9506-009DUP	Lead-212	10/17/95	10/24/95	0.48	PCI/G	0.09	0.07
WL-114-5	9506-009DUP	Bismuth 214	10/17/95	10/24/95	2.53	PCI/G	0.19	0.07
WL-114-5	9506-009DUP	Lead-214	10/17/95	10/24/95	2.49	PCI/G	0.20	0.08
WL-114-5	9506-009DUP	Radium-224	10/17/95	10/24/95	5.59	PCI/G	1.00	0.08
WL-114-5	9506-009DUP	Radium-226	10/17/95	10/24/95	2.54	PCI/G	0.14	0.07
WL-114-5	9506-009DUP	Actinium-227	10/17/95	10/24/95	1.07	PCI/G	0.25	0.28
WL-114-5	9506-009DUP	Radium-228	10/17/95	10/24/95	0.46	PCI/G	0.12	0.15
WL-114-5	9506-009DUP	Protactinium-231	10/17/95	10/24/95	2.42	PCI/G	1.05	1.35

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WL-114-15	9506-010	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.043
WL-114-15	9506-010	Potassium-40	10/17/95	10/24/95	17.8	PCI/G	2.1	0.4
WL-114-15	9506-010	Thallium-208	10/17/95	10/24/95	0.35	PCI/G	0.05	0.04
WL-114-15	9506-010	Lead-210	10/17/95	10/24/95	ND	PCI/G		1.41
WL-114-15	9506-010	Bismuth 212	10/17/95	10/24/95	0.84	PCI/G	0.35	0.30
WL-114-15	9506-010	Lead-212	10/17/95	10/24/95	0.99	PCI/G	0.13	0.06
WL-114-15	9506-010	Bismuth 214	10/17/95	10/24/95	0.97	PCI/G	0.12	0.07
WL-114-15	9506-010	Lead-214	10/17/95	10/24/95	0.99	PCI/G	0.12	0.07
WL-114-15	9506-010	Radium-224	10/17/95	10/24/95	3.14	PCI/G	0.92	0.65
WL-114-15	9506-010	Radium-226	10/17/95	10/24/95	0.98	PCI/G	0.08	0.07
WL-114-15	9506-010	Radium-228	10/17/95	10/24/95	1.04	PCI/G	0.15	0.14
WL-114-15	9506-010	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.35
WL-114-15	9506-010	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.08

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Me d: HASL 300
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Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-15	9506-010DUP	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.045
WL-114-15	9506-010DUP	Potassium-40	10/17/95	10/24/95	18.1	PCI/G	2.0	0.4
WL-114-15	9506-010DUP	Thallium-208	10/17/95	10/24/95	0.35	PCI/G	0.06	0.04
WL-114-15	9506-010DUP	Lead-210	10/17/95	10/24/95	ND	PCI/G		2.74
WL-114-15	9506-010DUP	Lead-212	10/17/95	10/24/95	1.01	PCI/G	0.13	0.07
WL-114-15	9506-010DUP	Bismuth 214	10/17/95	10/24/95	0.97	PCI/G	0.13	0.07
WL-114-15	9506-010DUP	Lead-214	10/17/95	10/24/95	0.97	PCI/G	0.11	0.09
WL-114-15	9506-010DUP	Radium-224	10/17/95	10/24/95	2.71	PCI/G	0.89	0.77
WL-114-15	9506-010DUP	Radium-226	10/17/95	10/24/95	0.97	PCI/G	0.08	0.07
WL-114-15	9506-010DUP	Radium-228	10/17/95	10/24/95	1.08	PCI/G	0.17	0.15
WL-114-15	9506-010DUP	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.48
WL-114-15	9506-010DUP	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.34

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-118-5	9506-011	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.19
WL-118-5	9506-011	Potassium-40	10/17/95	10/24/95	12.3	PCI/G	2.6	1.7
WL-118-5	9506-011	Lead-210	10/17/95	10/24/95	ND	PCI/G		40.3
WL-118-5	9506-011	Bismuth 214	10/17/95	10/24/95	18.4	PCI/G	1.2	0.3
WL-118-5	9506-011	Lead-214	10/17/95	10/24/95	19.9	PCI/G	1.6	0.3
WL-118-5	9506-011	Radium-223	10/17/95	10/24/95	79.8	PCI/G	11.6	17.0
WL-118-5	9506-011	Radium-224	10/17/95	10/24/95	39.1	PCI/G	6.3	3.6
WL-118-5	9506-011	Radium-226	10/17/95	10/24/95	18.4	PCI/G	1.0	0.3
WL-118-5	9506-011	Actinium-227	10/17/95	10/24/95	18.5	PCI/G	2.4	1.2
WL-118-5	9506-011	Protactinium-231	10/17/95	10/24/95	28.3	PCI/G	5.0	5.4
WL-118-5	9506-011	Uranium-235	10/17/95	10/24/95	2.40	PCI/G	0.37	1.41

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WL-118-10	9506-012	Cesium-137	10/17/95	10/24/95	0.045	PCI/G	0.025	0.027
WL-118-10	9506-012	Potassium-40	10/17/95	10/24/95	8.50	PCI/G	1.10	0.32
WL-118-10	9506-012	Thallium-208	10/17/95	10/24/95	0.17	PCI/G	0.04	0.03
WL-118-10	9506-012	Lead-210	10/17/95	10/24/95	0.97	PCI/G	0.62	0.54
WL-118-10	9506-012	Bismuth 212	10/17/95	10/24/95	0.39	PCI/G	0.23	0.23
WL-118-10	9506-012	Lead-212	10/17/95	10/24/95	0.49	PCI/G	0.07	0.04
WL-118-10	9506-012	Bismuth 214	10/17/95	10/24/95	1.17	PCI/G	0.11	0.05
WL-118-10	9506-012	Lead-214	10/17/95	10/24/95	1.24	PCI/G	0.11	0.05
WL-118-10	9506-012	Radium-224	10/17/95	10/24/95	0.47	PCI/G	0.55	0.43
WL-118-10	9506-012	Radium-226	10/17/95	10/24/95	1.31	PCI/G	0.10	0.05
WL-118-10	9506-012	Actinium-227	10/17/95	10/24/95	0.41	PCI/G	0.11	0.14
WL-118-10	9506-012	Radium-228	10/17/95	10/24/95	0.49	PCI/G	0.09	0.14
WL-118-10	9506-012	Protactinium-231	10/17/95	10/24/95	0.90	PCI/G	0.65	0.82
[illegible]3-10	9506-012	Thorium-234	10/17/95	10/24/95	0.82	PCI/G	0.35	0.31
WL-118-10	9506-012	Uranium-235	10/17/95	10/24/95	0.18	PCI/G	0.03	0.15

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-5	9506-013	Cesium-137	10/17/95	10/24/95	0.049	PCI/G	0.023	0.031
WL-119-5	9506-013	Potassium-40	10/17/95	10/24/95	13.4	PCI/G	1.6	0.4
WL-119-5	9506-013	Thallium-208	10/17/95	10/24/95	0.29	PCI/G	0.05	0.03
WL-119-5	9506-013	Lead-210	10/17/95	10/24/95	1.06	PCI/G	0.47	0.45
WL-119-5	9506-013	Lead-212	10/17/95	10/24/95	0.79	PCI/G	0.10	0.04
WL-119-5	9506-013	Bismuth 214	10/17/95	10/24/95	0.91	PCI/G	0.11	0.06
WL-119-5	9506-013	Lead-214	10/17/95	10/24/95	0.89	PCI/G	0.09	0.05
WL-119-5	9506-013	Radium-224	10/17/95	10/24/95	2.68	PCI/G	0.75	0.48
WL-119-5	9506-013	Radium-226	10/17/95	10/24/95	0.89	PCI/G	0.07	0.06
WL-119-5	9506-013	Radium-228	10/17/95	10/24/95	0.73	PCI/G	0.12	0.12
WL-119-5	9506-013	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.16
WL-119-5	9506-013	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.82
WL-119-5	9506-013	Thorium-234	10/17/95	10/24/95	0.85	PCI/G	0.42	0.33

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WL-120-5	9506-014	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.046
WL-120-5	9506-014	Potassium-40	10/17/95	10/24/95	14.9	PCI/G	1.8	0.3
WL-120-5	9506-014	Lead-210	10/17/95	10/24/95	ND	PCI/G		0.78
WL-120-5	9506-014	Bismuth 212	10/17/95	10/24/95	0.88	PCI/G	0.37	0.34
WL-120-5	9506-014	Lead-212	10/17/95	10/24/95	1.01	PCI/G	0.14	0.06
WL-120-5	9506-014	Bismuth 214	10/17/95	10/24/95	1.04	PCI/G	0.13	0.07
WL-120-5	9506-014	Lead-214	10/17/95	10/24/95	0.96	PCI/G	0.11	0.07
WL-120-5	9506-014	Radium-224	10/17/95	10/24/95	3.11	PCI/G	0.95	0.65
WL-120-5	9506-014	Radium-226	10/17/95	10/24/95	1.00	PCI/G	0.09	0.07
WL-120-5	9506-014	Radium-228	10/17/95	10/24/95	1.08	PCI/G	0.15	0.16
WL-120-5	9506-014	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.40
WL-120-5	9506-014	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.20
WL-120-5	9506-014	Thorium-234	10/17/95	10/24/95	0.85	PCI/G	0.54	0.45

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WL-113-5	9506-015	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.033
WL-113-5	9506-015	Potassium-40	10/17/95	10/24/95	14.7	PCI/G	1.8	0.3
WL-113-5	9506-015	Thallium-208	10/17/95	10/24/95	0.36	PCI/G	0.06	0.04
WL-113-5	9506-015	Lead-210	10/17/95	10/24/95	ND	PCI/G		1.26
WL-113-5	9506-015	Bismuth 212	10/17/95	10/24/95	0.80	PCI/G	0.25	0.27
WL-113-5	9506-015	Lead-212	10/17/95	10/24/95	1.04	PCI/G	0.14	0.05
WL-113-5	9506-015	Bismuth 214	10/17/95	10/24/95	1.06	PCI/G	0.11	0.06
WL-113-5	9506-015	Lead-214	10/17/95	10/24/95	0.88	PCI/G	0.11	0.06
WL-113-5	9506-015	Radium-224	10/17/95	10/24/95	3.49	PCI/G	0.90	0.58
WL-113-5	9506-015	Radium-226	10/17/95	10/24/95	0.97	PCI/G	0.08	0.06
WL-113-5	9506-015	Radium-228	10/17/95	10/24/95	1.06	PCI/G	0.14	0.13
WL-113-5	9506-015	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.32
WL-113-5	9506-015	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.01
WL 5	9506-015	Thorium-234	10/17/95	10/24/95	0.58	PCI/G	0.58	0.46

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113-10	9506-016	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.074
WL-113-10	9506-016	Potassium-40	10/17/95	10/24/95	11.3	PCI/G	1.6	0.6
WL-113-10	9506-016	Thallium-208	10/17/95	10/24/95	0.29	PCI/G	0.08	0.06
WL-113-10	9506-016	Lead-210	10/17/95	10/24/95	ND	PCI/G		11.4
WL-113-10	9506-016	Bismuth 212	10/17/95	10/24/95	0.90	PCI/G	0.50	0.59
WL-113-10	9506-016	Lead-212	10/17/95	10/24/95	0.82	PCI/G	0.15	0.10
WL-113-10	9506-016	Bismuth 214	10/17/95	10/24/95	1.40	PCI/G	0.21	0.12
WL-113-10	9506-016	Lead-214	10/17/95	10/24/95	1.65	PCI/G	0.21	0.12
WL-113-10	9506-016	Radium-226	10/17/95	10/24/95	1.53	PCI/G	0.15	0.12
WL-113-10	9506-016	Radium-228	10/17/95	10/24/95	0.98	PCI/G	0.22	0.24
WL-113-10	9506-016	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.62
WL-113-10	9506-016	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		2.09

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WL-115-40	9506-017	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.027
WL-115-40	9506-017	Potassium-40	10/17/95	10/24/95	14.5	PCI/G	1.7	0.3
WL-115-40	9506-017	Thallium-208	10/17/95	10/24/95	0.19	PCI/G	0.04	0.03
WL-115-40	9506-017	Lead-210	10/17/95	10/24/95	0.72	PCI/G	0.45	0.40
WL-115-40	9506-017	Bismuth 212	10/17/95	10/24/95	0.57	PCI/G	0.22	0.20
WL-115-40	9506-017	Lead-212	10/17/95	10/24/95	0.70	PCI/G	0.07	0.04
WL-115-40	9506-017	Bismuth 214	10/17/95	10/24/95	0.58	PCI/G	0.08	0.05
WL-115-40	9506-017	Lead-214	10/17/95	10/24/95	0.59	PCI/G	0.07	0.05
WL-115-40	9506-017	Radium-224	10/17/95	10/24/95	1.80	PCI/G	0.49	0.042
WL-115-40	9506-017	Radium-226	10/17/95	10/24/95	0.58	PCI/G	0.05	0.05
WL-115-40	9506-017	Radium-228	10/17/95	10/24/95	0.69	PCI/G	0.10	0.10
WL-115-40	9506-017	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.14
WL-115-40	9506-017	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.67
W ·40	9506-017	Thorium-234	10/17/95	10/24/95	0.52	PCI/G	0.36	0.25

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WL-115-5	9506-018	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.033
WL-115-5	9506-018	Potassium-40	10/17/95	10/24/95	14.4	PCI/G	1.7	0.3
WL-115-5	9506-018	Thallium-208	10/17/95	10/24/95	0.29	PCI/G	0.05	0.03
WL-115-5	9506-018	Lead-210	10/17/95	10/24/95	0.98	PCI/G	0.45	0.49
WL-115-5	9506-018	Bismuth 212	10/17/95	10/24/95	0.50	PCI/G	0.31	0.27
WL-115-5	9506-018	Lead-212	10/17/95	10/24/95	0.81	PCI/G	0.11	0.04
WL-115-5	9506-018	Bismuth 214	10/17/95	10/24/95	0.99	PCI/G	0.12	0.06
WL-115-5	9506-018	Lead-214	10/17/95	10/24/95	0.99	PCI/G	0.10	0.06
WL-115-5	9506-018	Radium-224	10/17/95	10/24/95	3.02	PCI/G	0.76	0.50
WL-115-5	9506-018	Radium-226	10/17/95	10/24/95	1.00	PCI/G	0.08	0.06
WL-115-5	9506-018	Radium-228	10/17/95	10/24/95	0.93	PCI/G	0.13	0.12
WL-115-5	9506-018	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.18
WL-115-5	9506-018	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.85

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WL-117-10	9506-019	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.044
WL-117-10	9506-019	Potassium-40	10/17/95	10/24/95	8.32	PCI/G	1.14	0.42
WL-117-10	9506-019	Thallium-208	10/17/95	10/24/95	0.16	PCI/G	0.05	0.04
WL-117-10	9506-019	Lead-210	10/17/95	10/24/95	5.82	PCI/G	1.11	0.87
WL-117-10	9506-019	Lead-212	10/17/95	10/24/95	0.58	PCI/G	0.09	0.06
WL-117-10	9506-019	Bismuth 214	10/17/95	10/24/95	3.22	PCI/G	0.23	0.07
WL-117-10	9506-019	Lead-214	10/17/95	10/24/95	2.92	PCI/G	0.23	0.08
WL-117-10	9506-019	Radium-223	10/17/95	10/24/95	5.48	PCI/G	1.18	4.32
WL-117-10	9506-019	Radium-224	10/17/95	10/24/95	6.48	PCI/G	1.12	0.71
WL-117-10	9506-019	Radium-226	10/17/95	10/24/95	3.15	PCI/G	0.19	0.07
WL-117-10	9506-019	Actinium-227	10/17/95	10/24/95	0.79	PCI/G	0.24	0.23
WL-117-10	9506-019	Radium-228	10/17/95	10/24/95	0.64	PCI/G	0.14	0.16
WL-117-10	9506-019	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.45
W -10	9506-019	Thorium-234	10/17/95	10/24/95	1.44	PCI/G	0.59	0.59
WL-117-10	9506-019	Uranium-235	10/17/95	10/24/95	0.30	PCI/G	0.06	0.27

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WL-239-25	9506-020	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.042
WL-239-25	9506-020	Potassium-40	10/17/95	10/24/95	10.8	PCI/G	1.4	0.3
WL-239-25	9506-020	Thallium-208	10/17/95	10/24/95	0.18	PCI/G	0.04	0.03
WL-239-25	9506-020	Lead-210	10/17/95	10/24/95	ND	PCI/G		2.65
WL-239-25	9506-020	Bismuth 212	10/17/95	10/24/95	0.67	PCI/G	0.31	0.27
WL-239-25	9506-020	Lead-212	10/17/95	10/24/95	0.67	PCI/G	0.10	0.06
WL-239-25	9506-020	Bismuth 214	10/17/95	10/24/95	0.87	PCI/G	0.11	0.06
WL-239-25	9506-020	Lead-214	10/17/95	10/24/95	0.83	PCI/G	0.09	0.06
WL-239-25	9506-020	Radium-224	10/17/95	10/24/95	2.48	PCI/G	0.67	0.67
WL-239-25	9506-020	Radium-226	10/17/95	10/24/95	0.90	PCI/G	0.08	0.06
WL-239-25	9506-020	Radium-228	10/17/95	10/24/95	0.72	PCI/G	0.13	0.12
WL-239-25	9506-020	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.38
WL-239-25	9506-020	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		1.15
[illegible]-25	9506-020	Thorium-234	10/17/95	10/24/95	1.24	PCI/G	0.88	0.89

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-239-5	9506-021	Cesium-137	10/17/95	10/23/95	ND	PCI/G		0.060
WL-239-5	9506-021	Potassium-40	10/17/95	10/23/95	10.0	PCI/G	1.6	0.5
WL-239-5	9506-021	Thallium-208	10/17/95	10/23/95	0.31	PCI/G	0.07	0.06
WL-239-5	9506-021	Lead-210	10/17/95	10/23/95	ND	PCI/G		8.86
WL-239-5	9506-021	Lead-212	10/17/95	10/23/95	1.11	PCI/G	0.17	0.09
WL-239-5	9506-021	Bismuth 214	10/17/95	10/23/95	1.01	PCI/G	0.16	0.10
WL-239-5	9506-021	Lead-214	10/17/95	10/23/95	0.89	PCI/G	0.14	0.10
WL-239-5	9506-021	Radium-226	10/17/95	10/23/95	0.96	PCI/G	0.11	0.10
WL-239-5	9506-021	Radium-228	10/17/95	10/23/95	1.13	PCI/G	0.19	0.17
WL-239-5	9506-021	Actinium-227	10/17/95	10/23/95	ND	PCI/G		0.56
WL-239-5	9506-021	Protactinium-231	10/17/95	10/23/95	ND	PCI/G		1.81

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Project: 570.03

Cr ry: Gamma Spec.
Me : HASL 300
Matrix: Soil

Report Date: 11/06/95
Date Sampled: 09/26/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-5	9506-022	Cesium-137	10/17/95	10/23/95	ND	PCI/G		0.040
WL-116-5	9506-022	Potassium-40	10/17/95	10/23/95	15.4	PCI/G	1.8	0.4
WL-116-5	9506-022	Thallium-208	10/17/95	10/23/95	0.30	PCI/G	0.06	0.04
WL-116-5	9506-022	Lead-210	10/17/95	10/23/95	1.44	PCI/G	0.59	0.48
WL-116-5	9506-022	Bismuth 212	10/17/95	10/23/95	0.64	PCI/G	0.33	0.29
WL-116-5	9506-022	Lead-212	10/17/95	10/23/95	0.89	PCI/G	0.11	0.05
WL-116-5	9506-022	Bismuth 214	10/17/95	10/23/95	1.07	PCI/G	0.12	0.06
WL-116-5	9506-022	Lead-214	10/17/95	10/23/95	1.13	PCI/G	0.11	0.06
WL-116-5	9506-022	Radium-224	10/17/95	10/23/95	2.93	PCI/G	0.67	0.52
WL-116-5	9506-022	Radium-226	10/17/95	10/23/95	1.11	PCI/G	0.08	0.06
WL-116-5	9506-022	Radium-228	10/17/95	10/23/95	0.94	PCI/G	0.13	0.14
WL-116-5	9506-022	Actinium-227	10/17/95	10/23/95	ND	PCI/G		0.19
WL-116-5	9506-022	Protactinium-231	10/17/95	10/23/95	ND	PCI/G		0.89
WL 5	9506-022	Thorium-234	10/17/95	10/23/95	1.07	PCI/G	0.48	0.31

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-10	9506-023	Cesium-137	10/17/95	10/23/95	ND	PCI/G		0.029
WL-116-10	9506-023	Potassium-40	10/17/95	10/23/95	12.1	PCI/G	1.4	0.3
WL-116-10	9506-023	Thallium-208	10/17/95	10/23/95	0.24	PCI/G	0.04	0.03
WL-116-10	9506-023	Lead-210	10/17/95	10/23/95	1.15	PCI/G	0.42	0.39
WL-116-10	9506-023	Bismuth 212	10/17/95	10/23/95	0.44	PCI/G	0.19	0.19
WL-116-10	9506-023	Lead-212	10/17/95	10/23/95	0.71	PCI/G	0.09	0.04
WL-116-10	9506-023	Bismuth 214	10/17/95	10/23/95	0.98	PCI/G	0.10	0.05
WL-116-10	9506-023	Lead-214	10/17/95	10/23/95	1.02	PCI/G	0.09	0.04
WL-116-10	9506-023	Radium-224	10/17/95	10/23/95	2.74	PCI/G	0.66	0.40
WL-116-10	9506-023	Radium-226	10/17/95	10/23/95	1.00	PCI/G	0.07	0.05
WL-116-10	9506-023	Radium-228	10/17/95	10/23/95	0.76	PCI/G	0.11	0.11
WL-116-10	9506-023	Actinium-227	10/17/95	10/23/95	ND	PCI/G		0.14
WL-116-10	9506-023	Protactinium-231	10/17/95	10/23/95	ND	PCI/G		0.69
W 5-10	9506-023	Thorium-234	10/17/95	10/23/95	0.73	PCI/G	0.37	0.31

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-241-15	9506-024	Cesium-137	10/17/95	10/23/95	ND	PCI/G		0.045
WL-241-15	9506-024	Potassium-40	10/17/95	10/23/95	16.2	PCI/G	1.9	0.3
WL-241-15	9506-024	Cadmium 109	10/17/95	10/23/95	0.94	PCI/G	0.81	0.69
WL-241-15	9506-024	Europium 155	10/17/95	10/23/95	0.11	PCI/G	0.10	0.11
WL-241-15	9506-024	Thallium-208	10/17/95	10/23/95	0.35	PCI/G	0.06	0.04
WL-241-15	9506-024	Lead-210	10/17/95	10/23/95	1.63	PCI/G	0.64	0.78
WL-241-15	9506-024	Lead-212	10/17/95	10/23/95	1.00	PCI/G	0.13	0.06
WL-241-15	9506-024	Bismuth 214	10/17/95	10/23/95	1.12	PCI/G	0.13	0.07
WL-241-15	9506-024	Lead-214	10/17/95	10/23/95	0.98	PCI/G	0.12	0.07
WL-241-15	9506-024	Radium-224	10/17/95	10/23/95	3.61	PCI/G	1.00	0.066
WL-241-15	9506-024	Radium-226	10/17/95	10/23/95	1.04	PCI/G	0.09	0.07
WL-241-15	9506-024	Radium-228	10/17/95	10/23/95	0.96	PCI/G	0.16	0.16
WL-241-15	9506-024	Actinium-227	10/17/95	10/23/95	ND	PCI/G		0.38
WL -15	9506-024	Protactinium-231	10/17/95	10/23/95	ND	PCI/G		1.15
WL-241-15	9506-024	Thorium-234	10/17/95	10/23/95	0.75	PCI/G	0.51	0.46

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Date Sampled: N/A
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK80459-1	Cesium-137	10/17/95	10/24/95	ND	PCI/G		0.014
NA	QCBLK80459-1	Lead-210	10/17/95	10/24/95	ND	PCI/G		2.43
NA	QCBLK80459-1	Radium-226	10/17/95	10/24/95	ND	PCI/G		0.031
NA	QCBLK80459-1	Actinium-227	10/17/95	10/24/95	ND	PCI/G		0.095
NA	QCBLK80459-1	Protactinium-231	10/17/95	10/24/95	ND	PCI/G		0.45

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Matrix: Soil

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Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK80460-1	Cesium-137	10/17/95	10/23/95	ND	PCI/G		0.014
NA	QCBLK80460-1	Lead-210	10/17/95	10/23/95	ND	PCI/G		2.43
NA	QCBLK80460-1	Radium-226	10/17/95	10/23/95	ND	PCI/G		0.037
NA	QCBLK80460-1	Actinium-227	10/17/95	10/23/95	ND	PCI/G		0.10
NA	QCBLK80460-1	Protactinium-231	10/17/95	10/23/95	ND	PCI/G		0.43

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Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS80459-1	Americium-241	10/17/95	10/24/95	96	%REC		
NA	QCLCS80459-1	Cesium-137	10/17/95	10/24/95	122	%REC		
NA	QCLCS80459-1	Cobalt-60	10/17/95	10/24/95	114	%REC		

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Report Date: 11/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS80460-1	Americium-241	10/17/95	10/23/95	98	%REC		
NA	QCLCS80460-1	Cesium-137	10/17/95	10/23/95	120	%REC		
NA	QCLCS80460-1	Cobalt-60	10/17/95	10/23/95	114	%REC		

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Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/06/95
Date Sampled: 09/29/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-120-50	9506-001	Thorium-232	10/23/95	10/27/95	0.23	PCI/G	0.16	0.13
WL-120-50	9506-001	Thorium-230	10/23/95	10/27/95	0.32	PCI/G	0.19	0.15
WL-120-50	9506-001	Thorium-228	10/23/95	10/27/95	0.18	PCI/G	0.15	0.20

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Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/06/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119B-50	9506-002	Thorium-232	10/23/95	10/27/95	0.10	PCI/G	0.08	0.09
WL-119B-50	9506-002	Thorium-230	10/23/95	10/27/95	0.22	PCI/G	0.13	0.11
WL-119B-50	9506-002	Thorium-228	10/23/95	10/27/95	0.15	PCI/G	0.10	0.09

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Method: NAS-NS-3004
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-50	9506-003	Thorium-232	10/23/95	10/27/95	0.32	PCI/G	0.26	0.41
WL-119-50	9506-003	Thorium-230	10/23/95	10/27/95	0.67	PCI/G	0.35	0.41
WL-119-50	9506-003	Thorium-228	10/23/95	10/27/95	0.14	PCI/G	0.17	0.30

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od: NAS-NS-3004
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Report Date: 11/06/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-50	9506-003MS	Thorium-232	10/23/95	10/27/95	120	%REC		
WL-119-50	9506-003MS	Thorium-230	10/23/95	10/27/95	108	%REC		
WL-119-50	9506-003MS	Thorium-228	10/23/95	10/27/95	114	%REC		

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'hod: NAS-NS-3004
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-50	9506-003MSD	Thorium-232	10/23/95	10/27/95	105	%REC		
WL-119-50	9506-003MSD	Thorium-230	10/23/95	10/27/95	131	%REC		
WL-119-50	9506-003MSD	Thorium-228	10/23/95	10/27/95	123	%REC		

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hod: NAS-NS-3004
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-120B-50	9506-004	Thorium-232	10/23/95	10/27/95	0.25	PCI/G	0.15	0.15
WL-120B-50	9506-004	Thorium-230	10/23/95	10/27/95	0.38	PCI/G	0.19	0.21
WL-120B-50	9506-004	Thorium-228	10/23/95	10/27/95	0.26	PCI/G	0.15	0.13

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Method: NAS-NS-3004
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-117-25	9506-005	Thorium-232	10/23/95	10/27/95	0.20	PCI/G	0.14	0.12
WL-117-25	9506-005	Thorium-230	10/23/95	10/27/95	0.70	PCI/G	0.28	0.15
WL-117-25	9506-005	Thorium-228	10/23/95	10/27/95	0.39	PCI/G	0.20	0.16

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116B-5	9506-006	Thorium-232	10/23/95	10/27/95	0.21	PCI/G	0.13	0.07
WL-116B-5	9506-006	Thorium-230	10/23/95	10/27/95	0.35	PCI/G	0.17	0.11
WL-116B-5	9506-006	Thorium-228	10/23/95	10/27/95	0.33	PCI/G	0.17	0.12

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113B-5	9506-007	Thorium-232	10/23/95	10/27/95	0.15	PCI/G	0.11	0.08
WL-113B-5	9506-007	Thorium-230	10/23/95	10/27/95	0.58	PCI/G	0.23	0.15
WL-113B-5	9506-007	Thorium-228	10/23/95	10/27/95	0.06	PCI/G	0.08	0.14

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hod: NAS-NS-3004
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-241-5	9506-008	Thorium-232	10/23/95	10/27/95	0.70	PCI/G	0.29	0.12
WL-241-5	9506-008	Thorium-230	10/23/95	10/27/95	49.2	PCI/G	10.4	0.2
WL-241-5	9506-008	Thorium-228	10/23/95	10/27/95	0.35	PCI/G	0.20	0.16

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-5	9506-009	Thorium-232	10/23/95	10/27/95	0.25	PCI/G	0.22	0.26
WL-114-5	9506-009	Thorium-230	10/23/95	10/27/95	23.2	PCI/G	4.9	0.4
WL-114-5	9506-009	Thorium-228	10/23/95	10/27/95	0.33	PCI/G	0.25	0.26

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WL-114-5	9506-009MS	Thorium-232	10/23/95	10/27/95	117	%REC		
WL-114-5	9506-009MS	Thorium-230	10/23/95	10/27/95	146	%REC		
WL-114-5	9506-009MS	Thorium-228	10/23/95	10/27/95	107	%REC		

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WL-114-5	9506-009MSD	Thorium-232	10/23/95	10/27/95	101	%REC		
WL-114-5	9506-009MSD	Thorium-230	10/23/95	10/27/95	120	%REC		
WL-114-5	9506-009MSD	Thorium-228	10/23/95	10/27/95	119	%REC		

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-15	9506-010	Thorium-232	10/23/95	10/27/95	0.14	PCI/G	0.16	0.20
WL-114-15	9506-010	Thorium-230	10/23/95	10/27/95	1.08	PCI/G	0.46	0.28
WL-114-15	9506-010	Thorium-228	10/23/95	10/27/95	0.35	PCI/G	0.25	0.27

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-15	9506-010MS	Thorium-232	10/23/95	10/27/95	134	%REC		
WL-114-15	9506-010MS	Thorium-230	10/23/95	10/27/95	119	%REC		
WL-114-15	9506-010MS	Thorium-228	10/23/95	10/27/95	122	%REC		

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-15	9506-010MSD	Thorium-232	10/23/95	10/27/95	114	%REC		
WL-114-15	9506-010MSD	Thorium-230	10/23/95	10/27/95	107	%REC		
WL-114-15	9506-010MSD	Thorium-228	10/23/95	10/27/95	117	%REC		

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Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-118-5	9506-011	Thorium-232	10/23/95	10/27/95	0.76	PCI/G	0.31	0.10
WL-118-5	9506-011	Thorium-230	10/23/95	10/27/95	205	PCI/G	42	0.2
WL-118-5	9506-011	Thorium-228	10/23/95	10/27/95	0.40	PCI/G	0.21	0.13

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/28/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-118-10	9506-012	Thorium-232	10/23/95	10/27/95	0.35	PCI/G	0.23	0.20
WL-118-10	9506-012	Thorium-230	10/23/95	10/27/95	7.19	PCI/G	1.88	0.20
WL-118-10	9506-012	Thorium-228	10/23/95	10/27/95	0.34	PCI/G	0.23	0.23

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-5	9506-013	Thorium-232	10/23/95	10/27/95	0.26	PCI/G	0.17	0.13
WL-119-5	9506-013	Thorium-230	10/23/95	10/27/95	0.60	PCI/G	0.28	0.22
WL-119-5	9506-013	Thorium-228	10/23/95	10/27/95	0.30	PCI/G	0.19	0.20

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/06/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-120-5	9506-014	Thorium-232	10/23/95	10/27/95	0.14	PCI/G	0.09	0.09
WL-120-5	9506-014	Thorium-230	10/23/95	10/27/95	0.48	PCI/G	0.18	0.12
WL-120-5	9506-014	Thorium-228	10/23/95	10/27/95	0.26	PCI/G	0.12	0.08

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
hod: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113-5	9506-015	Thorium-232	10/23/95	10/27/95	0.19	PCI/G	0.11	0.08
WL-113-5	9506-015	Thorium-230	10/23/95	10/27/95	0.33	PCI/G	0.15	0.11
WL-113-5	9506-015	Thorium-228	10/23/95	10/27/95	0.21	PCI/G	0.12	0.11

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/06/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113-10	9506-016	Thorium-232	10/23/95	10/27/95	0.08	PCI/G	0.07	0.08
WL-113-10	9506-016	Thorium-230	10/23/95	10/27/95	2.21	PCI/G	0.52	0.13
WL-113-10	9506-016	Thorium-228	10/23/95	10/27/95	0.13	PCI/G	0.09	0.10

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-115-40	9506-017	Thorium-232	10/23/95	10/27/95	0.27	PCI/G	0.15	0.09
WL-115-40	9506-017	Thorium-230	10/23/95	10/27/95	0.29	PCI/G	0.16	0.12
WL-115-40	9506-017	Thorium-228	10/23/95	10/27/95	0.19	PCI/G	0.12	0.05

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-115-5	9506-018	Thorium-232	10/23/95	10/27/95	0.21	PCI/G	0.13	0.11
WL-115-5	9506-018	Thorium-230	10/23/95	10/27/95	0.84	PCI/G	0.29	0.18
WL-115-5	9506-018	Thorium-228	10/23/95	10/27/95	0.32	PCI/G	0.16	0.14

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-117-10	9506-019	Thorium-232	10/23/95	10/27/95	0.46	PCI/G	0.19	0.09
WL-117-10	9506-019	Thorium-230	10/23/95	10/27/95	43.4	PCI/G	8.3	0.1
WL-117-10	9506-019	Thorium-228	10/23/95	10/27/95	0.31	PCI/G	0.16	0.12

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
hod: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-239-25	9506-020	Thorium-232	10/23/95	10/27/95	0.31	PCI/G	0.17	0.14
WL-239-25	9506-020	Thorium-230	10/23/95	10/27/95	0.58	PCI/G	0.26	0.25
WL-239-25	9506-020	Thorium-228	10/23/95	10/27/95	0.17	PCI/G	0.13	0.15

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/06/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-239-5	9506-021	Thorium-232	10/23/95	10/27/95	0.26	PCI/G	0.13	0.07
WL-239-5	9506-021	Thorium-230	10/23/95	10/27/95	0.50	PCI/G	0.20	0.12
WL-239-5	9506-021	Thorium-228	10/23/95	10/27/95	0.23	PCI/G	0.13	0.12

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
'od: NAS-NS-3004
ix: Soil

Report Date: 11/06/95
Date Sampled: 09/26/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-5	9506-022	Thorium-232	10/23/95	10/27/95	0.25	PCI/G	0.14	0.04
WL-116-5	9506-022	Thorium-230	10/23/95	10/27/95	0.51	PCI/G	0.21	0.13
WL-116-5	9506-022	Thorium-228	10/23/95	10/27/95	0.39	PCI/G	0.18	0.07

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
d: NAS-NS-3004
x: Soil

Report Date: 11/06/95
Date Sampled: 09/26/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-10	9506-023	Thorium-232	10/23/95	10/27/95	0.33	PCI/G	0.18	0.13
WL-116-10	9506-023	Thorium-230	10/23/95	10/27/95	0.36	PCI/G	0.20	0.21
WL-116-10	9506-023	Thorium-228	10/23/95	10/27/95	0.25	PCI/G	0.16	0.14

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/06/95
Date Sampled: 09/28/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-241-15	9506-024	Thorium-232	10/23/95	10/27/95	0.18	PCI/G	0.11	0.08
WL-241-15	9506-024	Thorium-230	10/23/95	10/27/95	0.57	PCI/G	0.21	0.13
WL-241-15	9506-024	Thorium-228	10/23/95	10/27/95	0.15	PCI/G	0.10	0.08

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81091-1	Thorium-232	10/23/95	10/27/95	0.03	PCI/G	0.07	0.15
NA	QCBLK81091-1	Thorium-230	10/23/95	10/27/95	0.04	PCI/G	0.08	0.17
NA	QCBLK81091-1	Thorium-228	10/23/95	10/27/95	-0.01	PCI/G	0.05	0.17

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Quanterra Environmental Services

Project: 570.03

`egory: Isotopic Thorium
od: NAS-NS-3004
.rix: Soil

Report Date: 11/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81091-1	Thorium-232	10/23/95	10/27/95	105	%REC		
NA	QCLCS81091-1	Thorium-230	10/23/95	10/27/95	97	%REC		
NA	QCLCS81091-1	Thorium-228	10/23/95	10/27/95	100	%REC		

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/07/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81092-1	Thorium-232	10/23/95	10/27/95	0.009	PCI/G	0.024	0.058
NA	QCBLK81092-1	Thorium-230	10/23/95	10/27/95	0.12	PCI/G	0.06	0.07
NA	QCBLK81092-1	Thorium-228	10/23/95	10/27/95	-0.003	PCI/G	0.025	0.077

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 11/07/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81092-1	Thorium-232	10/23/95	10/27/95	121	%REC		
NA	QCLCS81092-1	Thorium-230	10/23/95	10/27/95	111	%REC		
NA	QCLCS81092-1	Thorium-228	10/23/95	10/27/95	112	%REC		

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-120-50	9506-001	Uranium-238	10/23/95	10/27/95	0.52	PCI/G	0.25	0.12
WL-120-50	9506-001	Uranium-235/236	10/23/95	10/27/95	0.11	PCI/G	0.12	0.12
WL-120-50	9506-001	Uranium-234	10/23/95	10/27/95	0.46	PCI/G	0.23	0.14

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Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119B-50	9506-002	Uranium-238	10/23/95	10/27/95	0.36	PCI/G	0.23	0.25
WL-119B-50	9506-002	Uranium-235/236	10/23/95	10/27/95	-0.02	PCI/G	0.08	0.31
WL-119B-50	9506-002	Uranium-234	10/23/95	10/27/95	0.57	PCI/G	0.29	0.19

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
hod: NAS-NS-3050
rix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-50	9506-003	Uranium-238	10/23/95	10/27/95	0.34	PCI/G	0.36	0.58
WL-119-50	9506-003	Uranium-235/236	10/23/95	10/27/95	0.06	PCI/G	0.24	0.65
WL-119-50	9506-003	Uranium-234	10/23/95	10/27/95	0.85	PCI/G	0.53	0.50

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Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
hod: NAS-NS-3050
.rix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-50	9506-003MS	Uranium-238	10/23/95	10/27/95	135	%REC		
WL-119-50	9506-003MS	Uranium-234	10/23/95	10/27/95	121	%REC		

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-50	9506-003MSD	Uranium-238	10/23/95	10/27/95	135	%REC		
WL-119-50	9506-003MSD	Uranium-234	10/23/95	10/27/95	132	%REC		

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-120B-50	9506-004	Uranium-238	10/23/95	10/27/95	0.92	PCI/G	0.46	0.38
WL-120B-50	9506-004	Uranium-235/236	10/23/95	10/27/95	0.005	PCI/G	0.18	0.53
WL-120B-50	9506-004	Uranium-234	10/23/95	10/27/95	0.98	PCI/G	0.47	0.35

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
hod: NAS-NS-3050
rix: Soil

Report Date: 11/07/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-117-25	9506-005	Uranium-238	10/23/95	10/27/95	0.56	PCI/G	0.31	0.10
WL-117-25	9506-005	Uranium-235/236	10/23/95	10/27/95	0.07	PCI/G	0.13	0.25
WL-117-25	9506-005	Uranium-234	10/23/95	10/27/95	0.56	PCI/G	0.31	0.17

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/26/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116B-5	9506-006	Uranium-238	10/23/95	10/27/95	1.03	PCI/G	0.51	0.20
WL-116B-5	9506-006	Uranium-235/236	10/23/95	10/27/95	0.23	PCI/G	0.24	0.24
WL-116B-5	9506-006	Uranium-234	10/23/95	10/27/95	0.64	PCI/G	0.39	0.28

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Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113B-5	9506-007	Uranium-238	10/23/95	10/27/95	0.62	PCI/G	0.30	0.08
WL-113B-5	9506-007	Uranium-235/236	10/23/95	10/27/95	0.03	PCI/G	0.07	0.19
WL-113B-5	9506-007	Uranium-234	10/23/95	10/27/95	0.76	PCI/G	0.34	0.16

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
hod: NAS-NS-3050
rix: Soil

Report Date: 11/07/95
Date Sampled: 09/28/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-241-5	9506-008	Uranium-238	10/23/95	10/27/95	3.90	PCI/G	1.07	0.18
WL-241-5	9506-008	Uranium-235/236	10/23/95	10/27/95	0.23	PCI/G	0.20	0.23
WL-241-5	9506-008	Uranium-234	10/23/95	10/27/95	4.51	PCI/G	1.20	0.15

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
thod: NAS-NS-3050
:rix: Soil

Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-5	9506-009	Uranium-238	10/23/95	10/27/95	3.54	PCI/G	1.38	0.51
WL-114-5	9506-009	Uranium-235/236	10/23/95	10/27/95	0.82	PCI/G	0.63	0.51
WL-114-5	9506-009	Uranium-234	10/23/95	10/27/95	3.43	PCI/G	1.35	0.63

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
thod: NAS-NS-3050
rix: Soil

Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-5	9506-009MS	Uranium-238	10/23/95	10/27/95	111	%REC		
WL-114-5	9506-009MS	Uranium-234	10/23/95	10/27/95	127	%REC		

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
`hod: NAS-NS-3050
rix: Soil

Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-5	9506-009MSD	Uranium-238	10/23/95	10/27/95	103	%REC		
WL-114-5	9506-009MSD	Uranium-234	10/23/95	10/27/95	112	%REC		

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-15	9506-010	Uranium-238	10/23/95	10/27/95	1.60	PCI/G	0.82	0.23
WL-114-15	9506-010	Uranium-235/236	10/23/95	10/27/95	0.41	PCI/G	0.43	0.44
WL-114-15	9506-010	Uranium-234	10/23/95	10/27/95	1.29	PCI/G	0.74	0.56

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
hod: NAS-NS-3050
.rix: Soil

Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-15	9506-010MS	Uranium-238	10/23/95	10/27/95	146	%REC		
WL-114-15	9506-010MS	Uranium-234	10/23/95	10/27/95	136	%REC		

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Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-114-15	9506-010MSD	Uranium-238	10/23/95	10/27/95	129	%REC		
WL-114-15	9506-010MSD	Uranium-234	10/23/95	10/27/95	137	%REC		

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rix: Soil

Report Date: 11/07/95
Date Sampled: 09/28/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-118-5	9506-011	Uranium-238	10/23/95	10/27/95	17.8	PCI/G	4.1	0.2
WL-118-5	9506-011	Uranium-235/236	10/23/95	10/27/95	1.46	PCI/G	0.57	0.10
WL-118-5	9506-011	Uranium-234	10/23/95	10/27/95	15.6	PCI/G	3.6	0.2

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Date Sampled: 09/28/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-118-10	9506-012	Uranium-238	10/23/95	10/27/95	1.14	PCI/G	0.47	0.17
WL-118-10	9506-012	Uranium-235/236	10/23/95	10/27/95	0.17	PCI/G	0.18	0.18
WL-118-10	9506-012	Uranium-234	10/23/95	10/27/95	1.18	PCI/G	0.48	0.18

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Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-119-5	9506-013	Uranium-238	10/23/95	10/27/95	0.72	PCI/G	0.35	0.17
WL-119-5	9506-013	Uranium-235/236	10/23/95	10/27/95	0.14	PCI/G	0.17	0.27
WL-119-5	9506-013	Uranium-234	10/23/95	10/27/95	0.51	PCI/G	0.29	0.21

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Project: 570.03

Quanterra Environmental Services

egory: Isotopic Uranium
iod: NAS-NS-3050
rix: Soil

Report Date: 11/07/95
Date Sampled: 09/29/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-120-5	9506-014	Uranium-238	10/23/95	10/27/95	0.95	PCI/G	0.38	0.18
WL-120-5	9506-014	Uranium-235/236	10/23/95	10/27/95	0.33	PCI/G	0.23	0.24
WL-120-5	9506-014	Uranium-234	10/23/95	10/27/95	1.15	PCI/G	0.43	0.26

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Quanterra Environmental Services

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Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/25/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113-5	9506-015	Uranium-238	10/23/95	10/27/95	1.25	PCI/G	0.54	0.26
WL-113-5	9506-015	Uranium-235/236	10/23/95	10/27/95	0.60	PCI/G	0.38	0.24
WL-113-5	9506-015	Uranium-234	10/23/95	10/27/95	1.40	PCI/G	0.59	0.32

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Date Sampled: 09/25/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113-10	9506-016	Uranium-238	10/23/95	10/27/95	1.06	PCI/G	0.44	0.09
WL-113-10	9506-016	Uranium-235/236	10/23/95	10/27/95	0.27	PCI/G	0.22	0.23
WL-113-10	9506-016	Uranium-234	10/23/95	10/27/95	1.20	PCI/G	0.48	0.22

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Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-115-40	9506-017	Uranium-238	10/23/95	10/27/95	0.33	PCI/G	0.20	0.11
WL-115-40	9506-017	Uranium-235/236	10/23/95	10/27/95	0.03	PCI/G	0.06	0.13
WL-115-40	9506-017	Uranium-234	10/23/95	10/27/95	0.35	PCI/G	0.21	0.16

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Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-115-5	9506-018	Uranium-238	10/23/95	10/27/95	1.22	PCI/G	0.49	0.21
WL-115-5	9506-018	Uranium-235/236	10/23/95	10/27/95	0.47	PCI/G	0.31	0.31
WL-115-5	9506-018	Uranium-234	10/23/95	10/27/95	1.30	PCI/G	0.52	0.29

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rix: Soil

Report Date: 11/07/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-117-10	9506-019	Uranium-238	10/23/95	10/27/95	1.69	PCI/G	0.95	0.51
WL-117-10	9506-019	Uranium-235/236	10/23/95	10/27/95	0.84	PCI/G	0.69	0.67
WL-117-10	9506-019	Uranium-234	10/23/95	10/27/95	2.91	PCI/G	1.38	0.69

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Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-117-10	9506-019RE	Uranium-238	10/31/95	11/02/95	2.90	PCI/G	0.86	0.16
WL-117-10	9506-019RE	Uranium-235/236	10/31/95	11/02/95	0.17	PCI/G	0.19	0.25
WL-117-10	9506-019RE	Uranium-234	10/31/95	11/02/95	1.72	PCI/G	0.61	0.25

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-239-25	9506-020	Uranium-238	10/23/95	10/27/95	0.48	PCI/G	0.36	0.47
WL-239-25	9506-020	Uranium-235/236	10/23/95	10/27/95	0.49	PCI/G	0.42	0.66
WL-239-25	9506-020	Uranium-234	10/23/95	10/27/95	0.83	PCI/G	0.46	0.46

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trix: Soil

Report Date: 11/07/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-239-5	9506-021	Uranium-238	10/23/95	10/27/95	1.22	PCI/G	0.45	0.14
WL-239-5	9506-021	Uranium-235/236	10/23/95	10/27/95	0.35	PCI/G	0.24	0.10
WL-239-5	9506-021	Uranium-234	10/23/95	10/27/95	1.24	PCI/G	0.46	0.19

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Report Date: 11/07/95
Date Sampled: 09/27/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-239-5	9506-021RE	Uranium-238	10/31/95	11/02/95	1.97	PCI/G	0.78	0.50
WL-239-5	9506-021RE	Uranium-235/236	10/31/95	11/02/95	0.89	PCI/G	0.56	0.66
WL-239-5	9506-021RE	Uranium-234	10/31/95	11/02/95	1.93	PCI/G	0.76	0.38

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Quanterra Environmental Services

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Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/26/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-5	9506-022	Uranium-238	10/23/95	10/27/95	1.18	PCI/G	0.50	0.41
WL-116-5	9506-022	Uranium-235/236	10/23/95	10/27/95	0.08	PCI/G	0.22	0.52
WL-116-5	9506-022	Uranium-234	10/23/95	10/27/95	1.15	PCI/G	0.49	0.36

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Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/26/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-5	9506-022RE	Uranium-238	10/31/95	11/02/95	1.78	PCI/G	0.80	0.56
WL-116-5	9506-022RE	Uranium-235/236	10/31/95	11/02/95	1.21	PCI/G	0.71	0.74
WL-116-5	9506-022RE	Uranium-234	10/31/95	11/02/95	2.35	PCI/G	0.94	0.48

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Project: 570.03

Quanterra Environmental Services

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Matrix: Soil

Report Date: 11/07/95
Date Sampled: 09/26/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-10	9506-023	Uranium-238	10/23/95	10/27/95	1.32	PCI/G	0.41	0.05
WL-116-10	9506-023	Uranium-235/236	10/23/95	10/27/95	0.05	PCI/G	0.07	0.10
WL-116-10	9506-023	Uranium-234	10/23/95	10/27/95	1.14	PCI/G	0.37	0.17

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Report Date: 11/07/95
Date Sampled: 09/26/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-116-10	9506-023RE	Uranium-238	10/31/95	11/02/95	1.68	PCI/G	0.84	0.72
WL-116-10	9506-023RE	Uranium-235/236	10/31/95	11/02/95	0.97	PCI/G	0.69	0.85
WL-116-10	9506-023RE	Uranium-234	10/31/95	11/02/95	2.62	PCI/G	1.10	0.70

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Report Date: 11/07/95
Date Sampled: 09/28/95
Date Received: 10/09/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-241-15	9506-024	Uranium-238	10/23/95	10/27/95	0.64	PCI/G	0.30	0.13
WL-241-15	9506-024	Uranium-235/236	10/23/95	10/27/95	0.12	PCI/G	0.14	0.20
WL-241-15	9506-024	Uranium-234	10/23/95	10/27/95	0.59	PCI/G	0.29	0.20

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Report Date: 11/07/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-241-15	9506-024RE	Uranium-238	10/31/95	11/02/95	1.74	PCI/G	0.71	0.31
WL-241-15	9506-024RE	Uranium-235/236	10/31/95	11/02/95	0.46	PCI/G	0.36	0.28
WL-241-15	9506-024RE	Uranium-234	10/31/95	11/02/95	1.84	PCI/G	0.74	0.36

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Quanterra Environmental Services

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rix: Soil

Report Date: 11/07/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81094-1	Uranium-238	10/23/95	10/27/95	-0.011	PCI/G	0.011	0.15
NA	QCBLK81094-1	Uranium-235/236	10/23/95	10/27/95	-0.003	PCI/G	0.007	0.14
NA	QCBLK81094-1	Uranium-234	10/23/95	10/27/95	0.047	PCI/G	0.079	0.14

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Report Date: 11/07/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81095-1	Uranium-238	10/23/95	10/27/95	0.14	PCI/G	0.16	0.18
NA	QCBLK81095-1	Uranium-235/236	10/23/95	10/27/95	0.15	PCI/G	0.19	0.32
NA	QCBLK81095-1	Uranium-234	10/23/95	10/27/95	0.11	PCI/G	0.16	0.29

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Project: 570.03

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trix: Soil

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Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81959-1	Uranium-238	10/31/95	11/02/95	0.28	PCI/G	0.19	0.14
NA	QCBLK81959-1	Uranium-235/236	10/31/95	11/02/95	0.03	PCI/G	0.08	0.18
NA	QCBLK81959-1	Uranium-234	10/31/95	11/02/95	0.29	PCI/G	0.21	0.23

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Report Date: 11/07/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81094-1	Uranium-238	10/23/95	10/27/95	109	%REC		
NA	QCLCS81094-1	Uranium-234	10/23/95	10/27/95	123	%REC		

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Matrix: Soil

Report Date: 11/07/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81095-1	Uranium-238	10/23/95	10/27/95	190	%REC		
NA	QCLCS81095-1	Uranium-234	10/23/95	10/27/95	155	%REC		

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Matrix: Soil

Report Date: 11/07/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81959-1	Uranium-238	10/31/95	11/02/95	134	%REC		
NA	QCLCS81959-1	Uranium-234	10/31/95	11/02/95	158	%REC		

LP 13183

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
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Quanterra
Environmental Services

COPY

December 12, 1995

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following samples:

St. Louis Project ID	: 570.03
Date Received	: October 26, 1995
Number of Samples	: Nineteen (19)
Samples Type	: Soil and Water

I. INTRODUCTION

On October 26, 1995, nineteen (19) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Gross Alpha, Gamma Scan, Isotopic Uranium, Isotopic Thorium, and Rad Screen. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

Allen M. Field
Quanterra Project Manager

cc: David Heinze

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
A-12-0	9659-001	Soil
A-14-0	9659-002	Soil
A-8-0	9659-003	Soil
A-5-0	9659-004	Soil
B-8-0	9659-005	Soil
B-20-0	9659-006	Soil
B-5-0	9659-007	Soil
B-6-0	9659-008	Soil
B-16-0	9659-009	Soil
B-32-0	9659-010	Soil
B-31-0	9659-011	Soil
B-22-0	9659-012	Soil
B-25-0	9659-013	Soil
B-14-0	9659-014	Soil
BG-BPL-0	9659-015	Soil
BG-BPS-0	9659-016	Soil
BG-FF-0	9659-017	Soil
BG-SHOP-0	9659-018	Soil
HOLDING TANK	9659-019	Water

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Gamma Scan	EPA 901.1
Isotopic Thorium	Th-NAS-NS-3004
Isotopic Uranium	U-NAS-NS-3050
Gross Alpha	EPA 900.0

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank and laboratory control sample were analyzed with the samples for Isotopic Thorium, Isotopic Uranium, Gamma Scan, and Gross Alpha.

IV. NONCONFORMANCES

See Isotopic Thorium comment section.

V. COMMENTS

Login 9659 was received at a temperature of 20°C.

Analytical Notes

Isotopic Thorium

LCS 81958, A-12-0 (9659-001 and -001dup), A-8-0 (-003), A-5-0 (-004), B-8-0 (-005), B-20-0 (-006), B-6-0 (-008), B-32-0 (-010), B-22-0 (-012), and B-25-0 (-013) had their spectral regions of interest manually adjusted due to peak broadening.

The Th-230 and TH-232 RPDs for A-12-0 (9659-001) (both 61%) do not meet acceptance criteria. The duplicate results do not fall within three-sigma error limits of the sample activities.

Blank 81958 has Th-230 activity above the CRDL (activity=1.677E+0 pCi/gram, CRDL=1E+0 pCi/gram). The Th-230 activities for A-8-0 (9659-003), A-5-0 (-004), B-32-0 (-010), B-22-0 (-012), BG-BPL-0 (-015), BG-BPS-0 (-016), BG-FF-0 (-017), and BG-SHOP-0 (-018) are less than ten times the Blank activity, so they were reanalyzed (Batch 84832).

Samples B-8-0 (9659-005) and B-20-0 (-006) were also reanalyzed (Batch 83843) due to very high activity.

Isotopic Thorium (continued)

The tracer yield for LCS 83843 is above the method limit due to a short count time (yield=114.05%, method limit=110%, count time only ten minutes due to high sample activity). Although the tracer results are biased low, the recoveries are within acceptance limits.

Blank 83843 has Th-230 activity above the MDA but below the CRDL (activity=8.461E-1 pCi/gram, MDA=6.902E-1 pCi/gram, CRDL=1E+0 pCi/gram).

Samples B-8-0 (9659-005RE), B-8-0 (-005dupRE), and B-20-0 (-006RE) had their regions of interest manually adjusted. Their Th-232 results are biased high due to tailing of the Th-230 peaks, and as a result the Th-232 RPD for B-8-0 (9659-005RE) (116%) does not meet acceptance criteria.

LCS 84832, B-32-0 (9659-010RE), and B-22-0 (-012RE) had their regions of interest manually adjusted.

Blank 84832 has Th-230 activity above the CRDL and Th-232 activity above the MDA due to a smeared spectra (Th-230 activity=1.990E+0 pCi/gram, CRDL=1E+0 pCi/gram, Th-232 activity=3.883E-1 pCi/gram, Th-232 MDA=2.001E-1 pCi/gram). The samples in Batch 84832 do not show appreciable smearing.

Although the Th-230 results exhibit some variance between the original and repeat analyses, the Th-228 and Th-232 activities are in close agreement. Therefore, the results are being reported "as is". See non-conformance memo # 2238 for LCS 83843 and non-conformance memo # 2240 for Blank 84832.

Isotopic Uranium

LCS 81961, A-12-0 (9659-001 and -001dup), B-8-0 (-005), and B-20-0 (-006) had their spectral regions of interest manually adjusted due to peak broadening.

Samples B-5-0 (9659-007), B-6-0 (-008), B-25-0 (-013), B-14-0 (-014), BG-BPL-0 (-015), and BG-FF-0 (-017) were reanalyzed due to tracer yields below the method limit.

LCS 83844, Blank 83844, B-5-0 (9659-007dup) and B-25-0 (-013) had their regions of interest manually adjusted.

Isotopic Uranium (continued)

Blank 83844 has U-234 and U-235 activity above the MDA but below the CRDL (U-234 activity=2.597E-1 pCi/gram, U-234 MDA=1.306E-1 pCi/gram, U-235 activity=4.416E-1 pCi/gram, U-235 MDA=1.992E-1 pCi/gram, CRDL=1E+0 pCi/gram).

The U-235 and U-238 RPDs for B-5-0 (9659-007RE) (155% and 64%) do not meet acceptance limits. The duplicate results do not fall within three-sigma error limits of the sample activities.

VI. ABBREVIATIONS/DEFINITIONS

NA	=	Not Applicable.
ND	=	Parameter was analyzed for but not detected.
pCi/G	=	Picocurries per gram.
pCi/FIL	=	Picocurries per filter.
pCi/L	=	Picocurries per liter.
%REC	=	Percent Recovery.
QCBLK	=	Method Blank.
QCLCS	=	Laboratory Control Sample.
MDA	=	Minimum Detectable Activity.

December 5, 1995 Quanterra 04:36 pm
8-RAD Prep BATCH: 84832
Started: 30-NOV-95 by Kirk Smith To finish: 30-NOV-95

Oj .o.	Sample Id	Flag	Client Id	Samp Date	Prep Hold	Anls Hold	Due Date	Product	Matrix	Prep Stat	Anls Stat	SDG
570.03	9659-003RE1		A-8-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-004RE1		A-5-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-010RE1		B-32-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-012RE1		B-22-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-015RE1		BG-BPL-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-016RE1		BG-BPS-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-017RE1		BG-FF-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-018RE1		BG-SHOP-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
000.01	QCBLK84832-1		Blank Sample	11/30	--/--		01/09	RAD/ISOTH/Q4	Soil	HERE		
000.01	QCDUP84832-1		Duplicate	11/30	--/--		01/09	RAD/ISOTH/Q4	Soil	HERE		
000.01	QCLCS84832-1		Lab Control Sampl	11/30	--/--		01/09	RAD/ISOTH/Q4	Soil	HERE		

Quanterra Environmental Services

SL-84 2240 page 1 of 2
batch 84832

LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): 579.03 / McLaren Hart
NCM INITIATED BY (Name/Date): [illegible] 12-8-95
PARAMETER(S): Gamma Rad
SAMPLE NUMBER(S) AFFECTED: Blank 84832

AREA:

☐ SHIP/REC	☐ GC	☐ GEN CHEM	☐ BIOASSAY	☐ IH
☐ ORG EXT	☐ HPLC	☐ METALS	☒ RADIOCHEM	☐ DATA VERIFICATION
☐ INORG PREP	☐ GCMS	☐ GEO	☐ COUNTING	☐ REPORTING
☐ OTHER	☐ _____	☐ _____	☐ _____	☐ _____

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.
2. ☐ Holding time exceeded by _____ days due to:
   - 2.1 ☐ **CATEGORY I: Out of Laboratory Control**
     - ☐ Holding time expired at receipt.
   - 2.2 ☐ **CATEGORY II: Laboratory Dependent**
     - ☐ work backlog ☐ instrument failure
     - ☐ communication ☐ other (see #10)
   - 2.3 ☐ **CATEGORY III: Laboratory Reruns**
     - 2.3.1 ☐ *QA/QC:*
       - ☐ surrogates ☐ internal standards
       - ☐ spike recoveries ☐ blank contamination
     - 2.3.2 ☐ *CONFIRMATION:*
       - ☐ second column ☐ contamination check
       - ☐ other (see #10)
     - 2.3.3 ☐ *DILUTION:*
       - ☐ over calibration ☐ under calibration
       - ☐ other (see #10)
     - 2.3.4 ☐ *OTHER: (see #10)*
3. ☐ Sample lost during extraction/analysis. no re-prep or re-analysis possible.
4. ☒ QC data reported to client outside of:
   - ☐ method limits ☐ internal limits
   - ☐ QAPP limits ☐ contract limits
   - ☐ regulatory limits ☒ blank criteria
5. ☐ Incorrect procedure(s) used. (See #10)
6. ☐ Invalid instrument calibration. (See #10)
7. ☐ Incorrect/incomplete data reported to client. (See #10)
8. ☐ Reported detection limit(s) higher than:
   - ☐ method limits ☐ QAPP limits
   - ☐ contract limits ☐ other (see #10)

   Due to:
   - ☐ sample matrix ☐ insufficient sample
   - ☐ instrumentation ☐ other (see #10)
9. ☐ Other (specify):
10. ☐ Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. ☒ Client notified by (name and date): David Sembs 12/12/95
   - ☒ in writing ☐ by FAX
   - ☐ by phone ☐ Other (explain)
2. ☒ Client's name McLaren Hart and response
   - ☐ process "as is" ☐ resample
   - ☐ on hold til ____ ☐ Other (explain)

PROJECT MANAGER (signature & date): Allen Mitchell 12-12-95

FURTHER ACTION REQUIRED. SEE PAGE 2 OF 2

CORRECTIVE ACTION

☒ ROOT CAUSE: See note INITIALS/DATE 12-8-95

☒ CORRECTIVE ACTION: See note INITIALS/DATE 12-8-95

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☒ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE 12-8-95
Investigate into the cause of the smeared spectra

FIRST LEVEL SUPERVISOR: DATE: 12-8-95

RESPONSIBLE MANAGER: DATE: 12-8-95

QC REVIEW

☒ NONCONFORMANCE ☐ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO

QC COORDINATOR: DATE: 12-8-95

CORRECTIVE ACTION VERIFICATION

☐ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: DATE:

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☐ PROJECT FILE

December 5, 1995 Quanterra 04:36 pm
B-RAD Prep BATCH 84832
Started: 30-NOV-95 by Kirk Smith To finish 30-NOV-95

Proj No	Sample Id	Flag	Client Id	Samp Date	Prep Hold	Anls Hold	Due Date	Product	Matrix	Prep Stat	Anls Stat	LIS
570.03	9659-003RE1		A-8-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-004RE1		A-5-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-010RE1		B-32-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-012RE1		B-22-0	10/06	04/05		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-015RE1		BG-BPL-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-016RE1		BG-BPS-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-017RE1		BG-FF-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
570.03	9659-018RE1		BG-SHOP-0	10/11	04/10		11/15	RAD/ISOTH/Q4	Soil	HERE		9659
000.01	QCBLK84832-1		Blank Sample	11/30	--/--		01/09	RAD/ISOTH/Q4	Soil	HERE		
000.01	QCDUP84832-1		Duplicate	11/30	--/--		01/09	RAD/ISOTH/Q4	Soil	HERE		
000.01	QCLCS84832-1		Lab Control Sampl	11/30	--/--		01/09	RAD/ISOTH/Q4	Soil	HERE		

Quanterra October 26, 1995 04:45 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9659

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. # Comments Data:	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
9659-012	B-22-0	Soil	06-OCT-95 08:40	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-008
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	05-APR-96	R5E		(191647:100 191648:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191647:100 191648:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191647:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	05-APR-96	R5E		(191645:100 191646:99)
9659-013	B-25-0	Soil	06-OCT-95 08:00	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-007
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	05-APR-96	R5E		(191651:100 191652:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191651:100 191652:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191651:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	05-APR-96	R5E		(191649:100 191650:99)
9659-014	B-14-0	Soil	06-OCT-95 09:15	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-006
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	05-APR-96	R5E		(191655:100 191656:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191655:100 191656:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191655:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	05-APR-96	R5E		(191653:100 191654:99)
9659-015	BG-BPL-0	Soil	11-OCT-95 08:30	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-005
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191659:100 191660:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191659:100 191660:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191659:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191657:100 191658:99)
9659-016	BG-BPS-0	Soil	11-OCT-95 08:00	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-004
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191663:100 191664:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191663:100 191664:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191663:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191661:100 191662:99)
9659-017	BG-FF-0	Soil	11-OCT-95 10:00	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-003

3*=Sample has not been rad screened.

Quanterra October 26, 1995 04:45 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9659

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
Comments									
Data:									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191667:100 191668:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191667:100 191668:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191667:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191665:100 191666:99)
9659-018	BG-SHOP-0	Soil	11-OCT-95 09:30	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-002
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191671:100 191672:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191671:100 191672:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191671:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191669:100 191670:99)
9659-019	HOLDING TANK	Water	26-OCT-95 14:15	26-OCT-95 14:33	22-NOV-95	CLIENT		3*	Sample not Screened
GROSS ALPHA ONLY.									
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	20-NOV-95	23-APR-96	R5E		(191696:98)
2		HOLD//Q4	S	HNO3	11-&&&-**	11-&&&-**	R5E		(191694:100 191695:99)
1		RAD/SCREEN/Q4	S	HNO3	20-NOV-95	23-APR-96	R5E		(191694:100)

3*=Sample has not been rad screened.

Quanterra October 26, 1995 03:08 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9659

ct Manager: A. Field

: Final: Entered and Reviewed by:_____ PM Review:_____

e Header Template: _____

e No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Container Type		Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
012	B-22-0	Soil	06-OCT-95 08:40	26-OCT-95 09:30	22-NOV-95	FED-EX	3*	R4358-008
GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	15-NOV-95	05-APR-96	R5E	(191647:100 191648:99)
		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191647:100 191648:99)
		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191647:100)
GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	15-NOV-95	05-APR-96	R5E	(191645:100 191646:99)
-013	B-25-0	Soil	06-OCT-95 08:00	26-OCT-95 09:30	22-NOV-95	FED-EX	3*	R4358-007
GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	15-NOV-95	05-APR-96	R5E	(191651:100 191652:99)
		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191651:100 191652:99)
		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191651:100)
GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	15-NOV-95	05-APR-96	R5E	(191649:100 191650:99)
-014	B-14-0	Soil	06-OCT-95 09:15	26-OCT-95 09:30	22-NOV-95	FED-EX	3*	R4358-006
GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	15-NOV-95	05-APR-96	R5E	(191655:100 191656:99)
		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191655:100 191656:99)
		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191655:100)
GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	15-NOV-95	05-APR-96	R5E	(191653:100 191654:99)
-015	BG-BPL-0	Soil	11-OCT-95 08:30	26-OCT-95 09:30	22-NOV-95	FED-EX	3*	R4358-005
GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E	(191659:100 191660:99)
		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191659:100 191660:99)
		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191659:100)
GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E	(191657:100 191658:99)
-016	BG-BPS-0	Soil	11-OCT-95 08:00	26-OCT-95 09:30	22-NOV-95	FED-EX	3*	R4358-004
GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E	(191663:100 191664:99)
		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191663:100 191664:99)
		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E	(191663:100)
GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E	(191661:100 191662:99)
-017	BG-FF-0	Soil	11-OCT-95 10:00	26-OCT-95 09:30	22-NOV-95	FED-EX	3*	R4358-003

:Sample has not been rad screened.

Quanterra October 26, 1995 03:08 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9659

roject Manager: A. Field

raft: Final: Entered and Reviewed by:_____ PM Review:_____

ample Header Template: _____

ample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
Comments									
ata:									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191667:100 191668:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191667:100 191668:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191667:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191665:100 191666:99)
659-018	BG-SHOP-0	Soil	11-OCT-95 09:30	26-OCT-95 09:30	22-NOV-95	FED-EX		3*	R4358-002
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191671:100 191672:99)
2		RAD/ISOU/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191671:100 191672:99)
1		RAD/SCREEN/Q4	S	COLD	15-NOV-95	23-APR-96	R5E		(191671:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	15-NOV-95	10-APR-96	R5E		(191669:100 191670:99)
659-019	HOLDING TANK	Water	26-~~MAY~~-95 14:15	26-MAY-95 14:15	22-JUN-95	CLIENT		3*	R4358-001
GROSS ALPHA ONLY.			OCT						
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	15-JUN-95	22-NOV-95	R5E		(191696:98)
2		HOLD//Q4	S	HNO3	11-&&&-**	11-&&&-**	R5E		(191694:100 191695:99)
1		RAD/SCREEN/Q4	S	HNO3	15-JUN-95	22-NOV-95	R5E		(191694:100)

3*=Sample has not been rad screened.

Environmental Services

BW/AF
10-26-95
15:00
JWB

Work Order No.: 9657

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: MBT (WEST LAKE)

Date: 10-26-95 14:43

Project No: 570.03

Initiated by: George W Byrd

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 15534

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1	NA	Not enough sample received for proper analysis. Received approximately:	8	☐	Custody tape disturbed/broken/missing.
			9.	NA	Sample splits performed by lab.
2	☐	Sample received broken/leaking.	10.	NA	Volatile sample received with approximately _____ mm headspace.
3	☐	Sample received without proper preservative.			
	☑	Cooler temperature not within 4°C ± 2°C Record temperature: 20°C	11	☐	Sample ID on container does not match sample ID on paperwork. Explain:
	☐	pH 1			
	☐	other:			
4	☐	Sample received in improper container.	12	☐	All coolers on airbill not received with shipment.
5	☐	Sample received without proper paperwork. Explain:	13.	☐	Other (explain below): Shipping containers not rad surveyed. Drop off
6	☐	Paperwork received without sample.			
7	☐	No sample ID on sample container.			

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) George W Byrd Date: 10-26-95

Project Management Review: Allen M Ford Date: 10-26-95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

Environmental Services

BW / AF
10-26-95
11:35
DWB

Work Order No.: 9659

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: MBT

Date: 10-26-95 09:30

Project No: 570.03

Initiated by: Dwayne W Byk

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 15528/15529

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1.	NA	Not enough sample received for proper analysis. Received approximately: _____	8.	☐	Custody tape disturbed/broken/missing.
2.	☐	Sample received broken/leaking.	9.	NA	Sample splits performed by lab.
3.	☐	Sample received without proper preservative.	10.	NA	Volatile sample received with approximately _____ mm headspace.
	☒	Cooler temperature not within 4°C ± 2°C. Record temperature: 25°C	11.	☐	Sample ID on container does not match sample ID on paperwork. Explain: _____
	☐	pH _____			
	☐	other: _____			
4.	☐	Sample received in improper container.	12.	☐	All coolers on airbill not received with shipment.
5.	☐	Sample received without proper paperwork. Explain: _____	13.	☐	Other (explain below): Shipping containers not rad surveyed. Drop off
6.	☐	Paperwork received without sample.			
7.	☐	No sample ID on sample container.			

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

mple Control Supervisor Review: (or designate) Dwayne W Byk Date: 10-26-95

Project Management Review: Allen M Finch Date: 10-26-95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

MB Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15523

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: West Lake
Project Number: 070803035
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Uranium	Thorium	Gamma Scan								
1	A-12-0	10/9	0920	Area 1	0	4	28026/4-4026	soil	none	0	X	X	X								
2	A-14-0	10/6	1435	↑	↑	↑	↑	↑	↑	↑	X	X	X								
3	A-8-0	10/6	1105	↓							X	X	X								
4	A-5-0	10/6	1330	Area 1							X	X	X								
5	B-8-0	10/9	0845	Area 2							X	X	X								
6	B-20-0	10/9	0745	↑							X	X	X								
7	B-5-0	10/6	1105								X	X	X								
8	B-6-0	10/6	1140								X	X	X								
9	B-16-0	10/6	1020	↓			28026	↓			X	X	X								
10	B-32-0	10/6	0935	Area 2	0	4	2-4026	soil	none	0	X	X	X								

Common Analytical Methods: 413.1, 413.2 Long Method, 413.2 Short Method, 418.1 Long Method, 418.1 Short Method, 420.1, 502.2, 503E, 503.1, 524.2, 601, 602, 604, 608, 610, 624, 625, 8010, 8015, 8015 Mod., 8020, 8021, 8040, 8080, 8100, 8150, 8240, 8270, 8310, Acidity, Alkalinity, BTEX, Chloride, CLP (see Side 2), COD, Color, Conductivity, Corrosivity, Cyanide, Flashpoint, Fluoride, General Mineral, Hex. Chromium, Ion Balance, Metals (write specific metal & method), Metals 8010*, Metals PP*, Metals Title 22: TTLC Level, STLC Level (see Side 2), Nitrate, Nitrite, Odor, Org. Lead, Org. Mercury, Percent Moisture, Percent Solid, Perchlorate, pH, Phosphates, Phosphorus, Sulfate, Sulfides, TCLP: VOA, Semivol, Metals, Pesticide, TDS, Total Hardness, Total Solids, TPH/D, TPH/G, TSS, Turbidity

SEND REPORT TO:
Company Name Carol Right
Client Name McLaren/Hart
Address 202 Earth City Expressway Suite 206 St. Louis MO 63045
Phone 720-9233 Fax 720-9884

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
* see previous memo
(1) = standard

Sampler Name: John D Reagan
Signature: John D Reagan
PPE Worn in Field: Level D
10/6/95 0900

Relinquished By: John D Reagan Date/Time: 10/6/95 0930
Received By or Method of Shipment/Shipment I.D.: [illegible] Date/Time: [illegible]

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

ME ronmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15529

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: West Lake
Project Number: 070803035
Project Location: (State) Mo

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Uranium	Thorium	Gamma Scan
1	B-31-0	10/6	0830	Area 2	0	4	2-40z6	soil	None	0	X	X	X
2	B-22-0	10/6	0840		↑	4	2-8026	↑	↑	↑	X	X	X
3	B-25-0	10/6	0800				↑				X	X	X
4	B-14-0	10/6	0915	Area 2			↓				X	X	X
5	BG-BPL-0	10/11	0830	Borrow Pit		4	2-40z6				X	X	X
6	BG-BPS-0	↑	0800	Borrow Pit		4	2-8026				X	X	X
7	BG-FF-0	↑	1000	Farmers Field	↓	4	8026	↓	↓	↓	X	X	X
8	BG-SHOP-0	10/11	0930	Shop	0	4	2-8026	soil	None	0	X	X	X
9							2-40z6						
10													

SEND REPORT TO:
Company Name Carol Rizzo
Client Name McLaren Hart
Address St. Louis Office
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
* see previous memo
0 = standard

Sampler Name: John D Reagan
Signature: John D Reagan
PPE Worn in Field: Level D
10/26/95 0900

Relinquished By: John D Reagan 10/26/95 Date/Time
Received By or Method of Shipment/Shipment I.D. _____ Date/Time

Relinquished By: _____ Date/Time
Received By or Method of Shipment/Shipment I.D. _____ Date/Time

Relinquished By: _____ Date/Time
Received By or Method of Shipment/Shipment I.D. _____ Date/Time

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method)
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 12/01/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-12-0	9659-001	Cesium-137	10/30/95	11/02/95	ND	PCI/G		0.50
A-12-0	9659-001	Potassium-40	10/30/95	11/02/95	12.2	PCI/G	6.4	6.3
A-12-0	9659-001	Cobalt 57	10/30/95	11/02/95	2.09	PCI/G	0.45	0.34
A-12-0	9659-001	Thallium-208	10/30/95	11/02/95	0.79	PCI/G	0.83	0.51
A-12-0	9659-001	Lead-210	10/30/95	11/02/95	206	PCI/G	26	8
A-12-0	9659-001	Bismuth 214	10/30/95	11/02/95	110	PCI/G	6	0.9
A-12-0	9659-001	Lead-214	10/30/95	11/02/95	108	PCI/G	8	1
A-12-0	9659-001	Radium-223	10/30/95	11/02/95	496	PCI/G	32	36
A-12-0	9659-001	Radium-226	10/30/95	11/02/95	109	PCI/G	5	0.9
A-12-0	9659-001	Actinium-227	10/30/95	11/02/95	118	PCI/G	14	3
A-12-0	9659-001	Protactinium-231	10/30/95	11/02/95	156	PCI/G	27	14
A-12-0	9659-001	Protactinium-233	10/30/95	11/02/95	4.10	PCI/G	1.38	1.54
A-12-0	9659-001	Thorium-234	10/30/95	11/02/95	55.9	PCI/G	13.5	7.9
A-12-0	9659-001	Uranium-235	10/30/95	11/02/95	17.6	PCI/G	2.1	3.0

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
d: HASL 300
x: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-14-0	9659-002	Cesium-137	10/30/95	11/02/95	ND	PCI/G		0.24
A-14-0	9659-002	Potassium-40	10/30/95	11/02/95	14.6	PCI/G	3.5	5.0
A-14-0	9659-002	Thallium-208	10/30/95	11/02/95	0.34	PCI/G	0.18	0.30
A-14-0	9659-002	Lead-210	10/30/95	11/02/95	ND	PCI/G		2.31
A-14-0	9659-002	Lead-212	10/30/95	11/02/95	1.36	PCI/G	0.26	0.23
A-14-0	9659-002	Bismuth 214	10/30/95	11/02/95	1.33	PCI/G	0.39	0.41
A-14-0	9659-002	Lead-214	10/30/95	11/02/95	1.30	PCI/G	0.30	0.37
A-14-0	9659-002	Radium-224	10/30/95	11/02/95	2.95	PCI/G	1.97	2.61
A-14-0	9659-002	Radium-226	10/30/95	11/02/95	1.32	PCI/G	0.24	0.41
A-14-0	9659-002	Actinium-227	10/30/95	11/02/95	ND	PCI/G		1.32
A-14-0	9659-002	Protactinium-231	10/30/95	11/02/95	ND	PCI/G		5.45

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
d: HASL 300
x: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-8-0	9659-003	Cesium-137	10/30/95	11/02/95	ND	PCI/G		0.18
A-8-0	9659-003	Potassium-40	10/30/95	11/02/95	14.9	PCI/G	3.5	1.6
A-8-0	9659-003	Thallium-208	10/30/95	11/02/95	0.33	PCI/G	0.14	0.19
A-8-0	9659-003	Lead-210	10/30/95	11/02/95	1.82	PCI/G	1.52	1.79
A-8-0	9659-003	Lead-212	10/30/95	11/02/95	0.97	PCI/G	0.24	0.22
A-8-0	9659-003	Bismuth 214	10/30/95	11/02/95	0.96	PCI/G	0.32	0.33
A-8-0	9659-003	Lead-214	10/30/95	11/02/95	1.05	PCI/G	0.27	0.32
A-8-0	9659-003	Radium-226	10/30/95	11/02/95	0.91	PCI/G	0.22	0.33
A-8-0	9659-003	Actinium-227	10/30/95	11/02/95	ND	PCI/G		1.05
A-8-0	9659-003	Protactinium-231	10/30/95	11/02/95	ND	PCI/G		4.20
A-8-0	9659-003	Thorium-234	10/30/95	11/02/95	1.72	PCI/G	1.30	1.27

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-5-0	9659-004	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.18
A-5-0	9659-004	Potassium-40	10/30/95	11/06/95	14.4	PCI/G	3.4	1.7
A-5-0	9659-004	Thallium-208	10/30/95	11/06/95	0.35	PCI/G	0.18	0.15
A-5-0	9659-004	Lead-210	10/30/95	11/06/95	ND	PCI/G		29.9
A-5-0	9659-004	Lead-212	10/30/95	11/06/95	0.73	PCI/G	0.38	0.31
A-5-0	9659-004	Lead-214	10/30/95	11/06/95	0.94	PCI/G	0.27	0.29
A-5-0	9659-004	Radium-226	10/30/95	11/06/95	0.94	PCI/G	0.21	0.33
A-5-0	9659-004	Actinium-227	10/30/95	11/06/95	ND	PCI/G		1.38
A-5-0	9659-004	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		5.37

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-8-0	9659-005	Cesium-137	10/30/95	11/06/95	ND	PCI/G		2.30
B-8-0	9659-005	Cobalt 57	10/30/95	11/06/95	8.60	PCI/G	1.64	1.61
B-8-0	9659-005	Niobium-94	10/30/95	11/06/95	11.3	PCI/G	2.4	2.4
B-8-0	9659-005	Lead-210	10/30/95	11/06/95	1370	PCI/G	162	28
B-8-0	9659-005	Bismuth 214	10/30/95	11/06/95	2300	PCI/G	84	4
B-8-0	9659-005	Lead-214	10/30/95	11/06/95	1450	PCI/G	179	22
B-8-0	9659-005	Radium-223	10/30/95	11/06/95	3670	PCI/G	296	227
B-8-0	9659-005	Radium-224	10/30/95	11/06/95	4330	PCI/G	628	39
B-8-0	9659-005	Radium-226	10/30/95	11/06/95	2280	PCI/G	89	4
B-8-0	9659-005	Actinium-227	10/30/95	11/06/95	732	PCI/G	87	13
B-8-0	9659-005	Protactinium-231	10/30/95	11/06/95	838	PCI/G	148	67
B-8-0	9659-005	Uranium-235	10/30/95	11/06/95	182	PCI/G	22	14

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
od: HASL 300
ix: Soil

Report Date: 11/30/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-20-0	9659-006	Cesium-137	10/30/95	11/06/95	ND	PCI/G		6.02
B-20-0	9659-006	Cobalt 57	10/30/95	11/06/95	8.86	PCI/G	2.94	4.20
B-20-0	9659-006	Lead-210	10/30/95	11/06/95	ND	PCI/G		1170
B-20-0	9659-006	Bismuth 214	10/30/95	11/06/95	3690	PCI/G	136	10
B-20-0	9659-006	Lead-214	10/30/95	11/06/95	3190	PCI/G	277	38
B-20-0	9659-006	Radium-223	10/30/95	11/06/95	6120	PCI/G	1120	545
B-20-0	9659-006	Radium-224	10/30/95	11/06/95	6580	PCI/G	1090	95
B-20-0	9659-006	Radium-226	10/30/95	11/06/95	3720	PCI/G	142	10
B-20-0	9659-006	Actinium-227	10/30/95	11/06/95	1320	PCI/G	179	31
B-20-0	9659-006	Protactinium-231	10/30/95	11/06/95	2030	PCI/G	301	160
B-20-0	9659-006	Uranium-235	10/30/95	11/06/95	263	PCI/G	33	33

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-5-0	9659-007	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.18
B-5-0	9659-007	Potassium-40	10/30/95	11/06/95	16.7	PCI/G	3.5	1.6
B-5-0	9659-007	Thallium-208	10/30/95	11/06/95	0.36	PCI/G	0.13	0.14
B-5-0	9659-007	Lead-210	10/30/95	11/06/95	1.90	PCI/G	1.51	1.28
B-5-0	9659-007	Lead-212	10/30/95	11/06/95	0.75	PCI/G	0.18	0.19
B-5-0	9659-007	Bismuth 214	10/30/95	11/06/95	1.02	PCI/G	0.33	0.24
B-5-0	9659-007	Lead-214	10/30/95	11/06/95	1.07	PCI/G	0.22	0.21
B-5-0	9659-007	Radium-225	10/30/95	11/06/95	1.62	PCI/G	1.00	1.02
B-5-0	9659-007	Radium-226	10/30/95	11/06/95	1.06	PCI/G	0.19	0.24
B-5-0	9659-007	Radium-228	10/30/95	11/06/95	0.82	PCI/G	0.38	0.66
B-5-0	9659-007	Actinium-227	10/30/95	11/06/95	ND	PCI/G		0.67
B-5-0	9659-007	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		3.59
B-5-0	9659-007	Thorium-234	10/30/95	11/06/95	0.98	PCI/G	0.81	0.82

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Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
d: HASL 300
x: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-6-0	9659-008	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.20
B-6-0	9659-008	Potassium-40	10/30/95	11/06/95	16.8	PCI/G	3.6	1.7
B-6-0	9659-008	Thallium-208	10/30/95	11/06/95	0.46	PCI/G	0.18	0.16
B-6-0	9659-008	Lead-210	10/30/95	11/06/95	1.56	PCI/G	1.66	1.47
B-6-0	9659-008	Lead-212	10/30/95	11/06/95	1.09	PCI/G	0.18	0.18
B-6-0	9659-008	Lead-214	10/30/95	11/06/95	0.94	PCI/G	0.26	0.29
B-6-0	9659-008	Radium-224	10/30/95	11/06/95	3.40	PCI/G	1.81	2.02
B-6-0	9659-008	Radium-226	10/30/95	11/06/95	0.90	PCI/G	0.21	0.32
B-6-0	9659-008	Radium-228	10/30/95	11/06/95	1.19	PCI/G	0.45	0.56
B-6-0	9659-008	Actinium-227	10/30/95	11/06/95	ND	PCI/G		0.70
B-6-0	9659-008	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		3.69

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Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-16-0	9659-009	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.17
B-16-0	9659-009	Potassium-40	10/30/95	11/06/95	5.20	PCI/G	2.63	2.33
B-16-0	9659-009	Lead-210	10/30/95	11/06/95	2.36	PCI/G	1.40	2.13
B-16-0	9659-009	Lead-214	10/30/95	11/06/95	1.28	PCI/G	0.28	0.28
B-16-0	9659-009	Radium-226	10/30/95	11/06/95	1.00	PCI/G	0.26	0.37
B-16-0	9659-009	Actinium-227	10/30/95	11/06/95	ND	PCI/G		1.03
B-16-0	9659-009	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		5.11
B-16-0	9659-009	Thorium-234	10/30/95	11/06/95	2.05	PCI/G	1.31	1.51

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Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-32-0	9659-010	Cesium-137	10/30/95	11/06/95	0.29	PCI/G	0.17	0.22
B-32-0	9659-010	Potassium-40	10/30/95	11/06/95	20.8	PCI/G	4.43	3.1
B-32-0	9659-010	Thallium-208	10/30/95	11/06/95	0.58	PCI/G	0.19	0.21
B-32-0	9659-010	Lead-210	10/30/95	11/06/95	ND	PCI/G		1.95
B-32-0	9659-010	Lead-212	10/30/95	11/06/95	1.17	PCI/G	0.23	0.26
B-32-0	9659-010	Lead-214	10/30/95	11/06/95	1.09	PCI/G	0.28	0.28
B-32-0	9659-010	Radium-226	10/30/95	11/06/95	1.07	PCI/G	0.24	0.38
B-32-0	9659-010	Actinium-227	10/30/95	11/06/95	ND	PCI/G		0.85
B-32-0	9659-010	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		4.76
B-32-0	9659-010	Thorium-234	10/30/95	11/06/95	1.46	PCI/G	1.06	1.43

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Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-31-0	9659-011	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.19
B-31-0	9659-011	Potassium-40	10/30/95	11/06/95	5.69	PCI/G	2.51	2.52
B-31-0	9659-011	Lead-210	10/30/95	11/06/95	ND	PCI/G		29.9
B-31-0	9659-011	Lead-212	10/30/95	11/06/95	0.35	PCI/G	0.20	0.20
B-31-0	9659-011	Lead-214	10/30/95	11/06/95	1.01	PCI/G	0.29	0.30
B-31-0	9659-011	Radium-224	10/30/95	11/06/95	3.21	PCI/G	2.21	2.32
B-31-0	9659-011	Radium-226	10/30/95	11/06/95	0.91	PCI/G	0.22	0.29
B-31-0	9659-011	Actinium-227	10/30/95	11/06/95	ND	PCI/G		1.09
B-31-0	9659-011	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		4.76

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Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-22-0	9659-012	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.15
B-22-0	9659-012	Potassium-40	10/30/95	11/06/95	6.62	PCI/G	2.36	1.67
B-22-0	9659-012	Lead-210	10/30/95	11/06/95	ND	PCI/G		1.75
B-22-0	9659-012	Lead-212	10/30/95	11/06/95	0.41	PCI/G	0.18	0.21
B-22-0	9659-012	Bismuth 214	10/30/95	11/06/95	0.58	PCI/G	0.37	0.29
B-22-0	9659-012	Lead-214	10/30/95	11/06/95	0.75	PCI/G	0.23	0.28
B-22-0	9659-012	Radium-224	10/30/95	11/06/95	3.04	PCI/G	2.23	2.41
B-22-0	9659-012	Radium-226	10/30/95	11/06/95	0.70	PCI/G	0.20	0.29
B-22-0	9659-012	Actinium-227	10/30/95	11/06/95	ND	PCI/G		0.96
B-22-0	9659-012	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		4.39

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Project: 570.03

Quanterra Environmental Services

C-^-gory: Gamma Spec.
d: HASL 300
M. ix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-25-0	9659-013	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.35
B-25-0	9659-013	Potassium-40	10/30/95	11/06/95	16.4	PCI/G	4.6	2.6
B-25-0	9659-013	Lead-210	10/30/95	11/06/95	ND	PCI/G		69.0
B-25-0	9659-013	Bismuth 214	10/30/95	11/06/95	3.56	PCI/G	0.87	0.53
B-25-0	9659-013	Lead-214	10/30/95	11/06/95	2.41	PCI/G	0.80	0.63
B-25-0	9659-013	Radium-226	10/30/95	11/06/95	2.94	PCI/G	0.59	0.53
B-25-0	9659-013	Actinium-227	10/30/95	11/06/95	ND	PCI/G		2.48
B-25-0	9659-013	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		11.4

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Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 11/30/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-14-0	9659-014	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.28
B-14-0	9659-014	Potassium-40	10/30/95	11/06/95	16.0	PCI/G	4.2	3.6
B-14-0	9659-014	Thallium-208	10/30/95	11/06/95	0.34	PCI/G	0.23	0.25
B-14-0	9659-014	Lead-210	10/30/95	11/06/95	49.6	PCI/G	7.1	3.1
B-14-0	9659-014	Lead-212	10/30/95	11/06/95	1.09	PCI/G	0.30	0.30
B-14-0	9659-014	Bismuth 214	10/30/95	11/06/95	17.4	PCI/G	1.5	0.4
B-14-0	9659-014	Lead-214	10/30/95	11/06/95	18.0	PCI/G	1.2	0.4
B-14-0	9659-014	Radium-223	10/30/95	11/06/95	45.2	PCI/G	6.4	27.0
B-14-0	9659-014	Radium-226	10/30/95	11/06/95	17.2	PCI/G	1.2	0.4
B-14-0	9659-014	Actinium-227	10/30/95	11/06/95	6.15	PCI/G	1.17	1.11
B-14-0	9659-014	Protactinium-231	10/30/95	11/06/95	7.93	PCI/G	3.58	0.72
B-14-0	9659-014	Uranium-235	10/30/95	11/06/95	1.70	PCI/G	0.34	1.04

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Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 12/01/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81823-1	Cesium-137	10/30/95	11/06/95	ND	PCI/G		0.15
NA	QCBLK81823-1	Lead-210	10/30/95	11/06/95	ND	PCI/G		1.33
NA	QCBLK81823-1	Radium-226	10/30/95	11/06/95	ND	PCI/G		0.38
NA	QCBLK81823-1	Actinium-227	10/30/95	11/06/95	ND	PCI/G		0.63
NA	QCBLK81823-1	Protactinium-231	10/30/95	11/06/95	ND	PCI/G		4.15

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Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 12/01/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81823-1	Americium-241	10/30/95	11/02/95	102	%REC		
NA	QCLCS81823-1	Cesium-137	10/30/95	11/02/95	108	%REC		
NA	QCLCS81823-1	Cobalt-60	10/30/95	11/02/95	104	%REC		

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Quanterra Environmental Services

Category: Isotopic Thorium
Project: NAS-NS-3004
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-12-0	9659-001	Thorium-232	11/06/95	11/16/95	30.4	PCI/G	12	0.9
A-12-0	9659-001	Thorium-230	11/06/95	11/16/95	3760	PCI/G	1370	1
A-12-0	9659-001	Thorium-228	11/06/95	11/16/95	4.01	PCI/G	2.5	0.88

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-14-0	9659-002	Thorium-232	11/06/95	11/15/95	0.91	PCI/G	0.41	0.39
A-14-0	9659-002	Thorium-230	11/06/95	11/15/95	60.5	PCI/G	11.7	0.4
A-14-0	9659-002	Thorium-228	11/06/95	11/15/95	0.64	PCI/G	0.33	0.32

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-8-0	9659-003	Thorium-232	12/01/95	12/06/95	0.68	PCI/G	0.36	0.20
A-8-0	9659-003	Thorium-230	12/01/95	12/06/95	2.12	PCI/G	0.72	0.29
A-8-0	9659-003	Thorium-228	12/01/95	12/06/95	0.41	PCI/G	0.28	0.30

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Quanterra Environmental Services

Category: Isotopic Thorium
d: NAS-NS-3004
x: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-5-0	9659-004	Thorium-232	12/01/95	12/06/95	0.52	PCI/G	0.34	0.46
A-5-0	9659-004	Thorium-230	12/01/95	12/06/95	1.94	PCI/G	0.69	0.52
A-5-0	9659-004	Thorium-228	12/01/95	12/06/95	0.54	PCI/G	0.33	0.39

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Quanterra Environmental Services

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Method: NAS-NS-3004
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Report Date: 12/11/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-8-0	9659-005	Thorium-232	11/27/95	12/01/95	1760	PCI/G	516	5
B-8-0	9659-005	Thorium-230	11/27/95	12/01/95	73800	PCI/G	21300	6
B-8-0	9659-005	Thorium-228	11/27/95	12/01/95	27.8	PCI/G	15.1	5.3

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d: NAS-NS-3004
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Report Date: 12/11/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-20-0	9659-006	Thorium-232	11/27/95	12/01/95	1340	PCI/G	408	6
B-20-0	9659-006	Thorium-230	11/27/95	12/01/95	71100	PCI/G	21000	8
B-20-0	9659-006	Thorium-228	11/27/95	12/01/95	26.4	PCI/G	15.1	6.9

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Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
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Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-5-0	9659-007	Thorium-232	11/06/95	11/15/95	1.50	PCI/G	0.62	0.25
B-5-0	9659-007	Thorium-230	11/06/95	11/15/95	46.4	PCI/G	9.9	0.4
B-5-0	9659-007	Thorium-228	11/06/95	11/15/95	0.72	PCI/G	0.41	0.33

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Quanterra Environmental Services

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Method: NAS-NS-3004
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Report Date: 12/11/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-6-0	9659-008	Thorium-232	11/06/95	11/15/95	1.90	PCI/G	0.56	0.17
B-6-0	9659-008	Thorium-230	11/06/95	11/15/95	59.7	PCI/G	11.0	0.2
B-6-0	9659-008	Thorium-228	11/06/95	11/15/95	1.02	PCI/G	0.38	0.19

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-16-0	9659-009	Thorium-232	11/06/95	11/15/95	1.11	PCI/G	0.41	0.20
B-16-0	9659-009	Thorium-230	11/06/95	11/15/95	24.2	PCI/G	4.7	0.2
B-16-0	9659-009	Thorium-228	11/06/95	11/15/95	0.79	PCI/G	0.34	0.22

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Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-32-0	9659-010	Thorium-232	12/01/95	12/06/95	1.45	PCI/G	0.64	0.44
B-32-0	9659-010	Thorium-230	12/01/95	12/06/95	16.1	PCI/G	3.8	0.6
B-32-0	9659-010	Thorium-228	12/01/95	12/06/95	0.84	PCI/G	0.47	0.40

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Matrix: Soil

Report Date: 12/11/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-31-0	9659-011	Thorium-232	11/06/95	11/15/95	0.40	PCI/G	0.22	0.14
B-31-0	9659-011	Thorium-230	11/06/95	11/15/95	37.2	PCI/G	7.0	0.2
B-31-0	9659-011	Thorium-228	11/06/95	11/15/95	0.42	PCI/G	0.23	0.17

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Method: NAS-NS-3004
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Report Date: 12/11/95
Date Sampled: 10/06/95
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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-22-0	9659-012	Thorium-232	12/01/95	12/06/95	0.84	PCI/G	0.41	0.38
B-22-0	9659-012	Thorium-230	12/01/95	12/06/95	32.0	PCI/G	6.5	0.4
B-22-0	9659-012	Thorium-228	12/01/95	12/06/95	0.42	PCI/G	0.28	0.33

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-25-0	9659-013	Thorium-232	11/06/95	11/15/95	0.80	PCI/G	0.32	0.16
B-25-0	9659-013	Thorium-230	11/06/95	11/15/95	64.0	PCI/G	11.7	0.2
B-25-0	9659-013	Thorium-228	11/06/95	11/15/95	0.35	PCI/G	0.20	0.18

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Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-14-0	9659-014	Thorium-232	11/06/95	11/16/95	11.2	PCI/G	4.4	0.6
B-14-0	9659-014	Thorium-230	11/06/95	11/16/95	429	PCI/G	135	0.7
B-14-0	9659-014	Thorium-228	11/06/95	11/16/95	1.01	PCI/G	0.89	0.63

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
'od: NAS-NS-3004
ix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81958-1	Thorium-232	11/06/95	11/15/95	-0.006	PCI/G	0.056	0.19
NA	QCBLK81958-1	Thorium-230	11/06/95	11/15/95	1.67	PCI/G	0.47	0.23
NA	QCBLK81958-1	Thorium-228	11/06/95	11/15/95	-0.008	PCI/G	0.040	0.16

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK83843-1	Thorium-232	11/27/95	12/01/95	-0.008	PCI/G	0.004	0.56
NA	QCBLK83843-1	Thorium-230	11/27/95	12/01/95	0.86	PCI/G	0.77	0.69
NA	QCBLK83843-1	Thorium-228	11/27/95	12/01/95	-0.018	PCI/G	0.007	0.64

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK84832-1	Thorium-232	12/01/95	12/07/95	0.39	PCI/G	0.23	0.20
NA	QCBLK84832-1	Thorium-230	12/01/95	12/07/95	1.99	PCI/G	0.60	0.26
NA	QCBLK84832-1	Thorium-228	12/01/95	12/07/95	0.06	PCI/G	0.11	0.25

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81958-1	Thorium-232	11/06/95	11/15/95	111	%REC		
NA	QCLCS81958-1	Thorium-230	11/06/95	11/15/95	122	%REC		
NA	QCLCS81958-1	Thorium-228	11/06/95	11/15/95	113	%REC		

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Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS83843-1	Thorium-232	11/27/95	12/01/95	103	%REC		
NA	QCLCS83843-1	Thorium-230	11/27/95	12/01/95	69	%REC		
NA	QCLCS83843-1	Thorium-228	11/27/95	12/01/95	68	%REC		

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS84832-1	Thorium-232	12/01/95	12/06/95	120	%REC		
NA	QCLCS84832-1	Thorium-230	12/01/95	12/06/95	123	%REC		
NA	QCLCS84832-1	Thorium-228	12/01/95	12/06/95	124	%REC		

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-12-0	9659-001	Uranium-238	11/06/95	11/15/95	147	PCI/G	38	0.9
A-12-0	9659-001	Uranium-235/236	11/06/95	11/15/95	19.5	PCI/G	5.9	1.1
A-12-0	9659-001	Uranium-234	11/06/95	11/15/95	154	PCI/G	40	1.0

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-14-0	9659-002	Uranium-238	11/06/95	11/15/95	1.22	PCI/G	0.43	0.12
A-14-0	9659-002	Uranium-235/236	11/06/95	11/15/95	0.24	PCI/G	0.19	0.17
A-14-0	9659-002	Uranium-234	11/06/95	11/15/95	1.45	PCI/G	0.48	0.13

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Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-8-0	9659-003	Uranium-238	11/06/95	11/15/95	1.04	PCI/G	0.46	0.18
A-8-0	9659-003	Uranium-235/236	11/06/95	11/15/95	0.72	PCI/G	0.41	0.23
A-8-0	9659-003	Uranium-234	11/06/95	11/15/95	1.70	PCI/G	0.63	0.25

MBT Environmental Laboratory
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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-5-0	9659-004	Uranium-238	11/06/95	11/15/95	0.88	PCI/G	0.34	0.15
A-5-0	9659-004	Uranium-235/236	11/06/95	11/15/95	0.10	PCI/G	0.12	0.20
A-5-0	9659-004	Uranium-234	11/06/95	11/15/95	1.04	PCI/G	0.38	0.20

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
hod: NAS-NS-3050
ix: Soil

Report Date: 12/11/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-8-0	9659-005	Uranium-238	11/06/95	11/16/95	134	PCI/G	42	0.6
B-8-0	9659-005	Uranium-235/236	11/06/95	11/16/95	49.7	PCI/G	16.5	0.7
B-8-0	9659-005	Uranium-234	11/06/95	11/16/95	216	PCI/G	67	0.7

MBT Environmental Laboratory
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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/09/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-20-0	9659-006	Uranium-238	11/06/95	11/16/95	294	PCI/G	92	0.7
B-20-0	9659-006	Uranium-235/236	11/06/95	11/16/95	251	PCI/G	79	0.7
B-20-0	9659-006	Uranium-234	11/06/95	11/16/95	575	PCI/G	180	0.7

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Quanterra Environmental Services

Project: 570.03

'ory: Isotopic Uranium
d: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-5-0	9659-007	Uranium-238	11/27/95	12/01/95	1.12	PCI/G	0.48	0.16
B-5-0	9659-007	Uranium-235/236	11/27/95	12/01/95	0.41	PCI/G	0.30	0.23
B-5-0	9659-007	Uranium-234	11/27/95	12/01/95	1.53	PCI/G	0.59	0.24

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-6-0	9659-008	Uranium-238	11/27/95	12/01/95	0.77	PCI/G	0.40	0.37
B-6-0	9659-008	Uranium-235/236	11/27/95	12/01/95	-0.006	PCI/G	0.15	0.49
B-6-0	9659-008	Uranium-234	11/27/95	12/01/95	0.97	PCI/G	0.45	0.31

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Quanterra Environmental Services

Project: 570.03

egory: Isotopic Uranium
od: NAS-NS-3050
matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-16-0	9659-009	Uranium-238	11/06/95	11/15/95	1.53	PCI/G	0.55	0.42
B-16-0	9659-009	Uranium-235/236	11/06/95	11/15/95	0.45	PCI/G	0.31	0.38
B-16-0	9659-009	Uranium-234	11/06/95	11/15/95	1.64	PCI/G	0.58	0.45

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-32-0	9659-010	Uranium-238	11/06/95	11/15/95	1.95	PCI/G	0.63	0.20
B-32-0	9659-010	Uranium-235/236	11/06/95	11/15/95	0.31	PCI/G	0.25	0.27
B-32-0	9659-010	Uranium-234	11/06/95	11/15/95	1.72	PCI/G	0.59	0.26

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-31-0	9659-011	Uranium-238	11/06/95	11/15/95	2.04	PCI/G	0.79	0.26
B-31-0	9659-011	Uranium-235/236	11/06/95	11/15/95	0.91	PCI/G	0.54	0.38
B-31-0	9659-011	Uranium-234	11/06/95	11/15/95	3.18	PCI/G	1.06	0.32

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Quanterra Environmental Services

Project: 570.03

egory: Isotopic Uranium
od: NAS-NS-3050
rix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-22-0	9659-012	Uranium-238	11/06/95	11/15/95	1.53	PCI/G	0.68	0.45
B-22-0	9659-012	Uranium-235/236	11/06/95	11/15/95	0.77	PCI/G	0.54	0.72
B-22-0	9659-012	Uranium-234	11/06/95	11/15/95	1.86	PCI/G	0.76	0.48

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Quanterra Environmental Services

Project: 570.03

gory: Isotopic Uranium
od: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-25-0	9659-013	Uranium-238	11/27/95	12/01/95	3.36	PCI/G	1.04	0.42
B-25-0	9659-013	Uranium-235/236	11/27/95	12/01/95	0.69	PCI/G	0.46	0.56
B-25-0	9659-013	Uranium-234	11/27/95	12/01/95	2.26	PCI/G	0.79	0.25

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: 10/06/95
Date Received: 10/26/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-14-0	9659-014	Uranium-238	11/27/95	12/01/95	4.17	PCI/G	1.04	0.26
B-14-0	9659-014	Uranium-235/236	11/27/95	12/01/95	0.24	PCI/G	0.22	0.33
B-14-0	9659-014	Uranium-234	11/27/95	12/01/95	4.05	PCI/G	1.02	0.28

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
od: NAS-NS-3050
ix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK81961-1	Uranium-238	11/06/95	11/15/95	0.04	PCI/G	0.09	0.23
NA	QCBLK81961-1	Uranium-235/236	11/06/95	11/15/95	-0.04	PCI/G	0.10	0.37
NA	QCBLK81961-1	Uranium-234	11/06/95	11/15/95	0.14	PCI/G	0.15	0.25

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Quanterra Environmental Services

Project: 570.03

ıory: Isotopic Uranium
ɔd: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK83844-1	Uranium-238	11/27/95	12/01/95	0.12	PCI/G	0.12	0.15
NA	QCBLK83844-1	Uranium-235/236	11/27/95	12/01/95	0.44	PCI/G	0.26	0.20
NA	QCBLK83844-1	Uranium-234	11/27/95	12/01/95	0.26	PCI/G	0.17	0.13

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
od: NAS-NS-3050
ix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS81961-1	Uranium-238	11/06/95	11/15/95	128	%REC		
NA	QCLCS81961-1	Uranium-234	11/06/95	11/15/95	105	%REC		

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Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 12/11/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS83844-1	Uranium-238	11/27/95	12/01/95	147	%REC		
NA	QCLCS83844-1	Uranium-234	11/27/95	12/01/95	129	%REC		

LP 13402

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

Quanterra Environmental Services

COPY

January 23, 1996

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following samples:

St. Louis Project ID	: 570.03
Date Received	: January 3, 1996
Number of Samples	: Six (6)
Samples Type	: Soil

I. INTRODUCTION

On January 3, 1996, six (6) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Gamma Scan, Isotopic Uranium, Isotopic Thorium, and Rad Screen. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

Allen M. Field
Quanterra Project Manager

cc: David Heinze

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-242-0.5	10064-001	Soil
WL-242-2	10064-002	Soil
WL-243	10064-003	Soil
WL-244	10064-004	Soil
WL-245	10064-005	Soil
WL-246	10064-006	Soil

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Gamma Scan	HASL 300
Isotopic Thorium	Th-NAS-NS-3004
Isotopic Uranium	U-NAS-NS-3050

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank and laboratory control sample were analyzed with the samples for Isotopic Thorium, Isotopic Uranium, and Gamma Scan.

IV. NONCONFORMANCES

There were no nonconformances associated with the analysis of these samples.

V. COMMENTS

Receipt

Login 10064 was received at a temperature of 18°C.

Analytical Notes

Isotopic Thorium

LCS88580, WL-242-2 (10064-002), WL-243 (10064-003), WL-244 (10064-004), and WL-245 (10064-005) had their regions of interest manually adjusted due to broadened spectral peaks.

Blank88056 and Blank88580 have Th-230 activity above the MDA but below the CRDL (Blank88056 activity: 9.245E-1 pCi/gram; Blank88056 error: 3.277E-1 pCi/gram; Blank88056 MDA: 1.830E-2 pCi/gram; Blank88580 activity: 3.095E-2 pCi/gram; Blank88580 error: 2.296E-2 pCi/gram; Blank88580 MDA: 2.325E-2 pCi/gram; CRDL: 1E+0 pCi/gram).

The Th-230 and Th-232 RPDs for WL-244 (10064-004 (95% and 114%) do not meet acceptance criteria. The duplicate results do not fall within three-sigma error limits of the sample activities.

VI. ABBREVIATIONS/DEFINITIONS

NA	= Not Applicable.
ND	= Parameter was analyzed for but not detected.
pCi/L	= Picocurries per liter.
%REC	= Percent Recovery.
QCBLK	= Method Blank.
QCLCS	= Laboratory Control Sample.
MDA	= Minimum Detectable Activity.

Quanterra January 05, 1996 03:51 pm
Account: 11018 Project: 570 03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 10064

Project Manager: A. Field

Draft: Final: Entered and Reviewed by: Sue Wilson PM Review: Allen McReed

Sample Header Template:

Sample No. / Comments / # / Data:	Client ID	Container Type	C-Matrix / Analysis	Date: Collected	Received	Due	Shipper	Class	Preservative	Anal. Due Date	Hold Date	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
10064-001	WL-242-0.5		Soil	13-DEC-95 08:30	03-JAN-96 15:25	02-FEB-96	CLIENT						3*	R4537-006
2		GN - Glass Jar-250ML	RAD/GAMMA/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203431:100 203432:99)
1			RAD/SCREEN/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203431:100)
1		GN - Glass Jar-120ML	RAD/ISOTH/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203430:99)
1			RAD/ISOU/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203429:100)
10064-002	WL-242-2		Soil	13-DEC-95 09:00	03-JAN-96 15:25	02-FEB-96	CLIENT						3*	R4537-005
2		GN - Glass Jar-250ML	RAD/GAMMA/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203435:100 203436:99)
1			RAD/SCREEN/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203435:100)
1		GN - Glass Jar-120ML	RAD/ISOTH/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203434:99)
1			RAD/ISOU/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203433:100)
10064-003	WL-243		Soil	13-DEC-95 09:15	03-JAN-96 15:25	02-FEB-96	CLIENT						3*	R4537-004
2		GN - Glass Jar-250ML	RAD/GAMMA/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203439:100 203440:99)
1			RAD/SCREEN/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203439:100)
1		GN - Glass Jar-120ML	RAD/ISOTH/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203438:99)
1			RAD/ISOU/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203437:100)
10064-004	WL-244		Soil	13-DEC-95 10:15	03-JAN-96 15:25	02-FEB-96	CLIENT						3*	R4537-003
2		GN - Glass Jar-250ML	RAD/GAMMA/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203443:100 203444:99)
1			RAD/SCREEN/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203443:100)
1		GN - Glass Jar-120ML	RAD/ISOTH/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203442:99)
1			RAD/ISOU/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203441:100)
10064-005	WL-245		Soil	13-DEC-95 10:30	03-JAN-96 15:25	02-FEB-96	CLIENT						3*	R4537-002
2		GN - Glass Jar-250ML	RAD/GAMMA/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203447:100 203448:99)
1			RAD/SCREEN/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203447:100)
1		GN - Glass Jar-120ML	RAD/ISOTH/Q4					S	COLD	26-JAN-96	12-JUN-96	S4J		(203446:99)
1			RAD/ISOU/Q4					S	COLD	26-JAN-96	01-JUL-96	S4J		(203445:100)
10064-006	WL-246		Soil	13-DEC-95 10:45	03-JAN-96 15:25	02-FEB-96	CLIENT						3*	R4537-001

3*=Sample has not been rad screened.

Quanterra January 03, 1996 03:51 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 10064

'roject Manager: A. Field

)raft: Final: Entered and Reviewed by:_____ PM Review:_____

;ample Header Template: _____

;ample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.

#	Comments Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
)ata:								
2	GN - Glass Jar-250ML	RAD/GAMMA/Q4	S	COLD	26-JAN-96	12-JUN-96	S4J	(203451:100 203452:99)
1		RAD/SCREEN/Q4	S	COLD	26-JAN-96	01-JUL-96	S4J	(203451:100)
1	GN - Glass Jar-120ML	RAD/ISOTH/Q4	S	COLD	26-JAN-96	12-JUN-96	S4J	(203450:99)
1		RAD/ISOU/Q4	S	COLD	26-JAN-96	01-JUL-96	S4J	(203449:100)

;*=Sample has not been rad screened.

Quanterra

Environmental Services

and C.O.C.
ED TO: BW+AF
1-3-96
15:40
JM

Login No.: 10064

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: McLaren Hart

Date: 1-3-96 Time: 1525

Project No: 570.03

Initiated by: [illegible]

Shipper/No: Client

RFA/COC Numbers: 897

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below): _____

☐ **No variances were noted during sample receipt.**

Cooler Temperature Upon Receipt: 18°C (Box)

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) [illegible] Date: 1-3-96

Project Management Review: Allen [illegible] Date: 1-4-96

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

ME vironmental Labo..atories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 00827

SIDE 2 FOR COMPLETE INSTRUCTIONS

Ship To: MCLAREN HART
Address: 502 EARTH CITY EXPRESSWAY
SE 204 ST. LOUIS MO 63045

Project Name: WEST LAKE
Project Number: 07.0803035.003.005
Project Location: (State) BRIDGETON, MO

FOR LABORATORY USE ONLY
Laboratory Project #:
Storage Refrigerator ID:
Storage Freezer ID:

Sampler Name	Signature	PPE Worn in Field
CAROL RIGGET	(signature)	LEVEL D

Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
CAROL RIGGET (signature)	1/3/96 1500	Fed Mitchell	1-3-96 15:25
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Sample Disposal (check one)
- [X] Laboratory Standard
- [ ] Other

Level of QC (see Side 2): [X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN							
1	WL-242-0.5	12/13	[illegible]	AREA 2		4	[illegible]	SOIL	NONE	✓	X	Y	Y							
2	WL-242-2		[illegible]								Y	Y	Y							
3	WL-243		915																	
4	WL-244		[illegible]								Y	Y	X							
5	WL-245		1030								Y	Y	Y							
6	WL-246		1045								Y	X	Y							
7																				
8																				
9																				
10																				

Special Instructions/Comments:
SEE ENCLOSED MEMO

Container Types:
B=Brass Tube
G=Glass Jar
O=Other
A=1 Liter Amber
C=Cassette
P=Polyethylene
V=Voa Vial

TAT (Analytical Turn Around Time)
1 = 24 hours 2 = 48 hours
3 = 1 week 4 = 2 weeks
0 = Other STANDARD

FOR LABORATORY USE ONLY Sample Condition Upon Receipt:

SEND DOCUMENTATION AND RESULTS TO (Check one):
- [X] Project Manager/Office: CAROL RIGGET / ST. LOUIS
- [ ] Client Name:

Company:
Address:
Phone: FAX:

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
od: HASL 300
ix: Soil

Report Date: 01/23/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-242-0.5	10064-001	Cesium-137	01/15/96	01/18/96	ND	PCI/G		0.20
WL-242-0.5	10064-001	Potassium-40	01/15/96	01/18/96	7.10	PCI/G	2.54	2.07
WL-242-0.5	10064-001	Lead-210	01/15/96	01/18/96	ND	PCI/G		29.8
WL-242-0.5	10064-001	Bismuth 214	01/15/96	01/18/96	1.48	PCI/G	0.40	0.51
WL-242-0.5	10064-001	Lead-214	01/15/96	01/18/96	1.59	PCI/G	0.34	0.28
WL-242-0.5	10064-001	Radium-226	01/15/96	01/18/96	1.57	PCI/G	0.26	0.51
WL-242-0.5	10064-001	Actinium-227	01/15/96	01/18/96	ND	PCI/G		1.24
WL-242-0.5	10064-001	Protactinium-231	01/15/96	01/18/96	ND	PCI/G		5.12

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
hod: HASL 300
rix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-242-2	10064-002	Cesium-137	01/15/96	01/18/96	ND	PCI/G		0.38
WL-242-2	10064-002	Potassium-40	01/15/96	01/18/96	13.1	PCI/G	4.6	2.6
WL-242-2	10064-002	Lead-210	01/15/96	01/18/96	ND	PCI/G		66.3
WL-242-2	10064-002	Lead-212	01/15/96	01/18/96	0.51	PCI/G	0.43	0.51
WL-242-2	10064-002	Lead-214	01/15/96	01/18/96	2.45	PCI/G	0.59	0.55
WL-242-2	10064-002	Radium-226	01/15/96	01/18/96	2.42	PCI/G	0.45	0.59
WL-242-2	10064-002	Actinium-227	01/15/96	01/18/96	ND	PCI/G		2.36
WL-242-2	10064-002	Protactinium-231	01/15/96	01/18/96	ND	PCI/G		9.23

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
od: HASL 300
ix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-243	10064-003	Cesium-137	01/15/96	01/18/96	ND	PCI/G		0.19
WL-243	10064-003	Potassium-40	01/15/96	01/18/96	17.3	PCI/G	3.6	2.6
WL-243	10064-003	Thallium-208	01/15/96	01/18/96	0.46	PCI/G	0.18	0.15
WL-243	10064-003	Lead-210	01/15/96	01/18/96	9.58	PCI/G	2.32	2.07
WL-243	10064-003	Lead-212	01/15/96	01/18/96	1.04	PCI/G	0.25	0.22
WL-243	10064-003	Bismuth 214	01/15/96	01/18/96	4.20	PCI/G	0.67	0.33
WL-243	10064-003	Lead-214	01/15/96	01/18/96	5.26	PCI/G	0.49	0.28
WL-243	10064-003	Radium-226	01/15/96	01/18/96	4.78	PCI/G	0.44	0.33
WL-243	10064-003	Actinium-227	01/15/96	01/18/96	3.58	PCI/G	0.88	0.82
WL-243	10064-003	Radium-228	01/15/96	01/18/96	1.13	PCI/G	0.54	0.84
WL-243	10064-003	Protactinium-231	01/15/96	01/18/96	5.22	PCI/G	2.32	4.03

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Gamma Spec.
hod: HASL 300
rix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-244	10064-004	Cesium-137	01/15/96	01/18/96	ND	PCI/G		0.18
WL-244	10064-004	Potassium-40	01/15/96	01/18/96	13.7	PCI/G	3.2	1.9
WL-244	10064-004	Thallium-208	01/15/96	01/18/96	0.23	PCI/G	0.16	0.17
WL-244	10064-004	Lead-210	01/15/96	01/18/96	2.02	PCI/G	1.29	1.48
WL-244	10064-004	Lead-212	01/15/96	01/18/96	0.86	PCI/G	0.21	0.20
WL-244	10064-004	Bismuth 214	01/15/96	01/18/96	1.31	PCI/G	0.35	0.33
WL-244	10064-004	Lead-214	01/15/96	01/18/96	1.58	PCI/G	0.26	0.21
WL-244	10064-004	Radium-226	01/15/96	01/18/96	1.54	PCI/G	0.22	0.33
WL-244	10064-004	Actinium-227	01/15/96	01/18/96	0.81	PCI/G	0.45	0.73
WL-244	10064-004	Protactinium-231	01/15/96	01/18/96	ND	PCI/G		4.57

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-245	10064-005	Cesium-137	01/15/96	01/18/96	ND	PCI/G		0.23
WL-245	10064-005	Potassium-40	01/15/96	01/18/96	15.7	PCI/G	3.7	2.3
WL-245	10064-005	Thallium-208	01/15/96	01/18/96	0.50	PCI/G	0.20	0.23
WL-245	10064-005	Lead-210	01/15/96	01/18/96	ND	PCI/G		2.02
WL-245	10064-005	Lead-212	01/15/96	01/18/96	1.18	PCI/G	0.38	0.25
WL-245	10064-005	Lead-214	01/15/96	01/18/96	1.00	PCI/G	0.40	0.29
WL-245	10064-005	Radium-226	01/15/96	01/18/96	0.95	PCI/G	0.26	0.34
WL-245	10064-005	Actinium-227	01/15/96	01/18/96	ND	PCI/G		1.32
WL-245	10064-005	Protactinium-231	01/15/96	01/18/96	ND	PCI/G		4.83

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 01/23/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-246	10064-006	Cesium-137	01/15/96	01/18/96	ND	PCI/G		0.25
WL-246	10064-006	Potassium-40	01/15/96	01/18/96	14.5	PCI/G	3.6	2.1
WL-246	10064-006	Thallium-208	01/15/96	01/18/96	0.34	PCI/G	0.17	0.20
WL-246	10064-006	Lead-210	01/15/96	01/18/96	ND	PCI/G		1.63
WL-246	10064-006	Lead-212	01/15/96	01/18/96	1.05	PCI/G	0.22	0.24
WL-246	10064-006	Bismuth 214	01/15/96	01/18/96	1.09	PCI/G	0.36	0.37
WL-246	10064-006	Lead-214	01/15/96	01/18/96	0.91	PCI/G	0.34	0.30
WL-246	10064-006	Radium-226	01/15/96	01/18/96	1.04	PCI/G	0.26	0.37
WL-246	10064-006	Actinium-227	01/15/96	01/18/96	ND	PCI/G		0.91
WL-246	10064-006	Protactinium-231	01/15/96	01/18/96	ND	PCI/G		4.30

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 01/22/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK88089-1	Cesium-137	01/15/96	01/18/96	ND	PCI/G		0.16
NA	QCBLK88089-1	Lead-210	01/15/96	01/18/96	ND	PCI/G		1.36
NA	QCBLK88089-1	Radium-226	01/15/96	01/18/96	ND	PCI/G		0.34
NA	QCBLK88089-1	Actinium-227	01/15/96	01/18/96	ND	PCI/G		0.58
NA	QCBLK88089-1	Protactinium-231	01/15/96	01/18/96	ND	PCI/G		2.99

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Soil

Report Date: 01/22/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS88089-1	Americium-241	01/15/96	01/18/96	96	%REC		
NA	QCLCS88089-1	Cesium-137	01/15/96	01/18/96	99	%REC		
NA	QCLCS88089-1	Cobalt-60	01/15/96	01/18/96	91	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
hod: NAS-NS-3004
rix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-242-0.5	10064-001	Thorium-232	01/11/96	01/16/96	1.37	PCI/G	0.47	0.12
WL-242-0.5	10064-001	Thorium-230	01/11/96	01/16/96	20.8	PCI/G	4.1	0.2
WL-242-0.5	10064-001	Thorium-228	01/11/96	01/16/96	0.28	PCI/G	0.20	0.23

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-242-2	10064-002	Thorium-232	01/16/96	01/18/96	1.61	PCI/G	0.53	0.08
WL-242-2	10064-002	Thorium-230	01/16/96	01/18/96	43.3	PCI/G	10.6	0.2
WL-242-2	10064-002	Thorium-228	01/16/96	01/18/96	0.48	PCI/G	0.23	0.16

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-243	10064-003	Thorium-232	01/11/96	01/16/96	9.73	PCI/G	2.2	0.17
WL-243	10064-003	Thorium-230	01/11/96	01/16/96	314	PCI/G	60	0.3
WL-243	10064-003	Thorium-228	01/11/96	01/16/96	0.74	PCI/G	0.36	0.27

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-244	10064-004	Thorium-232	01/11/96	01/16/96	0.56	PCI/G	0.27	0.15
WL-244	10064-004	Thorium-230	01/11/96	01/16/96	9.01	PCI/G	1.93	0.22
WL-244	10064-004	Thorium-228	01/11/96	01/16/96	0.29	PCI/G	0.20	0.20

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-245	10064-005	Thorium-232	01/11/96	01/16/96	0.38	PCI/G	0.20	0.11
WL-245	10064-005	Thorium-230	01/11/96	01/16/96	3.92	PCI/G	0.93	0.16
WL-245	10064-005	Thorium-228	01/11/96	01/16/96	0.58	PCI/G	0.26	0.16

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-246	10064-006	Thorium-232	01/11/96	01/16/96	0.63	PCI/G	0.31	0.15
WL-246	10064-006	Thorium-230	01/11/96	01/16/96	2.91	PCI/G	0.82	0.30
WL-246	10064-006	Thorium-228	01/11/96	01/16/96	0.62	PCI/G	0.31	0.20

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK88056-1	Thorium-232	01/11/96	01/16/96	0.083	PCI/G	0.086	0.089
NA	QCBLK88056-1	Thorium-230	01/11/96	01/16/96	0.92	PCI/G	0.33	0.18
NA	QCBLK88056-1	Thorium-228	01/11/96	01/16/96	0.026	PCI/G	0.062	0.146

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/23/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK88580-1	Thorium-232	01/16/96	01/18/96	-0.0007	PCI/G	0.001	0.018
NA	QCBLK88580-1	Thorium-230	01/16/96	01/18/96	0.031	PCI/G	0.023	0.023
NA	QCBLK88580-1	Thorium-228	01/16/96	01/18/96	0.003	PCI/G	0.011	0.029

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS88056-1	Thorium-232	01/11/96	01/16/96	105	%REC		
NA	QCLCS88056-1	Thorium-230	01/11/96	01/16/96	105	%REC		
NA	QCLCS88056-1	Thorium-228	01/11/96	01/16/96	110	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 01/22/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS88580-1	Thorium-232	01/16/96	01/18/96	124	%REC		
NA	QCLCS88580-1	Thorium-230	01/16/96	01/18/96	110	%REC		
NA	QCLCS88580-1	Thorium-228	01/16/96	01/18/96	108	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-242-0.5	10064-001	Uranium-238	01/11/96	01/16/96	1.63	PCI/G	0.46	0.13
WL-242-0.5	10064-001	Uranium-235/236	01/11/96	01/16/96	0.40	PCI/G	0.22	0.16
WL-242-0.5	10064-001	Uranium-234	01/11/96	01/16/96	1.83	PCI/G	0.50	0.17

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
hod: NAS-NS-3050
rix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-242-2	10064-002	Uranium-238	01/11/96	01/16/96	0.75	PCI/G	0.30	0.10
WL-242-2	10064-002	Uranium-235/236	01/11/96	01/16/96	0.56	PCI/G	0.28	0.15
WL-242-2	10064-002	Uranium-234	01/11/96	01/16/96	1.35	PCI/G	0.43	0.10

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-243	10064-003	Uranium-238	01/11/96	01/16/96	3.63	PCI/G	0.91	0.18
WL-243	10064-003	Uranium-235/236	01/11/96	01/16/96	0.58	PCI/G	0.31	0.22
WL-243	10064-003	Uranium-234	01/11/96	01/16/96	3.99	PCI/G	0.98	0.24

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
od: NAS-NS-3050
ix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-244	10064-004	Uranium-238	01/11/96	01/16/96	1.35	PCI/G	0.40	0.09
WL-244	10064-004	Uranium-235/236	01/11/96	01/16/96	0.09	PCI/G	0.10	0.14
WL-244	10064-004	Uranium-234	01/11/96	01/16/96	0.88	PCI/G	0.30	0.12

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
od: NAS-NS-3050
ix: Soil

Report Date: 01/23/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-245	10064-005	Uranium-238	01/11/96	01/16/96	0.71	PCI/G	0.27	0.18
WL-245	10064-005	Uranium-235/236	01/11/96	01/16/96	0.13	PCI/G	0.15	0.28
WL-245	10064-005	Uranium-234	01/11/96	01/16/96	0.93	PCI/G	0.32	0.23

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 01/22/96
Date Sampled: 12/13/95
Date Received: 01/03/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-246	10064-006	Uranium-238	01/11/96	01/16/96	0.73	PCI/G	0.28	0.18
WL-246	10064-006	Uranium-235/236	01/11/96	01/16/96	0.10	PCI/G	0.13	0.27
WL-246	10064-006	Uranium-234	01/11/96	01/16/96	0.94	PCI/G	0.32	0.14

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
thod: NAS-NS-3050
trix: Soil

Report Date: 01/22/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK88057-1	Uranium-238	01/11/96	01/16/96	0.08	PCI/G	0.09	0.17
NA	QCBLK88057-1	Uranium-235/236	01/11/96	01/16/96	0.24	PCI/G	0.19	0.26
NA	QCBLK88057-1	Uranium-234	01/11/96	01/16/96	0.15	PCI/G	0.13	0.19

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Soil

Report Date: 01/22/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS88057-1	Uranium-238	01/11/96	01/16/96	117	%REC		
NA	QCLCS88057-1	Uranium-234	01/11/96	01/16/96	131	%REC		

LP 13795

MBT Environmen
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

COPY

Date: May 2, 1996
LP #: 13795

David Heinze
McLaren/Hart, Inc.
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Mr. Heinze:

Enclosed are the revised pages of the report from Quanterra Environmental Services for the project *West Lake*. As we requested, Quanterra Environmental Services has provided the whole data sheet for Sample WL-210B-40 (10565-009), since the origianl data sheet was cut off on the left. Also, the case narrative has been revised to refer to login 10565 received at 18°C, rather than login 10418.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Edana M. Belschner
Project Coordinator

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank and laboratory control sample were analyzed with the samples for Isotopic Thorium.

IV. NONCONFORMANCES

There were no nonconformances associated with the analysis of these samples.

V. COMMENTS

Receipt

Login 10565 was received at a temperature of 18°C, 18°C, 18°C, 18°C, 18°C, 18°C, 18°C, and 18°C

Analytical Notes

Isotopic Thorium

Blank 94532 had Th-228 and Th-230 activity above the MDA but below the CRDL. Blank 94532 and 10565-017 had their spectral regions of interest manually adjusted due to broadened peaks.

VI. ABBREVIATIONS/DEFINITIONS

NA	= Not Applicable.
ND	= Parameter was analyzed for but not detected.
pCi/L	= Picocurries per liter.
%REC	= Percent Recovery.
QCBLK	= Method Blank.
QCLCS	= Laboratory Control Sample.
MDA	= Minimum Detectable Activity.

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 04/29/96
Date Sampled: 08/31/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-210B-40	10565-009	Thorium-232	03/20/96	03/22/96	0.82	PCI/G	0.28	0.07
WL-210B-40	10565-009	Thorium-230	03/20/96	03/22/96	10.8	PCI/G	2.2	0.1
WL-210B-40	10565-009	Thorium-228	03/20/96	03/22/96	0.40	PCI/G	0.18	0.11

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

Quanterra
Environmental Services

March 27, 1996

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following samples:

St. Louis Project ID	: 570.03
Date Received	: March 13, 1996
Number of Samples	: Twenty-two (22)
Samples Type	: Soil

I. INTRODUCTION

On March 13, 1996, twenty-two (22) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Isotopic Thorium re-analysis. Two samples were put on hold. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

Allen M. Field
Quanterra Project Manager

cc: David Heinze

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-101-5	10565-001	Soil
WL-103-10	10565-002	Soil
WL-109-50	10565-003	Soil
A-14-0	10565-004	Soil
WL-113-10	10565-005	Soil
B-32-0	10565-006	Soil
WL-205-5	10565-007	Soil
WL-210-40	10565-008	Soil
WL-210B-40	10565-009	Soil
WL-212-10	10565-010	Soil
B-5-0	10565-011	Soil
WL-218-40	10565-012	Soil
WL-220-5	10565-013	Soil
WL-221-35	10565-014	Soil
WL-225-5	10565-015	Soil
WL-225-35	10565-016	Soil
WL-233-30	10565-017	Soil
B-6-0	10565-018	Soil
BG-FF-0	10565-019	Soil
BG-BPS-0	10565-020	Soil
WL-209-5	10565-021	Soil
WL-209B-5	10565-022	Soil

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Isotopic Thorium	Th-NAS-NS-3004

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank and laboratory control sample were analyzed with the samples for Isotopic Thorium.

IV. NONCONFORMANCES

There were no nonconformances associated with the analysis of these samples.

V. COMMENTS

Receipt

Login ~~10418~~ 10565 was received at a temperature of 18°C, 18°C, 18°C, 18°C, 18°C, 18°C, 18°C, and 18°C
cm 4/17/96

Analytical Notes

Isotopic Thorium

Blank 94532 had Th-228 and Th-230 activity above the MDA but below the CRDL. Blank 94532 and 10565-017 had their spectral regions of interest manually adjusted due to broadened peaks.

VI. ABBREVIATIONS/DEFINITIONS

NA	=	Not Applicable.
ND	=	Parameter was analyzed for but not detected.
pCi/L	=	Picocurries per liter.
%REC	=	Percent Recovery.
QCBLK	=	Method Blank.
QCLCS	=	Laboratory Control Sample.
MDA	=	Minimum Detectable Activity.

Temp 18°C Cur# 6604

MB nmental Labo...s
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15566

...E 2 FOR COMPLETE INSTRUCTIONS

oject Name: West Lake
oject Number: 07080303 5
oject Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: 13795 Storage ID:
Sample Condition Upon Receipt: Temp: °C Geiger:
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☐ Laboratory Standard
☑ Other Hold

Level of QC (see Side 2): ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

R LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Thorium
	WL-101-5	8/4/95	0900			4	2 4oz 2 8oz	Soil	—	2 wk	X
	WL-103-10	8/7/95	0750			4	↓	↓	↓	↓	X
	WL-109-50	9/6/95				4	↓	↓	↓	↓	X
	A-14-0	8/6/95	1435			4	↓	↓	↓	↓	X
	WL-113-10	9/25/95	0835			2	4oz	↓	↓	↓	X
	B-32-0	10/1/95	0935			4	2 4oz 2 8oz	↓	↓	↓	X
	WL-205-5	8/3/95	1100			4	↓	↓	↓	↓	X
	WL-210-40	8/31/95				4	↓	↓	↓	↓	X
	WL-210B-40	8/31/95				4	↓	↓	↓	↓	X
	WL-212-10	8/31/95				4	↓	↓	↓	↓	X

Common Analytical Methods: 413.1, 413.2 Long Method, 413.2 Short Method, 418.1 Long Method, 418.1 Short Method, 420.1, 502.2, 503E, 503.1, 524.2, 601, 602, 604, 608, 610, 624, 625, 8010, 8015, 8015 Mod., 8020, 8021, 8040, 8080, 8100, 8150, 8240, 8270, 8310, Acidity, Alkalinity, BTEX, Chloride, CLP (see Side 2), COD, Color, Conductivity, Corrosivity, Cyanide, Flashpoint, Fluoride, General Mineral, Hex. Chromium, Ion Balance, Metals (write specific metal & method #), Metals 6010*, Metals PP*, Metals Title 22: TTLC Level, STLC Level (see Side 2), Nitrate, Nitrite, Odor, Org. Lead, Org. Mercury, Percent Moisture, Percent Solid, Perchlorate, pH, Phosphates, Phosphorus, Sulfate, Sulfides, TCLP: VOA, Semivos, Metals, Pesticide, TDS, Total Hardness, Total Solids, TPH/D, TPH/G, TSS, Turbidity

END REPORT TO:
Company Name
Client Name
Address
Phone Fax

BILL TO (if different):
Company Name
Address
PO #
Phone Fax

Special Instructions/Comments
choose which jar to Analyze
Thorium from data only 4/2/96
WL-220-5 - white specs presents
WL-225-35 - reddish brown/multi colored
B6-BPS-0 - multi-colored (shale)
WL-233-30 - reddish brown

Sampler Name: DAVID J HEINZE
Signature:
PPE Worn in Field:

Relinquished By: DAVID J HEINZE Date/Time: 3/13/96
Received By or Method of Shipment/Shipment I.D.: Fred Mitchell Date/Time: 3-13-96 15:45

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

TEMP 10C CURA 6604

MB nmental Lab ...ds
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15567

...DE 2 FOR COMPLETE INSTRUCTIONS

oject Name: West Lake
oject Number: 0708030 35
oject Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: 13795 *Storage ID:*
Sample Condition Upon Receipt: Temp: °C *Geiger:*
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☐ Laboratory Standard
☑ Other Held

Level of QC (see Side 2): ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

...R LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s) #	Container(s) Type	Matrix Type	Pres. Type	TAT	Thorium
1	B-5-0	10/6/95	1105			4	2 4oz 2 8oz	soil	—	2 wks	X
2	WL-218-40	8/31/95	1500			4					X
3	WL-220-5	8/31/95	1445			4					X
4	WL-221-35	9/1/95				4					X
5	WL-225-5	9/14/95	1035			4					X
6	WL-225-35	9/14/95	1245			4					X
7	WL-233-30	9/19/95	0952			3	2 8oz 1 4oz				X
8	B-6-0	10/6/95	1140			4	2 8oz 2 4oz				X
9	B6-FF-0	10/11/95	1000			4	8oz				X
10	B6-BPS-0	10/11/95	0800			3	2 8oz 1 4oz				X

Common Analytical Methods: 413.1, 413.2 Long Method, 413.2 Short Method, 418.1 Long Method, 418.1 Short Method, 420.1, 502.2, 503E, 503.1, 524.2, 601, 602, 604, 608, 610, 624, 625, 8010, 8015, 8015 Mod., 8020, 8021, 8040, 8080, 8100, 8150, 8240, 8270, 8310, Acidity, Alkalinity, BTEX, Chloride, CLP (see Side 2), COD, Color, Conductivity, Corrosivity, Cyanide, Flashpoint, Fluoride, General Mineral, Hex. Chromium, Ion Balance, Metals (write specific metal & method), Metals 6010*, Metals PP*, Metals Title 22: TTLC Level, STLC Level (see Side 2), Nitrate, Nitrite, Odor, Org. Lead, Org. Mercury, Percent Moisture, Percent Solid, Perchlorate, pH, Phosphates, Phosphorus, Sulfate, Sulfides, TCLP: VOA, Semivos, Metals, Pesticide, TDS, Total Hardness, Total Solids

...END REPORT TO:
...Company Name
...Client Name
...Address
...Phone Fax

BILL TO (if different):
Company Name
Address
PO #
Phone Fax

Special Instructions/Comments
Choose which Jar to Analyze
Thorium From
data only 4/2/96 M
WL-209-5 & WL-209B-5
left for visual Analysis

...Sampler Name: DAVID T HEINZE
Signature: D M
PPE Worn in Field: level D

...Relinquished By: DAVID T HEINZE Date/Time: 3/13/96
Received By or Method of Shipment/Shipment I.D.: Date/Time: 3-13-96 15:45

...Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

...Time

Quanterra March 15, 1996 09:37 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 10565

roject Manager: A. Field

raft: Final: Entered and Reviewed by: S. Fournier PM Review:

ample Header Template:

ample No. / #	Client ID / Comments / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
ata:									
0565-001	WL-101-5	Soil	04-AUG-95 09:00	13-MAR-96 15:45		27-MAR-96	CLIENT	1	Screening not Required
	CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	02-FEB-96	S13A		(219639:100 219640:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	02-FEB-96	S13A		(219641:100 219642:50)
0565-002	WL-103-10	Soil	07-AUG-95 07:50	13-MAR-96 15:45		27-MAR-96	CLIENT	1	Screening not Required
	CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-FEB-96	S13A		(219643:100 219644:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-FEB-96	S13A		(219645:100 219646:50)
0565-003	WL-109-50	Soil	06-SEP-95 00:00	13-MAR-96 15:45		27-MAR-96	CLIENT	1	Screening not Required
	CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	06-MAR-96	S13A		(219647:100 219648:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	06-MAR-96	S13A		(219649:100 219650:50)
0565-004	A-14-0	Soil	06-OCT-95 14:35	13-MAR-96 15:45		27-MAR-96	CLIENT	1	R4358-018
	CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219651:100 219652:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219653:100 219654:50)
0565-005	WL-113-10	Soil	25-SEP-95 08:35	13-MAR-96 15:45		27-MAR-96	CLIENT	1	R4311-009
	CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.								
2	AW - Amber Glass-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	25-MAR-96	S13A		(219655:100 219656:99)
0565-006	B-32-0	Soil	06-OCT-95 09:35	13-MAR-96 15:45		27-MAR-96	CLIENT	1	R4358-010
	CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219657:100 219658:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219659:100 219660:50)
0565-007	WL-205-5	Soil	03-AUG-95 11:00	13-MAR-96 15:45		27-MAR-96	CLIENT	1	Screening not Required
	CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	01-FEB-96	S13A		(219661:100 219662:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	01-FEB-96	S13A		(219663:100 219664:50)

;*=Sample has not been rad screened.

Quanterra March 15, 1996 09:37 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 10565

oject Manager: A. Field

aft: Final: Entered and Reviewed by:_____ PM Review:_____

mple Header Template: _____

mple No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
565-008	WL-210-40	Soil	31-AUG-95 00:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4218-010
Comments: CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219665:100 219666:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219667:100 219668:50)
565-009	WL-210B-40	Soil	31-AUG-95 00:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4218-009
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219669:100 219670:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219671:100 219672:50)
565-010	WL-212-10	Soil	31-AUG-95 00:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4218-005
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219673:100 219674:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219675:100 219676:50)
565-011	B-5-0	Soil	06-OCT-95 11:05	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4358-013
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219677:100 219678:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219679:100 219680:50)
565-012	WL-218-40	Soil	30-AUG-95 15:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	Screening not Required
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	28-FEB-96	S13A		(219681:100 219682:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	28-FEB-96	S13A		(219683:100 219684:50)
565-013	WL-220-5	Soil	31-AUG-95 14:45	13-MAR-96 15:45	27-MAR-96	CLIENT		1	Screening not Required
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.//WHITE SPECS PRESENT.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219685:100 219686:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	29-FEB-96	S13A		(219687:100 219688:50)
565-014	WL-221-35	Soil	01-SEP-95 00:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	Screening not Required
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	01-MAR-96	S13A		(219689:100 219690:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	01-MAR-96	S13A		(219691:100 219692:50)

=Sample has not been rad screened.

Quanterra March 15, 1996 09:37 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 10565

oject Manager: A. Field

aft: Final: Entered and Reviewed by:_____ PM Review:_____

mple Header Template: _____

mple No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
565-015	WL-225-5	Soil	14-SEP-95 10:35	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4262-024
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	14-MAR-96	S13A		(219693:100 219694:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	14-MAR-96	S13A		(219695:100 219696:50)
565-016	WL-225-35	Soil	14-SEP-95 12:45	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4262-023
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.//REDDISH BROWN/MULTI COLORED.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	14-MAR-96	S13A		(219697:100 219698:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	14-MAR-96	S13A		(219699:100 219700:50)
565-017	WL-233-30	Soil	19-SEP-95 09:52	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4262-018
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.//REDDISH BROWN									
1	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	19-MAR-96	S13A		(219701:100)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	19-MAR-96	S13A		(219703:100 219704:50)
565-018	B-6-0	Soil	06-OCT-95 11:40	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4358-012
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219705:100 219706:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	05-APR-96	S13A		(219707:100 219708:50)
565-019	BG-FF-0	Soil	11-OCT-95 10:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4358-003
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.									
4	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	10-APR-96	S13A		(219709:100 219710:99 219711:98 219712:(97)
565-020	BG-BPS-0	Soil	11-OCT-95 08:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4358-004
CHOOSE WHICH JAR TO ANALYZE THORIUM FROM.//MULTI COLORED (SHALE)									
1	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	10-APR-96	S13A		(219713:100)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	N/A	20-MAR-96	10-APR-96	S13A		(219714:100 219715:50)
565-021	WL-209-5	Soil	31-AUG-95 12:00	13-MAR-96 15:45	27-MAR-96	CLIENT		1	R4218-016
SAMPLE LEFT FOR VISUAL ANALYSIS.									
1	AW - Amber Glass-8oz	HOLD//Q4	S	N/A	11-&&&-**	11-&&&-**	S13A		(219716:100)

=Sample has not been rad screened.

Quanterra March 15, 1996 09:37 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 10565

roject Manager: A. Field

raft: Final: Entered and Reviewed by:_____ PM Review:_____

ample Header Template: _____

ample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								
# Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)	
ata:								
0565-022	WL-209B-5	Soil	31-AUG-95 12:00	13-MAR-96 15:45	27-MAR-96	CLIENT	1	Screening not Required
SAMPLE LEFT FOR VISUAL ANALYSIS.								
1 AW - Amber Glass-8oz	HOLD//Q4	S	N/A	!!-&&&-**	!!-&&&-**	S13A	(219717:100)	

3*=Sample has not been rad screened.

Temp 18°C Curr # 6604

MB Environmental Labs
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15566

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: West Lake
Project Number: 07080303 5
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: 13795 Storage ID:
Sample Condition Upon Receipt: Temp: °C Geiger:
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☐ Laboratory Standard
☑ Other Hold

Level of QC (see Side 2): ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Thorium
1	WL-101-5	8/4/95	0900			4	2 402 2 802	Soil	—	2 wk	X
2	WL-103-10	8/7/95	0750			4					X
3	WL-109-50	9/6/95				4					X
4	A-14-0	10/6/95	1435			4					X
5	WL-113-10	9/25/95	0835			2	402				X
6	B-32-0	10/1/95	0935			4	2 402 2 802				X
7	WL-205-5	8/3/95	1100			4					X
8	WL-210-40	8/31/95				4					X
9	WL-210B-40	8/31/95				4					X
0	WL-212-10	8/31/95				4					X

ANALYSES REQUESTED

Common Analytical Methods: 413.1, 413.2 Long Method, 413.2 Short Method, 418.1 Long Method, 418.1 Short Method, 420.1, 502.2, 503E, 503.1, 524.2, 601, 602, 604, 608, 610, 624, 625, 8010, 8015, 8015 Mod., 8020, 8021, 8040, 8080, 8100, 8150, 8240, 8270, 8310, Acidity, Alkalinity, BTEX, Chloride, CLP (see Side 2), COD, Color, Conductivity, Corrosivity, Cyanide, Flashpoint, Fluoride, General Mineral, Hex. Chromium, Ion Balance, Metals (write specific metal & method), Metals 6010*, Metals PP*, Metals Title 22: TTLC Level, STLC Level (see Side 2), Nitrate, Nitrite, Odor, Org. Lead, Org. Mercury, Percent Moisture, Percent Solid, Perchlorate, pH, Phosphates, Phosphorus, Sulfate, Sulfides, TCLP: VOA, Semivos, Metals, Pesticide, TDS, Total Hardness, Total Solids, TPH/D, TPH/G, TSS, Turbidity

* Specify Total or Dissolved

SEND REPORT TO:
Company Name
Client Name
Address
Phone Fax

BILL TO (if different):
Company Name
Address
PO #
Phone Fax

Special Instructions/Comments
choose which jar to Analyze
Thorium from data only nl 4/4/96
WL-220-5 - white specs present
WL-225-35 - reddish brown/multi colored
B6-BPS-0 - multi-colored (shale)
WL-233-30 - reddish brown

Sampler Name	Signature	PPE Worn in Field	
DAVID J HEINZE	[signature]	Level D	
Relinquished By:	**Date/Time**	**Received By or Method of Shipment/Shipment I.D.**	**Date/Time**
DAVID J HEINZE	3/13/96	[signature]	3-13-96 15:45
Relinquished By:	**Date/Time**	**Received By or Method of Shipment/Shipment I.D.**	**Date/Time**
Relinquished By:	**Date/Time**	**Received By or Method of Shipment/Shipment I.D.**	**Date/Time**

Temp 10C Curr 6604

MB Environmental Labs
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15567

DE 2 FOR COMPLETE INSTRUCTIONS

Project Name: West Lake
Project Number: 0708030 35
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: 13795 *Storage ID:*
Sample Condition Upon Receipt: Temp: °C *Geiger:*
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☐ Laboratory Standard
☑ Other Hold

Level of QC (see Side 2): ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s) #	Container(s) Type	Matrix Type	Pres. Type	TAT	Thorium
1	B-5-0	10/6/95	1105			4	2 4oz 2 8oz	soil	—	2 wk	X
2	WL-218-40	8/30/95	1500			4					X
3	WL-220-5	8/31/95	1445			4					X
4	WL-221-35	9/1/95				4					X
5	WL-225-5	9/14/95	1035			4					X
6	WL-225-35	9/14/95	1245			4					X
7	WL-233-30	9/19/95	0952			3	2 8oz 1 4oz				X
8	B-6-0	10/6/95	1140			4	2 8oz 2 4oz				X
9	B6-FF-0	10/11/95	1000			4	8oz				X
10	B6-BPS-0	10/11/95	0800			3	2 8oz 1 4oz				X

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8060
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids

SEND REPORT TO:
Company Name
Client Name
Address
Phone Fax

BILL TO (if different):
Company Name
Address
PO #
Phone Fax

Special Instructions/Comments
Choose which jar to Analyze
Thorium From
data only 4/2/96 nl
WL-209-5 & WL-209B-5
left for visual analysis

Sampler Name: DAVID T HEINZE
Signature: [signature]
PPE Worn in Field: level D

Relinquished By: DAVID T HEINZE Date/Time: 3/13/96
Received By or Method of Shipment/Shipment I.D.: [signature] Date/Time: 3-13-96 15:45

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

Quanterra
Environmental Services

C-O-C
COPIED TO: BWKAF
DATE: 3-14-96
08:00

Login No.: 10565

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: MBT Environmental
Date: 3-13-96 Time: 15:45
Project No: 570.03
Initiated by: Fred Mitchell
Shipper/No: Client
RFA/COC Numbers: 15566, 67

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below): _____

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 18°C

Notes: All 4 oz Containers 100% Full, 1 8 oz Full & 1 Partial

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Fred Mitchell Date: 3-14-96

Project Management Review: [signature] Date: 3-14-96

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

ɟory: Isotopic Thorium
ɟd: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 08/04/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-101-5	10565-001	Thorium-232	03/20/96	03/22/96	0.89	PCI/G	0.30	0.07
WL-101-5	10565-001	Thorium-230	03/20/96	03/22/96	2.18	PCI/G	0.57	0.07
WL-101-5	10565-001	Thorium-228	03/20/96	03/22/96	1.25	PCI/G	0.38	0.13

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

egory: Isotopic Thorium
od: NAS-NS-3004
rix: Soil

Report Date: 03/28/96
Date Sampled: 08/07/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-103-10	10565-002	Thorium-232	03/20/96	03/22/96	0.77	PCI/G	0.29	0.09
WL-103-10	10565-002	Thorium-230	03/20/96	03/22/96	7.52	PCI/G	1.65	0.16
WL-103-10	10565-002	Thorium-228	03/20/96	03/22/96	0.30	PCI/G	0.17	0.14

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 09/06/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-109-50	10565-003	Thorium-232	03/20/96	03/22/96	0.58	PCI/G	0.25	0.21
WL-109-50	10565-003	Thorium-230	03/20/96	03/22/96	1.10	PCI/G	0.36	0.20
WL-109-50	10565-003	Thorium-228	03/20/96	03/22/96	0.72	PCI/G	0.28	0.17

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 10/06/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
A-14-0	10565-004	Thorium-232	03/20/96	03/22/96	0.84	PCI/G	0.34	0.19
A-14-0	10565-004	Thorium-230	03/20/96	03/22/96	2.67	PCI/G	0.76	0.25
A-14-0	10565-004	Thorium-228	03/20/96	03/22/96	0.89	PCI/G	0.36	0.19

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
d: NAS-NS-3004
x: Soil

Report Date: 03/28/96
Date Sampled: 09/25/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-113-10	10565-005	Thorium-232	03/20/96	03/22/96	0.78	PCI/G	0.35	0.31
WL-113-10	10565-005	Thorium-230	03/20/96	03/22/96	8.43	PCI/G	2.00	0.29
WL-113-10	10565-005	Thorium-228	03/20/96	03/22/96	0.55	PCI/G	0.28	0.24

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 10/06/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-32-0	10565-006	Thorium-232	03/20/96	03/22/96	0.43	PCI/G	0.24	0.12
B-32-0	10565-006	Thorium-230	03/20/96	03/22/96	3.03	PCI/G	0.88	0.15
B-32-0	10565-006	Thorium-228	03/20/96	03/22/96	0.75	PCI/G	0.34	0.21

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

ıory: Isotopic Thorium
ıd: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 08/03/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-205-5	10565-007	Thorium-232	03/20/96	03/22/96	0.66	PCI/G	0.25	0.08
WL-205-5	10565-007	Thorium-230	03/20/96	03/22/96	0.80	PCI/G	0.28	0.11
WL-205-5	10565-007	Thorium-228	03/20/96	03/22/96	0.47	PCI/G	0.20	0.13

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

egory: Isotopic Thorium
iod: NAS-NS-3004
matrix: Soil

Report Date: 03/28/96
Date Sampled: 08/31/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-210-40	10565-008	Thorium-232	03/20/96	03/22/96	0.77	PCI/G	0.31	0.10
WL-210-40	10565-008	Thorium-230	03/20/96	03/22/96	4.27	PCI/G	1.08	0.14
WL-210-40	10565-008	Thorium-228	03/20/96	03/22/96	0.50	PCI/G	0.25	0.19

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Rancho Cordova, CA 95670

Project: 570.03

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Quanterra Environmental Services

Report Date: 03/28/96
Date Sampled: 08/31/95
Date Received: 03/13/96

nterra	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
65-009	Thorium-232	03/20/96	03/22/96	0.82	PCI/G	0.28	0.07
65-009	Thorium-230	03/20/96	03/22/96	10.8	PCI/G	2.2	0.1
65-009	Thorium-228	03/20/96	03/22/96	0.40	PCI/G	0.18	0.11

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 03/28/96
Date Sampled: 08/31/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-212-10	10565-010	Thorium-232	03/20/96	03/22/96	1.85	PCI/G	0.58	0.10
WL-212-10	10565-010	Thorium-230	03/20/96	03/22/96	28.3	PCI/G	6.2	0.2
WL-212-10	10565-010	Thorium-228	03/20/96	03/22/96	0.89	PCI/G	0.36	0.21

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
od: NAS-NS-3004
ix: Soil

Report Date: 03/28/96
Date Sampled: 10/06/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-5-0	10565-011	Thorium-232	03/20/96	03/22/96	0.77	PCI/G	0.32	0.07
B-5-0	10565-011	Thorium-230	03/20/96	03/22/96	1.77	PCI/G	0.57	0.14
B-5-0	10565-011	Thorium-228	03/20/96	03/22/96	0.72	PCI/G	0.31	0.11

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Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 08/30/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-218-40	10565-012	Thorium-232	03/20/96	03/22/96	0.39	PCI/G	0.26	0.15
WL-218-40	10565-012	Thorium-230	03/20/96	03/22/96	2.09	PCI/G	0.73	0.15
WL-218-40	10565-012	Thorium-228	03/20/96	03/22/96	0.10	PCI/G	0.13	0.19

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Project: 570.03

Quanterra Environmental Services

egory: Isotopic Thorium
od: NAS-NS-3004
rix: Soil

Report Date: 03/28/96
Date Sampled: 08/31/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-220-5	10565-013	Thorium-232	03/20/96	03/22/96	0.69	PCI/G	0.27	0.10
WL-220-5	10565-013	Thorium-230	03/20/96	03/22/96	1.53	PCI/G	0.46	0.13
WL-220-5	10565-013	Thorium-228	03/20/96	03/22/96	0.51	PCI/G	0.24	0.26

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Quanterra Environmental Services

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 09/01/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-221-35	10565-014	Thorium-232	03/20/96	03/22/96	0.63	PCI/G	0.27	0.14
WL-221-35	10565-014	Thorium-230	03/20/96	03/22/96	1.24	PCI/G	0.41	0.16
WL-221-35	10565-014	Thorium-228	03/20/96	03/22/96	0.41	PCI/G	0.22	0.15

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Project: 570.03

Quanterra Environmental Services

'gory: Isotopic Thorium
od: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 09/14/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-225-5	10565-015	Thorium-232	03/20/96	03/22/96	0.97	PCI/G	0.35	0.17
WL-225-5	10565-015	Thorium-230	03/20/96	03/22/96	1.43	PCI/G	0.46	0.27
WL-225-5	10565-015	Thorium-228	03/20/96	03/22/96	0.75	PCI/G	0.30	0.19

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Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 09/14/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-225-35	10565-016	Thorium-232	03/20/96	03/22/96	0.33	PCI/G	0.17	0.16
WL-225-35	10565-016	Thorium-230	03/20/96	03/22/96	0.91	PCI/G	0.32	0.23
WL-225-35	10565-016	Thorium-228	03/20/96	03/22/96	0.48	PCI/G	0.21	0.17

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Project: 570.03

Quanterra Environmental Services

gory: Isotopic Thorium
od: NAS-NS-3004
rix: Soil

Report Date: 03/28/96
Date Sampled: 09/19/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-233-30	10565-017	Thorium-232	03/20/96	03/22/96	0.71	PCI/G	0.29	0.13
WL-233-30	10565-017	Thorium-230	03/20/96	03/22/96	9.93	PCI/G	2.20	0.19
WL-233-30	10565-017	Thorium-228	03/20/96	03/22/96	0.37	PCI/G	0.21	0.18

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Project: 570.03

Quanterra Environmental Services

gory: Isotopic Thorium
od: NAS-NS-3004
Matrix: Soil

Report Date: 03/28/96
Date Sampled: 10/06/95
Date Received: 03/13/96

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
B-6-0	10565-018	Thorium-232	03/20/96	03/22/96	1.03	PCI/G	0.31	0.10
B-6-0	10565-018	Thorium-230	03/20/96	03/22/96	12.4	PCI/G	2.48	0.13
B-6-0	10565-018	Thorium-228	03/20/96	03/22/96	0.60	PCI/G	0.22	0.13

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Project: 570.03

Quanterra Environmental Services

'egory: Isotopic Thorium
od: NAS-NS-3004
.ix: Soil

Report Date: 03/28/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK94532-1	Thorium-232	03/20/96	03/22/96	0.13	PCI/G	0.13	0.15
NA	QCBLK94532-1	Thorium-230	03/20/96	03/22/96	0.90	PCI/G	0.37	0.13
NA	QCBLK94532-1	Thorium-228	03/20/96	03/22/96	0.37	PCI/G	0.22	0.12

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Project: 570.03

Quanterra Environmental Services

tegory: Isotopic Thorium
iod: NAS-NS-3004
rix: Soil

Report Date: 03/28/96
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS94532-1	Thorium-232	03/20/96	03/22/96	100	%REC		
NA	QCLCS94532-1	Thorium-230	03/20/96	03/22/96	84	%REC		
NA	QCLCS94532-1	Thorium-228	03/20/96	03/22/96	100	%REC		

LP 14465

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

COPY

Quanterra
Environmental Services

July 8, 1996

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following samples:

St. Louis Project ID	: 570.03
Date Received	: May 8, 1996
Number of Samples	: Forty-seven (47)
Samples Type	: Soil

I. INTRODUCTION

On May 8, 1996, forty-seven (47) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Isotopic Thorium. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

Allen M. Field

Allen M. Field
Quanterra Project Manager

cc: David Heinze

McLaren Hart
Date: July 8, 1996
Lab Project ID: 570.03

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-105-10	11086-001	Soil
WL-114-0	11086-002	Soil
WL-206-0	11086-003	Soil
WL-208-5	11086-004	Soil
WL-208-9	11086-005	Soil
WL-230-5	11086-006	Soil
WL-231-0	11086-007	Soil
WL-231-5	11086-008	Soil
WL-234-10 DUP	11086-009	Soil
WL-234-20	11086-010	Soil
WL-217-5	11086-011	Soil
WL-226-20	11086-012	Soil
WL-234-10	11086-013	Soil
WL-209-0	11086-014	Soil
WL-209-25	11086-015	Soil
WL-210-0	11086-016	Soil
WL-210-5	11086-017	Soil
WL-210-5 DUP	11086-018	Soil
WL-211-5	11086-019	Soil
WL-212-5	11086-020	Soil
WL-213-5	11086-021	Soil
WL-213-25	11086-022	Soil
WL-215-0	11086-023	Soil
WL-222-0	11086-024	Soil
WL-222-5	11086-025	Soil
WL-106-5	11086-026	Soil
WL-106-5 DUP	11086-027	Soil
WL-106-25	11086-028	Soil
WL-106-25 DUP	11086-029	Soil
WL-106-0	11086-030	Soil
WL-114-5	11086-031	Soil
WL-118-5	11086-032	Soil
WL-241-5	11086-033	Soil
WL-117-10	11086-034	Soil
WL-243-0	11086-035	Soil
WL-209-5	11086-036	Soil

McLaren Hart
Date: July 8, 1996
Lab Project ID: 570.03

I. INTRODUCTION (continued)

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-227-5	11086-037	Soil
WL-233-27	11086-038	Soil
WL-112-5	11086-039	Soil
WL-214-5	11086-040	Soil
WL-216-5	11086-041	Soil
WL-242-0.5	11086-042	Soil
WL-242-2	11086-043	Soil
WL-244-0	11086-044	Soil
WL-209-5 DUP	11086-045	Soil
WL-213-0	11086-046	Soil
WL-209-25 DUP	11086-047	Soil

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Isotopic Thorium	Th-NAS-NS-3004

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank and laboratory control sample were analyzed with the samples for the parameter above.

IV. NONCONFORMANCES

There were no nonconformances associated with the analysis of these samples.

V. COMMENTS

Receipt

Login 11086 received at a temperature of 20°C.

Analytical Notes

QCBLK100705, QCBLK100706, and QCBLK105106 had Th-230 activity above the MDA but below the CRDL.

The following samples had their regions of interest expanded;
WL-214-5 (11086-040)

The following samples had their Regions of Interest manually adjusted;
WL-105-10 (11086-001)
WL-234-20 (11086-010)
WL-118-5 (11086-032)
WL-243-0 (11086-035)
WL-209-5 (11086-036)
WL-112-5 (11086-039)
WL-242-0.5 (11086-042)
WL-242-2 (11086-043)
WL-244-0 (11086-044)

The tracer yield for sample WL-234-10 (11086-013) (112%) was above the method limit (110%).

The Th-230 RPD for sample WL-213-25 (11086-022) is above acceptance criteria.

VI. ABBREVIATIONS/DEFINITIONS

NA	=	Not Applicable.
ND	=	Parameter was analyzed for but not detected.
pCi/G	=	Picocurries per gram.
%REC	=	Percent Recovery.
QCBLK	=	Method Blank.
QCLCS	=	Laboratory Control Sample.
MDA	=	Minimum Detectable Activity.

Quanterra May 20, 1996 05:28 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 11086

Project Manager: A. Field

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
11086-001	WL-105-10	Soil	08-AUG-95 08:00	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	06-FEB-96	QTBJ		(229188:100 229189:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	06-FEB-96	QTBJ		(229190:100 229191:99)
11086-002	WL-114-0	Soil	09-OCT-95 09:20	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229192:100 229193:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229194:100 229195:99)
11086-003	WL-206-0	Soil	06-OCT-95 09:15	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229196:100 229197:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229198:100 229199:99)
11086-004	WL-208-5	Soil	06-OCT-95 09:15	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229200:100 229201:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229202:100 229203:99)
11086-005	WL-208-9	Soil	06-OCT-95 09:15	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229204:100 229205:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229206:100 229207:99)
11086-006	WL-230-5	Soil	18-SEP-95 08:00	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	18-MAR-96	QTBJ		(229208:100 229209:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	18-MAR-96	QTBJ		(229210:100 229211:99)
11086-007	WL-231-0	Soil	06-OCT-95 08:10	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229212:100 229213:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229214:100 229215:99)

Data:

3*=Sample has not been rad screened.

Quanterra May 20, 1996 05:28 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 11086

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category / (Container Numbers:% Filled)	Rad Sample No.
11086-008	WL-231-5	Soil	18-SEP-95 13:15	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4262-030
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	18-MAR-96	QTBJ	(229216:100 229217:99)	
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	18-MAR-96	QTBJ	(229218:100 229219:99)	
11086-009	WL-234-10 DUP	Soil	19-SEP-95 13:45	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	19-MAR-96	QTBJ	(229220:100 229221:99)	
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	19-MAR-96	QTBJ	(229222:100 229223:99)	
11086-010	WL-234-20	Soil	20-AUG-95 08:00	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	18-FEB-96	QTBJ	(229224:100 229225:99)	
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	18-FEB-96	QTBJ	(229226:100 229227:99)	
11086-011	WL-217-5	Soil	30-AUG-95 11:00	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	28-FEB-96	QTBJ	(229228:100 229229:99)	
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	28-FEB-96	QTBJ	(229230:100 229231:99)	
11086-012	WL-226-20	Soil	15-SEP-95 08:07	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4262-007
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	15-MAR-96	QTBJ	(229232:100 229233:99)	
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	15-MAR-96	QTBJ	(229234:100 229235:99)	
11086-013	WL-234-10	Soil	19-SEP-95 13:45	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4262-011
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	19-MAR-96	QTBJ	(229236:100 229237:99)	
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	19-MAR-96	QTBJ	(229238:100 229239:99)	
11086-014	WL-209-0	Soil	09-OCT-95 07:45	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ	(229240:100 229241:99)	
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ	(229242:100 229243:99)	

3*=Sample has not been rad screened.

Quanterra May 20, 1996 05:28 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 11086

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
11086-015	WL-209-25	Soil	09-OCT-95 07:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229244:100 229245:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229246:100 229247:99)
11086-016	WL-210-0	Soil	09-OCT-95 08:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229248:100 229249:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229250:100 229251:99)
11086-017	WL-210-5	Soil	09-OCT-95 08:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229252:100 229253:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229254:100 229255:99)
11086-018	WL-210-5 DUP	Soil	09-OCT-95 08:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229256:100 229257:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229258:100 229259:99)
11086-019	WL-211-5	Soil	09-OCT-95 08:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229260:100 229261:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229262:100 229263:99)
11086-020	WL-212-5	Soil	09-OCT-95 08:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229264:100 229265:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ		(229266:100 229267:99)
11086-021	WL-213-5	Soil	06-OCT-95 10:20	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229268:100 229269:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229270:100 229271:99)

3*=Sample has not been rad screened.

Quanterra May 20, 1996 05:28 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 11086

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
11086-022	WL-213-25	Soil	06-OCT-95 10:20	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229272:100 229273:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229274:100 229275:99)
11086-023	WL-215-0	Soil	06-OCT-95 08:40	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229276:100 229277:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229278:100 229279:99)
11086-024	WL-222-0	Soil	06-OCT-95 08:00	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229280:100 229281:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229282:100 229283:99)
11086-025	WL-222-5	Soil	01-SEP-95 08:00	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	01-MAR-96	QTBJ		(229284:100 229285:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	01-MAR-96	QTBJ		(229286:100 229287:99)
11086-026	WL-106-5	Soil	11-AUG-95 10:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
5	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	09-FEB-96	QTBJ		(229356:100 229357:99 229358:98 22935 97 229360:96)
11086-027	WL-106-5 DUP	Soil	11-AUG-95 10:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
5	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	09-FEB-96	QTBJ		(229361:100 229362:99 229363:98 229364: 97 229365:96)
11086-028	WL-106-25	Soil	11-AUG-95 10:45	08-MAY-96 16:55	07-JUN-96		CLIENT	3*	Sample not Screened
5	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	09-FEB-96	QTBJ		(229366:100 229367:99 229368:98 229369: 97 229370:96)

3*=Sample has not been rad screened.

Quanterra May 20, 1996 05:28 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 11086

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
11086-029	WL-106-25 DUP	Soil	11-AUG-95 10:45	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
5	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	09-FEB-96	QTBJ		(229371:100 229372:99 229373:98 229374: 97 229375:96)
11086-030	WL-106-0	Soil	11-AUG-95 10:30	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
5	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	09-FEB-96	QTBJ		(229381:100 229382:99 229383:98 229384: 97 229385:96)
11086-031	WL-114-5	Soil	25-SEP-95 09:25	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4311-016
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	25-MAR-96	QTBJ		(229399:100 229400:99)
11086-032	WL-118-5	Soil	28-SEP-95 13:50	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4311-014
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	28-MAR-96	QTBJ		(229401:100 229402:99)
11086-033	WL-241-5	Soil	28-SEP-95 10:00	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4311-017
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	28-MAR-96	QTBJ		(229418:100 229419:99)
11086-034	WL-117-10	Soil	27-SEP-95 08:05	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4311-006
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	27-MAR-96	QTBJ		(229420:100 229421:99)
11086-035	WL-243-0	Soil	13-DEC-95 09:15	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	12-JUN-96	QTBJ		(229422:100 229423:99)
11086-036	WL-209-5	Soil	09-SEP-95 07:45	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	09-MAR-96	QTBJ		(229439:100 229440:99)

Comments
Data:

3*=Sample has not been rad screened.

Quanterra May 20, 1996 05:28 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 11086

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
11086-037	WL-227-5	Soil	15-SEP-95 12:37	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4262-021
1	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	15-MAR-96	QTBJ		(229442:100)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	15-MAR-96	QTBJ		(229444:100 229445:99)
11086-038	WL-233-27	Soil	19-SEP-95 09:40	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4262-019
1	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	19-MAR-96	QTBJ		(229461:100)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	19-MAR-96	QTBJ		(229462:100 229463:99)
11086-039	WL-112-5	Soil	11-SEP-95 13:50	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4262-033
1	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	11-MAR-96	QTBJ		(229464:100)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	11-MAR-96	QTBJ		(229465:100 229466:99)
11086-040	WL-214-5	Soil	06-OCT-95 10:20	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229467:100 229651:99)
1	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ		(229469:100)
11086-041	WL-216-5	Soil	29-AUG-95 14:00	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4231-012
1	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	27-FEB-96	QTBJ		(229470:100)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	27-FEB-96	QTBJ		(229471:100 229472:99)
11086-042	WL-242-0.5	Soil	13-DEC-95 08:30	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4537-006
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	12-JUN-96	QTBJ		(229473:100 229476:99)
1	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	12-JUN-96	QTBJ		(229474:100)
11086-043	WL-242-2	Soil	13-DEC-95 09:00	08-MAY-96 16:55	07-JUN-96	CLIENT		3*	R4537-005
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	12-JUN-96	QTBJ		(229477:100 229479:99)
1	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	12-JUN-96	QTBJ		(229478:100)

3*=Sample has not been rad screened.

Quanterra May 20, 1996 05:28 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 11086

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No.	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Comments								

#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
Data:								

11086-044	WL-244-0	Soil	13-DEC-95 10:15	08-MAY-96 16:55	07-JUN-96	CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	12-JUN-96	QTBJ	(229480:100 229482:99)
1	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	12-JUN-96	QTBJ	(229481:100)
11036-045	WL-209-5 DUP	Soil	09-OCT-95 07:45	08-MAY-96 16:55	07-JUN-96	CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ	(229483:100 229485:99)
1	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ	(229484:100)
11086-046	WL-213-0	Soil	06-OCT-95 10:20	08-MAY-96 16:55	07-JUN-96	CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ	(229486:100 229488:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	05-APR-96	QTBJ	(229487:100 229489:99)
11086-047	WL-209-25 DUP	Soil	09-OCT-95 07:45	08-MAY-96 16:55	07-JUN-96	CLIENT	3*	Sample not Screened
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ	(229490:100 229648:99)
2	GW - Glass Jar-8oz	RAD/ISOTH/Q4	S	COLD	31-MAY-96	08-APR-96	QTBJ	(229649:100 229650:99)

3*=Sample has not been rad screened.

Temp 2N Check

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 17329

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07.0803035.014.099
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one): ☒ Laboratory Standard ☐ Other _____

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	THORIUM								
1 4X	WL-212-5	—	—	AREA 2	5'	4	2-8oz 2-4oz	SOIL	NONE		X								
2	~~WL-213-0~~	~~10/6/95~~	~~1020~~		~~0'~~	~~4~~	~~2-8oz 2-4oz~~				~~X~~								
3 4X	WL-213-5	—	—		5'	4	2-8oz 2-4oz				X								
4 4X	WL-213-25	—	—		25'	4	2-8oz 2-4oz				X								
5	~~WL-214-5~~	—	—		~~5'~~	~~3~~	~~2-4oz 1-8oz~~				~~X~~								
6 4X	WL-215-0	10/6/95	840		0'	4	2-8oz 2-4oz				X								
7 3X	WL-216-5	8/29/95	1400		5'	3	2-8oz 1-4oz				X								
8	~~WL-217-5~~	~~8/30/95~~	~~1100~~		~~5'~~	~~4~~	~~2-8oz 2-4oz~~				~~X~~								
9 4X	WL-222-0	10/6/95	800		0'	4	2-8oz 2-4oz				X								
10 4X	WL-222-5	9/1/95	—		5'	4	2-8oz 2-4oz				X								

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
602.2
603E
603.1
624.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
(20) Acidity
Alkalinity
BTEX
(21) Chloride
CLP (see Side 2)
COD
(22) Color
Conductivity
Corrosivity
Cyanide
(23) Flashpoint
Fluoride
(41) Dissolved Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method)
(24) Metals 6010*
Metals PP*
(25) Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL PIGET
Address _____
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments _____

Sampler Name: CAROL PIGET
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By: [signature] / AUDY HEWITT Date/Time 5/8/96 1055
Received By or Method of Shipment/Shipment I.D.: 2nd Method Date/Time 5-8-96 16:55

Relinquished By: _____ Date/Time _____
Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

Relinquished By: _____ Date/Time _____
Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 17355

SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07080303S
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☐ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Thorium
1 5X100%	WL-106-0	9/11/95	1030			5	4oz	Soil	—		X
2 3X100	WL-112-5	9/11/95	1350			3	2 8oz 1 4oz		—		X
3 2X100	WL-117-10	9/27/95	0805			2	4oz		—		X
4 2X100	WL-213-0	10/6/95	1020			4	2 8oz 2 4oz		—		X
5 3X100	WL-214-5	—	—			3	2 4oz 1 8oz		—		X
6 4X100	WL-217-5	8/30/95	1100			4	2 8oz 2 4oz		—		X
7 4X100	WL-226-20	9/15/95	0807			4	2 8oz 2 4oz		—		X
8 4X100	WL-234-10	9/19/95	1345			4	2 8oz 2 4oz		—		X
9 2X100	WL-243-0	12/13/95	0915			2	4oz		—		X
10 3X100	WL-244-0 (244)	12/13/95	1015			3	1 8oz 2 4oz		—		X

Common Analytical Methods: 413.1, 413.2 Long Method, 413.2 Short Method, 418.1 Long Method, 418.1 Short Method, 420.1, 502.2, 503E, 503.1, 524.2, 601, 602, 604, 608, 610, 624, 625, 8010, 8015, 8015 Mod., 8020, 8021, 8040, 8080, 8100, 8150, 8240, 8270, 8310, Acidity, Alkalinity, BTEX, Chloride, TCLP (see Side 2), COD, Color, Conductivity, Conductivity, Cyanide, Flashpoint, Fluoride, General Mineral, Hex. Chromium, Ion Balance, Metals (write specific metal & method #)*, Metals 6010*, Metals PP*, Metals Title 22: TTLC Level, STLC Level (see Side 2), Nitrate, Nitrite, Odor, Org. Lead, Org. Mercury, Percent Moisture, Percent Solid, Perchlorate, pH, Phosphates, Phosphorus, Sulfate, Sulfides, TCLP: VOA, Semivos, Metals, Pesticide, TDS, Total Hardness, Total Solids, TPH/D, TPH/G, TSS, Turbidity
* Specify Total or Dissolved

SEND REPORT TO:
Company Name _____
Client Name _____
Address _____
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
Prepare All 10 Samples for Analysis (ASSAY Pulp) - dry, pulverize, homogenize. Return prepared samples to be submitted to other labs - keep enough sample to analyze.

Sampler Name	Signature	PPE Worn in Field
DAVID J HEINZE	[signature]	Level D

Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
DAVID J HEINZE	5/8/96 1055	[signature]	5-8-96 1655
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

temp 20°C curr 7/10

MB Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 17330

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07.0803035.014.099
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	THORIUM
1 4X100%	WL-105-10	8/8/95	800	AREA 1	10'	4	2-8oz 2-4oz	SOIL	NONE		X
2	~~WL-106-0~~	~~8/11/95~~	~~1030~~		~~0'~~	~~5~~	~~4oz JARS~~				~~X~~
3 5X100	WL-106-5	8/11/95	1045		5'	5	4oz JARS				X
4 5X100	WL-106-5 Dup	8/11/95	1045		5'	5	4oz JARS				X
5 ~~8~~X 100	WL-106-25	8/11/95	1045		25'	5	4oz JARS				X
6 5X100%	WL-106-25 Dup	8/11/95	1045		25'	5	4oz JARS				X
7 ~~4X100 2m~~	~~WL-112-5~~	~~9/11/95~~	~~1350~~		~~5'~~	~~3~~	~~2-8oz 1-4oz~~				~~X~~
8 4X100	WL-114-0	10/9/95	920		0'	4	2-8oz 2-4oz				X
9 2X100	WL-114-5	9/25/95	925	2m Lab-1-1230	5'	2	4oz JAR				X
10	~~WL-114-10~~	~~9/27/95~~	~~805~~		~~10'~~	~~2~~	~~4oz JAR~~				X

ANALYSES REQUESTED

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
(1) Acidity
Alkalinity
BTEX
Chloride
(20) CLP (see Side 2)
COD
(27) Color
Conductivity
(28) Corrosivity
Cyanide
(29) Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
(2) Metals (write specific metal & method)
(31) Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGET
Address _____
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments _____

Sampler Name: CAROL RIGET
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By: [signature] DAVID HEIMS Date/Time 5/8/96 1655
Received By or Method of Shipment/Shipment I.D.: [signature] Date/Time 5-8-96 1655

Relinquished By: _____ Date/Time _____
Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

Relinquished By: _____ Date/Time _____
Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 17331

IDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07.0803035.014.099
Project Location: (State) MD

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	THORIUM										
1 2X100%	WL-118-5	9/28/95	1350	AREA 1	5'	2	4oz JAR	SOIL	NONE		X										
2 2X 100%	WL-206-0	10/6/95	0915		0'	4	2-8oz 2-4oz				X										
3 4X100	WL-208-5	—	—		5'	4	2-8oz 2-4oz				X										
4 4X100	WL-208-9	—	—		9'	4	2-8oz 2-4oz				X										
5																					
6																					
7																					
8																					
9																					
10																					

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
602.2
603E
603.1
624.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
(3) Acidity
Alkalinity
(3) BTEX
Chloride
(4) CLP (see Side 2)
(5) COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity
* Specify Total or Dissolved

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGGS
Address _____
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments _____

Sampler Name: CAROL RIGGS
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By: [signature] Date/Time: DAVID HEINZE 5/8/96 1655
Received By or Method of Shipment/Shipment I.D.: [signature] Date/Time: 5-8-96 1655

Relinquished By: _____ Date/Time: _____
Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

Relinquished By: _____ Date/Time: _____
Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 17332

S. IDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07.0803035.014.099
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	THORIUM								
1	~~WL-226-20~~	~~9/15/95~~	~~807~~	~~AREA 2~~	~~20'~~	~~4~~	~~2-8oz 2-4oz~~	~~SOIL~~	~~NONE~~		~~X~~								
2 3X100%	WL-227-5	9/15/95	1237		5'	3	2-8oz 1-4oz				X								
3 4X100%	WL-230-5	9/18/95	800		5'	4	2-8oz 2-4oz				X								
4 4X100	WL-231-0	10/6/95	810		0'	4	2-8oz 2-4oz				X								
5 4X100	WL-231-5	9/18/95	1315		5'	4	2-8oz 2-4oz				X								
6 3X100	WL-233-27	9/19/95	940		27'	3	2-8oz 1-4oz				X								
7	~~WL-234-10~~	~~9/19/95~~	~~1345~~		~~10'~~	~~4~~	~~2-8oz 2-4oz~~				~~X~~								
8 4X100	WL-234-10 Dup	9/19/95	1345		10'	4	2-8oz 2-4oz				X								
9 4X100	WL-234-20	9/20/95	800		20'	4	2-8oz 2-4oz				X								
10 2X100	WL-241-5	9/20/95	1000		5'	2	4-oz Jar				X								

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
602.2
603E
603.1
624.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX (37)
Chloride
CLP (see Side 2) (6)
COD (7)
Color
Conductivity
Corrosivity (8)
Cyanide
Flashpoint (3B)
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)* (9)
Metals 8010* (10)
Metals PP*
Metals Title 22: (33)
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivon
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity
* Specify Total or Dissolved

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGGT
Address _____
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments _____

Sampler Name	Signature	PPE Worn in Field
CAROL RIGGT	[signature]	LEVEL D

Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
[signature] DAVID HEINZE	5/8/96 1655	[signature]	5-8-96 1655
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Temp 20°C Chk 1105

MBT Environmental Labs
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 17333

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07.0803035.014.099
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	THORIUM								
1 3X100%	WL-242-0	12/13/95	830	AREA 2	0'	3	1-802 2-402	SOIL	NONE		X								
2 3X100%	WL-242-2	12/13/95	900		2'	3	1-802 2-402				X								
3	~~WL-243-0~~	~~12/13/95~~	~~915~~		~~0'~~	~~2~~	~~4oz jar~~				~~X~~								
4	~~WL-244-0~~	~~12/13/95~~	~~1015~~		~~0'~~	~~3~~	~~1-802 2-402~~				~~X~~								
5																			
6 Labels List																			
7 WL-242-0.5																			
8																			
9																			
10																			

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
602.2
603E
603.1
624.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Quality
Quality
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGGS
Address _____
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments _____

Sampler Name: CAROL RIGGS
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By: [signature] DAVID HEINZE 5/8/96 1655
Received By or Method of Shipment/Shipment I.D.: [signature] 5-8-96 1655
Date/Time

Relinquished By: _____ Date/Time _____ Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

Relinquished By: _____ Date/Time _____ Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

1Emr 20L CUR# 7105

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 17328

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07-0B03035.014.09
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
☑ Laboratory Standard
☐ Other _____

Level of QC (see Side 2): ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 6F ☐ 7 ☐ 8 ☐ A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	THORIUM								
1 4X100	WL-209-0	10/9/95	745	AREA 2	0'	4	2-8oz 2-4oz	SOIL	NONE		X								
2 2X100	WL-209-5	—	—		5'	2	4oz JAR				X								
3	[redacted]				[redacted]	[redacted]	[redacted]												
4 3X~~100~~	WL-209-5 DUP	—	—		5'	3	1-8oz JAR 2-4oz JAR				X								
5 4X	WL-209-25	—	—		25'	4	2-8oz 2-4oz				X								
6 4X ~~2~~ 4X	WL-209-25 DUP	—	—		25'	1	4oz JAR				X								
7 4X	WL-210-0	10/9/95	845		0'	4	2-8oz 2-4oz				X								
8 4X	WL-210-5	—	—		5'	4	2-8oz 2-4oz				X								
9 4X	WL-210-5 DUP	—	—		5'	4	2-8oz 2-4oz				X								
10 4X	WL-211-5	—	—		5'	4	2-8oz 2-4oz				X								

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
602.2
603E
603.1
624.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
14 Solidity
Alkalinity
36 BTEX
Chloride
CLP (see Side 2)
8000
45 Color
Conductivity
15 Corrosivity
Cyanide
Flashpoint
Fluoride
16 General Mineral
Hex. Chromium
17 Ion Balance
Metals (write specific metal & method)
18 Metals 6010*
Metals PP*
19 Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name ATTN: CAROL RIGGS
Address _____
Phone _____ Fax _____

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments _____

Sampler Name: CAROL RIGGS
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By: [signature] Date/Time _____ Received By or Method of Shipment/Shipment I.D. [signature] Date/Time 5-8-96 1655

Relinquished By: _____ Date/Time _____ Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

Relinquished By: _____ Date/Time _____ Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

Quanterra Environmental Services

and C.O.C.
C ...DTC: BW+AF
DATE: 5-9-96
TIME: 1400
BY: [illegible]

Login No.: 11086

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: ST. McCLAREN HART
Date: 5-8-96 Time: ~~0~~ 2m 1655
Project No: 570.03
Initiated by:
Shipper/No: Client
RFA/COC Numbers: 17328-33+35

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature:
   - ☐ pH
   - ☐ other:
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain:
   ☐ Paperwork received without sample.
5. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain:
   COC List WL-242-0
   Labels List WL-242-0.5
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below):
    WL-114-S Time Collected
    COC List 09:25
    Labels List 12:30

☐ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 20°C

Notes: WL-209-25 Dup COC List 1 4oz Jar; Recv "2X4oz, 2X8oz"

Corrective Action:

☐ Client's Name: Informed verbally on: By:
☐ Client's Name: Informed in writing on: By:

☐ Sample(s) processed "as is".
☐ Sample(s) on hold until: If released, notify:

Sample Control Supervisor Review: (or designee) [signature] Date: 5-9-96
ect Management Review: [signature] Date: 5/16/96

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 11/24/95

Quan... ra
9 July 1996

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Prep Date	Date Analyzed	Parameter	Result	Sigma Error (+/-)	MDA	Units
WL-105-10	11086-001	Soil	08/08/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.21	0.12	0.11	PCI/G
							Thorium-230	522	95	0.09	PCI/G
							Thorium-232	4.61	0.99	0.06	PCI/G
WL-114-0	11086-002	Soil	10/09/95	05/08/96	06/26/96	07/03/96	Thorium-228	1.96	1.14	0.99	PCI/G
							Thorium-230	7850	1470	0.92	PCI/G
							Thorium-232	18.1	4.6	0.78	PCI/G
WL-206-0	11086-003	Soil	10/06/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.82	0.29	0.11	PCI/G
							Thorium-230	537	102	0.05	PCI/G
							Thorium-232	3.92	0.91	0.07	PCI/G
WL-208-5	11086-004	Soil	10/06/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.96	0.32	0.16	PCI/G
							Thorium-230	123	23	0.10	PCI/G
							Thorium-232	1.43	0.42	0.08	PCI/G
WL-208-9	11086-005	Soil	10/06/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.36	0.17	0.12	PCI/G
							Thorium-230	10.1	2.0	0.07	PCI/G
							Thorium-232	0.36	0.16	0.07	PCI/G
WL-230-5	11086-006	Soil	09/18/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.71	0.28	0.18	PCI/G
							Thorium-230	56.9	11.3	0.22	PCI/G
							Thorium-232	1.21	0.40	0.22	PCI/G
WL-231-0	11086-007	Soil	10/06/95	05/08/96	06/04/96	06/06/96	Thorium-228	-0.02	0.01	0.14	PCI/G
							Thorium-230	1.21	0.39	0.20	PCI/G
							Thorium-232	0.08	0.10	0.19	PCI/G
WL-231-5	11086-008	Soil	09/18/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.25	0.17	0.23	PCI/G
							Thorium-230	41.8	8.3	0.27	PCI/G
							Thorium-232	0.61	0.26	0.26	PCI/G

Quanterra
9 July 1996

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Category: Isotopic Thorium
Method: NAS-NS-3004

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Prep Date	Date Analyzed	Parameter	Result	Sigma Error (+/-)	MDA	Units
/L-234-10 DUP	11086-009	Soil	09/19/95	05/08/96	06/04/96	06/06/96	Thorium-228	3.69	0.80	0.09	PCI/G
							Thorium-230	4730	848	0.12	PCI/G
							Thorium-232	209	38	0.10	PCI/G
/L-234-20	11086-010	Soil	08/20/95	05/08/96	06/04/96	07/02/96	Thorium-228	0.65	0.23	0.12	PCI/G
							Thorium-230	16.2	3.2	0.04	PCI/G
							Thorium-232	0.67	0.23	0.07	PCI/G
/L-217-5	11086-011	Soil	08/30/95	05/08/96	06/04/96	06/06/96	Thorium-228	-0.01	0.04	0.15	PCI/G
							Thorium-230	0.96	0.30	0.13	PCI/G
							Thorium-232	-0.004	0.005	0.085	PCI/G
L-226-20	11086-012	Soil	09/15/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.16	0.13	0.18	PCI/G
							Thorium-230	149	29	0.15	PCI/G
							Thorium-232	1.25	0.39	0.11	PCI/G
L-234-10	11086-013	Soil	09/19/95	05/08/96	06/26/96	07/03/96	Thorium-228	1.45	3.49	8.28	PCI/G
							Thorium-230	13000	2370	8.59	PCI/G
							Thorium-232	29.9	13.2	5.77	PCI/G
L-209-0	11086-014	Soil	10/09/95	05/08/96	06/04/96	06/06/96	Thorium-228	4.97	1.04	0.09	PCI/G
							Thorium-230	29200	5290	0.09	PCI/G
							Thorium-232	127	23	0.09	PCI/G
L-209-25	11086-015	Soil	10/09/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.38	0.21	0.25	PCI/G
							Thorium-230	26.9	5.4	0.12	PCI/G
							Thorium-232	0.71	0.27	0.05	PCI/G
L-210-0	11086-016	Soil	10/09/95	05/08/96	06/26/96	07/03/96	Thorium-228	8.5	8.6	13.5	PCI/G
							Thorium-230	18200	3510	15.1	PCI/G

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AL-210-0	11086-016	Soil	10/09/95	05/08/96	06/26/96	07/03/96	Thorium-232	59.2	23.2	17.5	PCI/G
AL-210-5	11086-017	Soil	10/09/95	05/08/96	06/04/96	06/06/96	Thorium-228	3.88	0.78	0.08	PCI/G
							Thorium-230	12400	2140	0.14	PCI/G
							Thorium-232	106	19	0.06	PCI/G
AL-210-5 DUP	11086-018	Soil	10/09/95	05/08/96	06/04/96	06/06/96	Thorium-228	4.59	0.91	0.05	PCI/G
							Thorium-230	15600	2700	0.11	PCI/G
							Thorium-232	120	21	0.06	PCI/G
AL-211-5	11086-019	Soil	10/09/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.66	0.21	0.08	PCI/G
							Thorium-230	66.1	11.8	0.15	PCI/G
							Thorium-232	1.38	0.35	0.08	PCI/G
AL-212-5	11086-020	Soil	10/09/95	05/08/96	06/04/96	06/06/96	Thorium-228	0.33	0.16	0.14	PCI/G
							Thorium-230	5.72	1.20	0.10	PCI/G
							Thorium-232	0.29	0.14	0.08	PCI/G
AL-213-5	11086-021	Soil	10/06/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.67	0.25	0.15	PCI/G
							Thorium-230	17.3	3.4	0.16	PCI/G
							Thorium-232	0.89	0.30	0.15	PCI/G
AL-213-25	11086-022	Soil	10/06/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.64	0.24	0.10	PCI/G
							Thorium-230	3.13	0.75	0.05	PCI/G
							Thorium-232	0.52	0.21	0.07	PCI/G
AL-215-0	11086-023	Soil	10/06/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.27	0.14	0.12	PCI/G
							Thorium-230	5.35	1.14	0.07	PCI/G
							Thorium-232	0.31	0.15	0.07	PCI/G
AL-222-0	11086-024	Soil	10/06/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.97	0.32	0.16	PCI/G

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WL-222-0	11086-024	Soil	10/06/95	05/08/96	06/05/96	06/09/96	Thorium-230	131	25	0.19	PCI/G
							Thorium-232	1.31	0.40	0.20	PCI/G
WL-222-5	11086-025	Soil	09/01/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.89	0.30	0.12	PCI/G
							Thorium-230	81.4	15.4	0.18	PCI/G
							Thorium-232	1.30	0.38	0.17	PCI/G
WL-106-5	11086-026	Soil	08/11/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.29	0.16	0.18	PCI/G
							Thorium-230	731	135	0.21	PCI/G
							Thorium-232	3.22	0.75	0.20	PCI/G
WL-106-5 DUP	11086-027	Soil	08/11/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.39	0.18	0.11	PCI/G
							Thorium-230	766	142	0.14	PCI/G
							Thorium-232	4.71	1.03	0.12	PCI/G
WL-106-25	11086-028	Soil	08/11/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.55	0.23	0.17	PCI/G
							Thorium-230	2.38	0.55	0.14	PCI/G
							Thorium-232	0.56	0.22	0.09	PCI/G
WL-106-25 DUP	11086-029	Soil	08/11/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.50	0.20	0.13	PCI/G
							Thorium-230	6.49	1.37	0.12	PCI/G
							Thorium-232	0.47	0.19	0.09	PCI/G
WL-106-0	11086-030	Soil	08/11/95	05/08/96	06/26/96	07/03/96	Thorium-228	4.25	5.10	7.89	PCI/G
							Thorium-230	9700	1800	11.8	PCI/G
							Thorium-232	35.2	15.2	11.2	PCI/G
WL-114-5	11086-031	Soil	09/25/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.49	0.24	0.18	PCI/G
							Thorium-230	68.7	14.2	0.16	PCI/G
							Thorium-232	1.83	0.56	0.11	PCI/G

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JL-118-5	11086-032	Soil	09/28/95	05/08/96	06/26/96	07/03/96	Thorium-228	1.85	1.40	1.99	PCI/G
							Thorium-230	425	87	2.50	PCI/G
							Thorium-232	10.3	3.5	2.22	PCI/G
JL-241-5	11086-033	Soil	09/28/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.39	0.20	0.23	PCI/G
							Thorium-230	343	66	0.11	PCI/G
							Thorium-232	3.84	0.90	0.05	PCI/G
JL-117-10	11086-034	Soil	09/27/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.47	0.22	0.18	PCI/G
							Thorium-230	36.6	7.4	0.13	PCI/G
							Thorium-232	1.00	0.35	0.12	PCI/G
JL-243-0	11086-035	Soil	12/13/95	05/08/96	06/05/96	06/09/96	Thorium-228	1.11	0.35	0.15	PCI/G
							Thorium-230	265	50	0.22	PCI/G
							Thorium-232	6.37	1.36	0.15	PCI/G
JL-209-5	11086-036	Soil	09/09/95	05/08/96	06/26/96	07/03/96	Thorium-228	-2.0	10.4	40.1	PCI/G
							Thorium-230	38300	7750	40.2	PCI/G
							Thorium-232	138	60	32.2	PCI/G
JL-227-5	11086-037	Soil	09/15/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.75	0.27	0.09	PCI/G
							Thorium-230	27.4	5.4	0.08	PCI/G
							Thorium-232	2.40	0.61	0.07	PCI/G
JL-233-27	11086-038	Soil	09/19/95	05/08/96	06/26/96	07/03/96	Thorium-228	0.79	0.73	1.02	PCI/G
							Thorium-230	427	80	0.70	PCI/G
							Thorium-232	1.19	0.83	0.56	PCI/G
WL-112-5	11086-039	Soil	09/11/95	05/08/96	06/05/96	06/09/96	Thorium-228	1.37	0.50	0.24	PCI/G
							Thorium-230	296	64	0.23	PCI/G

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lient D	Laboratory ID	Matrix	Date Sampled	Date Received	Prep Date	Date Analyzed	Parameter	Result	Sigma Error (+/-)	MDA	Units
L-112-5	11086-039	Soil	09/11/95	05/08/96	06/05/96	06/09/96	Thorium-232	32.9	7.3	0.14	PCI/G
L-214-5	11086-040	Soil	10/06/95	05/08/96	06/05/96	06/09/96	Thorium-228	0.92	0.44	0.26	PCI/G
							Thorium-230	21.6	5.4	0.41	PCI/G
							Thorium-232	6.32	1.78	0.25	PCI/G
L-216-5	11086-041	Soil	08/29/95	05/08/96	06/26/96	07/03/96	Thorium-228	0.16	0.45	1.14	PCI/G
							Thorium-230	1130	161	0.93	PCI/G
							Thorium-232	3.05	1.45	0.81	PCI/G
L-242-0.5	11086-042	Soil	12/13/95	05/08/96	06/26/96	07/03/96	Thorium-228	0.16	0.45	1.10	PCI/G
							Thorium-230	8.63	2.62	0.76	PCI/G
							Thorium-232	0.00	0.00	0.34	PCI/G
L-242-2	11086-043	Soil	12/13/95	05/08/96	06/26/96	07/03/96	Thorium-228	-0.07	0.30	1.19	PCI/G
							Thorium-230	21.3	5.3	1.11	PCI/G
							Thorium-232	0.52	0.58	0.75	PCI/G
L-244-0	11086-044	Soil	12/13/95	05/08/96	06/26/96	07/03/96	Thorium-228	0.69	0.74	1.23	PCI/G
							Thorium-230	20.8	5.1	0.71	PCI/G
							Thorium-232	0.78	0.68	0.65	PCI/G
L-209-5 DUP	11086-045	Soil	10/09/95	05/08/96	06/26/96	07/03/96	Thorium-228	35.4	34.1	61.7	PCI/G
							Thorium-230	32700	6420	29.0	PCI/G
							Thorium-232	180	65	20.2	PCI/G
L-213-0	11086-046	Soil	10/06/95	05/08/96	06/05/96	06/10/96	Thorium-228	0.77	0.29	0.12	PCI/G
							Thorium-230	20.7	4.2	0.13	PCI/G
							Thorium-232	0.97	0.34	0.12	PCI/G
L-209-25 DUP	11086-047	Soil	10/09/95	05/08/96	06/26/96	07/03/96	Thorium-228	0.37	0.61	1.26	PCI/G

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WL-209-25 DUP	11086-047	Soil	10/09/95	05/08/96	06/26/96	07/03/96	Thorium-230	12.8	3.7	0.72	PCI/G
							Thorium-232	0.39	0.53	0.84	PCI/G
NA	QCBLK100705-1	Soil	NA	NA	06/04/96	06/06/96	Thorium-228	0.008	0.056	0.15	PCI/G
							Thorium-230	0.54	0.20	0.13	PCI/G
							Thorium-232	0.004	0.048	0.14	PCI/G
NA	QCBLK100706-1	Soil	NA	NA	06/05/96	06/09/96	Thorium-228	0.03	0.07	0.16	PCI/G
							Thorium-230	0.26	0.13	0.12	PCI/G
							Thorium-232	-0.01	0.03	0.13	PCI/G
NA	QCBLK100707-1	Soil	NA	NA	06/05/96	06/10/96	Thorium-228	0.06	0.08	0.14	PCI/G
							Thorium-230	0.75	0.28	0.13	PCI/G
							Thorium-232	0.18	0.12	0.10	PCI/G
NA	QCBLK105106-1	Soil	NA	NA	06/26/96	07/03/96	Thorium-228	-0.01	0.03	0.13	PCI/G
							Thorium-230	0.29	0.14	0.09	PCI/G
							Thorium-232	0.011	0.028	0.065	PCI/G
NA	QCLCS100705-1	Soil	NA	NA	06/04/96	06/06/96	Thorium-228	108	---	---	%REC
							Thorium-230	174	---	---	%REC
							Thorium-232	106	---	---	%REC
NA	QCLCS100706-1	Soil	NA	NA	06/05/96	06/09/96	Thorium-228	112	---	---	%REC
							Thorium-230	112	---	---	%REC
							Thorium-232	115	---	---	%REC
NA	QCLCS100707-1	Soil	NA	NA	06/05/96	06/10/96	Thorium-228	89	---	---	%REC
							Thorium-230	114	---	---	%REC
							Thorium-232	102	---	---	%REC

Quanterra
9 July 1996

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Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Prep Date	Date Analyzed	Parameter	Result	Sigma Error (+/-)	MDA	Units
NA	QCLCS105106-1	Soil	NA	NA	06/26/96	07/03/96	Thorium-228	105	---	---	%REC
							Thorium-230	99	---	---	%REC
							Thorium-232	112	---	---	%REC

Quanterra
Environmental Services

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Earth City, Missouri 63045

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Mr. Bruce E. Ehleringer
McLaren/Hart Environmental Engineering Corp.
1000 Town Center, Suite 600
Southfield, Michigan 48075

November 20, 1996

Dear Mr. Ehleringer:

In January 1996, McLaren/Hart informed Quanterra of an apparent discrepancy in the thorium-230 analytical results for the West Lake project. McLaren/Hart stated that some of the thorium-230 results were not consistent with other site data, both historic and current. They stated that some of the data was biased high or false positives. McLaren/Hart further stated that the apparent discrepancies were limited to the thorium-230 results and that none of the other data appeared suspect.

A review of the thorium-230 data by Quanterra for the project indicated some problems with the data. Three potential concerns were identified: 1) tailing of the laboratory spiked tracer (thorium-229) into the thorium-230 region of interest, 2) possible interference with uranium-234 which has a peak very close to thorium-230 and 3) sample in homogeneity. Concerns 1 and 2 can lead to false positives and analytical results that are higher than actually present.

To address these possible concerns, Quanterra implemented several sample preparation procedural changes for isotopic thorium and re-analyzed 68 of the samples. The re-analyzed thorium-230 results were substantially lower for some samples and generally lower for most samples. As a note, none of the samples selected for re-analysis were below the reference level criteria established by McLaren/Hart (7.45 pCi/g for surface soil samples and 17.45 pCi/g for subsurface samples).

The isotopic thorium procedural changes implemented by Quanterra included: 1) reducing the amount of thorium-229 tracer spike in each sample, 2) increasing the sample aliquot size, and 3) adding a clean up column to remove uranium, plutonium, and neptunium, which are possible inferences, from the sample prior to separation of the thorium isotopes.

A summary of all thorium-230 analytical data for the West Lake project is presented on the attached sample. For samples in which multiple analyses were performed, we have selected the results that laboratory QA/AC indicates the greatest level of confidence.

Larry Taake
Quanterra Laboratory Director

TABI

COMPARISON OF THORIUM-230 (picocurries per n [pCi/g]) - SOIL ANALYTICAL RESULTS

WEST LAKE LANDFILL, BRIDGETON, MISSOURI

Location	Depth	INITIAL THORIUM-230 RESULTS					QUANTERRA REANALYSIS					RESUBITTED REANALYSIS						RESUBITTED REANALYSIS					
		Activity	2s Error	MDA	CY	Blank	Activity	2s Error	MDA	CY	Blank	Activity	2s Error	MDA	CY	Flag	Blank	Activity	2s Error	MDA	CY	Flag	Blank
WL-101	5	11.1	2.36	0.2	69%	3.04	5.42	1.251	0.38	86%	1.45	2.18	0.5739	0.07	85%	lower	0.90	--	--	--	--	--	--
	20	1.63	0.5747	0.23	77%	3.04	1.99	0.6336	0.25	73%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
WL-102	5	3.98	1.039	0.39	77%	3.04	4.18	1.024	0.23	88%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
	15	1.68	0.5752	0.3	72%	3.04	1.53	0.5638	0.25	72%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
WL-103	5	1.73	0.608	0.26	74%	3.04	1.42	0.5145	0.22	81%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
	10	876	255.7	1.0	79%	1.45	--	--	--	--	--	7.52	1.653	0.16	61%	lower	0.90	--	--	--	--	--	--
WL-104	5	3.08	0.8504	0.21	77%	1.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	20	1.26	0.4655	0.21	79%	3.04	0.98	0.4198	0.18	79%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
WL-105	10	1550	266	2.0	80%	3.04	--	--	--	--	--	--	--	--	--	--	--	522	95.25	0.86	79%	lower	0.54
	30	2.74	0.7829	0.2	81%	3.04	1.59	0.5564	0.31	83%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
WL-106	0	42900	8911	10	25%	3.04	--	--	--	--	--	--	--	--	--	--	--	9699	1801	11.82	108%	lower	0.29
	5	2100	362	3.0	77%	3.04	--	--	--	--	--	--	--	--	--	--	--	730.9	135.3	0.2134	107%	lower	0.26
	5 DUP (L)	1670	278.3	3.0	77%	3.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5 DUP (F)	13700	2251	4.0	74%	3.04	--	--	--	--	--	--	--	--	--	--	--	766.3	145.25	0.1431	60%	lower	0.26
	25	359	59.57	0.3	74%	1.45	--	--	--	--	--	--	--	--	--	--	--	2.377	0.5533	0.1434	77%	lower	0.26
	25 DUP (F)	78.9	13.34	0.2	76%	3.04	--	--	--	--	--	--	--	--	--	--	--	6.489	1.366	0.1165	58%	lower	0.26
WL-107	5	0.89	0.3377	0.13	58%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	51	0.56[1]	0.27	0.15	58%	4.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	51 DUP (L)	0.67[1]	0.33	0.23	45%	4.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-108	5	1.21	0.4203	0.16	54%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-109	5	0.67[1]	0.295	0.13	54%	4.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	50	2.82	0.8178	0.2	75%	0.06	--	--	--	--	--	1.10	0.36	0.20	80%	OK	0.90	--	--	--	--	--	--
	50 DUP (L)	2.43	0.7122	0.26	65%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-110	5	0.66[1]	0.3467	0.23	39%	4.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	50	0.87	0.2861	0.12	66%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-111	0	2.12	0.7226	0.29	35%	1.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5	2.76	0.9022	0.77	81%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	51	2.47	1.259	0.79	92%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-112	0	60.5	11.72	0.4	45%	1.68	--	--	--	--	--	2.67	0.764	0.25	59%	lower	0.90	--	--	--	--	--	--
	5	84.4	15.8	1.9	91%	2.48	--	--	--	--	--	--	--	--	--	--	--	296.5	63.63	0.2322	40%	higher	0.26
	42	0.92	0.4438	0.42	88%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-113	5	0.33	0.1476	0.11	86%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5 DUP (F)	0.58	0.2319	0.15	87%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10	2.21	0.5249	0.13	88%	0.04	--	--	--	--	--	8.43	2	0.2915	61%	higher	0.90	--	--	--	--	--	--
WL-114	0	3760	1368	1	44%	1.68	--	--	--	--	--	--	--	--	--	--	--	7853	1466	0.9163	108%	OK	0.2
	5	23.2	4.896	0.4	72%	0.04	--	--	--	--	--	--	--	--	--	--	--	68.74	14.24	0.1559	64%	higher	0.2
	15	1.08	0.4647	0.28	82%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-115	5	0.84	0.2937	0.18	75%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	40	0.29	0.156	0.12	67%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-116	0	1.94	0.6921	0.52	37%	1.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5	0.51	0.2105	0.13	69%	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5 DUP (F)	0.35	0.1735	0.11	79%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10	0.36	0.2019	0.21	52%	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-117	10	43.4	8.278	0.1	69%	0.04	--	--	--	--	--	--	--	--	--	--	--	36.58	7.384	0.1337	72%	OK	0.26
	25	0.7	0.2804	0.15	72%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-118	5	205	42.22	0.2	61%	0.04	--	--	--	--	--	--	--	--	--	--	--	425	86.73	2.501	88%	higher	0.29
	10	7.19	1.883	0.2	45%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-119	5	0.6	0.2778	0.22	61%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	50	0.67	0.3534	0.41	91%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	50 DUP (F)	0.22	0.1274	0.11	80%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-120	5	0.48	0.1795	0.12	95%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	50	0.32	0.1935	0.15	62%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	50 DUP (F)	0.38	0.1931	0.21	83%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Location	Depth	INITIAL THORIUM-230 RESULTS					QUANTERRA REANALYSIS					RESUBITTED REANALYSIS						RESUBITTED REANALYSIS					
		Activity	2s Error	MDA	CY	Blank	Activity	2s Error	MDA	CY	Blank	Activity	2s Error	MDA	CY	Flag	Blank	Activity	2s Error	MDA	CY	Flag	Blank
WL-201	5	1.06	0.3094	0.15	100%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15	0.63	0.2346	0.11	77%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-202	5	0.83	0.2913	0.11	81%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5 DUP (L)	0.53	0.1991	0.09	94%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15	0.26	0.1415	0.08	87%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-203	0	16.1	3.824	0.6	27%	1.99	--	--	--	--	--	3.03	0.8825	0.15	52%	lower	0.90	--	--	--	--	--	--
	5	0.8	0.2658	0.1	90%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15	0.41	0.1804	0.11	88%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-204	5	0.77	0.2643	0.09	87%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	25	0.43	0.1894	0.08	81%	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-205	5	1.17	0.4489	0.28	93%	3.04	6.28	1.414	0.23	88%	1.45	0.80	0.28	0.1147	82%	OK	0.90	--	--	--	--	--	--
	15	0.95	0.3807	0.2	87%	3.04	1.007	0.4026	0.2545	89%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
WL-206	0	429	135.1	0.7	81%	1.68	--	--	--	--	--	--	--	--	--	--	--	537.3	102.1	0.4775	81%	OK	0.54
	5	7.51	1.544	0.23	76%	3.04	6.60	1.395	0.36	75%	1.45	--	--	--	--	--	--	--	--	--	--	--	--
	10	1.66	0.511	0.21	76%	3.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-207	5	1.21	0.6969	0.54	32%	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5 DUP (L)	1.12[2]	0.8826	0.88	18%	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10	1.78[2]	1.433	1.45	12%	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-208	5	163	29.92	0.18	55%	0.72	--	--	--	--	--	--	--	--	--	--	--	122.7	23.45	0.09888	86%	OK	0.54
	5 DUP (L)	94.9	17.04	0.23	57%	0.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9	17.9	3.364	0.19	66%	0.72	--	--	--	--	--	--	--	--	--	--	--	10.07	2.014	0.07329	88%	OK	0.54
WL-209	0	71100[3]	21000	8	81%	0.86	--	--	--	--	--	--	--	--	--	--	--	29240	5293	0.09485	109%	lower	0.54
	5	160000	32740	82.9	78%	718.00	--	--	--	--	--	--	--	--	--	--	--	38280	7751	40.18	49%	lower	0.29
	5 DUP (F)	45400	15830	2.84	50%	0.72	--	--	--	--	--	--	--	--	--	--	--	32680	6423	28.97	89%	OK	0.29
	25	41.7	7.57	0.19	56%	0.72	--	--	--	--	--	--	--	--	--	--	--	26.89	5.412	0.1206	78%	OK	0.54
	25 DUP (F)	23	4.325	0.14	60%	0.72	--	--	--	--	--	--	--	--	--	--	--	12.85	3.697	0.7175	98%	OK	0.29
WL-210	0	73800[3]	21260	6	82%	0.86	--	--	--	--	--	--	--	--	--	--	--	18190	3514	15.11	94%	lower	0.29
	5	11900	3710	0.76	62%	0.72	--	--	--	--	--	--	--	--	--	--	--	12400	2143	0.1417	105%	OK	0.54
	5 DUP (F)	20800	6059	0.66	78%	0.72	--	--	--	--	--	--	--	--	--	--	--	15610	2700	0.1051	108%	OK	0.54
	40	18.2	3.253	0.12	80%	0.72	--	--	--	--	--	4.27	1.077	0.14	62%	lower	0.90	--	--	--	--	--	--
	40 DUP (F)	131	22.95	0.29	67%	0.72	--	--	--	--	--	10.8	2.21	0.1127	83%	lower	0.90	--	--	--	--	--	--
WL-211	5	87.9	15.63	0.22	66%	0.72	--	--	--	--	--	--	--	--	--	--	--	66.11	11.76	0.1532	96%	OK	0.54
	25	4.97	1.045	0.16	77%	0.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-212	5	14.8	2.638	0.13	71%	0.72	--	--	--	--	--	--	--	--	--	--	--	5.725	1.204	0.09833	103%	lower	0.54
	10	116	19.54	0.23	66%	0.72	--	--	--	--	--	28.28	6.163	0.1659	54%	lower	0.90	--	--	--	--	--	--
WL-213	0	24.2	4.709	0.2	48%	1.68	--	--	--	--	--	--	--	--	--	--	--	20.66	4.245	0.1271	46%	OK	0.75
	5	35.9	6.668	0.52	43%	0.72	--	--	--	--	--	--	--	--	--	--	--	17.29	3.392	0.1562	86%	lower	0.26
	25	18.5	3.384	0.12	57%	0.72	--	--	--	--	--	--	--	--	--	--	--	3.13	0.7486	0.04609	83%	lower	0.26
	25 DUP (L)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.621	1.98	0.09478	89%	higher	
WL-214	5	44.4	7.85	0.21	62%	0.72	--	--	--	--	--	--	--	--	--	--	--	21.62	5.375	0.4096	29%	lower	0.7
	25	12.8	2.482	0.18	46%	0.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-215	0	32	6.485	0.4	42%	1.99	--	--	--	--	--	--	--	--	--	--	--	5.353	1.145	0.07436	87%	lower	0.26
WL-216	5	3380[1]	4040	12.4	4%	4.36	--	--	--	--	--	--	--	--	--	--	--	1131	161.3	0.9304	96%	OK	0.29
	25	1.46	0.4561	0.17	60%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-217	5	45.3[1]	7.638	0.07	76%	4.36	--	--	--	--	--	--	--	--	--	--	--	0.958	0.2954	0.1306	84%	lower	0.54
	10	8.95	1.896	0.12	55%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-218	0	46.4	9.884	0.4	31%	1.68	--	--	--	--	--	1.77	0.5656	0.14	60%	lower	0.90	--	--	--	--	--	--
	5	1.19	0.4263	0.14	51%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	40	7.27	1.509	0.1	60%	0.06	--	--	--	--	--	2.09	0.7299	0.15	41%	lower	0.90	--	--	--	--	--	--
WL-219	5	1.07	0.4035	0.15	50%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10	0.64	0.2475	0.08	77%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-220	5	91.3[1]	16.86	0.14	52%	4.36	--	--	--	--	--	1.53	0.4595	0.13	77%	lower	0.90	--	--	--	--	--	--
	25	0.56[1]	0.269	0.11	54%	4.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-221	5	4.28	0.9432	0.24	73%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	35	227[1]	68.01	0.77	75%	4.36	--	--	--	--	--	1.24	0.4127	0.16	61%	lower	0.90	--	--	--	--	--	--
WL-222	0	64	11.67	0.2	61%	1.68	--	--	--	--	--	--	--	--	--	--	--	130.9	25.06	0.1938	86%	higher	0.26
	5	35.3	6.575	0.14	53%	0.06	--	--	--	--	--	--	--	--	--	--	--	81.38	15.35	0.1752	88%	higher	0.26
	30	0.88	0.3203	0.21	52%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Location	Depth	INITIAL THORIUM-230 RESULTS					QUANTERRA REANALYSIS					RESUBITTED REANALYSIS						RESUBITTED REANALYSIS					
		Activity	2s Error	MDA	CY	Blank	Activity	2s Error	MDA	CY	Blank	Activity	2s Error	MDA	CY	Flag	Blank	Activity	2s Error	MDA	CY	Flag	Blank
WL-223	5	9.16[1]	1.971	0.12	49%	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	22	0.68	0.2786	0.12	64%	4.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-224	5	2.85	1.312	1.15	83%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	35	4.08	1.71	0.84	82%	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-225	5	2.84	1.443	1.32	94%	2.48	--	--	--	--	--	1.43	0.4624	0.27	52%	OK	0.90	--	--	--	--	--	--
	35	14.1	3.665	1.4	68%	2.48	--	--	--	--	--	0.91	0.3185	0.23	60%	lower	0.90	--	--	--	--	--	--
WL-226	10	14.1	4.002	1.1	72%	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	20	173	31.12	1.0	79%	0.96	--	--	--	--	--	--	--	--	--	--	--	148.8	28.75	0.1502	73%	OK	0.54
WL-227	5	20.4	4.662	0.9	78%	2.48	--	--	--	--	--	--	--	--	--	--	--	27.42	5.358	0.08239	61%	OK	0.26
	40	2.78	1.322	0.94	70%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-228	5	2.72	1.447	1.05	72%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15	2.13	0.7554	0.46	82%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-229	5	4.97	1.889	0.97	81%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	20	1.17	0.8898	1.02	86%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-230	5	26.8	6.413	1.3	72%	0.96	--	--	--	--	--	--	--	--	--	--	--	56.86	11.32	0.2199	75%	higher	0.54
	35	1.33	0.9799	1.25	82%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-231	0	37.2	7.026	0.2	54%	1.68	--	--	--	--	--	--	--	--	--	--	--	1.209	0.3852	0.2002	77%	lower	0.54
	0 DUP (L)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.267	0.3832	0.1277	53%	higher	
	5	94.5	17.42	1.0	88%	2.48	--	--	--	--	--	--	--	--	--	--	--	41.84	8.338	0.2669	84%	lower	0.54
	10	10.2	2.965	1.4	84%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-233	27	255	42.76	1.0	94%	2.48	--	--	--	--	--	--	--	--	--	--	--	427.1	80.35	0.7041	110%	higher	0.29
	30	9.93	2.718	0.9	79%	2.48	--	--	--	--	--	9.93	2.201	0.19	50%	OK	0.90	--	--	--	--	--	--
WL-234	10	57300	19270	238	74%	0.19	--	--	--	--	--	--	--	--	--	--	--	13030	2371	8059	112%	lower	0.29
	10 DUP (F)	12000	3667	116	106%	0.19	--	--	--	--	--	--	--	--	--	--	--	4726	847.8	0.1199	72%	lower	0.54
	20	17.2	4.15	0.9	80%	0.96	--	--	--	--	--	--	--	--	--	--	--	16.2	3.2	0.04	110%	higher	0.54
	20 DUP (F)	11.3	2.239	0.5	80%	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-235	0	59.7	11.01	0.2	83%	1.68	--	--	--	--	--	12.4	2.476	0.13	87%	lower	0.90	--	--	--	--	--	--
	5	3.21	1.45	1.16	74%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	30	3.15	1.426	1.0	80%	2.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-236	5	5.92	1.488	0.97	78%	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	35	4.9	1.334	1.01	79%	0.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-239	5	0.5	0.1952	0.12	80%	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	25	0.58	0.2567	0.25	58%	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-241	5	49.2	10.4	0.2	57%	0.04	--	--	--	--	--	--	--	--	--	--	--	342.7	65.5	0.1113	85%	higher	0.26
	15	0.57	0.2113	0.13	93%	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-242	0	20.8	4.136	0.2	48%	0.92	--	--	--	--	--	--	--	--	--	--	--	8.626	2.621	0.7553	73%	lower	0.29
	2	43.3	10.6	0.2	35%	0.03	--	--	--	--	--	--	--	--	--	--	--	21.27	5.302	1.108	94%	OK	0.29
WL-243	0	314	60.44	0.3	42%	0.92	--	--	--	--	--	--	--	--	--	--	--	265.4	49.89	0.2246	66%	OK	0.26
WL-244	0	9.01	1.932	0.22	53%	0.92	--	--	--	--	--	--	--	--	--	--	--	20.79	5.119	0.7112	110%	higher	0.29
WL-245	0	3.92	0.926	0.16	61%	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WL-246	0	2.91	0.8217	0.3	46%	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BG-BPL	0	0.92	0.4398	0.3687	37%	1.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BG-BPS	0	267	59.46	0.6676	21%	1.99	0.22	0.1007	0.08	80%		1.41	0.4242	0.18	62%	lower	0.90	--	--	--	--	--	--
BG-FF	0	4.55	1.43	0.56	24%	1.99	--	--	--	--	--	2.03	0.5982	0.17	50%	OK	0.90	--	--	--	--	--	--
BG-S	0	1.68	0.5901	0.32	40%	1.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

-- = Not analyzed
CY = Chemical yield
DUP (F) = Field duplicate
DUP (L) = Laboratory duplicate
[ ] = Chosen value by Quanterra

1 Blank contamination was from glassware. Reanalyzed samples had agreed with initial results and had no blank contamination
2 Low chemical yield is attributed to matrix effects.
3 Tracer yield for the Laboratory Control Sample (LCS) was < method limit.

LP 12767

COPY

Quanterra Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

October 6, 1995

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following samples:

St. Louis Project ID	: 570.03
Date Received	: September 8, 1995
Number of Samples	: Twenty-four (24)
Samples Type	: Water and Soil

I. INTRODUCTION

On September 8, 1995, twenty-four (24) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Gross Alpha, Gamma Scan, Isotopic Uranium, Isotopic Thorium, and Rad Screen. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

David Sears for Allen Field

Allen M. Field
Quanterra Project Manager

cc: David Heinze

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-107-80	9290-001	Soil
WL-107-5	9290-002	Soil
WL-110-5	9290-003	Soil
WL-108-5	9290-004	Soil
WL-221-5	9290-005	Soil
WL-222-5	9290-006	Soil
WL-221-35	9290-007	Soil
WL-223-22	9290-008	Soil
WL-223-5	9290-009	Soil
WL-109-5	9290-010	Soil
WL-220-5	9290-011	Soil
WL-220-25	9290-012	Soil
WL-216-5	9290-013	Soil
WL-216-25	9290-014	Soil
WL-218-5	9290-015	Soil
WL-218-40	9290-016	Soil
WL-217-5	9290-017	Soil
WL-217-10	9290-018	Soil
WL-219A-5	9290-019	Soil
WL-219A-10	9290-020	Soil
WL-109-50	9290-021	Soil
WL-110-50	9290-022	Soil
WL-222-30	9290-023	Soil
WL-108-22	9290-024	Water

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Gross Alpha	EPA 900.0
Gamma Scan	EPA 901.1
Isotopic Thorium	Th-NAS-NS-3004
Isotopic Uranium	U-NAS-NS-3050

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank, sample duplicate, and laboratory control sample were analyzed with the samples listed above for each parameter.

IV. NONCONFORMANCES

The blank and LCS had good recoveries (102% and 82%) for Isotopic Thorium. Sample WL-108-22 (9290-024) chemical yield (56%) was above the acceptance criteria. Sample WL-108-22 (9290-024DUP) had a low chemical yield of .62%. This sample appeared to contain a high amount of salts prior to performing the electrodeposition, which contributed to the low recovery. No sample remains for reanalysis, therefore the data is being reported "as is". See NCM #2058.

Due to the high amounts of solids in the sample for Gross Alpha, the sample volume was reduced to prevent exceeding the residue weight limitation for the gross alpha analysis. The samples were counted for 1000 minutes, but the CRDL was not achieved. Both samples were less than MDA.. See NCM # 2060.

V. COMMENTS

Login 9290 was received at a temperature of 20°C.

Analytical Notes

Isotopic Thorium

Samples WL-107-80 (9290-001) through WL-219A-10 (-020) were analyzed for Isotopic Thorium in batch 77626. However, the blank for this batch had Th-230 contamination of 4.358pCi/g which is believed to have been from the glassware used during the analysis. Therefore, all samples which below the CRDL or greater than 10 times the blank contamination were considered acceptable. All other samples were reanalyzed. The reanalysis had no contamination in the blank.

VI. ABBREVIATIONS/DEFINITIONS

NA	=	Not Applicable.
ND	=	Parameter was analyzed for but not detected.
pCi/G	=	Picocurries per gram.
pCi/FIL	=	Picocurries per filter.
pCi/L	=	Picocurries per liter.
%REC	=	Percent Recovery.
QCBLK	=	Method Blank.
QCLCS	=	Laboratory Control Sample.
MDA	=	Minimum Detectable Activity.

Quanterra Environmental Services

SL-94- 2058 page 1 of 2

LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): 570.03 ~~578.02~~ ~~577.01~~
NCM INITIATED BY (Name/Date): 09-21-93
PARAMETER(S): BOTH
SAMPLE NUMBER(S) AFFECTED: 9290 ~~9213-001, 9244-001,2 9295-001,2,3 9290-024,024dup~~

AREA:

☐ SHIP/REC	☐ GC	☐ GEN CHEM	☐ BIOASSAY	☐ IH
☐ ORG EXT	☐ HPLC	☐ METALS	☐ RADIOCHEM	☐ DATA VERIFICATION
☐ INORG PREP	☐ GCMS	☐ GEO	☒ COUNTING	☐ REPORTING
☐ OTHER	☐	☐	☐	☐

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.
2. ☐ Holding time exceeded by _____ days due to:
   - 2.1 ☐ **CATEGORY I: Out of Laboratory Control**
     - ☐ Holding time expired at receipt.
   - 2.2 ☐ **CATEGORY II: Laboratory Dependent**
     - ☐ work backlog ☐ instrument failure
     - ☐ communication ☐ other (see #10)
   - 2.3 ☐ **CATEGORY III: Laboratory Reruns**
     - 2.3.1 ☐ *QA/QC:*
       - ☐ surrogates ☐ internal standards
       - ☐ spike recoveries ☐ blank contamination
     - 2.3.2 ☐ *CONFIRMATION:*
       - ☐ second column ☐ contamination check
       - ☐ other (see #10)
     - 2.3.3 ☐ *DILUTION:*
       - ☐ over calibration ☐ under calibration
       - ☐ other (see #10)
     - 2.3.4 ☐ *OTHER: (see #10)*
3. ☐ Sample lost during extraction/analysis; no re-prep or re-analysis possible.
4. ☒ QC data reported to client outside of:
   - ☐ method limits ☐ internal limits
   - ☐ QAPP limits ☐ contract limits
   - ☐ regulatory limits ☒ blank criteria
5. ☐ Incorrect procedure(s) used. (See #10)
6. ☐ Invalid instrument calibration. (See #10)
7. ☐ Incorrect/incomplete data reported to client. (See #10)
8. ☐ Reported detection limit(s) higher than:
   - ☐ method limits ☐ QAPP limits
   - ☐ contract limits ☐ other (see #10)

   Due to:
   - ☐ sample matrix ☐ insufficient sample
   - ☐ instrumentation ☐ other (see #10)
9. ☒ Other (specify): ~~9244-002,~~ 9290-024dup CV<20%
10. ☐ Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. ☒ Client notified by (name and date): DAVID SEARS
   - ☒ in writing ☐ by FAX
   - ☐ by phone ☐ Other (explain)
2. ☒ Client's name McLaren Hart and response
   - ☐ process "as is" ☐ resample
   - ☐ on hold til ____ ☐ Other (explain)

PROJECT MANAGER (signature & date):

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

CORRECTIVE ACTION

☒ ROOT CAUSE: See attached memo INITIALS/DATE

☒ CORRECTIVE ACTION: See attached ~~to DKD~~ memo INITIALS/DATE

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☒ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE 9-22-95

~~Replace Gamma detergent with Radiac Wash to DKD~~
~~reduce background cross contamination from glassware DKD~~
None

FIRST LEVEL SUPERVISOR: DATE: 9-22-95

RESPONSIBLE MANAGER: DATE: 9-22-95

QC REVIEW

☒ NONCONFORMANCE ☐ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO:

QC COORDINATOR: DATE: 09-22-95

CORRECTIVE ACTION VERIFICATION

☐ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: DATE:

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☐ PROJECT FILE

Dihel, Don

From: Dihel, Don
To: Field, A; Sears, Dave
Subject: 9290, 570.03, Iso Th result
Date: Friday, September 22, 1995 8:53AM

The blank and LCS had good recoveries (102% and 82%). Sample 9290-024chemical yield (56%) was above the acceptance criteria. Sample 9290-024DUP had a low chemical yield of .62%. This sample appeared to contain a high amount of salts prior to performing the electrodeposition, which contributed to the low recovery.

No sample remains for reanalysis, therefore the data is being reported "as is".

Quanterra Environmental Services

L SL-94- 2060 page 1 of 2

LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): 570.03 573.01
NCM INITIATED BY (Name/Date): 09-21-95
PARAMETER(S): Alpha
SAMPLE NUMBER(S) AFFECTED: 9258-001 9290-024

AREA:
- [ ] SHIP/REC
- [ ] GC
- [ ] GEN CHEM
- [ ] BIOASSAY
- [ ] IH
- [ ] ORG EXT
- [ ] HPLC
- [ ] METALS
- [ ] RADIOCHEM
- [ ] DATA VERIFICATION
- [ ] INORG PREP
- [ ] GCMS
- [ ] GEO
- [x] COUNTING
- [ ] REPORTING
- [ ] OTHER

NONCONFORMANCE [check appropriate item(s)]:

1. [ ] Not enough sample received for proper analysis.
2. [ ] Holding time exceeded by _____ days due to:
   - 2.1 [ ] CATEGORY I: Out of Laboratory Control
     - [ ] Holding time expired at receipt.
   - 2.2 [ ] CATEGORY II: Laboratory Dependent
     - [ ] work backlog
     - [ ] instrument failure
     - [ ] communication
     - [ ] other (see #10)
   - 2.3 [ ] CATEGORY III: Laboratory Reruns
     - 2.3.1 [ ] *QA/QC:*
       - [ ] surrogates
       - [ ] internal standards
       - [ ] spike recoveries
       - [ ] blank contamination
     - 2.3.2 [ ] *CONFIRMATION:*
       - [ ] second column
       - [ ] contamination check
       - [ ] other (see #10)
     - 2.3.3 [ ] *DILUTION:*
       - [ ] over calibration
       - [ ] under calibration
       - [ ] other (see #10)
     - 2.3.4 [ ] *OTHER: (see #10)*
3. [ ] Sample lost during extraction/analysis; no re-prep or re-analysis possible.
4. [ ] QC data reported to client outside of:
   - [ ] method limits
   - [ ] internal limits
   - [ ] QAPP limits
   - [ ] contract limits
   - [ ] regulatory limits
   - [ ] blank criteria
5. [ ] Incorrect procedure(s) used. (See #10)
6. [ ] Invalid instrument calibration. (See #10)
7. [ ] Incorrect/incomplete data reported to client. (See #10)
8. [x] Reported detection limit(s) higher than:
   - [ ] method limits
   - [ ] QAPP limits
   - [x] contract limits
   - [ ] other (see #10)

   Due to:
   - [x] sample matrix
   - [ ] insufficient sample
   - [ ] instrumentation
   - [ ] other (see #10)
9. [x] Other (specify): MDA > CRDL due to high solids.
10. [ ] Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. [x] Client notified by (name and date): DAVID SEARS 10/6/95
   - [x] in writing
   - [ ] by FAX
   - [ ] by phone
   - [ ] Other (explain)
2. [x] Client's name McLaughlin and response
   - [ ] process "as is"
   - [ ] resample
   - [ ] on hold til ____
   - [ ] Other (explain)

PROJECT MANAGER (signature & date): 10/6/95

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

CORRECTIVE ACTION

☒ ROOT CAUSE: Sample contained high amount of solids. Therefore sample aliquot was reduced to avoid exceeding the residue weight limitation. Sample was counted for 1000 mins

INITIALS/DATE: 9-22-95

☒ CORRECTIVE ACTION: Since high MDA was due to reduced volume which was caused by sample matrix, report data "as is"

INITIALS/DATE: 9-22-95

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☒ ACTIONS TO PREVENT RECURRENCE: None

INITIALS/DATE: 9-22-95

FIRST LEVEL SUPERVISOR: DATE: 9-22-95

RESPONSIBLE MANAGER: DATE: 9-22-95

QC REVIEW

☐ NONCONFORMANCE ☒ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO:

QC COORDINATOR: DATE: 09-25-95

CORRECTIVE ACTION VERIFICATION

☐ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: DATE:

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☐ PROJECT FILE

Quanterra September 09, 1995 08:18 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9290

Project Manager: A. Field

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / #	Client ID / Comments / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
9290-001	WL-107-80	Soil	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-024
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177111:100 177112:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177111:100 177112:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177111:100 177112:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177109:100 177110:99)
9290-0010UP	WL-107-80	Soil	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-024
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177111:100 177112:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177111:100 177112:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177109:100 177110:99)
9290-002	WL-107-5	Soil	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-023
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177115:100 177116:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177115:100 177116:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177115:100 177116:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177113:100 177114:99)
9290-003	WL-110-5	Soil	06-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-022
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177119:100 177120:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177119:100 177120:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177119:100 177120:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177117:100 177118:99)
9290-004	WL-108-5	Soil	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-021
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177123:100 177124:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177123:100 177124:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177123:100 177124:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177121:100 177122:99)
9290-005	WL-221-5	Soil	01-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-020
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177127:100 177128:99)

3*=Sample has not been rad screened.

Quanterra September 09, 1995 08:18 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9290

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
Comments Data:									
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177127:100 177128:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177127:100 177128:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177125:100 177126:99)
9290-006	WL-222-5	Soil	01-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-019
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177131:100 177132:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177131:100 177132:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177131:100 177132:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177129:100 177130:99)
9290-007	WL-221-35	Soil	01-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-018
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177135:100 177136:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177135:100 177136:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177135:100 177136:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177133:100 177134:99)
9290-008	WL-223-22	Soil	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-017
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177139:100 177140:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177139:100 177140:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177139:100 177140:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177137:100 177138:99)
9290-009	WL-223-5	Soil	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-016
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177143:100 177144:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177143:100 177144:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177143:100 177144:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	05-MAR-96	R17E		(177141:100 177142:99)
9290-010	WL-109-5	Soil	06-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-015
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177147:100 177148:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177147:100 177148:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177147:100 177148:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177145:100 177146:99)

3*=Sample has not been rad screened.

Quanterra September 09, 1995 08:18 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9290

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / Comments	Client ID	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
# Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site		(Container Numbers:% Filled)
Data:								
9290-011	WL-220-5	Soil	31-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX	3*	R4231-014
2 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177151:100 177152:99)
2	RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177151:100 177152:99)
2	RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177151:100 177152:99)
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177149:100 177150:99)
9290-012	WL-220-25	Soil	31-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX	3*	R4231-013
2 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177155:100 177156:99)
2	RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177155:100 177156:99)
2	RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177155:100 177156:99)
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177153:100 177154:99)
9290-013	WL-216-5	Soil	29-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX	3*	R4231-012
2 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	27-FEB-96	R17E		(177159:100 177160:99)
2	RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177159:100 177160:99)
2	RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177159:100 177160:99)
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	27-FEB-96	R17E		(177157:100 177158:99)
9290-014	WL-216-25	Soil	29-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX	3*	R4231-011
2 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	27-FEB-96	R17E		(177163:100 177164:99)
2	RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177163:100 177164:99)
2	RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177163:100 177164:99)
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	27-FEB-96	R17E		(177161:100 177162:99)
9290-015	WL-218-5	Soil	30-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX	3*	R4231-010
2 GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177167:100 177168:99)
2	RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177167:100 177168:99)
2	RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177167:100 177168:99)
2 GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177165:100 177166:99)
9290-016	WL-218-40	Soil	30-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX	3*	R4231-009

3*=Sample has not been rad screened.

Quanterra September 09, 1995 08:18 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9290

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
Comments Data:									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177171:100 177172:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177171:100 177172:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177171:100 177172:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177169:100 177170:99)
9290-017	WL-217-5	Soil	30-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-008
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177175:100 177176:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177175:100 177176:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177175:100 177176:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177173:100 177174:99)
9290-018	WL-217-10	Soil	30-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-007
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177179:100 177180:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177179:100 177180:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177179:100 177180:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	28-FEB-96	R17E		(177177:100 177178:99)
9290-019	WL-219A-5	Soil	31-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-006
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177183:100 177184:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177183:100 177184:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177183:100 177184:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177181:100 177182:99)
9290-020	WL-219A-10	Soil	31-AUG-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-005
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177187:100 177188:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177187:100 177188:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177187:100 177188:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	29-FEB-96	R17E		(177185:100 177186:99)
9290-021	WL-109-50	Soil	06-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-004
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177191:100 177192:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177191:100 177192:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177191:100 177192:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177189:100 177190:99)

3*=Sample has not been rad screened.

Quanterra September 09, 1995 08:18 am
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9290

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / # / Data:	Client ID / Comments / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
9290-021DUP	WL-109-50	Soil	06-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-004
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177191:100 177192:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177191:100 177192:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177189:100 177190:99)
9290-022	WL-110-50	Soil	06-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-003
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177195:100 177196:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177195:100 177196:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177195:100 177196:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177193:100 177194:99)
9290-023	WL-222-30	Soil	01-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-002
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177199:100 177200:99)
2		RAD/ISOU/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177199:100 177200:99)
2		RAD/SCREEN/Q4	S	COLD	29-SEP-95	06-MAR-96	R17E		(177199:100 177200:99)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	29-SEP-95	01-MAR-96	R17E		(177197:100 177198:99)
9290-024	WL-108-22	Water	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-001
ABT/900.0/Q4= GROSS ALPHA ONLY									
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	29-SEP-95	06-MAR-96	R17E		(177208:97)
1		RAD/GAMMA/Q4	S	HNO3	29-SEP-95	05-MAR-96	R17E		(177205:100)
1		RAD/ISOTH/Q4	S	HNO3	29-SEP-95	05-MAR-96	R17E		(177206:99)
1		RAD/ISOU/Q4	S	HNO3	29-SEP-95	06-MAR-96	R17E		(177207:98)
1		RAD/SCREEN/Q4	S	HNO3	29-SEP-95	06-MAR-96	R17E		(177205:100)
9290-024DUP	WL-108-22	Water	05-SEP-95 00:00	08-SEP-95 15:30	06-OCT-95	FED-EX		3*	R4231-001
ABT/900.0/Q4= GROSS ALPHA ONLY									
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	29-SEP-95	06-MAR-96	R17E		(177208:97)
1		RAD/GAMMA/Q4	S	HNO3	29-SEP-95	05-MAR-96	R17E		(177205:100)
1		RAD/ISOTH/Q4	S	HNO3	29-SEP-95	05-MAR-96	R17E		(177206:99)
1		RAD/ISOU/Q4	S	HNO3	29-SEP-95	06-MAR-96	R17E		(177207:98)

3*=Sample has not been rad screened.

ME[illegible]ironmental Labo[illegible]ories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Ship To: _____
Address: _____

Project Name: Westlake
Project Number: 01.0803035.003.005
Project Location: (State) Bridgeton, MO

FOR LABORATORY USE ONLY
Laboratory Project #: 12767
Storage Refrigerator ID:
Storage Freezer ID:

Sampler Name: John D Regan — Signature: John D Regan — PPE Worn in Field: Level D — 9/8/95 1:00
Relinquished By: John D Regan — Date/Time: 9/8/95 1530 — Received By or Method of Shipment/Shipment I.D.: [illegible] — Date/Time: 9-8-95 15:30
Relinquished By: — Date/Time: — Received By or Method of Shipment/Shipment I.D.: — Date/Time:
Relinquished By: — Date/Time: — Received By or Method of Shipment/Shipment I.D.: — Date/Time:

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Uranium	Thorium	Gamma Scan	VOC	SVOC	PCB	Metals	Cyanide	TPH
	WL-107-30	9/5		Area 1	30	4	2x40G	soil	none	Ø	X	X	X						
	WL-107-5	9/5		↑	5	1	2x40G				X	X	X						
	WL-110-5	9/6		↓	5		↑				X	X	X						
	WL-108-5	9/5		Area 1	5						X	X	X						
	WL-221-5	9/1		Area 2	5						X	X	X						
	WL-222-5	9/1		↑	5						X	X	X						
	WL-221-35	9/1			35						X	X	X						
	WL-223-22	9/5		↓	22		↓				X	X	X						
	WL-223-5	9/5		Area 2	5		2x40G				X	X	X						
	WL-109-5	9/6		Area 1	5	4	2x40G	soil	none	Ø	X	X	X						

Special Instructions/Comments: See enclosed memo

Container Types: B=Brass Tube, G=Glass Jar, O=Other _____; A=1 Liter Amber, C=Cassette, P=Polyethylene, V=Voa Vial

TAT (Analytical Turn Around Time): 1 = 24 hours, 2 = 48 hours, 3 = 1 week, 4 = 2 weeks, 0 = Other STANDARD

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: _____

SEND DOCUMENTATION AND RESULTS TO (Check one):
☒ Project Manager/Office: Carol Rigt/St. Louis
☐ Client Name: _____
Company: _____
Address: _____

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G

Quanterra
Environmental Services

COPIED TO: BW/AF
9-8-95
AF/16.23
BW B

Work Order No.: 9290

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: MBT ENV LAB
Date: 9-8-95 - 15:30
Project No: 570.03
Initiated by: Gene W Byl
Analysis Requested: Refer to RFA/COC
RFA/COC Numbers: #06854
Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1.	NA	Not enough sample received for proper analysis. Received approximately:	8.	☐	Custody tape disturbed/broken/missing.
			9.	NA	Sample splits performed by lab.
2.	☐	Sample received broken/leaking.	10.	NA	Volatile sample received with approximately _____ mm headspace.
3.	☐	Sample received without proper preservative.			
	☑	Cooler temperature not within 4°C ± 2°C Record temperature: 20°	11.	☐	Sample ID on container does not match sample ID on paperwork. Explain:
	☐	pH			
	☐	other:			
4.	☐	Sample received in improper container.	12.	☐	All coolers on airbill not received with shipment.
5.	☒	Sample received without proper paperwork. Explain:	13.	☐	Other (explain below): Shipping containers not rad surveyed.
6.	☐	Paperwork received without sample.			
7.	☐	No sample ID on sample container.			

Notes: Received The following samples That Not on COC
(4) - WL - 222.30 — (4) - WL 219A-10

Corrective Action:

☒ Client's Name: David Hence Informed verbally on: 9-8-95 By: Amy
☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____
☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Gene W Byl Date: 9-8-95
Project Management Review: _____ Date: _____

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gross Alpha/Beta
Method: EPA 900.0
Matrix: Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024	Gross Alpha	09/19/95	09/20/95	-2.53	PCI/L	5.01	15.9

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

r ory: Gross Alpha/Beta
d: EPA 900.0
Matrix: Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024DUP	Gross Alpha	09/19/95	09/20/95	-24.6	PCI/L	21.4	21.0

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

C[illegible]ory: Gross Alpha/Beta
[illegible]: EPA 900.0
Ma[illegible]x: Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK78342-1	Gross Alpha	09/19/95	09/20/95	-2.67	PCI/L	2.55	4.40

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

C ry: Gross Alpha/Beta
M. .: EPA 900.0
Matrix: Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS78342-1	Gross Alpha	09/19/95	09/20/95	113	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

C[illegible]ry: Gamma Spec.
M[illegible]: HASL 300
Ma[illegible]x: Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024	Cesium-137	09/11/95	09/28/95	ND	PCI/L		16.1
WL-108-22	9290-024	Lead-210	09/11/95	09/28/95	ND	PCI/L		2990
WL-108-22	9290-024	Radium-226	09/11/95	09/28/95	ND	PCI/L		38.2
WL-108-22	9290-024	Actinium-227	09/11/95	09/28/95	ND	PCI/L		91.6
WL-108-22	9290-024	Protactinium-231	09/11/95	09/28/95	ND	PCI/L		453

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Spec.
Method: HASL 300
Matrix: Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024DUP	Cesium-137	09/11/95	09/29/95	ND	PCI/L		12.0
WL-108-22	9290-024DUP	Potassium-40	09/11/95	09/29/95	380	PCI/L	115	137
WL-108-22	9290-024DUP	Lead-210	09/11/95	09/29/95	ND	PCI/L		1100
WL-108-22	9290-024DUP	Radium-226	09/11/95	09/29/95	ND	PCI/L		27.4
WL-108-22	9290-024DUP	Actinium-227	09/11/95	09/29/95	ND	PCI/L		64.3
WL-108-22	9290-024DUP	Protactinium-231	09/11/95	09/29/95	ND	PCI/L		318

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

C ory: Gamma Spec.
i d: HASL 300
Ma..ix: Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK77613-1	Cesium-137	09/11/95	09/28/95	ND	PCI/L		11.5
NA	QCBLK77613-1	Lead-210	09/11/95	09/28/95	ND	PCI/L		369
NA	QCBLK77613-1	Radium-226	09/11/95	09/28/95	ND	PCI/L		20.7
NA	QCBLK77613-1	Actinium-227	09/11/95	09/28/95	ND	PCI/L		67.3
NA	QCBLK77613-1	Protactinium-231	09/11/95	09/28/95	ND	PCI/L		319

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

C[illegible]ory: Gamma Spec.
[illegible]: HASL 300
M[illegible]x: Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS77613-1	Americium-241	09/11/95	09/28/95	98	%REC		
NA	QCLCS77613-1	Cesium-137	09/11/95	09/28/95	104	%REC		
NA	QCLCS77613-1	Cobalt-60	09/11/95	09/28/95	104	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

C ry: Isotopic Thorium
M : NAS-NS-3004
Matrix: Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024	Thorium-232	09/12/95	09/20/95	0.016	PCI/L	0.022	0.040
WL-108-22	9290-024	Thorium-230	09/12/95	09/20/95	0.59	PCI/L	0.14	0.072
WL-108-22	9290-024	Thorium-228	09/12/95	09/20/95	-0.003	PCI/L	0.040	0.099

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
M 1: NAS-NS-3004
M : Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024DUP	Thorium-232	09/12/95	09/20/95	4.10	PCI/L	3.30	2.99
WL-108-22	9290-024DUP	Thorium-230	09/12/95	09/20/95	11.3	PCI/L	6.9	6.48
WL-108-22	9290-024DUP	Thorium-228	09/12/95	09/20/95	-3.13	PCI/L	4.58	11.5

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Mr ': NAS-NS-3004
M : Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK77624-1	Thorium-232	09/12/95	09/20/95	0.32	PCI/L	0.06	0.01
NA	QCBLK77624-1	Thorium-230	09/12/95	09/20/95	0.40	PCI/L	0.08	0.02
NA	QCBLK77624-1	Thorium-228	09/12/95	09/20/95	0.36	PCI/L	0.07	0.04

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

C/ ory: Isotopic Thorium
M : NAS-NS-3004
Ma. .x: Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS77624-1	Thorium-232	09/12/95	09/21/95	100	%REC		
NA	QCLCS77624-1	Thorium-230	09/12/95	09/21/95	96	%REC		
NA	QCLCS77624-1	Thorium-228	09/12/95	09/21/95	107	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Me NAS-NS-3050
Ma Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024	Uranium-238	09/12/95	09/21/95	0.35	PCI/L	0.33	0.30
WL-108-22	9290-024	Uranium-235/236	09/12/95	09/21/95	0.09	PCI/L	0.18	0.34
WL-108-22	9290-024	Uranium-234	09/12/95	09/21/95	0.13	PCI/L	0.21	0.33

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
M ': NAS-NS-3050
M .: Water

Report Date: 10/06/95
Date Sampled: 09/05/95
Date Received: 09/08/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-108-22	9290-024DUP	Uranium-238	09/12/95	09/21/95	0.34	PCI/L	0.32	0.30
WL-108-22	9290-024DUP	Uranium-235/236	09/12/95	09/21/95	-0.01	PCI/L	0.01	0.38
WL-108-22	9290-024DUP	Uranium-234	09/12/95	09/21/95	0.05	PCI/L	0.14	0.38

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
M : NAS-NS-3050
Ma : Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK77634-1	Uranium-238	09/12/95	09/21/95	0.04	PCI/L	0.07	0.12
NA	QCBLK77634-1	Uranium-235/236	09/12/95	09/21/95	-0.004	PCI/L	0.004	0.14
NA	QCBLK77634-1	Uranium-234	09/12/95	09/21/95	0.10	PCI/L	0.05	0.15

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
M ': NAS-NS-3050
M : Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS77634-1	Uranium-238	09/12/95	09/21/95	152	%REC		
NA	QCLCS77634-1	Uranium-234	09/12/95	09/21/95	148	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Ca ry: Isotopic Uranium
Me NAS-NS-3050
Mat. .x: Water

Report Date: 10/06/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS77634-1	Uranium-238	09/12/95	09/21/95	152	%REC		
NA	QCLCS77634-1	Uranium-234	09/12/95	09/21/95	148	%REC		

LP 12871

COPY

Quanterra Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

September 28, 1995

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following samples:

St. Louis Project ID	: 570.03
Date Received	: September 1, 1995
Number of Samples	: Twenty (20)
Samples Type	: Water and Soil

I. INTRODUCTION

On September 1, 1995, twenty (20) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Gross Alpha, Gamma Scan, Isotopic Uranium, Isotopic Thorium, and Rad Screen. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

Allen M. Field

Allen M. Field
Quanterra Project Manager

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-219-25	9244-001	Water
WL-220-30	9244-002	Water
WL-208-5	9244-003	Soil
WL-208-9	9244-004	Soil
WL-209-5	9244-005	Soil
WL-209B-5	9244-006	Soil
WL-209-25	9244-007	Soil
WL-209B-25	9244-008	Soil
WL-210-5	9244-009	Soil
WL-210B-5	9244-010	Soil
WL-210-40	9244-011	Soil
WL-210B-40	9244-012	Soil
WL-211-5	9244-013	Soil
WL-211-25	9244-014	Soil
WL-212-5	9244-015	Soil
WL-212-10	9244-016	Soil
WL-213-5	9244-017	Soil
WL-213-25	9244-018	Soil
WL-214-5	9244-019	Soil
WL-214-25	9244-020	Soil

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Gross Alpha	EPA 900.0
Gamma Scan	EPA 901.1
Isotopic Thorium	Th-NAS-NS-3004
Isotopic Uranium	U-NAS-NS-3050

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank and laboratory control sample were analyzed with the samples listed above for each parameter. A sample duplicate was analyzed for Isotopic Uranium, Isotopic Thorium, and Gamma Scan.

IV. ABBREVIATIONS/DEFINITIONS

NA	= Not Applicable.
ND	= Parameter was analyzed for but not detected.
pCi/G	= Picocurries per gram.
pCi/FIL	= Picocurries per filter.
pCi/L	= Picocurries per liter.
%REC	= Percent Recovery.
QCBLK	= Method Blank.
QCLCS	= Laboratory Control Sample.
MDA	= Minimum Detectable Activity.

V. NONCONFORMANCES

The blank and LCS had good recoveries (102% and 82%). Sample WL-219-25 (9244-001) chemical yield (57%) was above the acceptance criteria. Sample WL-220-30 (9244-002) had a low chemical yield of 19%. No sample remains for reanalysis, therefore the data is being reported "as is". The blank had a thorium contamination which was above the MDA but below the CRDL. See NCM #2057.

Samples WL-219-25 (9244-001) and WL-220-30 (-002) for Gross Alpha/Beta had high amounts of solids which required reducing sample volume. See NCM # 2040.

VI. COMMENTS

Login 9244 was received at a temperature of 28°C.

Analytical Notes

Isotopic Uranium

Due to suspected tailing of ^{234}U into the ^{235}U region of interest for alpha spectroscopy, a review of the gamma and alpha spectroscopy data was conducted for samples WL-209-5 (9244-005), WL-290B-5 (9244-006), WL-210-5 (9244-009) and WL-210B-5 (9244-010).

Upon contact with the client, the site contains processing waste from an enrichment process. The normal equilibrium relationship are not valid.

The review of gamma data for ^{235}U for WL-209-5 (9244-005) does not agree with alpha spectroscopy. The gamma report originally reported an activity of 224.5 pCi/g for ^{235}U based on the 185.71 energy line. The interference report does not show a correction for ^{226}Ra on the 186 keV energy line although the ^{235}U-^{226}Ra interference is in the interference library. Therefore, the best result for ^{235}U is based on the 205.31 keV energy line which reported 74.83 $\pm$ 22.9 pCi/g. This agrees with the alpha spectroscopy report for ^{235}U of 72.44 $\pm$ 12.68 pCi/g. Therefore, this sample was not reanalyzed for alpha spectroscopy and the gamma spectroscopy report corrected.

The gamma data for ^{235}U for WL-290B-5 (9244-006) overlaps the result for alpha spectroscopy. The gamma report for ^{235}U shows the reported peak was based on 205.31 keV and reported as 62.58 $\pm$ 25.36 pCi/g. The alpha spectroscopy result for ^{235}U is reported as 114.7 $\pm$ 19.09 pCi/g. Since the error for these analyses overlap, the result is considered acceptable although the alpha result may be slightly biased high due to the tailing of the ^{234}U peak into the ^{235}U region of interest.

For sample WL-210-5 (9244-009), the gamma data for ^{235}U is reported as 45.56 pCi/g based on the 185.71 keV energy line. The interference report does not show a correction for ^{226}Ra on the 186 keV energy line although the ^{235}U-^{226}Ra interference is in the interference library. The 205.31 keV energy was not identified. Therefore, the result for ^{235}U should be < 10.12 pCi/g (with an error of 1.82 pCi/g). The alpha spectroscopy reports ^{235}U with a concentration of 15.49 $\pm$ 2.876 pCi/g, which agrees with the revised gamma report.

The gamma data for ^{235}U for WL-210B-5 (9244-010) overlaps the result for alpha spectroscopy. The gamma report for ^{235}U shows the reported peak was based on 205.31 and 185.71 keV energy lines. The interference report does not show a correction for ^{226}Ra on the 186 keV energy line although the ^{235}U-^{226}Ra interference is in the interference library. The gamma data has been corrected to use only the 205.31 keV energy line which changes the reported value to 27.19 $\pm$ 11.93 pCi/g. The alpha spectroscopy result for ^{235}U is reported as 43.76$\pm$ 7.896 pCi/g. Since the error for these analyses overlap, the result is considered acceptable although the alpha result may be slightly biased high due to the tailing of the ^{234}U peak into the ^{235}U region of interest.

A review of other gamma spectroscopy results for ^{235}U was conducted. All sampes had no detectable ^{235}U except for WL-211-5 (9244-013). Sample WL-211-5 (9244-013) had ^{235}U originally reported based on the 185.71 keV energy line. The interference report does not show a correction for ^{226}Ra on the 186 keV energy line although the ^{235}U-^{226}Ra interference is in the interference library. The gamma data has been corrected to use only the 205.31 keV energy line which changes the reported value to <.75 pCi/g.

Isotopic Thorium

Sample WL-209-5 (9244-05) was reanalyzed due to high Th-230 activity. 1 gram of the sample was redigested and diluted to 50ml. A .250 ml aliquot was removed in duplicate for analysis which corresponds to .005g of sample. The Th-230 activity was still extremely high (167000 pCi/g). A review of the spectrum indicated a possible tailing of the Th-230 into the Th-232 region-of-interest due to the high Th-230 activity. The results for the sample and the duplicate agree, but this may be due to tailing. The Th-228 and Th-232 equilibrium ratio does not agree. Since the history of these samples are unknown to the reviewer at this time, the data is being reported "as is." However, the client may want to discard the Th-232 results if the sample was composed of thorium decay in equilibrium.

ME[illegible]vironmental Labo[illegible]ories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

00861

IDE 2 FOR COMPLETE INSTRUCTIONS

Ship To: _____

Address: _____

Project Name: Wetlake

Project Number: CJ.083035.003.005

Project Location: (State) Ridgetown

FOR LABORATORY USE ONLY

Laboratory Project #: _____

Storage Refrigerator ID: _____

Storage Freezer ID: _____

Sampler Name: John D Reagan | Signature: John D Reagan | PPE Worn in Field: Level D | 8/31/95 1530

Relinquished By: CAROL RIGET | Date/Time: 9/1/95 910 | Received By or Method of Shipment/Shipment I.D.: [illegible] | Date/Time: 9-1-95 09:10

Relinquished By: | Date/Time: | Received By or Method of Shipment/Shipment I.D.: | Date/Time:

Relinquished By: | Date/Time: | Received By or Method of Shipment/Shipment I.D.: | Date/Time:

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Uranium	Thorium	Gamma Scan	VOC	SVOC	PCB	Metals	Cyanide	TPH	Gross Alpha
1	WL-219-25	8/31/95	1200	Area 2	25	4	1LP	H_2O	HNO_3	Ø	X	X	X							X
2	WL-208-5			AREA 2	5	4	2 8026 2 4026	SOIL	NONE	Ø	X	X	X							
3	WL-208-9			AREA 2	9	4	2 8026 2 4026	SOIL	NONE	Ø	X	X	X							
4	WL-209-5			AREA 2	5	4	2 8026 2 4026	SOIL	NONE	Ø	X	X	X							
5	WL-209B-5				5				NONE	Ø	X	X	X							
6	WL-209-25				25				NONE	Ø	X	X	X							
7	WL-209B-25				25					Ø	X	X	X							
8	WL-210-5				5					Ø	X	X	X							
9	WL-210B-5				5					Ø	X	X	X							
10	WL-210-40				40					Ø	X	X	X							

Special Instructions/Comments: See enclosed memo

Container Types:
B=Brass Tube
G=Glass Jar
O=Other _____
A=1 Liter Amber
C=Cassette
P=Polyethylene
V=Voa Vial

TAT (Analytical Turn Around Time)
1 = 24 hours
2 = 48 hours
3 = 1 week
4 = 2 weeks
0 = Other Standard

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: _____

SEND DOCUMENTATION AND RESULTS TO (Check one):
- [x] Project Manager/Office: Carol Riget/St. Louis
- [ ] Client Name: _____

Company: _____

Address: _____

Phone: _____ FAX: _____

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

ME Lab ...vironmental ...ories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

00859

...DE 2 FOR COMPLETE INSTRUCTIONS

Ship To: _____
Address: _____

Project Name: Wcttk. Ke
Project Number: 01C8C25.003.015
Project Location: (State) Lockeford, Ills

FOR LABORATORY USE ONLY
Laboratory Project #: _____
Storage Refrigerator ID: _____
Storage Freezer ID: _____

Sampler Name	Signature	PPE Worn in Field	
JOHN D. REGAN	[signature]	LEVEL D	8/31/95 1700

Relinquished By	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
CAROL RIGET [signature]	9/1/95 910	[signature]	9-1-95 0910
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Sample Disposal (check one)
- [X] Laboratory Standard
- [ ] Other

Level of QC (see Side 2): [X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Lithium	Thallium	Cyanide Scan	VOC	SVOC	PCB	Metals	Cyanide	TPH	Gross Alpha
1	WL-210B-40			AREA 2	40	4	2-8026 2-4026	SOIL	NONE	Ø	X	X	X							
2	WL-211-5				5						X	X	X							
3	WL-211-25				25						X	X	X							
4	WL-212-5				5						X	X	X							
5	WL-212-10				10						X	X	X							
6	WL-213-5				5						X	X	X							
7	WL-213-25				25						X	X	X							
8	WL-214-5				5						X	X	X							
9	WL-214-25				25						X	X	X							
10	WL-220-30				30	4	1LP	H_2O	HNO_3		X	X	X							X

Special Instructions/Comments: See enclosed memo

Container Types:
B=Brass Tube
G=Glass Jar
O=Other _____
A=1 Liter Amber
C=Cassette
P=Polyethylene
V=Voa Vial

TAT (Analytical Turn Around Time)
1 = 24 hours
2 = 48 hours
3 = 1 week
4 = 2 weeks
0 = Other STANDARD

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: _____

SEND DOCUMENTATION AND RESULTS TO (Check one):
- [X] Project Manager/Office: Carol Riget/St. Louis
- [ ] Client Name: _____

Company: _____
Address: _____
Phone: _____ FAX: _____

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

Quanterra

Official QA Document

Date 09-13-95

Init.

SL-94- 2040 page 1 of 2

LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): 605.01(SUX), 570.03 (McGlen & Hart)

NCM INITIATED BY (Name/Date): Don Dibal 9-7-95

PARAMETER(S): ADT

SAMPLE NUMBER(S) AFFECTED: 9146-001, 9244-0018-002,

AREA:

☐ SHIP/REC	☐ GC	☐ GEN CHEM	☐ BIOASSAY	☐ IH
☐ ORG EXT	☐ HPLC	☐ METALS	☐ RADIOCHEM	☐ DATA VERIFICATION
☐ INORG PREP	☐ GCMS	☐ GEO	☐ COUNTING	☐ REPORTING
☐ OTHER	☐	☐	☐	☐

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.
2. ☐ Holding time exceeded by _____ days due to:
   - 2.1 ☐ CATEGORY I: Out of Laboratory Control
     - ☐ Holding time expired at receipt.
   - 2.2 ☐ CATEGORY II: Laboratory Dependent
     - ☐ work backlog ☐ instrument failure
     - ☐ communication ☐ other (see #10)
   - 2.3 ☐ CATEGORY III: Laboratory Reruns
     - 2.3.1 ☐ *QA/QC:*
       - ☐ surrogates ☐ internal standards
       - ☐ spike recoveries ☐ blank contamination
     - 2.3.2 ☐ *CONFIRMATION:*
       - ☐ second column ☐ contamination check
       - ☐ other (see #10)
     - 2.3.3 ☐ *DILUTION:*
       - ☐ over calibration ☐ under calibration
       - ☐ other (see #10)
     - 2.3.4 ☐ *OTHER: (see #10)*
3. ☐ Sample lost during extraction/analysis. no re-prep or re-analysis possible.
4. ☐ QC data reported to client outside of:
   - ☐ method limits ☐ internal limits
   - ☐ QAPP limits ☐ contract limits
   - ☐ regulatory limits ☐ blank criteria
5. ☐ Incorrect procedure(s) used. (See #10)
6. ☐ Invalid instrument calibration. (See #10)
7. ☐ Incorrect/incomplete data reported to client. (See #10)
8. ☒ Reported detection limit(s) higher than:
   - ☐ method limits ☐ QAPP limits
   - ☒ contract limits ☐ other (see #10)

   Due to:
   - ☒ sample matrix ☐ insufficient sample
   - ☐ instrumentation ☐ other (see #10)
9. ☐ Other (specify):
10. ☐ Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. ☒ Client notified by (name and date): DAVID SEARS 9/28/95
   - ☒ in writing ☐ by FAX
   - ☐ by phone ☐ Other (explain)

☒ Client's name David Heinze and response
   - ☐ process "as is" ☐ resample
   - ☐ on hold til ____ ☐ Other (explain)

PROJECT MANAGER (signature & date): Allen Mitchell 9-28-95

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

CORRECTIVE ACTION

☒ ROOT CAUSE: Samples had high amounts of solids which required reducing sample volume to prevent exceeding residue weight limitations

INITIALS/DATE 9-7-95

☒ CORRECTIVE ACTION: Since result is less than MDA and MDA is above CRDL due to sample matrix, report data "as is"

INITIALS/DATE 9-7-95

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☒ ACTIONS TO PREVENT RECURRENCE: None

INITIALS/DATE 9-7-95

FIRST LEVEL SUPERVISOR: DATE: 9-7-95

RESPONSIBLE MANAGER: DATE: 9-7-95

QC REVIEW

☐ NONCONFORMANCE ☒ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO

QC COORDINATOR: DATE: 09-13-95

CORRECTIVE ACTION VERIFICATION

☐ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: DATE:

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☐ PROJECT FILE

ITAS-St. Louis
LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): 570.03
NCM INITIATED BY (Name/Date): LEG 9-21-95
PARAMETER(S): Isoth
SAMPLE NUMBER(S) AFFECTED: 9244-002

AREA:
- [ ] SHIP/REC
- [ ] ORG EXT
- [ ] INORG PREP
- [ ] OTHER
- [ ] GC
- [ ] HPLC
- [ ] GCMS
- [ ] GEN CHEM
- [ ] METALS
- [ ] GEO
- [ ] BIOASSAY
- [ ] RADIOCHEM
- [ ] COUNTING
- [ ] IH
- [ ] DATA VERIFICATION
- [ ] REPORTING

NONCONFORMANCE [check appropriate item(s)]:

1. [ ] Not enough sample received for proper analysis.
2. [ ] Holding time exceeded by _____ days due to:
   - 2.1 [ ] **CATEGORY I: Out of Laboratory Control**
     - [ ] Holding time expired at receipt.
   - 2.2 [ ] **CATEGORY II: Laboratory Dependent**
     - [ ] work backlog
     - [ ] instrument failure
     - [ ] communication
     - [ ] other (see #10)
   - 2.3 [ ] **CATEGORY III: Laboratory Reruns**
     - 2.3.1 [ ] ***QA/QC:***
       - [ ] surrogates
       - [ ] internal standards
       - [ ] spike recoveries
       - [ ] blank contamination
     - 2.3.2 [ ] ***CONFIRMATION:***
       - [ ] second column
       - [ ] contamination check
       - [ ] other (see #10)
     - 2.3.3. [ ] ***DILUTION:***
       - [ ] over calibration
       - [ ] under calibration
       - [ ] other (see #10)
     - 2.3.4 [ ] ***OTHER: (see #10)***
3. [ ] Sample lost during extraction/analysis, no re-prep or re-analysis possible.
4. [x] QC data reported to client outside of:
   - [x] method limits
   - [ ] internal limits
   - [ ] QAPP limits
   - [ ] contract limits
   - [ ] regulatory limits
   - [ ] blank criteria
5. [ ] Incorrect procedure(s) used. (See #10)
6. [ ] Invalid instrument calibration. (See #10)
7. [ ] Incorrect/incomplete data reported to client (See #10)
8. [ ] Reported detection limit(s) higher than:
   - [ ] method limits
   - [ ] QAPP limits
   - [ ] contract limits
   - [ ] other (see #10)

   Due to:
   - [ ] sample matrix
   - [ ] insufficient sample
   - [ ] instrumentation
   - [ ] other (see #10)
9. [ ] **Other (specify):**
10. [x] **Comments/Explanation:** 9244-002 had a chemical yield (18.8%) which is below QC acceptance limit (20%)

NOTIFICATION [check appropriate item(s)]:

1. [x] Client notified by (name and date): David Sears 9/28/95
   - [x] in writing
   - [ ] by FAX
   - [ ] by phone
   - [ ] Other (explain)
2. [x] Client's name David Heinze and response
   - [ ] process "as is"
   - [ ] resample
   - [ ] on hold til ____
   - [ ] Other (explain)

PROJECT MANAGER (signature & date): Allen Mitchell 9-28-95

IT CORPORATION

LOG #: SL-94-2057

CORRECTIVE ACTION

☒ ROOT CAUSE: See attached memo INITIALS/DATE 9-22-95

☒ CORRECTIVE ACTION: See attached memo INITIALS/DATE 9-22-95

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☒ ACTIONS TO PREVENT RECURRENCE: None INITIALS/DATE 9-22-95

FIRST LEVEL SUPERVISOR: DATE: 9-22-95

RESPONSIBLE MANAGER: DATE: 9-22-95

QC REVIEW

☒ NONCONFORMANCE ☐ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO:

QC COORDINATOR: DATE: 09-22-95

CORRECTIVE ACTION VERIFICATION

☐ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: DATE:

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☐ PROJECT FILE

Dihel, Don

From: Dihel, Don
To: Field, A; Sears, Dave
Subject: 9244, 570.03, Iso Th
Date: Friday, September 22, 1995 9:40AM

The blank and LCS had good recoveries (102% and 82%). Sample 9244-001 chemical yield (57%) was above the acceptance criteria. Sample 9244-002 had a low chemical yield of 19%.

No sample remains for reanalysis, therefore the data is being reported "as is".

The blank had a thorium contamination which was above the MDA but below the CRDL.

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-219-25	9244-001	Uranium-238	09/12/95	09/21/95	0.39	PCI/L	0.25	0.15
WL-219-25	9244-001	Uranium-235/236	09/12/95	09/21/95	-0.004	PCI/L	0.004	0.18
WL-219-25	9244-001	Uranium-234	09/12/95	09/21/95	0.35	PCI/L	0.23	0.18

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-220-30	9244-002	Uranium-238	09/12/95	09/21/95	0.06	PCI/L	0.09	0.16
WL-220-30	9244-002	Uranium-235/236	09/12/95	09/21/95	0.07	PCI/L	0.11	0.22
WL-220-30	9244-002	Uranium-234	09/12/95	09/21/95	0.19	PCI/L	0.16	0.17

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Water

Report Date: 09/28/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK77634-1	Uranium-238	09/12/95	09/21/95	0.042	PCI/L	0.069	0.12
NA	QCBLK77634-1	Uranium-235/236	09/12/95	09/21/95	-0.005	PCI/L	0.004	0.14
NA	QCBLK77634-1	Uranium-234	09/12/95	09/21/95	0.010	PCI/L	0.049	0.15

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Uranium
Method: NAS-NS-3050
Matrix: Water

Report Date: 09/28/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS77634-1	Uranium-238	09/12/95	09/21/95	152	%REC		
NA	QCLCS77634-1	Uranium-234	09/12/95	09/21/95	148	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
Method: NAS-NS-3004
Matrix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-219-25	9244-001	Thorium-232	09/12/95	09/20/95	0.042	PCI/L	0.024	0.024
WL-219-25	9244-001	Thorium-230	09/12/95	09/20/95	0.15	PCI/L	0.05	0.047
WL-219-25	9244-001	Thorium-228	09/12/95	09/20/95	0.12	PCI/L	0.05	0.050

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
hod: NAS-NS-3004
rix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-220-30	9244-002	Thorium-232	09/12/95	09/20/95	0.028	PCI/L	0.044	0.09
WL-220-30	9244-002	Thorium-230	09/12/95	09/20/95	1.72	PCI/L	0.36	0.15
WL-220-30	9244-002	Thorium-228	09/12/95	09/20/95	0.077	PCI/L	0.085	0.16

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Isotopic Thorium
hod: NAS-NS-3004
.rix: Water

Report Date: 09/28/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK77624-1	Thorium-232	09/12/95	09/20/95	0.32	PCI/L	0.06	0.012
NA	QCBLK77624-1	Thorium-230	09/12/95	09/20/95	0.40	PCI/L	0.08	0.022
NA	QCBLK77624-1	Thorium-228	09/12/95	09/20/95	0.36	PCI/L	0.07	0.036

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Scan
Method: EPA 901.1
Matrix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-219-25	9244-001	Cesium-137	09/11/95	09/14/95	ND	PCI/L		12.0
WL-219-25	9244-001	Potassium-40	09/11/95	09/14/95	132	PCI/L	119	115
WL-219-25	9244-001	Lead-210	09/11/95	09/14/95	ND	PCI/L		181
WL-219-25	9244-001	Radium-226	09/11/95	09/14/95	ND	PCI/L		28.9
WL-219-25	9244-001	Actinium-227	09/11/95	09/14/95	ND	PCI/L		61.8
WL-219-25	9244-001	Protactinium-231	09/11/95	09/14/95	ND	PCI/L		292
WL-219-25	9244-001	Thorium-234	09/11/95	09/14/95	133	PCI/L	97	104

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Scan
od: EPA 901.1
ix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-220-30	9244-002	Cesium-137	09/11/95	09/14/95	ND	PCI/L		11.9
WL-220-30	9244-002	Lead-210	09/11/95	09/14/95	ND	PCI/L		139
WL 220-30	9244-002	Radium-226	09/11/95	09/14/95	ND	PCI/L		28.3
WL-220-30	9244-002	Actinium-227	09/11/95	09/14/95	ND	PCI/L		55.3
WL-220-30	9244-002	Protactinium-231	09/11/95	09/14/95	ND	PCI/L		298

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Scan
thod: EPA 901.1
atrix: Water

Report Date: 09/28/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK77579-1	Cesium-137	09/11/95	09/15/95	ND	PCI/L		12.2
NA	QCBLK77579-1	Lead-210	09/11/95	09/15/95	ND	PCI/L		1060
NA	QCBLK77579-1	Radium-226	09/11/95	09/15/95	ND	PCI/L		25.0
NA	QCBLK77579-1	Actinium-227	09/11/95	09/15/95	ND	PCI/L		59.4
NA	QCBLK77579-1	Protactinium-231	09/11/95	09/15/95	ND	PCI/L		311

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gamma Scan
thod: EPA 901.1
rix: Water

Report Date: 09/28/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS77579-1	Americium-241	09/11/95	09/15/95	104	%REC		
NA	QCLCS77579-1	Cesium-137	09/11/95	09/15/95	103	%REC		
NA	QCLCS77579-1	Cobalt-60	09/11/95	09/15/95	101	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gross Alpha/Beta
Method: EPA 900.0
Matrix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-219-25	9244-001	Gross Alpha	09/06/95	09/07/95	6.2	PCI/L	12.5	55.9
WL-219-25	9244-001	Gross Beta	09/06/95	09/07/95	149	PCI/L	27	29

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gross Alpha/Beta
Method: EPA 900.0
Matrix: Water

Report Date: 09/28/95
Date Sampled: 08/31/95
Date Received: 09/01/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-220-30	9244-002	Gross Alpha	09/06/95	09/07/95	8.5	PCI/L	10.7	19.8
WL-220-30	9244-002	Gross Beta	09/06/95	09/07/95	31.3	PCI/L	8.6	12.0

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gross Alpha/Beta
Method: EPA 900.0
Matrix: Water

Report Date: 09/28/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK77234-1	Gross Alpha	09/06/95	09/07/95	1.13	PCI/L	4.12	6.75
NA	QCBLK77234-1	Gross Beta	09/06/95	09/07/95	-2.7	PCI/L	5.8	10.4

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Project: 570.03

Quanterra Environmental Services

Category: Gross Alpha/Beta
Method: EPA 900.0
Matrix: Water

Report Date: 09/28/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS77234-1	Gross Alpha	09/06/95	09/07/95	100	%REC		
NA	QCLCS77234-1	Gross Beta	09/06/95	09/07/95	94	%REC		

LP 13122

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

COPY

Quanterra
Environmental Services

November 16, 1995

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

ATTN: Shakoora Azimi

This is the Certificate of Analysis of the following sample:

St. Louis Project ID	: 570.03
Date Received	: September 22, 1995
Number of Samples	: One (1)
Samples Type	: Water

I. INTRODUCTION

On September 22, 1995, thirty-six (36) samples were received from McLaren Hart, Earth City, MO at Quanterra, Earth City, MO for Gamma Scan, Isotopic Uranium, Isotopic Thorium, and Rad Screen. Soil data was reported on October 27, 1995, and water samples were put on hold by client after receipt. Per David Heinze, water sample WL-231-31 was taken off hold and requested for analysis. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

Reviewed and Approved:

Allen M. Field
Quanterra Project Manager

cc: David Heinze

The samples were labeled as follows:

CLIENT SAMPLE ID	LAB SAMPLE NUMBER	MATRIX
WL-231-31	9407-035	Water

II. RESULTS/METHODOLOGY

The analytical results for this report are presented by analytical test. Each set of data will include sample identification, analytical results and the appropriate detection limits.

The samples were prepared and analyzed using the following Method:

Test	Method
Gamma Scan	EPA 901.1
Isotopic Thorium	Th-NAS-NS-3004
Isotopic Uranium	U-NAS-NS-3050

III. QUALITY CONTROL

QA/QC information was performed on the enclosed analytical data. The purpose of QA/QC information is to ensure the user that the data enclosed is scientifically valid and is used to assess the laboratory's performance.

A method blank and laboratory control sample were analyzed with the samples for all the above parameters.

IV. NONCONFORMANCES

The Blank Th-229 tracer peak was smeared, causing Th-230 activity above the CRDL and Th-232 activity above the MDA. See NCM # 2146.

Sample WL-231-31 (9407-035) has a tracer yield for Thorium below the method limit. Insufficient sample remains for reanalysis. See NCM # 2147.

V. COMMENTS

Login 9407 was received at a temperature of 20°C.

Analytical Notes

Isotopic Thorium

The LCS and LCS duplicate regions of interest were manually adjusted due to peak broadening.

Isotopic Uranium

Blank 83186 has U-238 activity above the MDA but below the CRDL.

VI. ABBREVIATIONS/DEFINITIONS

NA	=	Not Applicable.
ND	=	Parameter was analyzed for but not detected.
pCi/G	=	Picocurries per gram.
pCi/FIL	=	Picocurries per filter.
pCi/L	=	Picocurries per liter.
%REC	=	Percent Recovery.
QCBLK	=	Method Blank.
QCLCS	=	Laboratory Control Sample.
MDA	=	Minimum Detectable Activity.

Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / # / Data:	Client ID / Comments / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
9407-001	WL-111-5	Soil	11-SEP-95 10:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-037
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(180934:100 180935:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180934:100 180935:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180934:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(180932:100 180933:99)
9407-001DUP	WL-111-5	Soil	11-SEP-95 10:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-037
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(181100:100 181101:99)
9407-001MS	WL-111-5	Soil	11-SEP-95 10:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-037
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(180934:100 180935:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180934:100 180935:99)
9407-001MSD	WL-111-5	Soil	11-SEP-95 10:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-037
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(180934:100 180935:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180934:100 180935:99)
9407-002	WL-111-51	Soil	11-SEP-95 12:40	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-035
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(180938:100 180939:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180938:100 180939:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180938:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(180936:100 180937:99)
9407-002DUP	WL-111-51	Soil	11-SEP-95 12:40	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-035
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(181104:100 181105:99)
9407-002MS	WL-111-51	Soil	11-SEP-95 12:40	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-035
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E		(180938:100 180939:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180938:100 180939:99)

3*=Sample has not been rad screened.

Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / # Data:	Client ID / Comments	C-Matrix / Container Type	Analysis	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No. (Container Numbers:% Filled)
				Class	Preservative	Anal. Due Date	Hold Date	Site	
9407-002MSD	WL-111-51	Soil		11-SEP-95 12:40	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-035
2	GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E	(180938:100 180939:99)
2			RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180938:100 180939:99)
9407-003	WL-112-42	Soil		11-SEP-95 15:00	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-034
2	GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E	(180942:100 180943:99)
2			RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180942:100 180943:99)
1			RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180942:100)
2	GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E	(180940:100 180941:99)
9407-004	WL-112-5	Soil		11-SEP-95 13:50	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-033
2	GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E	(180946:100 180947:99)
2			RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180946:100 180947:99)
1			RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180946:100)
2	GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	13-OCT-95	11-MAR-96	S12E	(180944:100 180945:99)
9407-005	WL-231-10	Soil		18-SEP-95 13:28	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-032
2	GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	13-OCT-95	18-MAR-96	S12E	(180950:100 180951:99)
2			RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180950:100 180951:99)
1			RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180950:100)
2	GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	13-OCT-95	18-MAR-96	S12E	(180948:100 180949:99)
9407-006	WL-230-35	Soil		18-SEP-95 10:05	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-031
2	GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	13-OCT-95	18-MAR-96	S12E	(180954:100 180955:99)
2			RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180954:100 180955:99)
1			RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180954:100)
2	GW - Glass Jar-8oz		RAD/GAMMA/Q4	S	COLD	13-OCT-95	18-MAR-96	S12E	(180952:100 180953:99)
9407-007	WL-231-5	Soil		18-SEP-95 13:15	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-030
2	GW - Glass Jar-4oz		RAD/ISOTH/Q4	S	COLD	13-OCT-95	18-MAR-96	S12E	(180958:100 180959:99)
2			RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(180958:100 180959:99)

3*=Sample has not been rad screened.

Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
Comments Data:									
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180958:100)
2	GW - Glass Jar-8oz	~~RAD/GAMMA/Q4~~	S	COLD	13-OCT-95	18-MAR-96	S12E		(180956:100 180957:99)
9407-008	WL-235-30	Soil	20-SEP-95 14:10	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-029
2	GW - Glass Jar-4oz	~~RAD/ISOTH/Q4~~	S	COLD	13-OCT-95	20-MAR-96	S12E		(180962:100 180963:99)
2		~~RAD/ISOU/Q4~~	S	COLD	13-OCT-95	20-MAR-96	S12E		(180962:100 180963:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180962:100)
2	GW - Glass Jar-8oz	~~RAD/GAMMA/Q4~~	S	COLD	13-OCT-95	20-MAR-96	S12E		(180960:100 180961:99)
9407-009	WL-229-5	Soil	18-SEP-95 00:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-028
2	GW - Glass Jar-4oz	~~RAD/ISOTH/Q4~~	S	COLD	13-OCT-95	18-MAR-96	S12E		(180966:100 180967:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180966:100 180967:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180966:100)
2	GW - Glass Jar-8oz	~~RAD/GAMMA/Q4~~	S	COLD	13-OCT-95	18-MAR-96	S12E		(180964:100 180965:99)
9407-010	WL-229-20	Soil	18-SEP-95 00:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-027
2	GW - Glass Jar-4oz	~~RAD/ISOTH/Q4~~	S	COLD	13-OCT-95	18-MAR-96	S12E		(180970:100 180971:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180970:100 180971:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180970:100)
2	GW - Glass Jar-8oz	~~RAD/GAMMA/Q4~~	S	COLD	13-OCT-95	18-MAR-96	S12E		(180968:100 180969:99)
9407-011	WL-228-5	Soil	15-SEP-95 00:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-026
2	GW - Glass Jar-4oz	~~RAD/ISOTH/Q4~~	S	COLD	13-OCT-95	15-MAR-96	S12E		(180974:100 180975:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180974:100 180975:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180974:100)
2	GW - Glass Jar-8oz	~~RAD/GAMMA/Q4~~	S	COLD	13-OCT-95	15-MAR-96	S12E		(180972:100 180973:99)
9407-012	WL-228-15	Soil	15-SEP-95 00:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-025
2	GW - Glass Jar-4oz	~~RAD/ISOTH/Q4~~	S	COLD	13-OCT-95	15-MAR-96	S12E		(180978:100 180979:99)
2		~~RAD/ISOU/Q4~~	S	COLD	13-OCT-95	20-MAR-96	S12E		(180978:100 180979:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180978:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(180976:100 180977:99)

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Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
9407-013	WL-225-5	Soil	14-SEP-95 10:35	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-024
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E		(180982:100 180983:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180982:100 180983:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180982:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E		(180980:100 180981:99)
9407-014	WL-225-35	Soil	14-SEP-95 12:45	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-023
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E		(180986:100 180987:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180986:100 180987:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180986:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E		(180984:100 180985:99)
9407-015	WL-235-5	Soil	20-SEP-95 13:00	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-022
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180990:100 180991:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180990:100 180991:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180990:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180988:100 180989:99)
9407-016	WL-227-5	Soil	15-SEP-95 12:37	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-021
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(180994:100 180995:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180994:100 180995:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180994:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(180992:100 180993:99)
9407-017	WL-227-40	Soil	15-SEP-95 13:56	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-020
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(180998:100 180999:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180998:100 180999:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(180998:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(180996:100 180997:99)
9407-018	WL-233-27	Soil	19-SEP-95 09:40	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-019

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Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Rad Category / Site	Rad Sample No. (Container Numbers:% Filled)
Comments / Data:								
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181002:100 181003:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181002:100 181003:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181002:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181000:100 181001:99)
9407-019	WL-233-30	Soil	19-SEP-95 09:52	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-018
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181006:100 181007:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181006:100 181007:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181006:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181004:100 181005:99)
9407-020	WL-224-5	Soil	14-SEP-95 07:30	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-017
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E	(181010:100 181011:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181010:100 181011:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181010:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E	(181008:100 181009:99)
9407-021	WL-224-35	Soil	14-SEP-95 08:40	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-016
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E	(181014:100 181015:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181014:100 181015:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181014:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	14-MAR-96	S12E	(181012:100 181013:99)
9407-022	WL-234B-10	Soil	19-SEP-95 13:45	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-015
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181018:100 181019:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181018:100 181019:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181018:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181016:100 181017:99)
9407-023	WL-234B-20	Soil	20-SEP-95 08:00	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-014
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181022:100 181023:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181022:100 181023:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181022:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181020:100 181021:99)

3*=Sample has not been rad screened.

Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / # / Data:	Client ID / Comments / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Rad Category / Site	Rad Sample No. (Container Numbers:% Filled)
9407-024	WL-236-35	Soil	21-SEP-95 10:45	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-013
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	21-MAR-96	S12E	(181026:100 181027:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181026:100 181027:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181026:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	21-MAR-96	S12E	(181024:100 181025:99)
9407-025	WL-236-5	Soil	21-SEP-95 08:47	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-012
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	21-MAR-96	S12E	(181030:100 181031:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181030:100 181031:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181030:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	21-MAR-96	S12E	(181028:100 181029:99)
9407-026	WL-234-10	Soil	19-SEP-95 13:45	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-011
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181034:100 181035:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181034:100 181035:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181034:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	19-MAR-96	S12E	(181032:100 181033:99)
9407-027	WL-234-20	Soil	20-SEP-95 08:00	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-010
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181038:100 181039:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181038:100 181039:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181038:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181036:100 181037:99)
9407-028	WL-230-5	Soil	18-SEP-95 08:00	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-009
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	18-MAR-96	S12E	(181042:100 181043:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181042:100 181043:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E	(181042:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	18-MAR-96	S12E	(181040:100 181041:99)
9407-029	WL-226-10	Soil	15-SEP-95 07:50	22-SEP-95 15:30	20-OCT-95	FED-EX	3*	R4262-008

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Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Container Type	C-Matrix / Analysis	Date: Collected / Class	Received / Preservative	Due / Anal. Due Date	Shipper / Hold Date	Site	Rad Category	Rad Sample No. / (Container Numbers:% Filled)
Comments / Data:									
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(181046:100 181047:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(181046:100 181047:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(181046:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(181044:100 181045:99)
9407-030	WL-226-20	Soil	15-SEP-95 08:07	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-007
2	GW - Glass Jar-4oz	RAD/ISOTH/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(181050:100 181051:99)
2		RAD/ISOU/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(181050:100 181051:99)
1		RAD/SCREEN/Q4	S	COLD	13-OCT-95	20-MAR-96	S12E		(181050:100)
2	GW - Glass Jar-8oz	RAD/GAMMA/Q4	S	COLD	13-OCT-95	15-MAR-96	S12E		(181048:100 181049:99)
9407-031	WL-235-30	Water	20-SEP-95 14:30	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-006
ABT/900.0/Q4*GROSS ALPHA ONLY									
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181063:99)
1		RAD/GAMMA/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181060:96)
1		RAD/ISOTH/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181061:97)
1		RAD/ISOU/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181062:98)
1		RAD/SCREEN/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181060:96)
9407-032	WL-227-32	Water	15-SEP-95 14:30	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-005
ABT/900.0/Q4=GROSS ALPHA ONLY									
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181065:98)
1		RAD/GAMMA/Q4	S	HNO3	13-OCT-95	15-MAR-96	S12E		(181064:99)
1		RAD/ISOTH/Q4	S	HNO3	13-OCT-95	15-MAR-96	S12E		(181066:97)
1		RAD/ISOU/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181067:96)
1		RAD/SCREEN/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181064:99)
9407-033	WL-225-31	Water	14-SEP-95 13:45	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-004
ABT/900.0/Q4=GROSS ALPHA ONLY									
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181073:98)
1		RAD/GAMMA/Q4	S	HNO3	13-OCT-95	14-MAR-96	S12E		(181072:99)
1		RAD/ISOTH/Q4	S	HNO3	13-OCT-95	14-MAR-96	S12E		(181074:97)
1		RAD/ISOU/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181075:96)
1		RAD/SCREEN/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181072:99)
9407-034	WL-230-29	Water	18-SEP-95 11:15	22-SEP-95 15:30	20-OCT-95	FED-EX		3*	R4262-003
ABT/900.0/Q4=GROSS ALPHA ONLY									
1	PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E		(181081:98)

3*=Sample has not been rad screened.

Quanterra September 25, 1995 03:34 pm
Account: 11018 Project: 570.03 McLaren Hart QAS No. 929 Rev. 2
Master Sample Login: 9407

Project Manager: A. Field

Draft: Final: Entered and Reviewed by:_____ PM Review:_____

Sample Header Template: _____

Sample No. / #	Client ID / Comments / Container Type	C-Matrix	Date: Collected	Received	Due	Shipper	Rad Category	Rad Sample No.
Data:								

#	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1	RAD/GAMMA/Q4	S	HNO3	13-OCT-95	18-MAR-96	S12E	(181080:99)
1	RAD/ISOTH/Q4	S	HNO3	13-OCT-95	18-MAR-96	S12E	(181082:97)
1	RAD/ISOU/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181083:96)
1	RAD/SCREEN/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181080:99)

9407-035 WL-231-31 Water 18-SEP-95 15:00 22-SEP-95 15:30 20-OCT-95 FED-EX 3* R4262-002
ABT/900.0/Q4=GROSS ALPHA ONLY

#	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181089:98)
1	RAD/GAMMA/Q4	S	HNO3	13-OCT-95	18-MAR-96	S12E	(181088:99)
1	RAD/ISOTH/Q4	S	HNO3	13-OCT-95	18-MAR-96	S12E	(181090:97)
1	RAD/ISOU/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181091:96)
1	RAD/SCREEN/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181088:99)

9407-036 WL-233-37 Water 19-SEP-95 10:45 22-SEP-95 15:30 20-OCT-95 FED-EX 3* R4262-001
ABT/900.0/Q4=GROSS ALPHA ONLY

#	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)
1 PN - Plastic-1L	ABT/900.0/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181097:98)
1	RAD/GAMMA/Q4	S	HNO3	13-OCT-95	19-MAR-96	S12E	(181096:99)
1	RAD/ISOTH/Q4	S	HNO3	13-OCT-95	19-MAR-96	S12E	(181098:97)
1	RAD/ISOU/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181099:96)
1	RAD/SCREEN/Q4	S	HNO3	13-OCT-95	20-MAR-96	S12E	(181096:99)

3*=Sample has not been rad screened.

CUR # 5478 TEMP 20°

M. Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15514

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WEST LAKE
Project Number: 07-0803035.003.005
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ *Storage ID:* _____
Sample Condition Upon Receipt: Temp: _____ °C _____ *Geiger:* _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [X] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN
1	WL-235-5	9/20/95	1300	AREA 2	5'	4	2-40ZG 2-8OZG	SOIL	—	STD	X	X	X
2	WL-227-5	9/15/95	1237	AREA 2	5'	↓	↓	↓	—	↓	X	X	X
3	WL-227-40	9/15/95	1356	AREA 2	40'	↓	↓	↓	—	↓	X	X	X
4	WL-233-27	9/19/95	0940	AREA 2	27'	↓	↓	↓	—	↓	X	X	X
5	WL-233-30	9/19/95	0952	AREA 2	30'	↓	↓	↓	—	↓	X	X	X
6	WL-224-5	9/14/95	0730	AREA 2	5'	↓	↓	↓	—	↓	X	X	X
7	WL-224-35	9/14/95	0840	AREA 2	35'	↓	↓	↓	—	↓	X	X	X
8	WL-234B-10	9/19/95	1345	AREA 2	10'	↓	↓	↓	—	↓	X	X	X
9	WL234B-20	9/20/95	0800	AREA 2	20'	↓	↓	↓	—	↓	X	X	X
10													

SEND REPORT TO:
Company Name: MCLAREN/HART
Client Name: _____
Address: 502 GARTA CITY EXPRESSWAY STE 206 ST LOUIS MO 63045
Phone: 314 7709233 Fax: 314 7709884

BILL TO (if different):
Company Name: _____
Address: _____
PO #: _____
Phone: _____ Fax: _____

Special Instructions/Comments: REFER TO PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL RIGET
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
CAROL RIGET [signature]	9/22/95 1500	[signature]	9-22-95 15:30

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method)
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

Temp 2n Cur # 5478

M Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15515

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WESTLAKE
Project Number: 07.0803035.003.005
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ Storage ID: _____
Sample Condition Upon Receipt: Temp: _____ °C _____ Geiger: _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN							
1	WL-229-5	9/18/95	—	AREA 2	5'	4	2-402 G 2-RCG	SOIL	—	STD	X	X	X							
2	WL-229-20	9/18/95	—	↓	20'	↓	↓	↓	—	↓	X	X	X							
3	WL-228-5	9/15/95	—	↓	5'	↓	↓	↓	—	↓	X	X	X							
4	WL-228-15	9/15/95	—	↓	15'	↓	↓	↓	—	↓	X	X	X							
5	WL-225-5	9/14/95	1035	↓	5'	↓	↓	↓	—	↓	X	X	X							
6	WL-225-35	9/14/95	1245	↓	35'	↓	↓	↓	—	↓	X	X	X							
7																				
8																				
9																				
10																				

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name _____
Address 502 EARTH CITY EXPRESSWAY SE 206 ST LOUIS MO 63045
Phone 3147709233 Fax 3147709884

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
REFER TO PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL RIGET
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
CAROL RIGET [signature]	9/22/95 / 1500	[signature]	9-22-95 15:15

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & me
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

CUR# 5478 TEMP 20°

M nvironmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15509

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WESTLAKE
Project Number: 07.0803035.003.005
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ *Storage ID:* _____
Sample Condition Upon Receipt: Temp: _____ °C _____ *Geiger:* _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN							
1	WL-111-5	9/11/95	1000	AREA 1	5'	4	2-4oz 6uas 2-8oz 6uas	SOIL	—	STD	X	X	X							
2	WL-111-51	9/11/95	1240	AREA 1	51'				—		X	X	X							
3	WL-111-51-MS/MSD	9/11/95	1240	AREA 1	51'				—		X	X	X							
4	WL-112-42	9/11/95	1500	AREA 1	42'				—		X	X	X							
5	WL-112-5	9/11/95	1350	AREA 1	5'				—		X	X	X							
6	WL-231-10	9/18/95	1328	AREA 2	10'				—		X	X	X							
7	WL-111-5-MS/MSD	9/11/95	1000	AREA 1	5'				—		X	X	X							
8	WL-230-35	9/18/95	1003	AREA 2	35'				—		X	X	X							
9	WL-231-5	9/18/95	1315	AREA 2	5'				—		X	X	X							
10	WL-235-30	9/20/95	1410	AREA 2	30'				—		X	X	X							

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name
Address 502 EARTH CITY EXPRESSWAY STE 206 ST. LOUIS MO 63045
Phone 3147709233 Fax 3147709884

BILL TO (if different):
Company Name
Address
PO #
Phone Fax

Special Instructions/Comments
SEE PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL RIGET Signature: [signature] PPE Worn in Field: LEVEL D

Relinquished By	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
CAROL RIGET [signature]		[signature] 9-22-95	15:30
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8060
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & meth
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity
* Specify Total or Dissolved

CUR 5478 - Temp 20°

N .nvironmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15513

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WESTLAKE
Project Number: 07.0803035.003.005
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ *Storage ID:* _____
Sample Condition Upon Receipt: Temp: _____ °C _____ *Geiger:* _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN	GROSS ALPHA						pH
1	WL-235-30	9/20/95	1430	AREA 2	30'	4	1LP	H2O	HNO3	STD	X	X	X	X						7
2	WL-230-35	9/21/95	1045	AREA 2	35'	4	2-4oz 2-pcc	SOIL	—	STD	X	X	X							
3	WL-230-5	9/21/95	0847	AREA 2	5'	↓	↓	↓	—	↓	X	X	X							
4	WL-234-10	9/19/95	1345	AREA 2	10'				—		X	X	X							
5	WL-234-20	9/20/95	0800	AREA 2	20'				—		X	X	X							
6	~~WL-230-35~~	~~9/18/95~~	~~1005~~	~~AREA 2~~	~~35'~~						~~X~~	~~X~~	~~X~~							
7	WL-230-5	9/18/95	0800	AREA 2	5'				—		X	X	X							
8	WL-226-10	9/15/95	0750	AREA 2	10'				—		X	X	X							
9	WL-226-20	9/15/95	0807	AREA 2	20'	↓	↓	↓	—	↓	X	X	X							
10																				

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name _____
Address 502 EARTH CITY EXPRESSWAY STE 206 ST LOUIS MO 63045
Phone 314 770 9233 Fax 314 770 9884

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
REFER TO PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL S RIGGET
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By: CAROL S. RIGGET [signature] Date/Time
Received By or Method of Shipment/Shipment I.D.: [signature] 9-22-95 Date/Time: 1:30

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

Relinquished By: Date/Time
Received By or Method of Shipment/Shipment I.D. Date/Time

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & me
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

N Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD 15510

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WESTLAKE
Project Number: 07-CB03035.003.005
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: _____ *Storage ID:* _____
Sample Condition Upon Receipt: Temp: _____ °C _____ *Geiger:* _____
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [X] Laboratory Standard
- [ ] Other _____

Level of QC (see Side 2): [X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION / ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	URANIUM	THORIUM	GAMMA SCAN	GROSS ALPHA						
1	WL-227-32	9/15/95	1430	AREA 2	32'	4	1LP	H_2O	HNO_3	STD	X	X	X	X						1
2	WL-225-31	9/14/95	1345	AREA 2	31'	4	1LP	H_2O	HNO_3	STD	X	X	X	X						1/7 *
3	WL-230-29	9/18/95	1115	↓	29'	↓	↓	↓	↓	↓	X	X	X	X						1
4	WL-231-31	9/18/95	1500	↓	31'	↓	↓	↓	↓	↓	X	X	X	X						1
5	WL-233-37	9/19/95	1045	↓	37'	↓	↓	↓	↓	↓	X	X	X	X						1
6	~~WL-235-30~~	~~9/20/95~~	~~1430~~																	
7																				
8																				
9																				
10																				

Common Analytical Methods: 413.1, 413.2 Long Method, 413.2 Short Method, 418.1 Long Method, 418.1 Short Method, 420.1, 502.2, 503E, 503.1, 524.2, 601, 602, 604, 608, 610, 624, 625, 8010, 8015, 8015 Mod., 8020, 8021, 8040, 8080, 8100, 8150, 8240, 8270, 8310, Acidity, Alkalinity, BTEX, Chloride, CLP (see Side 2), COD, Color, Conductivity, Corrosivity, Cyanide, Flashpoint, Fluoride, General Mineral, Hex. Chromium, Ion Balance, Metals (write specific metal & me, Metals 6010*, Metals PP*, Metals Title 22: TTLC Level, STLC Level (see Side 2), Nitrate, Nitrite, Odor, Org. Lead, Org. Mercury, Percent Moisture, Percent Solid, Perchlorate, pH, Phosphates, Phosphorus, Sulfate, Sulfides, TCLP: VOA, Semivos, Metals, Pesticide, TDS, Total Hardness, Total Solids, TPH/D, TPH/G, TSS, Turbidity

Cont 2/AT-7

SEND REPORT TO:
Company Name MCLAREN/HART
Client Name _____
Address 502 EARTH CITY EXPRESSWAY STE 206 ST. LOUIS MO 63045
Phone 3147709233 Fax 3147709884

BILL TO (if different):
Company Name _____
Address _____
PO # _____
Phone _____ Fax _____

Special Instructions/Comments
REFER TO PREVIOUSLY ENCLOSED MEMO

Sampler Name: CAROL S. RIGET
Signature: [signature]
PPE Worn in Field: LEVEL D

Relinquished By	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
CAROL S. RIGET [signature]		[signature] 5-22-95	15:30

Relinquished By: _____ Date/Time _____ Received By or Method of Shipment/Shipment I.D. _____ Date/Time _____

Environmental Services

S.U.R. and C.O.C. COPIED TO: BW/AF 9-22-95 GW B

Work Order No.: 9407

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: MBT Environmental

Date: 9-22-95 15:15

Project No: 570.03

Initiated by: Gary W Byrd

Analysis Requested: Refer to RFA/COC

RFA/COC Numbers: 15515/15513/15514

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1	NA	Not enough sample received for proper analysis. Received approximately:	8.	☐	Custody tape disturbed/broken/missing.
			9.	NA	Sample splits performed by lab.
2.	☐	Sample received broken/leaking.	10.	NA	Volatile sample received with approximately _____ mm headspace.
3	☐	Sample received without proper preservative.			
	☑	Cooler temperature not within 4°C ± 2°C Record temperature: 20°	11.	☐	Sample ID on container does not match sample ID on paperwork. Explain:
	☐	pH 7/1			
	☐	other:			
4.	☐	Sample received in improper container.	12.	☐	All coolers on airbill not received with shipment.
5	☐	Sample received without proper paperwork. Explain:	13.	☐	Other (explain below): Shipping containers not rad surveyed.
6.	☐	Paperwork received without sample.			
7.	☐	No sample ID on sample container.			

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Gary W Byrd Date: 9-22-95

oject Management Review: Allen Montwill Date: 9-25-95

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Ca' 'ry: Gamma Spec.
M(HASL 300
Ma.. .: Water

Report Date: 11/16/95
Date Sampled: 09/18/95
Date Received: 09/22/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-231-31	9407-035	Cesium-137	09/26/95	10/19/95	ND	PCI/L		12.8
WL-231-31	9407-035	Lead-210	09/26/95	10/19/95	ND	PCI/L		181
WL-231-31	9407-035	Radium-226	09/26/95	10/19/95	ND	PCI/L		27.7
WL-231-31	9407-035	Actinium-227	09/26/95	10/19/95	ND	PCI/L		60.6
WL-231-31	9407-035	Protactinium-231	09/26/95	10/19/95	ND	PCI/L		302

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

C ry: Gamma Spec.
M d: HASL 300
Matrix: Water

Report Date: 11/16/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK78852-1	Cesium-137	09/26/95	10/19/95	ND	PCI/L		11.7
NA	QCBLK78852-1	Lead-210	09/26/95	10/19/95	ND	PCI/L		107
NA	QCBLK78852-1	Radium-226	09/26/95	10/19/95	ND	PCI/L		25.8
NA	QCBLK78852-1	Actinium-227	09/26/95	10/19/95	ND	PCI/L		44.2
NA	QCBLK78852-1	Protactinium-231	09/26/95	10/19/95	ND	PCI/L		247

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

C ry: Gamma Spec.
M .: HASL 300
Matrix: Water

Report Date: 11/16/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS78852-1	Americium-241	09/26/95	10/19/95	101	%REC		
NA	QCLCS78852-1	Cesium-137	09/26/95	10/19/95	111	%REC		
NA	QCLCS78852-1	Cobalt-60	09/26/95	10/19/95	102	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

Ca y: Isotopic Thorium
Me : NAS-NS-3004
Matrix: Water

Report Date: 11/16/95
Date Sampled: 09/18/95
Date Received: 09/22/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-231-31	9407-035	Thorium-232	11/13/95	11/15/95	0.51	PCI/L	0.83	1.76
WL-231-31	9407-035	Thorium-230	11/13/95	11/15/95	3.70	PCI/L	2.16	1.93
WL-231-31	9407-035	Thorium-228	11/13/95	11/15/95	-0.02	PCI/L	0.43	1.44

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

C[illegible]y: Isotopic Thorium
Me[illegible]: NAS-NS-3004
Matrix: Water

Report Date: 11/16/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK83185-1	Thorium-232	11/13/95	11/15/95	0.48	PCI/L	0.31	0.21
NA	QCBLK83185-1	Thorium-230	11/13/95	11/15/95	2.45	PCI/L	0.89	0.28
NA	QCBLK83185-1	Thorium-228	11/13/95	11/15/95	-0.002	PCI/L	0.089	0.32

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

C y: Isotopic Thorium
Me. . u: NAS-NS-3004
Matrix: Water

Report Date: 11/16/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS83185-1	Thorium-232	11/13/95	11/15/95	113	%REC		
NA	QCLCS83185-1	Thorium-230	11/13/95	11/15/95	174	%REC		
NA	QCLCS83185-1	Thorium-228	11/13/95	11/15/95	95	%REC		

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

C ry: Isotopic Uranium
M d: NAS-NS-3050
Matrix: Water

Report Date: 11/16/95
Date Sampled: 09/18/95
Date Received: 09/22/95

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
WL-231-31	9407-035	Uranium-238	11/13/95	11/16/95	0.18	PCI/L	0.29	0.62
WL-231-31	9407-035	Uranium-235/236	11/13/95	11/16/95	0.17	PCI/L	0.33	0.72
WL-231-31	9407-035	Uranium-234	11/13/95	11/16/95	0.97	PCI/L	0.58	0.49

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

C ry: Isotopic Uranium
M. J: NAS-WS-3050
Matrix: Water

Report Date: 11/16/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCBLK83186-1	Uranium-238	11/13/95	11/16/95	0.13	PCI/L	0.12	0.10
NA	QCBLK83186-1	Uranium-235/236	11/13/95	11/16/95	0.13	PCI/L	0.14	0.14
NA	QCBLK83186-1	Uranium-234	11/13/95	11/16/95	0.07	PCI/L	0.09	0.15

MBT Environmental Laboratory
3083 Gold Canal
Rancho Cordova, CA 95670

Quanterra Environmental Services

Project: 570.03

C[illegible]y: Isotopic Uranium
Me[illegible]: NAS-NS-3050
Matrix: Water

Report Date: 11/16/95
Date Sampled: N/A
Date Received: N/A

Client ID	Quanterra ID	Parameter	Prep Date	Date Analyzed	Result	Units	2 Sigma Error (+/-)	MDA
NA	QCLCS83186-1	Uranium-238	11/13/95	11/16/95	141	%REC		
NA	QCLCS83186-1	Uranium-234	11/13/95	11/16/95	145	%REC		

LP 12351

MBT Environment
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

Date: August 28, 1995
LP #: 12351

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed are the laboratory results for the two samples submitted to MBT Environmental Laboratories on August 5, 1995, for the project *Westlake*.

The analyses requested are:

EPA 8270 Priority Pollutant (2 - Soil)
EPA 8240 Priority Pollutant (2 - Soil)
EPA 8015 Modified (2 - Soil)
EPA 8080 Priority Pollutant (2 - Soil)

The report consists of the following sections:

1. Cover Page
2. Copy of Chain-of-Custody
3. General Narrative
4. Analytical and Quality Control Results

Unless otherwise instructed by you, samples will be disposed of two weeks from the date of this letter.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Carlotta Fang for:
Shakoora Azimi
Laboratory Director, Principal Scientist

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

00009

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Ship To:
Address:

Project Name:
Project Number:
Project Location: (State)

FOR LABORATORY USE ONLY
Laboratory Project #: 12351
Storage Refrigerator ID: 4- , 12-B
Storage Freezer ID:

Sampler Name: John D Regan	Signature: John D Regan	PPE Worn in Field: Lael D	8/4/95 1400
Relinquished By: John D Regan	Date/Time: 8/4/95 1440	Received By or Method of Shipment/Shipment I.D.: ship fed Ex 4615624790	Date/Time
Relinquished By: FED-EX	Date/Time: 8-5-95 10:30	Received By or Method of Shipment/Shipment I.D.: [illegible]	Date/Time: 8-5-95 10:30
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	[illegible]	[illegible]	[illegible]	VOC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1 12351-001	WL-101-5	8/4/95	0845	Area 1	5'	4	4oz G	soil	ice	Ø				X	X	X			X	
2 -002	WL-101-25'	8/4/95	0845	Area 1	25'	4	4oz G	soil	ice	Ø				X	X	X			X	
3																				
4																				
5																				
6																				
8																				
9																				
10																				

Special Instructions/Comments:

Container Types: B=Brass Tube, G=Glass Jar, O=Other ____, A=1 Liter Amber, C=Cassette, P=Polyethylene, V=Voa Vial

TAT (Analytical Turn Around Time): 1 = 24 hours, 2 = 48 hours, 3 = 1 week, 4 = 2 weeks, 0 = Other standard

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: 2°C, samples intact (ISI)

SEND DOCUMENTATION AND RESULTS TO (Check one):
- [x] Project Manager/Office: [illegible]
- [ ] Client Name:

Company:
Address:
Phone: FAX:

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
rbidity
Specify Total or Dissolved

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12351

WESTLAKE

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417
	CONNECTICUT:	Waste Water, #PH0799
	FLORIDA:	Environmental Water, #E87298 CQAPP #930105
	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192
	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A
	NEW JERSEY:	Waste Water, #44818
	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241
	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
	TENNESSEE:	Underground Storage Tank
	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
	WASHINGTON:	Hazardous Waste, #C048
	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
	USACOE:	Hazardous Waste Waste Water
	AFCEE	

(CN12351)

MBT Environmental Laboratories

Master Builders Technologies

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

EPA 8270

The LCS recoveries for the analytes flagged on the LCS data sheets are outside of advisory acceptance limits. The calibration data associated with this laboratory project were within acceptance limits.

The following sample was analyzed at a dilution to bring target analyte(s) within linear working range: 12351-2

Abbreviations and Definitions:

MB	*Method Blank* - An aliquot of a blank matrix carried throughout the entire analytical process
LCS	*Laboratory Control Sample* - A blank to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the accuracy of the method
MS/MSD	*Matrix Spike/Matrix Spike Duplicate* - Duplicate samples to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the extent of matrix bias or interference on analyte recovery
RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*
NA	*Not Applicable*

Flags:

(CN12351)

Organics -

J Estimated value below the reporting limit and at or above the method detection limit.

B Analyte found in the associated blank, as well as in the sample.

Inorganics -

B Estimated value below the reporting limit and at or above the method detection limit.

PRIOR ' POLLUTANT SEMIVOLA E ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 5'
Sample Number: WL-101-5
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-1/18224-7636
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2509-950808
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7028.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	670	2	08/11/95
Bis(2-Chloroethyl)ether	BRL	670	2	08/11/95
2-Chlorophenol	BRL	670	2	08/11/95
1,3-Dichlorobenzene	BRL	670	2	08/11/95
1,4-Dichlorobenzene	BRL	670	2	08/11/95
1,2-Dichlorobenzene	BRL	670	2	08/11/95
Bis(2-Chloroisopropyl)ether	BRL	670	2	08/11/95
N-Nitroso-di-n-propylamine	BRL	670	2	08/11/95
Hexachloroethane	BRL	670	2	08/11/95
Nitrobenzene	BRL	670	2	08/11/95
Isophorone	BRL	670	2	08/11/95
2,4-Dimethylphenol	BRL	670	2	08/11/95
1,2,4-Trichlorobenzene	BRL	670	2	08/11/95
2-Nitrophenol	BRL	670	2	08/11/95
Bis(2-Chloroethoxy)methane	BRL	670	2	08/11/95
2,4-Dichlorophenol	BRL	670	2	08/11/95
Naphthalene	BRL	670	2	08/11/95
4-Chloroaniline	BRL	670	2	08/11/95
Hexachlorobutadiene	BRL	670	2	08/11/95
4-Chloro-3-methylphenol	BRL	670	2	08/11/95
Hexachlorocyclopentadiene	BRL	670	2	08/11/95
2,4,6-Trichlorophenol	BRL	670	2	08/11/95
2-Chloronaphthalene	BRL	670	2	08/11/95
Dimethylphthalate	BRL	670	2	08/11/95
2,6-Dinitrotoluene	BRL	670	2	08/11/95

PRIOR' POLLUTANT SEMIVOLA' E ORGANICS

Analytical Method: EPA 8270

Lab ID: 12351-1/18224-7636

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Acenaphthylene	BRL	670	2	08/11/95
Acenaphthene	BRL	670	2	08/11/95
2,4-Dinitrophenol	BRL	1700	2	08/11/95
4-Nitrophenol	BRL	1700	2	08/11/95
2,4-Dinitrotoluene	BRL	670	2	08/11/95
Diethylphthalate	BRL	670	2	08/11/95
4-Chlorophenyl phenyl ether	BRL	670	2	08/11/95
Fluorene	BRL	670	2	08/11/95
4,6-Dinitro-2-methylphenol	BRL	1700	2	08/11/95
N-Nitrosodiphenylamine	BRL	670	2	08/11/95
4-Bromophenyl phenyl ether	BRL	670	2	08/11/95
Hexachlorobenzene	BRL	670	2	08/11/95
Pentachlorophenol	BRL	1700	2	08/11/95
Phenanthrene	BRL	670	2	08/11/95
Anthracene	BRL	670	2	08/11/95
Butyl benzyl phthalate	230 J	670	2	08/11/95
Fluoranthene	130 J	670	2	08/11/95
Pyrene	90 J	670	2	08/11/95
Di-n-butylphthalate	BRL	670	2	08/11/95
3,3'-Dichlorobenzidine	BRL	1300	2	08/11/95
Benzo(a)anthracene	BRL	670	2	08/11/95
Bis(2-Ethylhexyl)phthalate	3600	670	2	08/11/95
Chrysene	BRL	670	2	08/11/95
Di-n-octylphthalate	170 J	670	2	08/11/95
Benzo(k)fluoranthene	BRL	670	2	08/11/95
Benzo(a)pyrene	BRL	670	2	08/11/95
Indeno(1,2,3-c,d)pyrene	BRL	670	2	08/11/95
Dibenz(a,h)anthracene	BRL	670	2	08/11/95
Benzo(g,h,i)perylene	BRL	670	2	08/11/95
Benzidine	BRL	1700	2	08/11/95
N-Nitrosodimethylamine	BRL	670	2	08/11/95

Surrogates	% Recovery	Limits
2-Fluorophenol	69	25 - 121
Phenol-d5	73	24 - 113

PRIOR POLLUTANT SEMIVOLA E ORGANICS

Analytical Method: EPA 8270

Lab ID: 12351-1/18224-7636

Surrogates	% Recovery	Limits
Nitrobenzene-d5	64	23 - 120
2-Fluorobiphenyl	71	30 - 115
2,4,6-Tribromophenol	73	19 - 122
Terphenyl-d14	50	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

PRIOR' ' POLLUTANT SEMIVOLA E ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-101-25'
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-2/18225-7636
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2509-950808
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7027.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	08/11/95
Bis(2-Chloroethyl)ether	BRL	330	1	08/11/95
2-Chlorophenol	BRL	330	1	08/11/95
1,3-Dichlorobenzene	BRL	330	1	08/11/95
1,4-Dichlorobenzene	BRL	330	1	08/11/95
1,2-Dichlorobenzene	BRL	330	1	08/11/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	08/11/95
N-Nitroso-di-n-propylamine	BRL	330	1	08/11/95
Hexachloroethane	BRL	330	1	08/11/95
Nitrobenzene	BRL	330	1	08/11/95
Isophorone	BRL	330	1	08/11/95
2,4-Dimethylphenol	BRL	330	1	08/11/95
1,2,4-Trichlorobenzene	BRL	330	1	08/11/95
2-Nitrophenol	BRL	330	1	08/11/95
Bis(2-Chloroethoxy)methane	BRL	330	1	08/11/95
2,4-Dichlorophenol	BRL	330	1	08/11/95
Naphthalene	BRL	330	1	08/11/95
4-Chloroaniline	BRL	330	1	08/11/95
Hexachlorobutadiene	BRL	330	1	08/11/95
4-Chloro-3-methylphenol	BRL	330	1	08/11/95
Hexachlorocyclopentadiene	BRL	330	1	08/11/95
2,4,6-Trichlorophenol	BRL	330	1	08/11/95
2-Chloronaphthalene	BRL	330	1	08/11/95
Dimethylphthalate	BRL	330	1	08/11/95
2,6-Dinitrotoluene	BRL	330	1	08/11/95

PRIOR' ' POLLUTANT SEMIVOLA' E ORGANICS

Analytical Method: EPA 8270

Lab ID: 12351-2/18225-7636

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Acenaphthylene	BRL	330	1	08/11/95
Acenaphthene	BRL	330	1	08/11/95
2,4-Dinitrophenol	BRL	830	1	08/11/95
4-Nitrophenol	BRL	830	1	08/11/95
2,4-Dinitrotoluene	BRL	330	1	08/11/95
Diethylphthalate	BRL	330	1	08/11/95
4-Chlorophenyl phenyl ether	BRL	330	1	08/11/95
Fluorene	BRL	330	1	08/11/95
4,6-Dinitro-2-methylphenol	BRL	830	1	08/11/95
N-Nitrosodiphenylamine	BRL	330	1	08/11/95
4-Bromophenyl phenyl ether	BRL	330	1	08/11/95
Hexachlorobenzene	BRL	330	1	08/11/95
Pentachlorophenol	BRL	830	1	08/11/95
Phenanthrene	BRL	330	1	08/11/95
Anthracene	BRL	330	1	08/11/95
Butyl benzyl phthalate	BRL	330	1	08/11/95
Fluoranthene	BRL	330	1	08/11/95
Pyrene	BRL	330	1	08/11/95
Di-n-butylphthalate	BRL	330	1	08/11/95
3,3'-Dichlorobenzidine	BRL	670	1	08/11/95
Benzo(a)anthracene	BRL	330	1	08/11/95
Bis(2-Ethylhexyl)phthalate	780	330	1	08/11/95
Chrysene	BRL	330	1	08/11/95
Di-n-octylphthalate	BRL	330	1	08/11/95
Benzo(k)fluoranthene	BRL	330	1	08/11/95
Benzo(a)pyrene	BRL	330	1	08/11/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	08/11/95
Dibenz(a,h)anthracene	BRL	330	1	08/11/95
Benzo(g,h,i)perylene	BRL	330	1	08/11/95
Benzidine	BRL	830	1	08/11/95
N-Nitrosodimethylamine	BRL	330	1	08/11/95

Surrogates	% Recovery	Limits
2-Fluorophenol	85	25 - 121
Phenol-d5	87	24 - 113

PRIOR POLLUTANT SEMIVOLA E ORGANICS

Analytical Method: EPA 8270

Lab ID: 12351-2/18225-7636

Surrogates	% Recovery	Limits
Nitrobenzene-d5	69	23 - 120
2-Fluorobiphenyl	74	30 - 115
2,4,6-Tribromophenol	97	19 - 122
Terphenyl-d14	58	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

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METHOD BLANK

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL

Lab ID: 18575-MB /7636
Matrix: Soil
Batch Number: 2509-950808

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Phenol	BRL	330	08/10/95
Bis(2-Chloroethyl)ether	BRL	330	08/10/95
2-Chlorophenol	BRL	330	08/10/95
1,3-Dichlorobenzene	BRL	330	08/10/95
1,4-Dichlorobenzene	BRL	330	08/10/95
1,2-Dichlorobenzene	BRL	330	08/10/95
Bis(2-Chloroisopropyl)ether	BRL	330	08/10/95
N-Nitroso-di-n-propylamine	BRL	330	08/10/95
Hexachloroethane	BRL	330	08/10/95
Nitrobenzene	BRL	330	08/10/95
Isophorone	BRL	330	08/10/95
2,4-Dimethylphenol	BRL	330	08/10/95
1,2,4-Trichlorobenzene	BRL	330	08/10/95
2-Nitrophenol	BRL	330	08/10/95
Bis(2-Chloroethoxy)methane	BRL	330	08/10/95
2,4-Dichlorophenol	BRL	330	08/10/95
Naphthalene	BRL	330	08/10/95
4-Chloroaniline	BRL	330	08/10/95
Hexachlorobutadiene	BRL	330	08/10/95
4-Chloro-3-methylphenol	BRL	330	08/10/95
Hexachlorocyclopentadiene	BRL	330	08/10/95
2,4,6-Trichlorophenol	BRL	330	08/10/95
2-Chloronaphthalene	BRL	330	08/10/95
Dimethylphthalate	BRL	330	08/10/95
2,6-Dinitrotoluene	BRL	330	08/10/95
Acenaphthylene	BRL	330	08/10/95
Acenaphthene	BRL	330	08/10/95
2,4-Dinitrophenol	BRL	830	08/10/95
4-Nitrophenol	BRL	830	08/10/95
2,4-Dinitrotoluene	BRL	330	08/10/95
Diethylphthalate	BRL	330	08/10/95

METHOD BLANK

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 18575-MB /7636

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
4-Chlorophenyl phenyl ether	BRL	330	08/10/95
Fluorene	BRL	330	08/10/95
4,6-Dinitro-2-methylphenol	BRL	830	08/10/95
N-Nitrosodiphenylamine	BRL	330	08/10/95
4-Bromophenyl phenyl ether	BRL	330	08/10/95
Hexachlorobenzene	BRL	330	08/10/95
Pentachlorophenol	BRL	830	08/10/95
Phenanthrene	BRL	330	08/10/95
Anthracene	BRL	330	08/10/95
Butyl benzyl phthalate	BRL	330	08/10/95
Fluoranthene	BRL	330	08/10/95
Pyrene	BRL	330	08/10/95
Di-n-butylphthalate	BRL	330	08/10/95
3,3'-Dichlorobenzidine	BRL	670	08/10/95
Benzo(a)anthracene	BRL	330	08/10/95
Bis(2-Ethylhexyl)phthalate	BRL	330	08/10/95
Chrysene	BRL	330	08/10/95
Di-n-octylphthalate	BRL	330	08/10/95
Benzo(k)fluoranthene	BRL	330	08/10/95
Benzo(a)pyrene	BRL	330	08/10/95
Indeno(1,2,3-c,d)pyrene	BRL	330	08/10/95
Dibenz(a,h)anthracene	BRL	330	08/10/95
Benzo(g,h,i)perylene	BRL	330	08/10/95
Benzidine	BRL	830	08/10/95
N-Nitrosodimethylamine	BRL	330	08/10/95

Surrogates	% Recovery	Limits
2-Fluorophenol	67	25 - 121
Phenol-d5	70	24 - 113
Nitrobenzene-d5	64	23 - 120
2-Fluorobiphenyl	68	30 - 115
2,4,6-Tribromophenol	88	19 - 122
Terphenyl-d14	54	18 - 137

The cover letter and enclosures are integral parts of this report.

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LABORATORY CON)L SPIKE/LABORATORY ' \TROL SPIKE DUPLICATE

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
LCS Date Analyzed: 08/10/95

Lab ID: 18576-LCS /7636
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2509-950808
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Phenol	0	2500	1610	64	NA	NA	NA	26-90	≤35
2-Chlorophenol	0	2500	1540	62	NA	NA	NA	25-102	≤50
1,4-Dichlorobenzene	0	1670	1050	63	NA	NA	NA	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1290	77	NA	NA	NA	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1210	73	NA	NA	NA	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1780	71	NA	NA	NA	26-103	≤33
Acenaphthene	0	1670	1190	72	NA	NA	NA	31-137	≤149
4-Nitrophenol	0	2500	911	36	NA	NA	NA	11-114	≤50
2,4-Dinitrotoluene	0	1670	1120	67	NA	NA	NA	28-89	≤47
Pentachlorophenol	0	2500	3080	123*	NA	NA	NA	17-109	≤47
Pyrene	0	1670	798	48	NA	NA	NA	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	1900	76	NA	NA	25-121
Phenol-d5	2500	1860	74	NA	NA	24-113
Nitrobenzene-d5	1670	1190	76	NA	NA	23-120
2-Fluorobiphenyl	1670	1210	73	NA	NA	30-115

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 18576-LCS /7636

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2,4,6-Tribromophenol	2500	2420	97	NA	NA	19-122
Terphenyl-d14	1670	896	54	NA	NA	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Value beyond QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

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Master Builders Technologies

MA X SPIKE/MATRIX SPIKE ' LICATE

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 5'
Sample Number: WL-101-5
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
MS Date Analyzed: 08/11/95

Analyst: ED

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-1/18577,18578-7636
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2509-950808
% Moisture: NA

MSD Date Analyzed: 08/11/95
Instrument/Column: /XTI-5
Data File: D7029.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Phenol	0	2500	1570	63	1630	65	4	26-90	≤35
2-Chlorophenol	0	2500	1540	62	1580	63	3	25-102	≤50
1,4-Dichlorobenzene	0	1670	1060	64	1050	63	1	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1260	76	1300	78	3	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1150	69	1230	74	7	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1650	66	1750	70	6	26-103	≤33
Acenaphthene	0	1670	1170	70	1220	73	4	31-137	≤149
4-Nitrophenol	0	2500	926	37	947	38	2	11-114	≤50
2,4-Dinitrotoluene	0	1670	998	60	1050	63	5	28-89	≤47
Pentachlorophenol	0	2500	2390	96	2550	102	6	17-109	≤47
Pyrene	90	1670	916	49	936	51	2	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

MA X SPIKE/MATRIX SPIKE ' 'LICATE

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 12351-1/18577,18578-7636

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	2010	80	2160	86	25-121
Phenol-d5	2500	1910	76	2010	80	24-113
Nitrobenzene-d5	1670	1140	68	1210	72	23-120
2-Fluorobiphenyl	1670	1170	70	1240	74	30-115
2,4,6-Tribromophenol	2500	2150	86	2340	94	19-122
Terphenyl-d14	1670	909	54	1120	67	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

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Approved by: _____ Date: 8-21-95

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PRIORITY POLLUTAN
PESTIC..ES AND POLYCHLORINA.. BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 5'
Sample Number: WL-101-5
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-1/18224-7723
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2507-950808
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	08/16/95
gamma-BHC (Lindane)	BRL	0.34	1	08/16/95
delta-BHC	BRL	0.34	1	08/16/95
beta-BHC	BRL	0.34	1	08/16/95
Heptachlor	BRL	0.34	1	08/16/95
Aldrin	BRL	0.34	1	08/16/95
Heptachlor Epoxide	BRL	0.34	1	08/16/95
Endosulfan I	1.1	0.34	1	08/16/95
4,4'-DDE	0.72	0.68	1	08/16/95
Dieldrin	1.2	0.68	1	08/16/95
Endrin	3.9	0.68	1	08/16/95
4,4'-DDD	1.4	0.68	1	08/16/95
Endosulfan II	0.87	0.68	1	08/16/95
4,4'-DDT	8.5	0.68	1	08/16/95
Endrin Aldehyde	BRL	0.68	1	08/16/95
Endosulfan Sulfate	BRL	0.68	1	08/16/95
Toxaphene	BRL	17	1	08/16/95
Chlordane (Technical)	BRL	3.4	1	08/16/95
Methoxychlor	BRL	3.4	1	08/16/95
Arochlor 1016	BRL	17	1	08/16/95
Arochlor 1221	BRL	34	1	08/16/95
Arochlor 1232	BRL	17	1	08/16/95
Arochlor 1242	BRL	17	1	08/16/95
Arochlor 1248	BRL	17	1	08/16/95
Arochlor 1254	BRL	17	1	08/16/95

PRIORITY POLLUTAN
PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12351-1/18224-7723

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Arochlor 1260	BRL	17	1	08/16/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	77	60 - 150

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PRIORITY POLLUTANT PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-101-25'
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-2/18225-7723
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2507-950808
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	08/16/95
gamma-BHC (Lindane)	BRL	0.34	1	08/16/95
delta-BHC	BRL	0.34	1	08/16/95
beta-BHC	BRL	0.34	1	08/16/95
Heptachlor	BRL	0.34	1	08/16/95
Aldrin	BRL	0.34	1	08/16/95
Heptachlor Epoxide	BRL	0.34	1	08/16/95
Endosulfan I	BRL	0.34	1	08/16/95
4,4'-DDE	BRL	0.68	1	08/16/95
Dieldrin	BRL	0.68	1	08/16/95
Endrin	BRL	0.68	1	08/16/95
4,4'-DDD	BRL	0.68	1	08/16/95
Endosulfan II	BRL	0.68	1	08/16/95
4,4'-DDT	BRL	0.68	1	08/16/95
Endrin Aldehyde	BRL	0.68	1	08/16/95
Endosulfan Sulfate	BRL	0.68	1	08/16/95
Toxaphene	BRL	17	1	08/16/95
Chlordane (Technical)	BRL	3.4	1	08/16/95
Methoxychlor	BRL	3.4	1	08/16/95
Arochlor 1016	BRL	17	1	08/16/95
Arochlor 1221	BRL	34	1	08/16/95
Arochlor 1232	BRL	17	1	08/16/95
Arochlor 1242	BRL	17	1	08/16/95
Arochlor 1248	BRL	17	1	08/16/95
Arochlor 1254	BRL	17	1	08/16/95

PRIORITY POLLUTANT
PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12351-2/18225-7723

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Arochlor 1260	BRL	17	1	08/16/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	71	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

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PRIORITY POLLUTANT PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 18570-MB /7723
Matrix: Soil
Batch Number: 2507-950808

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
alpha-BHC	BRL	0.34	08/16/95
gamma-BHC (Lindane)	BRL	0.34	08/16/95
delta-BHC	BRL	0.34	08/16/95
beta-BHC	BRL	0.34	08/16/95
Heptachlor	BRL	0.34	08/16/95
Aldrin	BRL	0.34	08/16/95
Heptachlor Epoxide	BRL	0.34	08/16/95
Endosulfan I	BRL	0.34	08/16/95
4,4'-DDE	BRL	0.68	08/16/95
Dieldrin	BRL	0.68	08/16/95
Endrin	BRL	0.68	08/16/95
4,4'-DDD	BRL	0.68	08/16/95
Endosulfan II	BRL	0.68	08/16/95
4,4'-DDT	BRL	0.68	08/16/95
Endrin Aldehyde	BRL	0.68	08/16/95
Endosulfan Sulfate	BRL	0.68	08/16/95
Toxaphene	BRL	17	08/16/95
Chlordane (Technical)	BRL	3.4	08/16/95
Methoxychlor	BRL	3.4	08/16/95
Arochlor 1016	BRL	17	08/16/95
Arochlor 1221	BRL	34	08/16/95
Arochlor 1232	BRL	17	08/16/95
Arochlor 1242	BRL	17	08/16/95
Arochlor 1248	BRL	17	08/16/95
Arochlor 1254	BRL	17	08/16/95
Arochlor 1260	BRL	17	08/16/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	76	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

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LABORATORY CON)L SPIKE/LABORATORY \TROL SPIKE DUPLICATE

PRIORITY POLLUTANT
PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/16/95

Lab ID: 18571-LCS /7723
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2507-950808
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
gamma-BHC (Lindane)	0	4.17	3.45	83	NA	NA	NA	46-127	≤50
Heptachlor	0	4.17	3.21	77	NA	NA	NA	35-130	≤31
Aldrin	0	4.71	3.02	72	NA	NA	NA	34-132	≤43
Dieldrin	0	8.33	7.34	88	NA	NA	NA	31-134	≤38
Endrin	0	8.33	9.41	113	NA	NA	NA	42-139	≤45
4,4'-DDT	0	8.33	8.23	99	NA	NA	NA	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	6.46	78	NA	NA	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

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MA X SPIKE/MATRIX SPIKE 'LICATE

PRIORITY POLLUTANT
PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 5'
Sample Number: WL-101-5
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
MS Date Analyzed: 08/16/95

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-1/18573,18574-7723
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2507-950808
% Moisture: NA
MSD Date Analyzed: 08/16/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	3.40	82	5.07	122	39	46-127	≤50
Heptachlor	0	4.17	4.25	102	4.34	104	2	35-130	≤31
Aldrin	0	4.17	4.40	106	4.44	107	1	34-132	≤43
Dieldrin	1.2	8.33	10.7	114	10.4	110	4	31-134	≤38
Endrin	3.9	8.33	14.6	128	11.5	91	34	42-139	≤45
4,4'-DDT	8.5	8.33	15.8	88	18.1	115	27	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	7.45	89	7.17	86	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

PRI(TY POLLUTANT VOLATI ORGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 5'
Sample Number: WL-101-5
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-1/18224-7619
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2606-950807
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P6847.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	08/07/95
Vinyl Chloride	BRL	10	1	08/07/95
Bromomethane	BRL	10	1	08/07/95
Chloroethane	BRL	10	1	08/07/95
1,1-Dichloroethene	BRL	5.0	1	08/07/95
Methylene Chloride	BRL	5.0	1	08/07/95
trans-1,2-Dichloroethene	BRL	5.0	1	08/07/95
1,1-Dichloroethane	BRL	5.0	1	08/07/95
Chloroform	BRL	5.0	1	08/07/95
1,2-Dichloroethane	BRL	5.0	1	08/07/95
1,1,1-Trichloroethane	BRL	5.0	1	08/07/95
Carbon Tetrachloride	BRL	5.0	1	08/07/95
Benzene	BRL	5.0	1	08/07/95
Trichloroethene	BRL	5.0	1	08/07/95
1,2-Dichloropropane	BRL	5.0	1	08/07/95
Bromodichloromethane	BRL	5.0	1	08/07/95
2-Chloroethylvinylether	BRL	10	1	08/07/95
cis-1,3-Dichloropropene	BRL	5.0	1	08/07/95
1,1,2-Trichloroethane	BRL	5.0	1	08/07/95
Dibromochloromethane	BRL	5.0	1	08/07/95
Bromoform	BRL	5.0	1	08/07/95
Toluene	BRL	5.0	1	08/07/95
Tetrachloroethene	BRL	5.0	1	08/07/95
Chlorobenzene	2.0 J	5.0	1	08/07/95
Ethyl benzene	BRL	5.0	1	08/07/95
m & p Xylene	2.0 J	5.0	1	08/07/95
o-Xylene	BRL	5.0	1	08/07/95

PRIC TY POLLUTANT VOLATIL ORGANICS

Analytical Method: EPA 8240

Lab ID: 12351-1/18224-7619

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
1,1,2,2-Tetrachloroethane	BRL	5.0	1	08/07/95
1,3-Dichlorobenzene	BRL	5.0	1	08/07/95
1,4-Dichlorobenzene	12	5.0	1	08/07/95
1,2-Dichlorobenzene	1.0 J	5.0	1	08/07/95
Acrolein	BRL	100	1	08/07/95
Acrylonitrile	BRL	100	1	08/07/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	114	70 - 121
Toluene-d8	111	81 - 117
Bromofluorobenzene	101	74 - 121

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

PRI' TY POLLUTANT VOLATI' ORGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-101-25'
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-2/18225-7619
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2607-950808
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P6853.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	08/08/95
Vinyl Chloride	BRL	10	1	08/08/95
Bromomethane	BRL	10	1	08/08/95
Chloroethane	BRL	10	1	08/08/95
1,1-Dichloroethene	BRL	5.0	1	08/08/95
Methylene Chloride	BRL	5.0	1	08/08/95
trans-1,2-Dichloroethene	BRL	5.0	1	08/08/95
1,1-Dichloroethane	BRL	5.0	1	08/08/95
Chloroform	BRL	5.0	1	08/08/95
1,2-Dichloroethane	BRL	5.0	1	08/08/95
1,1,1-Trichloroethane	BRL	5.0	1	08/08/95
Carbon Tetrachloride	BRL	5.0	1	08/08/95
Benzene	BRL	5.0	1	08/08/95
Trichloroethene	BRL	5.0	1	08/08/95
1,2-Dichloropropane	BRL	5.0	1	08/08/95
Bromodichloromethane	BRL	5.0	1	08/08/95
2-Chloroethylvinylether	BRL	10	1	08/08/95
cis-1,3-Dichloropropene	BRL	5.0	1	08/08/95
1,1,2-Trichloroethane	BRL	5.0	1	08/08/95
Dibromochloromethane	BRL	5.0	1	08/08/95
Bromoform	BRL	5.0	1	08/08/95
Toluene	BRL	5.0	1	08/08/95
Tetrachloroethene	BRL	5.0	1	08/08/95
Chlorobenzene	BRL	5.0	1	08/08/95
Ethyl benzene	BRL	5.0	1	08/08/95
m & p Xylene	BRL	5.0	1	08/08/95
o-Xylene	BRL	5.0	1	08/08/95

PRIC TY POLLUTANT VOLATIL ORGANICS

Analytical Method: EPA 8240

Lab ID: 12351-2/18225-7619

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
1,1,2,2-Tetrachloroethane	BRL	5.0	1	08/08/95
1,3-Dichlorobenzene	BRL	5.0	1	08/08/95
1,4-Dichlorobenzene	BRL	5.0	1	08/08/95
1,2-Dichlorobenzene	BRL	5.0	1	08/08/95
Acrolein	BRL	100	1	08/08/95
Acrylonitrile	BRL	100	1	08/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	109	70 - 121
Toluene-d8	115	81 - 117
Bromofluorobenzene	112	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

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METHOD BLANK

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL

Analyst: DLA

Lab ID: 19410-MB /7619
Matrix: Soil
Batch Number: 2606-950807
Instrument/Column: MS04/RTX-502.2
Data File: P6840.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	10	08/07/95
Vinyl Chloride	BRL	10	08/07/95
Bromomethane	BRL	10	08/07/95
Chloroethane	BRL	10	08/07/95
1,1-Dichloroethene	BRL	5.0	08/07/95
Methylene Chloride	BRL	5.0	08/07/95
trans-1,2-Dichloroethene	BRL	5.0	08/07/95
1,1-Dichloroethane	BRL	5.0	08/07/95
Chloroform	BRL	5.0	08/07/95
1,2-Dichloroethane	BRL	5.0	08/07/95
1,1,1-Trichloroethane	BRL	5.0	08/07/95
Carbon Tetrachloride	BRL	5.0	08/07/95
Benzene	BRL	5.0	08/07/95
Trichloroethene	BRL	5.0	08/07/95
1,2-Dichloropropane	BRL	5.0	08/07/95
Bromodichloromethane	BRL	5.0	08/07/95
2-Chloroethylvinylether	BRL	10	08/07/95
cis-1,3-Dichloropropene	BRL	5.0	08/07/95
1,1,2-Trichloroethane	BRL	5.0	08/07/95
Dibromochloromethane	BRL	5.0	08/07/95
Bromoform	BRL	5.0	08/07/95
Toluene	BRL	5.0	08/07/95
Tetrachloroethene	BRL	5.0	08/07/95
Chlorobenzene	BRL	5.0	08/07/95
Ethyl benzene	BRL	5.0	08/07/95
m & p Xylene	BRL	5.0	08/07/95
o-Xylene	BRL	5.0	08/07/95
1,1,2,2-Tetrachloroethane	BRL	5.0	08/07/95
1,3-Dichlorobenzene	BRL	5.0	08/07/95
1,4-Dichlorobenzene	BRL	5.0	08/07/95
1,2-Dichlorobenzene	BRL	5.0	08/07/95
Acrolein	BRL	100	08/07/95

METHOD BLANK

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID: 19410-MB /7619

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Acrylonitrile	BRL	100	08/07/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	106	70 - 121
Toluene-d8	106	81 - 117
Bromofluorobenzene	99	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/08/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL

Analyst: DLA

Lab ID: 19412-MB /7619
Matrix: Soil
Batch Number: 2607-950808
Instrument/Column: MS04/RTX-502.2
Data File: P6850.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	10	08/08/95
Vinyl Chloride	BRL	10	08/08/95
Bromomethane	BRL	10	08/08/95
Chloroethane	BRL	10	08/08/95
1,1-Dichloroethene	BRL	5.0	08/08/95
Methylene Chloride	BRL	5.0	08/08/95
trans-1,2-Dichloroethene	BRL	5.0	08/08/95
1,1-Dichloroethane	BRL	5.0	08/08/95
Chloroform	BRL	5.0	08/08/95
1,2-Dichloroethane	BRL	5.0	08/08/95
1,1,1-Trichloroethane	BRL	5.0	08/08/95
Carbon Tetrachloride	BRL	5.0	08/08/95
Benzene	BRL	5.0	08/08/95
Trichloroethene	BRL	5.0	08/08/95
1,2-Dichloropropane	BRL	5.0	08/08/95
Bromodichloromethane	BRL	5.0	08/08/95
2-Chloroethylvinylether	BRL	10	08/08/95
cis-1,3-Dichloropropene	BRL	5.0	08/08/95
1,1,2-Trichloroethane	BRL	5.0	08/08/95
Dibromochloromethane	BRL	5.0	08/08/95
Bromoform	BRL	5.0	08/08/95
Toluene	BRL	5.0	08/08/95
Tetrachloroethene	BRL	5.0	08/08/95
Chlorobenzene	BRL	5.0	08/08/95
Ethyl benzene	BRL	5.0	08/08/95
m & p Xylene	BRL	5.0	08/08/95
o-Xylene	BRL	5.0	08/08/95
1,1,2,2-Tetrachloroethane	BRL	5.0	08/08/95
1,3-Dichlorobenzene	BRL	5.0	08/08/95
1,4-Dichlorobenzene	BRL	5.0	08/08/95
1,2-Dichlorobenzene	BRL	5.0	08/08/95
Acrolein	BRL	100	08/08/95

METHOD BLANK

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID: 19412-MB /7619

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Acrylonitrile	BRL	100	08/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	101	70 - 121
Toluene-d8	105	81 - 117
Bromofluorobenzene	100	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO[illegible]OL SPIKE/LABORATORY [illegible]NTROL SPIKE DUPLICATE

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/07/95

Analyst: DLA

Lab ID: 19411-LCS /7619
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2606-950807
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: P6841.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	50.0	48.0	96	NA	NA	NA	59-172	≤22
Benzene	0	50.0	44.0	87	NA	NA	NA	66-142	≤21
Trichloroethene	0	50.0	47.0	93	NA	NA	NA	62-137	≤24
Toluene	0	50.0	49.0	98	NA	NA	NA	59-139	≤21
Chlorobenzene	0	50.0	49.0	98	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	50.0	54.0	108	NA	NA	70-121
Toluene-d8	50.0	53.0	106	NA	NA	81-117
Bromofluorobenzene	50.0	49.0	98	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/08/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/08/95

Analyst: DLA

Lab ID: 19413-LCS /7619
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2607-950808
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: P6851.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	50.0	46.0	92	NA	NA	NA	59-172	≤22
Benzene	0	50.0	47.0	94	NA	NA	NA	66-142	≤21
Trichloroethene	0	50.0	45.0	91	NA	NA	NA	62-137	≤24
Toluene	0	50.0	54.0	107	NA	NA	NA	59-139	≤21
Chlorobenzene	0	50.0	51.0	103	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	50.0	51.0	101	NA	NA	70-121
Toluene-d8	50.0	52.0	104	NA	NA	81-117
Bromofluorobenzene	50.0	47.0	94	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

T AL PETROLEUM HYDRO BONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 5'
Sample Number: WL-101-5
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-1/18226-25
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2482-950808
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Diesel Range (C12-C22)	110	10	1	08/09/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-15-95

MBT Environmental Laboratories

Master Builders Technologies

' AL PETROLEUM HYDRO 'BONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-101-25'
Date/Time Received: 08/05/95 10:30
Date Prepared: 08/08/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12351
Project Number: 070803035003005
Lab ID: 12351-2/18227-25
Date/Time Sampled: 08/04/95 08:45
Matrix: Soil (S)
Batch Number: 2482-950808
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Diesel Range (C12-C22)	BRL	10	1	08/08/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-15-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Date Prepared: 08/08/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 18390-MB /25
Matrix: Soil
Batch Number: 2482-950808

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Diesel Range (C12-C22)	BRL	10	08/08/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-15-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON)L SPIKE/LABORATORY ıTROL SPIKE DUPLICATE

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Date Prepared: 08/08/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/08/95

Lab ID: 18391-LCS /25
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2482-950808
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Diesel Range (C12-C22)	0	83.3	54.2	65	NA	NA	NA	52-125	≤

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-15-95

MBT Environmental Laboratories

Master Builders Technologies

LP 12355

MBT Environment
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

COPY

Date: August 28, 1995
LP #: 12355

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed are the laboratory results for the four samples submitted to MBT Environmental Laboratories on August 8, 1995, for the project *Westlake*.

The analyses requested are:

EPA 8270 (2 - Soil)
EPA 8240 (2 - Soil)
EPA 8080 (2 - Soil)
EPA 8015 Modified Extractable (2 - Soil)
Archive (2 - Soil)

The report consists of the following sections:

1. Cover Page
2. Copy of Chain-of-Custody
3. General Narrative
4. Analytical and Quality Control Results

Unless otherwise instructed by you, samples will be disposed of two weeks from the date of this letter.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Shakoora Azimi
Laboratory Director, Principal Scientist

ME Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

00868

SIDE 2 FOR COMPLETE INSTRUCTIONS

Ship To:
Address:

Project Name: Westlake
Project Number: 07.0803035.003.005
Project Location: (State) Bridgeton, MO

FOR LABORATORY USE ONLY
Laboratory Project #: 12355
Storage Refrigerator ID: 12-B, 19-12
Storage Freezer ID:

Sampler Name: JOHN D. REGAN	Signature: [signature]	PPE Worn in Field: LEVEL D	8/7/95 1223
Relinquished By: CAROL S. RIGET	Date/Time: 8/7/95 1700	Received By or Method of Shipment/Shipment I.D.: FEDEX 4018624780	Date/Time: 8/7/95 1700
Relinquished By: FED EX	Date/Time: 8/8/95 0915	Received By or Method of Shipment/Shipment I.D.: [signature]	Date/Time: 8/8/95 0915
Relinquished By:	Date/Time:	Received By or Method of Shipment/Shipment I.D.:	Date/Time:

Sample Disposal (check one): [X] Laboratory Standard [ ] Other

Level of QC (see Side 2): [X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Cyanide	Fluoride	Cyanide Total	VOC - 8240	SVOC - 8270	PCB/Pest	Metals	Chemical	TPH - Extractable
1 12355-001	WL-103-15	8-7-95	0900	AREA 1	15'	4	4oz GLASS	SOIL	ICE	0				X	X	X			X
2 002	WL-103-25	8-7-95	0900	AREA 1	25'	4	4oz GLASS	SOIL	ICE	0									
3 003	WL-104-35	8-7-95	1230	AREA 1	35'	4	4oz GLASS	SOIL	ICE	0									
4 004	WL-104-25	8-7-95	1130	AREA 1	25'	4	4oz GLASS	SOIL	ICE	0				X	X	X			X
5																			
6																			
7																			
8																			
9																			
10																			

Special Instructions/Comments: See attached memo
ANALYZE WL-103-25 ONLY FOR PARAMETERS THAT WERE HITS FOR WL-103-15. ANALYZE WL-104-35 ONLY FOR PARAMETERS THAT WERE HITS FOR WL-104-25

Container Types: B=Brass Tube, G=Glass Jar, O=Other ____, A=1 Liter Amber, C=Cassette, P=Polyethylene, V=Voa Vial

TAT (Analytical Turn Around Time): 1 = 24 hours, 2 = 48 hours, 3 = 1 week, 4 = 2 weeks, 0 = Other STANDARD

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: TEMP 6°C, SAMPLES INTACT

SEND DOCUMENTATION AND RESULTS TO (Check one):
[X] Project Manager/Office: Carol Riget / St. Louis
[ ] Client Name:
Company:
Address:
Phone: FAX:

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity
* Specify Total or Dissolved

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12355

WESTLAKE

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417
	CONNECTICUT:	Waste Water, #PH0799
	FLORIDA:	Environmental Water, #E87298 CQAPP #930105
	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192
	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A
	NEW JERSEY:	Waste Water, #44818
	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241
	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
	TENNESSEE:	Underground Storage Tank
	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
	WASHINGTON:	Hazardous Waste, #C048
	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
	USACOE:	Hazardous Waste Waste Water
	AFCEE	

(CN12355)

MBT Environmental Laboratories

Master Builders Technologies

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

EPA 8270

The LCS recoveries for the analytes flagged on the LCS data sheets are outside of advisory acceptance limits. The calibration data associated with this laboratory project were within acceptance limits.

EPA 8240

Due to the presence of high levels of target compounds, a reduced amount of sample was used for analysis, causing the established reporting limits to be elevated for the following sample: 12355-4

The LCS recoveries for the analytes flagged on the LCS data sheets are outside of advisory quality control limits; however, all other QC meets the laboratory's acceptance criteria.

(CN12355)

Abbreviations and Definitions:

MB	*Method Blank* - An aliquot of a blank matrix carried throughout the entire analytical process
LCS	*Laboratory Control Sample* - A blank to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the accuracy of the method
MS/MSD	*Matrix Spike/Matrix Spike Duplicate* - Duplicate samples to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the extent of matrix bias or interference on analyte recovery
RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*
NA	*Not Applicable*

Flags:

Organics -

J	Estimated value below the reporting limit and at or above the method detection limit.
B	Analyte found in the associated blank, as well as in the sample.

Inorganics -

B	Estimated value below the reporting limit and at or above the method detection limit.

(CN12355)

PESTIC ES AND POLYCHLORINA BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 15'
Sample Number: WL-103-15
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-1/18518-7537
Date/Time Sampled: 08/07/95 09:00
Matrix: Soil (S)
Batch Number: 2507-950808
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	08/16/95
gamma-BHC (Lindane)	BRL	0.34	1	08/16/95
delta-BHC	BRL	0.34	1	08/16/95
beta-BHC	BRL	0.34	1	08/16/95
Heptachlor	BRL	0.34	1	08/16/95
Aldrin	BRL	0.34	1	08/16/95
Heptachlor Epoxide	BRL	0.34	1	08/16/95
Endosulfan I	BRL	0.34	1	08/16/95
4,4'-DDE	BRL	0.68	1	08/16/95
Dieldrin	BRL	0.68	1	08/16/95
Endrin	BRL	0.68	1	08/16/95
4,4'-DDD	BRL	0.68	1	08/16/95
Endosulfan II	BRL	0.68	1	08/16/95
4,4'-DDT	BRL	0.68	1	08/16/95
Endrin Aldehyde	BRL	0.68	1	08/16/95
Endosulfan Sulfate	BRL	0.68	1	08/16/95
Toxaphene	BRL	17	1	08/16/95
Chlordane (Technical)	BRL	3.4	1	08/16/95
Methoxychlor	BRL	3.4	1	08/16/95
Arochlor 1016	BRL	17	1	08/16/95
Arochlor 1221	BRL	34	1	08/16/95
Arochlor 1232	BRL	17	1	08/16/95
Arochlor 1242	BRL	17	1	08/16/95
Arochlor 1248	BRL	17	1	08/16/95
Arochlor 1254	BRL	17	1	08/16/95

PESTI(ES AND POLYCHLORINA' ' BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12355-1/18518-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Arochlor 1260	BRL	17	1	08/16/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	62	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

PESTIC ES AND POLYCHLORINA BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-104-25
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-4/18519-7537
Date/Time Sampled: 08/07/95 11:30
Matrix: Soil (S)
Batch Number: 2507-950808
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	08/16/95
gamma-BHC (Lindane)	BRL	0.34	1	08/16/95
delta-BHC	BRL	0.34	1	08/16/95
beta-BHC	BRL	0.34	1	08/16/95
Heptachlor	BRL	0.34	1	08/16/95
Aldrin	BRL	0.34	1	08/16/95
Heptachlor Epoxide	BRL	0.34	1	08/16/95
Endosulfan I	BRL	0.34	1	08/16/95
4,4'-DDE	BRL	0.68	1	08/16/95
Dieldrin	BRL	0.68	1	08/16/95
Endrin	BRL	0.68	1	08/16/95
4,4'-DDD	BRL	0.68	1	08/16/95
Endosulfan II	BRL	0.68	1	08/16/95
4,4'-DDT	BRL	0.68	1	08/16/95
Endrin Aldehyde	BRL	0.68	1	08/16/95
Endosulfan Sulfate	BRL	0.68	1	08/16/95
Toxaphene	BRL	17	1	08/16/95
Chlordane (Technical)	15	3.4	1	08/16/95
Methoxychlor	BRL	3.4	1	08/16/95
Arochlor 1016	BRL	17	1	08/16/95
Arochlor 1221	BRL	34	1	08/16/95
Arochlor 1232	BRL	17	1	08/16/95
Arochlor 1242	BRL	17	1	08/16/95
Arochlor 1248	BRL	17	1	08/16/95
Arochlor 1254	BRL	17	1	08/16/95

PESTIC ES AND POLYCHLORINAT BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12355-4/18519-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Arochlor 1260	BRL	17	1	08/16/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	77	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

PRIORITY POLLUTANT PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 18570-MB /7723
Matrix: Soil
Batch Number: 2507-950808

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
alpha-BHC	BRL	0.34	08/16/95
gamma-BHC (Lindane)	BRL	0.34	08/16/95
delta-BHC	BRL	0.34	08/16/95
beta-BHC	BRL	0.34	08/16/95
Heptachlor	BRL	0.34	08/16/95
Aldrin	BRL	0.34	08/16/95
Heptachlor Epoxide	BRL	0.34	08/16/95
Endosulfan I	BRL	0.34	08/16/95
4,4'-DDE	BRL	0.68	08/16/95
Dieldrin	BRL	0.68	08/16/95
Endrin	BRL	0.68	08/16/95
4,4'-DDD	BRL	0.68	08/16/95
Endosulfan II	BRL	0.68	08/16/95
4,4'-DDT	BRL	0.68	08/16/95
Endrin Aldehyde	BRL	0.68	08/16/95
Endosulfan Sulfate	BRL	0.68	08/16/95
Toxaphene	BRL	17	08/16/95
Chlordane (Technical)	BRL	3.4	08/16/95
Methoxychlor	BRL	3.4	08/16/95
Arochlor 1016	BRL	17	08/16/95
Arochlor 1221	BRL	34	08/16/95
Arochlor 1232	BRL	17	08/16/95
Arochlor 1242	BRL	17	08/16/95
Arochlor 1248	BRL	17	08/16/95
Arochlor 1254	BRL	17	08/16/95
Arochlor 1260	BRL	17	08/16/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	76	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

PRIORITY POLLUTANT
PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/16/95

Lab ID: 18571-LCS /7723
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2507-950808
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	3.45	83	NA	NA	NA	46-127	≤50
Heptachlor	0	4.17	3.21	77	NA	NA	NA	35-130	≤31
Aldrin	0	4.71	3.02	72	NA	NA	NA	34-132	≤43
Dieldrin	0	8.33	7.34	88	NA	NA	NA	31-134	≤38
Endrin	0	8.33	9.41	113	NA	NA	NA	42-139	≤45
4,4'-DDT	0	8.33	8.23	99	NA	NA	NA	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	6.46	78	NA	NA	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

EPA 8015 MODIFIEI
TOTAL ⌣ ⌣RACTABLE PETROLEUM ⌣ YDROCARBONS

Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 15'
Sample Number: WL-103-15
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/08/95 14:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-1/18520-7948
Date/Time Sampled: 08/07/95 09:00
Matrix: Soil (S)
Batch Number: 2506-950808
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
TPH (Extractable) (C7-C32)	BRL	10	1	08/09/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

EPA 8015 MODIFIEI
TOTAL ⌣ ⌣RACTABLE PETROLEUM ⌣ ⌣DROCARBONS

Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-104-25
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/08/95 14:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-4/18521-7948
Date/Time Sampled: 08/07/95 11:30
Matrix: Soil (S)
Batch Number: 2506-950808
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
TPH (Extractable) (C7-C32)	BRL	10	1	08/09/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

EPA 8015 MODIFIED
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Preparation Method: EPA 3550S

Date Prepared: 08/08/95 14:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 18566-MB /7948
Matrix: Soil
Batch Number: 2506-950808

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
TPH (Extractable) (C7-C32)	BRL	10	08/09/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO[illegible]OL SPIKE/LABORATORY [illegible]NTROL SPIKE DUPLICATE

EPA 8015 MODIFIED
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Preparation Method: EPA 3550S

Date Prepared: 08/08/95 14:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/09/95

Lab ID: 18567-LCS /7948
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2506-950808
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
TPH (Extractable) (C7-C32)	0	83.3	54.0	65	NA	NA	NA	52-125	≤25

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

M/ IX SPIKE/MATRIX SPIKE PLICATE

EPA 8015 MODIFIED
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-104-25
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/08/95 14:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
MS Date Analyzed: 08/09/95

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-4/18568,18569-7948
Date/Time Sampled: 08/07/95 11:30
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2506-950808
% Moisture: NA
MSD Date Analyzed: 08/09/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
TPH (Extractable) (C7-C32)	0	83.3	55.0	66	56.3	68	2	52-125	≤25

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-17-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGA[illegible]S

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 15'
Sample Number: WL-103-15
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-1/18518-7918
Date/Time Sampled: 08/07/95 09:00
Matrix: Soil (S)
Batch Number: 2509-950808
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7025.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	08/11/95
Bis(2-Chloroethyl)ether	BRL	330	1	08/11/95
2-Chlorophenol	BRL	330	1	08/11/95
1,3-Dichlorobenzene	BRL	330	1	08/11/95
1,4-Dichlorobenzene	BRL	330	1	08/11/95
Benzyl alcohol	BRL	330	1	08/11/95
2-Methylphenol	BRL	330	1	08/11/95
1,2-Dichlorobenzene	BRL	330	1	08/11/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	08/11/95
4-Methylphenol	BRL	330	1	08/11/95
N-Nitroso-di-n-propylamine	BRL	330	1	08/11/95
Hexachloroethane	BRL	330	1	08/11/95
Nitrobenzene	BRL	330	1	08/11/95
Isophorone	BRL	330	1	08/11/95
2,4-Dimethylphenol	BRL	330	1	08/11/95
1,2,4-Trichlorobenzene	BRL	330	1	08/11/95
2-Nitrophenol	BRL	330	1	08/11/95
Benzoic acid	BRL	830	1	08/11/95
Bis(2-Chloroethoxy)methane	BRL	330	1	08/11/95
2,4-Dichlorophenol	BRL	330	1	08/11/95
Naphthalene	BRL	330	1	08/11/95
4-Chloroaniline	BRL	330	1	08/11/95
Hexachlorobutadiene	BRL	330	1	08/11/95
4-Chloro-3-methylphenol	BRL	330	1	08/11/95
2-Methylnaphthalene	BRL	330	1	08/11/95

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270

Lab ID: 12355-1/18518-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	08/11/95
2,4,6-Trichlorophenol	BRL	330	1	08/11/95
2,4,5-Trichlorophenol	BRL	330	1	08/11/95
2-Chloronaphthalene	BRL	330	1	08/11/95
3-Nitroaniline	BRL	830	1	08/11/95
Dimethylphthalate	BRL	330	1	08/11/95
2,6-Dinitrotoluene	BRL	330	1	08/11/95
Acenaphthylene	BRL	330	1	08/11/95
2-Nitroaniline	BRL	830	1	08/11/95
Acenaphthene	BRL	330	1	08/11/95
2,4-Dinitrophenol	BRL	830	1	08/11/95
4-Nitrophenol	BRL	830	1	08/11/95
2,4-Dinitrotoluene	BRL	330	1	08/11/95
Dibenzofuran	BRL	330	1	08/11/95
Diethylphthalate	BRL	330	1	08/11/95
alpha-BHC	BRL	330	1	08/11/95
4-Chlorophenyl phenyl ether	BRL	330	1	08/11/95
Fluorene	BRL	330	1	08/11/95
4-Nitroaniline	BRL	830	1	08/11/95
4,6-Dinitro-2-methylphenol	BRL	830	1	08/11/95
N-Nitrosodiphenylamine	BRL	330	1	08/11/95
4-Bromophenyl phenyl ether	BRL	330	1	08/11/95
beta-BHC	BRL	330	1	08/11/95
Lindane	BRL	330	1	08/11/95
Hexachlorobenzene	BRL	330	1	08/11/95
Pentachlorophenol	BRL	830	1	08/11/95
Phenanthrene	BRL	330	1	08/11/95
Anthracene	BRL	330	1	08/11/95
Delta-BHC	BRL	330	1	08/11/95
Heptachlor	BRL	330	1	08/11/95
Aldrin	BRL	330	1	08/11/95
Endrin	BRL	330	1	08/11/95
Butyl benzyl phthalate	BRL	330	1	08/11/95
Fluoranthene	BRL	330	1	08/11/95
Heptachlor Epoxide	BRL	330	1	08/11/95
Pyrene	BRL	330	1	08/11/95
Dieldrin	BRL	330	1	08/11/95

SEMIVOLATILE ORGA

Analytical Method: EPA 8270

Lab ID: 12355-1/18518-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	08/11/95
Endosulfan sulfate	BRL	330	1	08/11/95
4,4'-DDT	BRL	330	1	08/11/95
4,4'-DDD	BRL	330	1	08/11/95
Di-n-butylphthalate	BRL	330	1	08/11/95
3,3'-Dichlorobenzidine	BRL	670	1	08/11/95
Benzo(a)anthracene	BRL	330	1	08/11/95
Bis(2-Ethylhexyl)phthalate	BRL	330	1	08/11/95
Chrysene	BRL	330	1	08/11/95
Di-n-octylphthalate	BRL	330	1	08/11/95
Benzo(b)fluoranthene	BRL	330	1	08/11/95
Benzo(k)fluoranthene	BRL	330	1	08/11/95
Benzo(a)pyrene	BRL	330	1	08/11/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	08/11/95
Dibenz(a,h)anthracene	BRL	330	1	08/11/95
Benzo(g,h,i)perylene	BRL	330	1	08/11/95

Surrogates	% Recovery	Limits
2-Fluorophenol	78	25 - 121
Phenol-d5	85	24 - 113
Nitrobenzene-d5	70	23 - 120
2-Fluorobiphenyl	72	30 - 115
2,4,6-Tribromophenol	91	19 - 122
Terphenyl-d14	55	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-104-25
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-4/18519-7918
Date/Time Sampled: 08/07/95 11:30
Matrix: Soil (S)
Batch Number: 2509-950808
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7026.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	08/11/95
Bis(2-Chloroethyl)ether	BRL	330	1	08/11/95
2-Chlorophenol	BRL	330	1	08/11/95
1,3-Dichlorobenzene	BRL	330	1	08/11/95
1,4-Dichlorobenzene	BRL	330	1	08/11/95
Benzyl alcohol	BRL	330	1	08/11/95
2-Methylphenol	BRL	330	1	08/11/95
1,2-Dichlorobenzene	BRL	330	1	08/11/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	08/11/95
4-Methylphenol	BRL	330	1	08/11/95
N-Nitroso-di-n-propylamine	BRL	330	1	08/11/95
Hexachloroethane	BRL	330	1	08/11/95
Nitrobenzene	BRL	330	1	08/11/95
Isophorone	BRL	330	1	08/11/95
2,4-Dimethylphenol	BRL	330	1	08/11/95
1,2,4-Trichlorobenzene	BRL	330	1	08/11/95
2-Nitrophenol	BRL	330	1	08/11/95
Benzoic acid	BRL	830	1	08/11/95
Bis(2-Chloroethoxy)methane	BRL	330	1	08/11/95
2,4-Dichlorophenol	BRL	330	1	08/11/95
Naphthalene	BRL	330	1	08/11/95
4-Chloroaniline	BRL	330	1	08/11/95
Hexachlorobutadiene	BRL	330	1	08/11/95
4-Chloro-3-methylphenol	BRL	330	1	08/11/95
2-Methylnaphthalene	BRL	330	1	08/11/95

SEMIVOLATILE ORGA[illegible]S

Analytical Method: EPA 8270

Lab ID: 12355-4/18519-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	08/11/95
2,4,6-Trichlorophenol	BRL	330	1	08/11/95
2,4,5-Trichlorophenol	BRL	330	1	08/11/95
2-Chloronaphthalene	BRL	330	1	08/11/95
3-Nitroaniline	BRL	830	1	08/11/95
Dimethylphthalate	BRL	330	1	08/11/95
2,6-Dinitrotoluene	BRL	330	1	08/11/95
Acenaphthylene	BRL	330	1	08/11/95
2-Nitroaniline	BRL	830	1	08/11/95
Acenaphthene	BRL	330	1	08/11/95
2,4-Dinitrophenol	BRL	830	1	08/11/95
4-Nitrophenol	BRL	830	1	08/11/95
2,4-Dinitrotoluene	BRL	330	1	08/11/95
Dibenzofuran	BRL	330	1	08/11/95
Diethylphthalate	BRL	330	1	08/11/95
alpha-BHC	BRL	330	1	08/11/95
4-Chlorophenyl phenyl ether	BRL	330	1	08/11/95
Fluorene	BRL	330	1	08/11/95
4-Nitroaniline	BRL	830	1	08/11/95
4,6-Dinitro-2-methylphenol	BRL	830	1	08/11/95
N-Nitrosodiphenylamine	BRL	330	1	08/11/95
4-Bromophenyl phenyl ether	BRL	330	1	08/11/95
beta-BHC	BRL	330	1	08/11/95
Lindane	BRL	330	1	08/11/95
Hexachlorobenzene	BRL	330	1	08/11/95
Pentachlorophenol	BRL	830	1	08/11/95
Phenanthrene	BRL	330	1	08/11/95
Anthracene	BRL	330	1	08/11/95
Delta-BHC	BRL	330	1	08/11/95
Heptachlor	BRL	330	1	08/11/95
Aldrin	BRL	330	1	08/11/95
Endrin	BRL	330	1	08/11/95
Butyl benzyl phthalate	BRL	330	1	08/11/95
Fluoranthene	BRL	330	1	08/11/95
Heptachlor Epoxide	BRL	330	1	08/11/95
Pyrene	BRL	330	1	08/11/95
Dieldrin	BRL	330	1	08/11/95

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270

Lab ID: 12355-4/18519-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	08/11/95
Endosulfan sulfate	BRL	330	1	08/11/95
4,4'-DDT	BRL	330	1	08/11/95
4,4'-DDD	BRL	330	1	08/11/95
Di-n-butylphthalate	BRL	330	1	08/11/95
3,3'-Dichlorobenzidine	BRL	670	1	08/11/95
Benzo(a)anthracene	BRL	330	1	08/11/95
Bis(2-Ethylhexyl)phthalate	190 J	330	1	08/11/95
Chrysene	BRL	330	1	08/11/95
Di-n-octylphthalate	BRL	330	1	08/11/95
Benzo(b)fluoranthene	BRL	330	1	08/11/95
Benzo(k)fluoranthene	BRL	330	1	08/11/95
Benzo(a)pyrene	BRL	330	1	08/11/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	08/11/95
Dibenz(a,h)anthracene	BRL	330	1	08/11/95
Benzo(g,h,i)perylene	BRL	330	1	08/11/95

Surrogates	% Recovery	Limits
2-Fluorophenol	82	25 - 121
Phenol-d5	87	24 - 113
Nitrobenzene-d5	62	23 - 120
2-Fluorobiphenyl	69	30 - 115
2,4,6-Tribromophenol	89	19 - 122
Terphenyl-d14	52	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL

Analyst: ED

Lab ID: 19769-MB /7918
Matrix: Soil
Batch Number: 2509-950808
Instrument/Column: MS01/XTI-5
Data File: D7002.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Phenol	BRL	330	08/10/95
Bis(2-Chloroethyl)ether	BRL	330	08/10/95
2-Chlorophenol	BRL	330	08/10/95
1,3-Dichlorobenzene	BRL	330	08/10/95
1,4-Dichlorobenzene	BRL	330	08/10/95
Benzyl alcohol	BRL	330	08/10/95
2-Methylphenol	BRL	330	08/10/95
1,2-Dichlorobenzene	BRL	330	08/10/95
Bis(2-Chloroisopropyl)ether	BRL	330	08/10/95
4-Methylphenol	BRL	330	08/10/95
N-Nitroso-di-n-propylamine	BRL	330	08/10/95
Hexachloroethane	BRL	330	08/10/95
Nitrobenzene	BRL	330	08/10/95
Isophorone	BRL	330	08/10/95
2,4-Dimethylphenol	BRL	330	08/10/95
1,2,4-Trichlorobenzene	BRL	330	08/10/95
2-Nitrophenol	BRL	330	08/10/95
Benzoic acid	BRL	830	08/10/95
Bis(2-Chloroethoxy)methane	BRL	330	08/10/95
2,4-Dichlorophenol	BRL	330	08/10/95
Naphthalene	BRL	330	08/10/95
4-Chloroaniline	BRL	330	08/10/95
Hexachlorobutadiene	BRL	330	08/10/95
4-Chloro-3-methylphenol	BRL	330	08/10/95
2-Methylnaphthalene	BRL	330	08/10/95
Hexachlorocyclopentadiene	BRL	330	08/10/95
2,4,6-Trichlorophenol	BRL	330	08/10/95
2,4,5-Trichlorophenol	BRL	330	08/10/95
2-Chloronaphthalene	BRL	330	08/10/95
3-Nitroaniline	BRL	830	08/10/95
Dimethylphthalate	BRL	330	08/10/95

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SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 19769-MB /7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
2,6-Dinitrotoluene	BRL	330	08/10/95
Acenaphthylene	BRL	330	08/10/95
2-Nitroaniline	BRL	830	08/10/95
Acenaphthene	BRL	330	08/10/95
2,4-Dinitrophenol	BRL	830	08/10/95
4-Nitrophenol	BRL	830	08/10/95
2,4-Dinitrotoluene	BRL	330	08/10/95
Dibenzofuran	BRL	330	08/10/95
Diethylphthalate	BRL	330	08/10/95
alpha-BHC	BRL	330	08/10/95
4-Chlorophenyl phenyl ether	BRL	330	08/10/95
Fluorene	BRL	330	08/10/95
4-Nitroaniline	BRL	830	08/10/95
4,6-Dinitro-2-methylphenol	BRL	830	08/10/95
N-Nitrosodiphenylamine	BRL	330	08/10/95
4-Bromophenyl phenyl ether	BRL	330	08/10/95
beta-BHC	BRL	330	08/10/95
Lindane	BRL	330	08/10/95
Hexachlorobenzene	BRL	330	08/10/95
Pentachlorophenol	BRL	830	08/10/95
Phenanthrene	BRL	330	08/10/95
Anthracene	BRL	330	08/10/95
Delta-BHC	BRL	330	08/10/95
Heptachlor	BRL	330	08/10/95
Aldrin	BRL	330	08/10/95
Endrin	BRL	330	08/10/95
Butyl benzyl phthalate	BRL	330	08/10/95
Fluoranthene	BRL	330	08/10/95
Heptachlor Epoxide	BRL	330	08/10/95
Pyrene	BRL	330	08/10/95
Dieldrin	BRL	330	08/10/95
4,4'-DDE	BRL	330	08/10/95
Endosulfan sulfate	BRL	330	08/10/95
4,4'-DDT	BRL	330	08/10/95
4,4'-DDD	BRL	330	08/10/95
Di-n-butylphthalate	BRL	330	08/10/95
3,3'-Dichlorobenzidine	BRL	670	08/10/95

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 19769-MB /7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Benzo(a)anthracene	BRL	330	08/10/95
Bis(2-Ethylhexyl)phthalate	BRL	330	08/10/95
Chrysene	BRL	330	08/10/95
Di-n-octylphthalate	BRL	330	08/10/95
Benzo(b)fluoranthene	BRL	330	08/10/95
Benzo(k)fluoranthene	BRL	330	08/10/95
Benzo(a)pyrene	BRL	330	08/10/95
Indeno(1,2,3-c,d)pyrene	BRL	330	08/10/95
Dibenz(a,h)anthracene	BRL	330	08/10/95
Benzo(g,h,i)perylene	BRL	330	08/10/95

Surrogates	% Recovery	Limits
2-Fluorophenol	67	25 - 121
Phenol-d5	70	24 - 113
Nitrobenzene-d5	64	23 - 120
2-Fluorobiphenyl	68	30 - 115
2,4,6-Tribromophenol	88	19 - 122
Terphenyl-d14	54	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/08/95 11:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
LCS Date Analyzed: 08/10/95

Analyst: ED

Lab ID: 19770-LCS /7918
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2509-950808
LCSD Date Analyzed: NA
Instrument/Column: /XTI-5
Data File: D7003.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Phenol	0	2500	1610	64	NA	NA	NA	26-90	≤35
2-Chlorophenol	0	2500	1540	62	NA	NA	NA	25-102	≤50
1,4-Dichlorobenzene	0	1670	1050	63	NA	NA	NA	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1290	77	NA	NA	NA	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1210	73	NA	NA	NA	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1780	71	NA	NA	NA	26-103	≤33
Acenaphthene	0	1670	1190	72	NA	NA	NA	31-137	≤19
4-Nitrophenol	0	2500	911	36	NA	NA	NA	11-114	≤50
2,4-Dinitrotoluene	0	1670	1120	67	NA	NA	NA	28-89	≤47
Pentachlorophenol	0	2500	3080	123*	NA	NA	NA	17-109	≤47
Pyrene	0	1670	798	48	NA	NA	NA	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	1900	76	NA	NA	25-121
Phenol-d5	2500	1860	74	NA	NA	24-113
Nitrobenzene-d5	1670	1190	72	NA	NA	23-120
2-Fluorobiphenyl	1670	1210	73	NA	NA	30-115

LABORATORY CO OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 19770-LCS /7918

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2,4,6-Tribromophenol	2500	2420	97	NA	NA	19-122
Terphenyl-d14	1670	896	54	NA	NA	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Value beyond QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 15'
Sample Number:· WL-103-15
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-1/18518-7616
Date/Time Sampled: 08/07/95 09:00
Matrix: Soil (S)
Batch Number: 2598-950814
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P6882.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	08/14/95
Vinyl Chloride	BRL	10	1	08/14/95
Bromomethane	BRL	10	1	08/14/95
Chloroethane	BRL	10	1	08/14/95
Trichlorofluoromethane	BRL	10	1	08/14/95
Acetone	BRL	25	1	08/14/95
1,1-Dichloroethene	BRL	5.0	1	08/14/95
Methylene Chloride	BRL	5.0	1	08/14/95
Carbon Disulfide	BRL	5.0	1	08/14/95
trans-1,2-Dichloroethene	BRL	5.0	1	08/14/95
1,1-Dichloroethane	BRL	5.0	1	08/14/95
cis-1,2-Dichloroethene	BRL	5.0	1	08/14/95
Chloroform	BRL	5.0	1	08/14/95
1,2-Dichloroethane	BRL	5.0	1	08/14/95
2-Butanone	BRL	25	1	08/14/95
1,1,1-Trichloroethane	BRL	5.0	1	08/14/95
Carbon Tetrachloride	BRL	5.0	1	08/14/95
Benzene	2.0 J	5.0	1	08/14/95
Trichloroethene	BRL	5.0	1	08/14/95
1,2-Dichloropropane	BRL	5.0	1	08/14/95
Bromodichloromethane	BRL	5.0	1	08/14/95
2-Chloroethylvinylether	BRL	10	1	08/14/95
trans-1,3-Dichloropropene	BRL	5.0	1	08/14/95
cis-1,3-Dichloropropene	BRL	5.0	1	08/14/95
1,1,2-Trichloroethane	BRL	5.0	1	08/14/95
Dibromochloromethane	BRL	5.0	1	08/14/95
Bromoform	BRL	5.0	1	08/14/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12355-1/18518-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	25	1	08/14/95
Toluene	BRL	5.0	1	08/14/95
2-Hexanone	BRL	25	1	08/14/95
Tetrachloroethene	BRL	5.0	1	08/14/95
Chlorobenzene	78	5.0	1	08/14/95
Ethyl benzene	BRL	5.0	1	08/14/95
m & p Xylene	BRL	5.0	1	08/14/95
o-Xylene	BRL	5.0	1	08/14/95
Styrene	BRL	5.0	1	08/14/95
1,1,2,2-Tetrachloroethane	BRL	5.0	1	08/14/95
1,3-Dichlorobenzene	BRL	5.0	1	08/14/95
1,4-Dichlorobenzene	2.0 J	5.0	1	08/14/95
1,2-Dichlorobenzene	BRL	5.0	1	08/14/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	102	70 - 121
Toluene-d8	106	81 - 117
Bromofluorobenzene	105	74 - 121

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-104-25
Date/Time Received: 08/08/95 9:15
Date Prepared: 08/14/95
Initial Wt./Volume: 1 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12355
Project Number: 070803035003005
Lab ID: 12355-4/18519-7616
Date/Time Sampled: 08/07/95 11:30
Matrix: Soil (S)
Batch Number: 2598-950814
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P6888.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	50	5	08/14/95
Vinyl Chloride	BRL	50	5	08/14/95
Bromomethane	BRL	50	5	08/14/95
Chloroethane	BRL	50	5	08/14/95
Trichlorofluoromethane	BRL	50	5	08/14/95
Acetone	BRL	120	5	08/14/95
1,1-Dichloroethene	BRL	25	5	08/14/95
Methylene Chloride	BRL	25	5	08/14/95
Carbon Disulfide	BRL	25	5	08/14/95
trans-1,2-Dichloroethene	BRL	25	5	08/14/95
1,1-Dichloroethane	BRL	25	5	08/14/95
cis-1,2-Dichloroethene	BRL	25	5	08/14/95
Chloroform	BRL	25	5	08/14/95
1,2-Dichloroethane	BRL	25	5	08/14/95
2-Butanone	BRL	120	5	08/14/95
1,1,1-Trichloroethane	BRL	25	5	08/14/95
Carbon Tetrachloride	BRL	25	5	08/14/95
Benzene	8.0 J	25	5	08/14/95
Trichloroethene	BRL	25	5	08/14/95
1,2-Dichloropropane	BRL	25	5	08/14/95
Bromodichloromethane	BRL	25	5	08/14/95
2-Chloroethylvinylether	BRL	50	5	08/14/95
trans-1,3-Dichloropropene	BRL	25	5	08/14/95
cis-1,3-Dichloropropene	BRL	25	5	08/14/95
1,1,2-Trichloroethane	BRL	25	5	08/14/95
Dibromochloromethane	BRL	25	5	08/14/95
Bromoform	BRL	25	5	08/14/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12355-4/18519-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	120	5	08/14/95
Toluene	BRL	25	5	08/14/95
2-Hexanone	BRL	120	5	08/14/95
Tetrachloroethene	BRL	25	5	08/14/95
Chlorobenzene	940	25	5	08/14/95
Ethyl benzene	BRL	25	5	08/14/95
m & p Xylene	BRL	25	5	08/14/95
o-Xylene	BRL	25	5	08/14/95
Styrene	BRL	25	5	08/14/95
1,1,2,2-Tetrachloroethane	BRL	25	5	08/14/95
1,3-Dichlorobenzene	BRL	25	5	08/14/95
1,4-Dichlorobenzene	15 J	25	5	08/14/95
1,2-Dichlorobenzene	BRL	25	5	08/14/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	105	70 - 121
Toluene-d8	105	81 - 117
Bromofluorobenzene	101	74 - 121

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL

Analyst: DLA

Lab ID: 19371-MB /7616
Matrix: Soil
Batch Number: 2598-950814
Instrument/Column: MS04/RTX-502.2
Data File: P6880.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	10	08/14/95
Vinyl Chloride	BRL	10	08/14/95
Bromomethane	BRL	10	08/14/95
Chloroethane	BRL	10	08/14/95
Trichlorofluoromethane	BRL	10	08/14/95
Acetone	BRL	25	08/14/95
1,1-Dichloroethene	BRL	5.0	08/14/95
Methylene Chloride	BRL	5.0	08/14/95
Carbon Disulfide	BRL	5.0	08/14/95
trans-1,2-Dichloroethene	BRL	5.0	08/14/95
1,1-Dichloroethane	BRL	5.0	08/14/95
cis-1,2-Dichloroethene	BRL	5.0	08/14/95
Chloroform	BRL	5.0	08/14/95
1,2-Dichloroethane	BRL	5.0	08/14/95
2-Butanone	BRL	25	08/14/95
1,1,1-Trichloroethane	BRL	5.0	08/14/95
Carbon Tetrachloride	BRL	5.0	08/14/95
Benzene	BRL	5.0	08/14/95
Trichloroethene	BRL	5.0	08/14/95
1,2-Dichloropropane	BRL	5.0	08/14/95
Bromodichloromethane	BRL	5.0	08/14/95
2-Chloroethylvinylether	BRL	10	08/14/95
trans-1,3-Dichloropropene	BRL	5.0	08/14/95
cis-1,3-Dichloropropene	BRL	5.0	08/14/95
1,1,2-Trichloroethane	BRL	5.0	08/14/95
Dibromochloromethane	BRL	5.0	08/14/95
Bromoform	BRL	5.0	08/14/95
4-Methyl-2-Pentanone	BRL	25	08/14/95
Toluene	BRL	5.0	08/14/95
2-Hexanone	BRL	25	08/14/95
Tetrachloroethene	BRL	5.0	08/14/95
Chlorobenzene	BRL	5.0	08/14/95

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID: 19371-MB /7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Ethyl benzene	BRL	5.0	08/14/95
m & p Xylene	BRL	5.0	08/14/95
o-Xylene	BRL	5.0	08/14/95
Styrene	BRL	5.0	08/14/95
1,1,2,2-Tetrachloroethane	BRL	5.0	08/14/95
1,3-Dichlorobenzene	BRL	5.0	08/14/95
1,4-Dichlorobenzene	BRL	5.0	08/14/95
1,2-Dichlorobenzene	BRL	5.0	08/14/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	93	70 - 121
Toluene-d8	99	81 - 117
Bromofluorobenzene	98	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON ℓL SPIKE/LABORATORY ℓTROL SPIKE DUPLICATE

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/14/95

Analyst: DLA

Lab ID: 19372-LCS /7616
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2598-950814
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: P6881.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	50.0	48.0	95	NA	NA	NA	59-172	≤22
Benzene	0	50.0	47.0	93	NA	NA	NA	66-142	≤21
Trichloroethene	0	50.0	49.0	98	NA	NA	NA	62-137	≤24
Toluene	0	50.0	50.0	101	NA	NA	NA	59-139	≤21
Chlorobenzene	0	50.0	50.0	100	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	50.0	47.0	94	NA	NA	70-121
Toluene-d8	50.0	50.0	101	NA	NA	81-117
Bromofluorobenzene	50.0	48.0	96	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

LP 12380

MBT Environment
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

COPY

Date: August 28, 1995
LP #: 12380

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed are the laboratory results for the two samples submitted to MBT Environmental Laboratories on August 12, 1995, for the project *Westlake*.

The analyses requested are:

EPA 8270 (2 - Soil)
EPA 8240 (2 - Soil)
EPA 8015 Modified (2 - Soil)
EPA 8080 (2 - Soil)
PP Metals (2 - Soil)
Total Cyanide (2 - Soil)

The report consists of the following sections:

1. Cover Page
2. Copy of Chain-of-Custody
3. General Narrative
4. Analytical and Quality Control Results

Unless otherwise instructed by you, samples will be disposed of two weeks from the date of this letter.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Shakoora Azimi
Laboratory Director, Principal Scientist

ME[illegible]nvironmental [illegible]3083 Gold Canal Drive
Lab[illegible]atories [illegible]
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

00865

S[illegible]IDE 2 FOR COMPLETE INSTRUCTIONS

Ship To:
Address:

Project Name: Westlake
Project Number: 07.0802.025.002.005
Project Location: (State) Bridgeton, MO

FOR LABORATORY USE ONLY
Laboratory Project #: 12280
Storage Refrigerator ID: 12-A, 14-14
Storage Freezer ID:

Sampler Name: John D Regan
Signature: John D Regan
PPE Worn in Field: Level D
Relinquished By: Date/Time: 8/11/95 1350
Received By or Method of Shipment/Shipment I.D.: Date/Time:

Relinquished By: FED EX Date/Time:
Received By or Method of Shipment/Shipment I.D.: [illegible] Date/Time: 8/12/95 0155
Relinquished By: Date/Time:
Received By or Method of Shipment/Shipment I.D.: Date/Time:

Sample Disposal (check one)
☒ Laboratory Standard
☐ Other

Level of QC (see Side 2): ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6A ☐ 6B ☐ 6C ☐ 6D ☐ 6E ☐ 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	Uranium	Thorium	Gamma Scan	VOC	SVOC	PCB	Metals	Cyanide	TPH
1 12280-001	WL-106A-30	8/11/95	1330	Area 1	30	6	4oz G	soil	ice	0				X	X	X	X	X	X
2 -002	WL-106B-30	8/11/95	1330	Area 1	30	6	4oz G	soil	ice	0				X	X	X	X	X	X
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Special Instructions/Comments: See enclosed memo

Container Types:
B=Brass Tube
G=Glass Jar
O=Other _____
A=1 Liter Amber
C=Cassette
P=Polyethylene
V=Voa. Vial

TAT (Analytical Turn Around Time)
1 = 24 hours
2 = 48 hours
3 = 1 week
4 = 2 weeks
0 = Other standard

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: TEMP: 4°C, SAMPLES INTACT

SEND DOCUMENTATION AND RESULTS TO (Check one):
☒ Project Manager/Office: Carol Kisch / St. Louis
☐ Client Name:
Company:
Address:
Phone: FAX:

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12380

WESTLAKE

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417
	CONNECTICUT:	Waste Water, #PH0799
	FLORIDA:	Environmental Water, #E87298 CQAPP #930105
	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192
	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A
	NEW JERSEY:	Waste Water, #44818
	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241
	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
	TENNESSEE:	Underground Storage Tank
	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
	WASHINGTON:	Hazardous Waste, #C048
	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
	USACOE:	Hazardous Waste Waste Water
	AFCEE	

(CN12380)

MBT Environmental Laboratories

Master Builders Technologies

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

EPA 8270:

The matrix spike/matrix spike duplicate RPDs flagged on the matrix spike data sheet are outside of advisory quality control limits, indicating possible sample matrix nonhomogeneity.

PP Metals:

Matrix spike recoveries for Zinc and Mercury are outside of advisory quality control limits due to the high concentration of that analyte in the sample.

EPA 8080:

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

The surrogate recoveries for the analytes flagged on the data sheet were beyond acceptance limits for the following samples: 12380-1, Method Blank.

Heptachlor Epoxide can exist as two isomers. The data reported for USEPA Method 8080 is the total Heptachlor Epoxide present in the sample, which may consist of any combination of the isomers.

Abbreviations and Definitions:

MB	*Method Blank* - An aliquot of a blank matrix carried throughout the entire analytical process
LCS	*Laboratory Control Sample* - A blank to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the accuracy of the method
MS/MSD	*Matrix Spike/Matrix Spike Duplicate* - Duplicate samples to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the extent of matrix bias or interference on analyte recovery

(CN12380)

RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*
NA	*Not Applicable*

Flags:

Organics -

J	Estimated value below the reporting limit and at or above the method detection limit.
B	Analyte found in the associated blank, as well as in the sample.

Inorganics -

B	Estimated value below the reporting limit and at or above the method detection limit.

(CN12380)

"AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106A-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/14/95 11:00:
Initial Wt./Volume: 60 grams
Final Volume: 1 mL

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19264-25
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2585-950814
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	1	08/15/95
Diesel Range (C12-C22)	BRL	10	1	08/15/95
Motor Oil Range (C22-C32)	BRL	10	1	08/15/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

' 'AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106B-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/14/95 11:00:
Initial Wt./Volume: 60 grams
Final Volume: 1 mL

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19265-25
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2585-950814
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	1	08/15/95
Diesel Range (C12-C22)	BRL	10	1	08/15/95
Motor Oil Range (C22-C32)	BRL	10	1	08/15/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Date Prepared: 08/14/95 11:00:
Initial Wt./Volume: 60 grams
Final Volume: 1 mL

Lab ID: 19311-MB /25
Matrix: Soil
Batch Number: 2585-950814

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	08/15/95
Diesel Range (C12-C22)	BRL	10	08/15/95
Motor Oil Range (C22-C32)	BRL	10	08/15/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Date Prepared: 08/14/95 11:00:
Initial Wt./Volume: 60 grams
Final Volume: 1 mL
LCS Date Analyzed: 08/14/95

Lab ID: 19312-LCS /25
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2585-950814
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Diesel Range (C12-C22)	0	41.7	27.9	67	NA	NA	NA	52-125	≤

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-22-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGA[illegible]

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106A-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/15/95 07:45:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19262-7918
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2594-950815
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7053.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	08/16/95
Bis(2-Chloroethyl)ether	BRL	330	1	08/16/95
2-Chlorophenol	BRL	330	1	08/16/95
1,3-Dichlorobenzene	BRL	330	1	08/16/95
1,4-Dichlorobenzene	BRL	330	1	08/16/95
Benzyl alcohol	BRL	330	1	08/16/95
2-Methylphenol	BRL	330	1	08/16/95
1,2-Dichlorobenzene	BRL	330	1	08/16/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	08/16/95
4-Methylphenol	BRL	330	1	08/16/95
N-Nitroso-di-n-propylamine	BRL	330	1	08/16/95
Hexachloroethane	BRL	330	1	08/16/95
Nitrobenzene	BRL	330	1	08/16/95
Isophorone	BRL	330	1	08/16/95
2,4-Dimethylphenol	BRL	330	1	08/16/95
1,2,4-Trichlorobenzene	BRL	330	1	08/16/95
2-Nitrophenol	BRL	330	1	08/16/95
Benzoic acid	BRL	830	1	08/16/95
Bis(2-Chloroethoxy)methane	BRL	330	1	08/16/95
2,4-Dichlorophenol	BRL	330	1	08/16/95
Naphthalene	BRL	330	1	08/16/95
4-Chloroaniline	BRL	330	1	08/16/95
Hexachlorobutadiene	BRL	330	1	08/16/95
4-Chloro-3-methylphenol	BRL	330	1	08/16/95
2-Methylnaphthalene	BRL	330	1	08/16/95

SEMIVOLATILE ORGAN' 'S

Analytical Method: EPA 8270

Lab ID: 12380-1/19262-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	08/16/95
2,4,6-Trichlorophenol	BRL	330	1	08/16/95
2,4,5-Trichlorophenol	BRL	330	1	08/16/95
2-Chloronaphthalene	BRL	330	1	08/16/95
3-Nitroaniline	BRL	830	1	08/16/95
Dimethylphthalate	BRL	330	1	08/16/95
2,6-Dinitrotoluene	BRL	330	1	08/16/95
Acenaphthylene	BRL	330	1	08/16/95
2-Nitroaniline	BRL	830	1	08/16/95
Acenaphthene	BRL	330	1	08/16/95
2,4-Dinitrophenol	BRL	830	1	08/16/95
4-Nitrophenol	BRL	830	1	08/16/95
2,4-Dinitrotoluene	BRL	330	1	08/16/95
Dibenzofuran	BRL	330	1	08/16/95
Diethylphthalate	BRL	330	1	08/16/95
alpha-BHC	BRL	330	1	08/16/95
4-Chlorophenyl phenyl ether	BRL	330	1	08/16/95
Fluorene	BRL	330	1	08/16/95
4-Nitroaniline	BRL	830	1	08/16/95
4,6-Dinitro-2-methylphenol	BRL	830	1	08/16/95
N-Nitrosodiphenylamine	BRL	330	1	08/16/95
4-Bromophenyl phenyl ether	BRL	330	1	08/16/95
beta-BHC	BRL	330	1	08/16/95
Lindane	BRL	330	1	08/16/95
Hexachlorobenzene	BRL	330	1	08/16/95
Pentachlorophenol	BRL	830	1	08/16/95
Phenanthrene	BRL	330	1	08/16/95
Anthracene	BRL	330	1	08/16/95
Delta-BHC	BRL	330	1	08/16/95
Heptachlor	BRL	330	1	08/16/95
Aldrin	BRL	330	1	08/16/95
Endrin	BRL	330	1	08/16/95
Butyl benzyl phthalate	BRL	330	1	08/16/95
Fluoranthene	BRL	330	1	08/16/95
Heptachlor Epoxide	BRL	330	1	08/16/95
Pyrene	BRL	330	1	08/16/95
Dieldrin	BRL	330	1	08/16/95

SEMIVOLATILE ORGANICS

Analytical Method: EPA 827

Lab ID: 12380-1/19262-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	08/16/95
Endosulfan sulfate	BRL	330	1	08/16/95
4,4'-DDT	BRL	330	1	08/16/95
4,4'-DDD	BRL	330	1	08/16/95
Di-n-butylphthalate	BRL	330	1	08/16/95
3,3'-Dichlorobenzidine	BRL	670	1	08/16/95
Benzo(a)anthracene	BRL	330	1	08/16/95
Bis(2-Ethylhexyl)phthalate	BRL	330	1	08/16/95
Chrysene	BRL	330	1	08/16/95
Di-n-octylphthalate	BRL	330	1	08/16/95
Benzo(b)fluoranthene	BRL	330	1	08/16/95
Benzo(k)fluoranthene	BRL	330	1	08/16/95
Benzo(a)pyrene	BRL	330	1	08/16/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	08/16/95
Dibenz(a,h)anthracene	BRL	330	1	08/16/95
Benzo(g,h,i)perylene	BRL	330	1	08/16/95

Surrogates	% Recovery	Limits
2-Fluorophenol	82	25 - 121
Phenol-d5	86	24 - 113
Nitrobenzene-d5	61	23 - 120
2-Fluorobiphenyl	62	30 - 115
2,4,6-Tribromophenol	92	19 - 122
Terphenyl-d14	43	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106B-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/15/95 07:45:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19263-7918
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2594-950815
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7056.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	08/16/95
Bis(2-Chloroethyl)ether	BRL	330	1	08/16/95
2-Chlorophenol	BRL	330	1	08/16/95
1,3-Dichlorobenzene	BRL	330	1	08/16/95
1,4-Dichlorobenzene	BRL	330	1	08/16/95
Benzyl alcohol	BRL	330	1	08/16/95
2-Methylphenol	BRL	330	1	08/16/95
1,2-Dichlorobenzene	BRL	330	1	08/16/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	08/16/95
4-Methylphenol	BRL	330	1	08/16/95
N-Nitroso-di-n-propylamine	BRL	330	1	08/16/95
Hexachloroethane	BRL	330	1	08/16/95
Nitrobenzene	BRL	330	1	08/16/95
Isophorone	BRL	330	1	08/16/95
2,4-Dimethylphenol	BRL	330	1	08/16/95
1,2,4-Trichlorobenzene	BRL	330	1	08/16/95
2-Nitrophenol	BRL	330	1	08/16/95
Benzoic acid	BRL	830	1	08/16/95
Bis(2-Chloroethoxy)methane	BRL	330	1	08/16/95
2,4-Dichlorophenol	BRL	330	1	08/16/95
Naphthalene	BRL	330	1	08/16/95
4-Chloroaniline	BRL	330	1	08/16/95
Hexachlorobutadiene	BRL	330	1	08/16/95
4-Chloro-3-methylphenol	BRL	330	1	08/16/95
2-Methylnaphthalene	BRL	330	1	08/16/95

SEMIVOLATILE ORGAN[illegible]S

Analytical Method: EPA 8270

Lab ID: 12380-2/19263-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	08/16/95
2,4,6-Trichlorophenol	BRL	330	1	08/16/95
2,4,5-Trichlorophenol	BRL	330	1	08/16/95
2-Chloronaphthalene	BRL	330	1	08/16/95
3-Nitroaniline	BRL	830	1	08/16/95
Dimethylphthalate	BRL	330	1	08/16/95
2,6-Dinitrotoluene	BRL	330	1	08/16/95
Acenaphthylene	BRL	330	1	08/16/95
2-Nitroaniline	BRL	830	1	08/16/95
Acenaphthene	BRL	330	1	08/16/95
2,4-Dinitrophenol	BRL	830	1	08/16/95
4-Nitrophenol	BRL	830	1	08/16/95
2,4-Dinitrotoluene	BRL	330	1	08/16/95
Dibenzofuran	BRL	330	1	08/16/95
Diethylphthalate	BRL	330	1	08/16/95
alpha-BHC	BRL	330	1	08/16/95
4-Chlorophenyl phenyl ether	BRL	330	1	08/16/95
Fluorene	BRL	330	1	08/16/95
4-Nitroaniline	BRL	830	1	08/16/95
4,6-Dinitro-2-methylphenol	BRL	830	1	08/16/95
N-Nitrosodiphenylamine	BRL	330	1	08/16/95
4-Bromophenyl phenyl ether	BRL	330	1	08/16/95
beta-BHC	BRL	330	1	08/16/95
Lindane	BRL	330	1	08/16/95
Hexachlorobenzene	BRL	330	1	08/16/95
Pentachlorophenol	BRL	830	1	08/16/95
Phenanthrene	BRL	330	1	08/16/95
Anthracene	BRL	330	1	08/16/95
Delta-BHC	BRL	330	1	08/16/95
Heptachlor	BRL	330	1	08/16/95
Aldrin	BRL	330	1	08/16/95
Endrin	BRL	330	1	08/16/95
Butyl benzyl phthalate	92 J	330	1	08/16/95
Fluoranthene	BRL	330	1	08/16/95
Heptachlor Epoxide	BRL	330	1	08/16/95
Pyrene	BRL	330	1	08/16/95
Dieldrin	BRL	330	1	08/16/95

SEMIVOLATILE ORGAN S

Analytical Method: EPA 8270

Lab ID: 12380-2/19263-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	08/16/95
Endosulfan sulfate	BRL	330	1	08/16/95
4,4'-DDT	BRL	330	1	08/16/95
4,4'-DDD	BRL	330	1	08/16/95
Di-n-butylphthalate	BRL	330	1	08/16/95
3,3'-Dichlorobenzidine	BRL	670	1	08/16/95
Benzo(a)anthracene	BRL	330	1	08/16/95
Bis(2-Ethylhexyl)phthalate	390	330	1	08/16/95
Chrysene	BRL	330	1	08/16/95
Di-n-octylphthalate	BRL	330	1	08/16/95
Benzo(b)fluoranthene	BRL	330	1	08/16/95
Benzo(k)fluoranthene	BRL	330	1	08/16/95
Benzo(a)pyrene	BRL	330	1	08/16/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	08/16/95
Dibenz(a,h)anthracene	BRL	330	1	08/16/95
Benzo(g,h,i)perylene	BRL	330	1	08/16/95

Surrogates	% Recovery	Limits
2-Fluorophenol	77	25 - 121
Phenol-d5	80	24 - 113
Nitrobenzene-d5	61	23 - 120
2-Fluorobiphenyl	61	30 - 115
2,4,6-Tribromophenol	91	19 - 122
Terphenyl-d14	44	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/15/95 07:45:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL

Analyst: ED

Lab ID: 19355-MB /7918
Matrix: Soil
Batch Number: 2594-950815
Instrument/Column: MS01/XTI-5
Data File: D7051.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Phenol	BRL	330	08/16/95
Bis(2-Chloroethyl)ether	BRL	330	08/16/95
2-Chlorophenol	BRL	330	08/16/95
1,3-Dichlorobenzene	BRL	330	08/16/95
1,4-Dichlorobenzene	BRL	330	08/16/95
Benzyl alcohol	BRL	330	08/16/95
2-Methylphenol	BRL	330	08/16/95
1,2-Dichlorobenzene	BRL	330	08/16/95
Bis(2-Chloroisopropyl)ether	BRL	330	08/16/95
4-Methylphenol	BRL	330	08/16/95
N-Nitroso-di-n-propylamine	BRL	330	08/16/95
Hexachloroethane	BRL	330	08/16/95
Nitrobenzene	BRL	330	08/16/95
Isophorone	BRL	330	08/16/95
2,4-Dimethylphenol	BRL	330	08/16/95
1,2,4-Trichlorobenzene	BRL	330	08/16/95
2-Nitrophenol	BRL	330	08/16/95
Benzoic acid	BRL	830	08/16/95
Bis(2-Chloroethoxy)methane	BRL	330	08/16/95
2,4-Dichlorophenol	BRL	330	08/16/95
Naphthalene	BRL	330	08/16/95
4-Chloroaniline	BRL	330	08/16/95
Hexachlorobutadiene	BRL	330	08/16/95
4-Chloro-3-methylphenol	BRL	330	08/16/95
2-Methylnaphthalene	BRL	330	08/16/95
Hexachlorocyclopentadiene	BRL	330	08/16/95
2,4,6-Trichlorophenol	BRL	330	08/16/95
2,4,5-Trichlorophenol	BRL	330	08/16/95
2-Chloronaphthalene	BRL	330	08/16/95
3-Nitroaniline	BRL	830	08/16/95
Dimethylphthalate	BRL	330	08/16/95

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 19355-MB /7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
2,6-Dinitrotoluene	BRL	330	08/16/95
Acenaphthylene	BRL	330	08/16/95
2-Nitroaniline	BRL	830	08/16/95
Acenaphthene	BRL	330	08/16/95
2,4-Dinitrophenol	BRL	830	08/16/95
4-Nitrophenol	BRL	830	08/16/95
2,4-Dinitrotoluene	BRL	330	08/16/95
Dibenzofuran	BRL	330	08/16/95
Diethylphthalate	BRL	330	08/16/95
alpha-BHC	BRL	330	08/16/95
4-Chlorophenyl phenyl ether	BRL	330	08/16/95
Fluorene	BRL	330	08/16/95
4-Nitroaniline	BRL	830	08/16/95
4,6-Dinitro-2-methylphenol	BRL	830	08/16/95
N-Nitrosodiphenylamine	BRL	330	08/16/95
4-Bromophenyl phenyl ether	BRL	330	08/16/95
beta-BHC	BRL	330	08/16/95
Lindane	BRL	330	08/16/95
Hexachlorobenzene	BRL	330	08/16/95
Pentachlorophenol	BRL	830	08/16/95
Phenanthrene	BRL	330	08/16/95
Anthracene	BRL	330	08/16/95
Delta-BHC	BRL	330	08/16/95
Heptachlor	BRL	330	08/16/95
Aldrin	BRL	330	08/16/95
Endrin	BRL	330	08/16/95
Butyl benzyl phthalate	BRL	330	08/16/95
Fluoranthene	BRL	330	08/16/95
Heptachlor Epoxide	BRL	330	08/16/95
Pyrene	BRL	330	08/16/95
Dieldrin	BRL	330	08/16/95
4,4'-DDE	BRL	330	08/16/95
Endosulfan sulfate	BRL	330	08/16/95
4,4'-DDT	BRL	330	08/16/95
4,4'-DDD	BRL	330	08/16/95
Di-n-butylphthalate	BRL	330	08/16/95
3,3'-Dichlorobenzidine	BRL	670	08/16/95

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 19355-MB /7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Benzo(a)anthracene	BRL	330	08/16/95
Bis(2-Ethylhexyl)phthalate	BRL	330	08/16/95
Chrysene	BRL	330	08/16/95
Di-n-octylphthalate	BRL	330	08/16/95
Benzo(b)fluoranthene	BRL	330	08/16/95
Benzo(k)fluoranthene	BRL	330	08/16/95
Benzo(a)pyrene	BRL	330	08/16/95
Indeno(1,2,3-c,d)pyrene	BRL	330	08/16/95
Dibenz(a,h)anthracene	BRL	330	08/16/95
Benzo(g,h,i)perylene	BRL	330	08/16/95

Surrogates	% Recovery	Limits
2-Fluorophenol	82	25 - 121
Phenol-d5	82	24 - 113
Nitrobenzene-d5	65	23 - 120
2-Fluorobiphenyl	74	30 - 115
2,4,6-Tribromophenol	93	19 - 122
Terphenyl-d14	41	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO' 'OL SPIKE/LABORATORY 'NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/15/95 07:45:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
LCS Date Analyzed: 08/16/95

Analyst: ED

Lab ID: 19356-LCS /7918
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2594-950815
LCSD Date Analyzed: NA
Instrument/Column: /XTI-5
Data File: D7052.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Phenol	0	2500	1610	64	NA	NA	NA	26-90	≤35
2-Chlorophenol	0	2500	1720	69	NA	NA	NA	25-102	≤50
1,4-Dichlorobenzene	0	1670	1030	62	NA	NA	NA	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1260	76	NA	NA	NA	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1160	70	NA	NA	NA	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1890	76	NA	NA	NA	26-103	≤33
Acenaphthene	0	1670	1160	70	NA	NA	NA	31-137	≤19
4-Nitrophenol	0	2500	1020	41	NA	NA	NA	11-114	≤50
2,4-Dinitrotoluene	0	1670	1140	68	NA	NA	NA	28-89	≤47
Pentachlorophenol	0	2500	2630	105	NA	NA	NA	17-109	≤47
Pyrene	0	1670	765	46	NA	NA	NA	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	2190	88	NA	NA	25-121
Phenol-d5	2500	2100	84	NA	NA	24-113
Nitrobenzene-d5	1670	1180	71	NA	NA	23-120
2-Fluorobiphenyl	1670	1190	71	NA	NA	30-115

LABORATORY CO' 'OL SPIKE/LABORATORY 'NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 19356-LCS /7918

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2,4,6-Tribromophenol	2500	2350	94	NA	NA	19-122
Terphenyl-d14	1670	956	57	NA	NA	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

MA IX SPIKE/MATRIX SPIKE PLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106A-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/15/95 07:45:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
MS Date Analyzed: 08/16/95

Analyst: ED

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19357,19358-7918
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2594-950815
% Moisture: NA

MSD Date Analyzed: 08/16/95
Instrument/Column: /XTI-5
Data File: D7054.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Phenol	0	2500	1610	64	1690	68	5	26-90	≤35
2-Chlorophenol	0	2500	1700	68	1820	73	7	25-102	≤50
1,4-Dichlorobenzene	0	1670	865	52	1040	62	18	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1230	74	1290	77	5	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1060	63	1230	74	15	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1950	78	2010	80	3	26-103	≤33
Acenaphthene	0	1670	1090	65	1220	73	11	31-137	≤19
4-Nitrophenol	0	2500	1000	40	1080	43	8	11-114	≤50
2,4-Dinitrotoluene	0	1670	1120	67	1160	70	4	28-89	≤47
Pentachlorophenol	0	2500	3080	123*	3350	134*	8	17-109	≤47
Pyrene	0	1670	701	42	819	49	16	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

MA' 'X SPIKE/MATRIX SPIKE ' 'PLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 12380-1/19357,19358-7918

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	2070	83	2190	88	25-121
Phenol-d5	2500	2000	80	2100	84	24-113
Nitrobenzene-d5	1670	1100	66	1150	69	23-120
2-Fluorobiphenyl	1670	1030	62	1180	71	30-115
2,4,6-Tribromophenol	2500	2340	93	2520	101	19-122
Terphenyl-d14	1670	664	40	833	50	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106A-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19262-7616
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2598-950814
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P6884.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	08/14/95
Vinyl Chloride	BRL	10	1	08/14/95
Bromomethane	BRL	10	1	08/14/95
Chloroethane	BRL	10	1	08/14/95
Trichlorofluoromethane	BRL	10	1	08/14/95
Acetone	64	25	1	08/14/95
1,1-Dichloroethene	BRL	5.0	1	08/14/95
Methylene Chloride	BRL	5.0	1	08/14/95
Carbon Disulfide	BRL	5.0	1	08/14/95
trans-1,2-Dichloroethene	BRL	5.0	1	08/14/95
1,1-Dichloroethane	BRL	5.0	1	08/14/95
cis-1,2-Dichloroethene	BRL	5.0	1	08/14/95
Chloroform	BRL	5.0	1	08/14/95
1,2-Dichloroethane	BRL	5.0	1	08/14/95
2-Butanone	13 J	25	1	08/14/95
1,1,1-Trichloroethane	BRL	5.0	1	08/14/95
Carbon Tetrachloride	BRL	5.0	1	08/14/95
Benzene	BRL	5.0	1	08/14/95
Trichloroethene	BRL	5.0	1	08/14/95
1,2-Dichloropropane	BRL	5.0	1	08/14/95
Bromodichloromethane	BRL	5.0	1	08/14/95
2-Chloroethylvinylether	BRL	10	1	08/14/95
trans-1,3-Dichloropropene	BRL	5.0	1	08/14/95
cis-1,3-Dichloropropene	BRL	5.0	1	08/14/95
1,1,2-Trichloroethane	BRL	5.0	1	08/14/95
Dibromochloromethane	BRL	5.0	1	08/14/95
Bromoform	BRL	5.0	1	08/14/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12380-1/19262-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	25	1	08/14/95
Toluene	BRL	5.0	1	08/14/95
2-Hexanone	BRL	25	1	08/14/95
Tetrachloroethene	BRL	5.0	1	08/14/95
Chlorobenzene	BRL	5.0	1	08/14/95
Ethyl benzene	BRL	5.0	1	08/14/95
m & p Xylene	BRL	5.0	1	08/14/95
o-Xylene	BRL	5.0	1	08/14/95
Styrene	BRL	5.0	1	08/14/95
1,1,2,2-Tetrachloroethane	BRL	5.0	1	08/14/95
1,3-Dichlorobenzene	BRL	5.0	1	08/14/95
1,4-Dichlorobenzene	BRL	5.0	1	08/14/95
1,2-Dichlorobenzene	BRL	5.0	1	08/14/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	98	70 - 121
Toluene-d8	103	81 - 117
Bromofluorobenzene	99	74 - 121

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106B-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19263-7616
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2598-950814
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P6885.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	08/14/95
Vinyl Chloride	BRL	10	1	08/14/95
Bromomethane	BRL	10	1	08/14/95
Chloroethane	BRL	10	1	08/14/95
Trichlorofluoromethane	BRL	10	1	08/14/95
Acetone	90	25	1	08/14/95
1,1-Dichloroethene	BRL	5.0	1	08/14/95
Methylene Chloride	BRL	5.0	1	08/14/95
Carbon Disulfide	BRL	5.0	1	08/14/95
trans-1,2-Dichloroethene	BRL	5.0	1	08/14/95
1,1-Dichloroethane	BRL	5.0	1	08/14/95
cis-1,2-Dichloroethene	BRL	5.0	1	08/14/95
Chloroform	BRL	5.0	1	08/14/95
1,2-Dichloroethane	BRL	5.0	1	08/14/95
2-Butanone	20 J	25	1	08/14/95
1,1,1-Trichloroethane	BRL	5.0	1	08/14/95
Carbon Tetrachloride	BRL	5.0	1	08/14/95
Benzene	BRL	5.0	1	08/14/95
Trichloroethene	BRL	5.0	1	08/14/95
1,2-Dichloropropane	BRL	5.0	1	08/14/95
Bromodichloromethane	BRL	5.0	1	08/14/95
2-Chloroethylvinylether	BRL	10	1	08/14/95
trans-1,3-Dichloropropene	BRL	5.0	1	08/14/95
cis-1,3-Dichloropropene	BRL	5.0	1	08/14/95
1,1,2-Trichloroethane	BRL	5.0	1	08/14/95
Dibromochloromethane	BRL	5.0	1	08/14/95
Bromoform	BRL	5.0	1	08/14/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12380-2/19263-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	25	1	08/14/95
Toluene	BRL	5.0	1	08/14/95
2-Hexanone	BRL	25	1	08/14/95
Tetrachloroethene	BRL	5.0	1	08/14/95
Chlorobenzene	BRL	5.0	1	08/14/95
Ethyl benzene	BRL	5.0	1	08/14/95
m & p Xylene	BRL	5.0	1	08/14/95
o-Xylene	BRL	5.0	1	08/14/95
Styrene	BRL	5.0	1	08/14/95
1,1,2,2-Tetrachloroethane	BRL	5.0	1	08/14/95
1,3-Dichlorobenzene	BRL	5.0	1	08/14/95
1,4-Dichlorobenzene	BRL	5.0	1	08/14/95
1,2-Dichlorobenzene	BRL	5.0	1	08/14/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	101	70 - 121
Toluene-d8	105	81 - 117
Bromofluorobenzene	96	74 - 121

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL

Analyst: DLA

Lab ID: 19371-MB /7616
Matrix: Soil
Batch Number: 2598-950814
Instrument/Column: MS04/RTX-502.2
Data File: P6880.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	10	08/14/95
Vinyl Chloride	BRL	10	08/14/95
Bromomethane	BRL	10	08/14/95
Chloroethane	BRL	10	08/14/95
Trichlorofluoromethane	BRL	10	08/14/95
Acetone	BRL	25	08/14/95
1,1-Dichloroethene	BRL	5.0	08/14/95
Methylene Chloride	BRL	5.0	08/14/95
Carbon Disulfide	BRL	5.0	08/14/95
trans-1,2-Dichloroethene	BRL	5.0	08/14/95
1,1-Dichloroethane	BRL	5.0	08/14/95
cis-1,2-Dichloroethene	BRL	5.0	08/14/95
Chloroform	BRL	5.0	08/14/95
1,2-Dichloroethane	BRL	5.0	08/14/95
2-Butanone	BRL	25	08/14/95
1,1,1-Trichloroethane	BRL	5.0	08/14/95
Carbon Tetrachloride	BRL	5.0	08/14/95
Benzene	BRL	5.0	08/14/95
Trichloroethene	BRL	5.0	08/14/95
1,2-Dichloropropane	BRL	5.0	08/14/95
Bromodichloromethane	BRL	5.0	08/14/95
2-Chloroethylvinylether	BRL	10	08/14/95
trans-1,3-Dichloropropene	BRL	5.0	08/14/95
cis-1,3-Dichloropropene	BRL	5.0	08/14/95
1,1,2-Trichloroethane	BRL	5.0	08/14/95
Dibromochloromethane	BRL	5.0	08/14/95
Bromoform	BRL	5.0	08/14/95
4-Methyl-2-Pentanone	BRL	25	08/14/95
Toluene	BRL	5.0	08/14/95
2-Hexanone	BRL	25	08/14/95
Tetrachloroethene	BRL	5.0	08/14/95
Chlorobenzene	BRL	5.0	08/14/95

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID: 19371-MB /7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Ethyl benzene	BRL	5.0	08/14/95
m & p Xylene	BRL	5.0	08/14/95
o-Xylene	BRL	5.0	08/14/95
Styrene	BRL	5.0	08/14/95
1,1,2,2-Tetrachloroethane	BRL	5.0	08/14/95
1,3-Dichlorobenzene	BRL	5.0	08/14/95
1,4-Dichlorobenzene	BRL	5.0	08/14/95
1,2-Dichlorobenzene	BRL	5.0	08/14/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	93	70 - 121
Toluene-d8	99	81 - 117
Bromofluorobenzene	98	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/14/95

Analyst: DLA

Lab ID: 19372-LCS /7616
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2598-950814
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: P6881.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	50.0	48.0	95	NA	NA	NA	59-172	≤22
Benzene	0	50.0	47.0	93	NA	NA	NA	66-142	≤21
Trichloroethene	0	50.0	49.0	98	NA	NA	NA	62-137	≤24
Toluene	0	50.0	50.0	101	NA	NA	NA	59-139	≤21
Chlorobenzene	0	50.0	50.0	100	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	50.0	47.0	94	NA	NA	70-121
Toluene-d8	50.0	50.0	101	NA	NA	81-117
Bromofluorobenzene	50.0	48.0	96	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

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Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

M' 'IX SPIKE/MATRIX SPIKF PLICATE

VOLATILE ORGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106B-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/14/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
MS Date Analyzed: 08/14/95

Analyst: DLA

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19373,19374-7616
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2598-950814
% Moisture: NA

MSD Date Analyzed: 08/14/95
Instrument/Column: /RTX-502.2
Data File: P6886.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	50.0	50.0	100	48.0	97	4	59-172	≤22
Benzene	0	50.0	52.0	104	56.0	111	7	66-142	≤21
Trichloroethene	0	50.0	51.0	101	51.0	102	0	62-137	≤24
Toluene	0	50.0	56.0	112	61.0	122	9	59-139	≤21
Chlorobenzene	0	50.0	56.0	111	57.0	114	2	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	50.0	51.0	103	49.0	98	70-121
Toluene-d8	50.0	53.0	106	55.0	111	81-117
Bromofluorobenzene	50.0	47.0	94	46.0	92	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

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Approved by: _____ Date: 8-21-95

MBT Environmental Laboratories

Master Builders Technologies

TOTAL CYANIDE

Analytical Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Date/Time Received: 08/12/95 08:55

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19262-2079
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Cyanide	EPA 9010	2672-950821	08/21/95	1 grams	50 mL	WL-106A-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Cyanide	BRL	0.50	1	08/22/95

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Approved by: _____ Date: 8-23-95

MBT Environmental Laboratories

Master Builders Technologies

TOTAL CYANIDE

Analytical Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Date/Time Received: 08/12/95 08:55

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19263-2079
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Cyanide	EPA 9010	2672-950821	08/21/95	1 grams	50 mL	WL-106B-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Cyanide	BRL	0.50	1	08/22/95

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Approved by: _____ Date: 8-23-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 08/21/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL

Lab ID: 20284-MB /2079
Matrix: Soil
Batch Number: 2672-950821

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Cyanide	BRL	0.50	08/22/95

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Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO' 'OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 08/21/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL
LCS Date Analyzed: 08/22/95

Lab ID: 20285-LCS /2079
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2672-950821
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Cyanide	0	5.000	4.790	96	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

MA IX SPIKE/MATRIX SPIKE PLICATE

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106B-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/21/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL
MS Date Analyzed: 08/22/95

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/20287,20288-2079
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2672-950821
% Moisture: NA
MSD Date Analyzed: 08/22/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Cyanide	0	5.000	4.460	89	3.935	79	13	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT M' 'ALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Date/Time Received: 08/12/95 08:55

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19262-7840
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	2609-950821	08/21/95	0.2 grams	35 mL	WL-106A-30
ICAP	EPA 3050H	2600-950814	08/14/95	2.0 grams	100 mL	WL-106A-30
GFAA	EPA 3050N	2601-950814	08/14/95	2.0 grams	100 mL	WL-106A-30
GFAA	EPA 3050N	2717-950822	08/22/95	2.0 grams	100 mL	WL-106A-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	08/21/95
Arsenic (As)/7060	3.2	0.50	1	08/22/95
Beryllium (Be)/6010	0.55	0.25	1	08/21/95
Cadmium (Cd)/6010	BRL	0.50	1	08/21/95
Chromium (Cr)/6010	9.5	1.0	1	08/21/95
Copper (Cu)/6010	11	1.0	1	08/21/95
Lead (Pb)/6010	8.7	2.5	1	08/21/95
Mercury(Hg)/7471	BRL	0.10	1	08/22/95
Nickel (Ni)/6010	15	1.0	1	08/21/95
Selenium (Se)/7740	BRL	0.25	1	08/23/95
Silver (Ag)/6010	BRL	1.0	1	08/21/95
Thallium (Tl)/7841	BRL	0.50	1	08/23/95
Zinc (Zn)/6010	43	1.0	1	08/21/95

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Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT M ALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Date/Time Received: 08/12/95 08:55

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19263-7840
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	2609-950821	08/21/95	0.2 grams	35 mL	WL-106B-30
ICAP	EPA 3050H	2600-950814	08/14/95	2.0 grams	100 mL	WL-106B-30
GFAA	EPA 3050N	2601-950814	08/14/95	2.0 grams	100 mL	WL-106B-30
GFAA	EPA 3050N	2717-950822	08/22/95	2.0 grams	100 mL	WL-106B-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	08/21/95
Arsenic (As)/7060	2.7	0.50	1	08/22/95
Beryllium (Be)/6010	0.45	0.25	1	08/21/95
Cadmium (Cd)/6010	BRL	0.50	1	08/21/95
Chromium (Cr)/6010	8.6	1.0	1	08/21/95
Copper (Cu)/6010	16	1.0	1	08/21/95
Lead (Pb)/6010	7.9	2.5	1	08/21/95
Mercury(Hg)/7471	BRL	0.10	1	08/22/95
Nickel (Ni)/6010	13	1.0	1	08/21/95
Selenium (Se)/7740	BRL	0.25	1	08/23/95
Silver (Ag)/6010	BRL	1.0	1	08/21/95
Thallium (Tl)/7841	BRL	0.50	1	08/23/95
Zinc (Zn)/6010	32	1.0	1	08/21/95

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Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

METALS

Preparation Method: EPA 3050H

Date Prepared: 08/14/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 19383-MB /7826
Matrix: Soil
Batch Number: 2600-950814

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	08/21/95
Beryllium (Be)/6010	BRL	0.25	08/21/95
Cadmium (Cd)/6010	BRL	0.50	08/21/95
Chromium (Cr)/6010	BRL	1.0	08/21/95
Copper (Cu)/6010	BRL	1.0	08/21/95
Lead (Pb)/6010	BRL	2.5	08/21/95
Nickel (Ni)/6010	BRL	1.0	08/21/95
Silver (Ag)/6010	BRL	1.0	08/21/95
Zinc (Zn)/6010	BRL	1.0	08/21/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO' 'OL SPIKE/LABORATORY 'NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050H

Date Prepared: 08/14/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 08/21/95

Lab ID: 19382-LCS /7826
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2600-950814
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Antimony (Sb)/6010	0	25.000	26.695	107	NA	NA	NA	75-125	≤20
Beryllium (Be)/6010	0	2.500	2.505	100	NA	NA	NA	75-125	≤20
Cadmium (Cd)/6010	0	2.500	2.250	90	NA	NA	NA	75-125	≤20
Chromium (Cr)/6010	0	10.000	10.165	102	NA	NA	NA	75-125	≤20
Copper (Cu)/6010	0	12.000	12.010	100	NA	NA	NA	75-125	≤20
Lead (Pb)/6010	0	25.000	25.860	103	NA	NA	NA	75-125	≤20
Nickel (Ni)/6010	0	25.000	23.885	96	NA	NA	NA	75-125	≤20
Silver (Ag)/6010	0	2.500	2.220	89	NA	NA	NA	75-125	≤20
Zinc (Zn)/6010	0	25.000	25.630	103	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

M/ 'IX SPIKE/MATRIX SPIKF PLICATE

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050H

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106B-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/14/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
MS Date Analyzed: 08/21/95

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19380,19381-7826
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2600-950814
% Moisture: NA
MSD Date Analyzed: 08/21/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Antimony (Sb)/6010	0	25.000	1.820	7*	0.635	3*	97*	75-125	≤20
Beryllium (Be)/6010	0.45	2.500	1.620	47*	1.635	47*	1	75-125	≤20
Cadmium (Cd)/6010	0	2.500	1.060	42*	0.700	28*	41*	75-125	≤20
Chromium (Cr)/6010	8.6	10.000	13.860	53*	13.520	49*	2	75-125	≤20
Copper (Cu)/6010	16	12.000	22.900	58*	23.090	59*	1	75-125	≤20
Lead (Pb)/6010	7.9	25.000	18.885	44*	20.360	50*	8	75-125	≤20
Nickel (Ni)/6010	13	25.000	24.750	47*	25.830	51*	4	75-125	≤20
Silver (Ag)/6010	0	2.500	1.005	40*	0.850	34*	17	75-125	≤20
Zinc (Zn)/6010	32	25.000	45.215	53*	48.450	66*	7	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

METALS

Preparation Method: EPA 3050N

Date Prepared: 08/22/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 20806-MB /7878
Matrix: Soil
Batch Number: 2717-950822

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Arsenic (As)/7060	BRL	0.50	08/22/95
Selenium (Se)/7740	BRL	0.25	08/23/95
Thallium (Tl)/7841	BRL	0.50	08/23/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-23-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO' 'OL SPIKE/LABORATORY 'NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050N

Date Prepared: 08/22/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 08/23/95

Lab ID: 20807-LCS /7878
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2717-950822
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Arsenic (As)/7060	0	2.000	2.075	104	NA	NA	NA	75-125	≤20
Selenium (Se)/7740	0	0.500	0.530	106	NA	NA	NA	75-125	≤20
Thallium (Tl)/7841	0	2.500	2.725	109	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

METALS

Preparation Method: EPA 7471

Date Prepared: 08/21/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL

Lab ID: 19418-MB /7840
Matrix: Soil
Batch Number: 2609-950821

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	08/22/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-23-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 7471

Date Prepared: 08/21/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL
LCS Date Analyzed: 08/22/95

Lab ID: 19419-LCS /7840
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2609-950821
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Mercury(Hg)/7471	0	0.175	0.196	112	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

M/ IX SPIKE/MATRIX SPIKF PLICATE

PRIORITY POLLUTANT METALS

Preparation Method: EPA 7471

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number:
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/21/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL
MS Date Analyzed: 08/22/95

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19420,19421-7840
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2609-950821
% Moisture: NA
MSD Date Analyzed: 08/22/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Mercury(Hg)/7471	0	0.175	0.243	139*	0.238	136*	2	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-23-95

MBT Environmental Laboratories

Master Builders Technologies

PESTIC ES AND POLYCHLORINAT BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106A-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/15/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19262-7537
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2595-950815
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	08/23/95
gamma-BHC (Lindane)	BRL	0.34	1	08/23/95
delta-BHC	BRL	0.34	1	08/23/95
beta-BHC	BRL	0.34	1	08/23/95
Heptachlor	BRL	0.34	1	08/23/95
Aldrin	BRL	0.34	1	08/23/95
Heptachlor Epoxide	BRL	0.34	1	08/23/95
Endosulfan I	BRL	0.34	1	08/23/95
4,4'-DDE	BRL	0.68	1	08/23/95
Dieldrin	BRL	0.68	1	08/23/95
Endrin	BRL	0.68	1	08/23/95
4,4'-DDD	BRL	0.68	1	08/23/95
Endosulfan II	BRL	0.68	1	08/23/95
4,4'-DDT	BRL	0.68	1	08/23/95
Endrin Aldehyde	BRL	0.68	1	08/23/95
Endosulfan Sulfate	BRL	0.68	1	08/23/95
Toxaphene	BRL	17	1	08/23/95
Chlordane (Technical)	BRL	3.4	1	08/23/95
Methoxychlor	BRL	3.4	1	08/23/95
Aroclor 1016	BRL	17	1	08/23/95
Aroclor 1221	BRL	34	1	08/23/95
Aroclor 1232	BRL	17	1	08/23/95
Aroclor 1242	BRL	17	1	08/23/95
Aroclor 1248	BRL	17	1	08/23/95
Aroclor 1254	BRL	17	1	08/23/95

PESTIC[illegible]ES AND POLYCHLORINA[illegible] BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12380-1/19262-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	08/23/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	58 *	60 - 150

Qualifier Legend:
* - Values outside QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-9[illegible]

MBT Environmental Laboratories

Master Builders Technologies

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106B-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/15/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-2/19263-7537
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S)
Batch Number: 2595-950815
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	08/23/95
gamma-BHC (Lindane)	BRL	0.34	1	08/23/95
delta-BHC	BRL	0.34	1	08/23/95
beta-BHC	BRL	0.34	1	08/23/95
Heptachlor	BRL	0.34	1	08/23/95
Aldrin	BRL	0.34	1	08/23/95
Heptachlor Epoxide	BRL	0.34	1	08/23/95
Endosulfan I	BRL	0.34	1	08/23/95
4,4'-DDE	BRL	0.68	1	08/23/95
Dieldrin	BRL	0.68	1	08/23/95
Endrin	BRL	0.68	1	08/23/95
4,4'-DDD	BRL	0.68	1	08/23/95
Endosulfan II	BRL	0.68	1	08/23/95
4,4'-DDT	BRL	0.68	1	08/23/95
Endrin Aldehyde	BRL	0.68	1	08/23/95
Endosulfan Sulfate	BRL	0.68	1	08/23/95
Toxaphene	BRL	17	1	08/23/95
Chlordane (Technical)	BRL	3.4	1	08/23/95
Methoxychlor	BRL	3.4	1	08/23/95
Aroclor 1016	BRL	17	1	08/23/95
Aroclor 1221	BRL	34	1	08/23/95
Aroclor 1232	BRL	17	1	08/23/95
Aroclor 1242	BRL	17	1	08/23/95
Aroclor 1248	BRL	17	1	08/23/95
Aroclor 1254	BRL	17	1	08/23/95

PESTIC[illegible]ES AND POLYCHLORINAT[illegible] BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12380-2/19263-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	08/23/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	60	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/15/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 19360-MB /7537
Matrix: Soil
Batch Number: 2595-950815

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
alpha-BHC	BRL	0.34	08/23/95
gamma-BHC (Lindane)	BRL	0.34	08/23/95
delta-BHC	BRL	0.34	08/23/95
beta-BHC	BRL	0.34	08/23/95
Heptachlor	BRL	0.34	08/23/95
Aldrin	BRL	0.34	08/23/95
Heptachlor Epoxide	BRL	0.34	08/23/95
Endosulfan I	BRL	0.34	08/23/95
4,4'-DDE	BRL	0.68	08/23/95
Dieldrin	BRL	0.68	08/23/95
Endrin	BRL	0.68	08/23/95
4,4'-DDD	BRL	0.68	08/23/95
Endosulfan II	BRL	0.68	08/23/95
4,4'-DDT	BRL	0.68	08/23/95
Endrin Aldehyde	BRL	0.68	08/23/95
Endosulfan Sulfate	BRL	0.68	08/23/95
Toxaphene	BRL	17	08/23/95
Chlordane (Technical)	BRL	3.4	08/23/95
Methoxychlor	BRL	3.4	08/23/95
Aroclor 1016	BRL	17	08/23/95
Aroclor 1221	BRL	34	08/23/95
Aroclor 1232	BRL	17	08/23/95
Aroclor 1242	BRL	17	08/23/95
Aroclor 1248	BRL	17	08/23/95
Aroclor 1254	BRL	17	08/23/95
Aroclor 1260	BRL	17	08/23/95

Surrogates	% Recovery		Limits
Tetrachloro-m-xylene	57	*	60 - 150

Qualifier Legend:
* - Values beyond QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-23-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/15/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/23/95

Lab ID: 19361-LCS /7537
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2595-950815
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	3.61	87	NA	NA	NA	46-127	≤50
Heptachlor	0	4.17	4.06	97	NA	NA	NA	35-130	≤31
Aldrin	0	4.17	4.23	101	NA	NA	NA	34-132	≤43
Dieldrin	0	8.33	7.83	94	NA	NA	NA	31-134	≤38
Endrin	0	8.33	7.42	89	NA	NA	NA	42-139	≤45
4,4'-DDT	0	8.33	9.65	116	NA	NA	NA	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	5.78	69	NA	NA	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-23-95

MBT Environmental Laboratories

Master Builders Technologies

MA' 'X SPIKE/MATRIX SPIKE ' 'LICATE

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 30
Sample Number: WL-106A-30
Date/Time Received: 08/12/95 08:55
Date Prepared: 08/15/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
MS Date Analyzed: 08/23/95

SDG #: 12380
Project Number: 070803035003005
Lab ID: 12380-1/19362,19363-7537
Date/Time Sampled: 08/11/95 13:30
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2595-950815
% Moisture: NA
MSD Date Analyzed: 08/23/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	4.19	100	3.94	95	6	46-127	≤50
Heptachlor	0	4.17	4.03	97	3.85	92	4	35-130	≤31
Aldrin	0	4.17	3.52	84	3.93	94	11	34-132	≤43
Dieldrin	0	8.33	8.54	102	8.53	102	0	31-134	≤38
Endrin	0	8.33	8.40	101	9.84	118	16	42-139	≤45
4,4'-DDT	0	8.33	14.3	172*	11.8	141*	1	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	5.48	66	6.08	73	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-28-95

MBT Environmental Laboratories

Master Builders Technologies

LP 12429

MBT Environment
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

Date: September 6, 1995
LP #: 12429

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed are the additional laboratory results requested on August 21, 1995, for the samples submitted to MBT Environmental Laboratories on August 8, 1995, for the project *Westlake*.

The report consists of the following sections:

1. Cover Page
2. Copy of Chain-of-Custody
3. General Narrative
4. Analytical and Quality Control Results

Unless otherwise instructed by you, samples will be disposed of according to the instructions provided for the original samples (LP # 12355).

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Carlton Fung for:

Shakoora Azimi
Laboratory Director, Principal Scientist

MBT Environmental Laboratories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

15614

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Project Name: WESTLAKE (A/M)
Project Number: 070403005.005
Project Location: (State) MO

FOR LABORATORY USE ONLY
Laboratory Project #: 12429 Storage ID: 12-C, 19-12
Sample Condition Upon Receipt: Temp: 6 °C Geiger:
Custody Seals Present? Yes/No Intact? Yes/No Samples Intact? Yes/No

Sample Disposal (check one)
- [ ] Laboratory Standard
- [ ] Other SH LD:12525

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 6F [ ] 7 [ ] 8 [ ] A

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID NEW	OLD	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	8240 FP	8080 PEST/PCB
12429-1	12566-2	WL-103-25	8-7-95	0900	AREA 1	25'	6	4oz GLASS	SOIL	ICE	10	X	
2	1-2	WL-104-35	8-7-95	1230	AREA 1	35'	4	1	1	1	1	X	X
3													
4													
5													
6													
7													
8													
9													

SEND REPORT TO:
Company Name CAROL TROT
Client Name
Address
ST LOUIS
Phone Fax

BILL TO (if different):
Company Name
Address
PO #
Phone Fax

Special Instructions/Comments
LAST DAY OF HOLD: 8/21/95

Sampler Name Signature PPE Worn in Field

Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
	SAMPLES	8/ /95	1915
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
	REQUEST	8/21/95	1230
Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivos
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
[illegible]S
[illegible]bidity

* Specify Total or Dissolved

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12429

WESTLAKE

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417
	CONNECTICUT:	Waste Water, #PH0799
	FLORIDA:	Environmental Water, #E87298 CQAPP #930105
	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192
	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A
	NEW JERSEY:	Waste Water, #44818
	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241
	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
	TENNESSEE:	Underground Storage Tank
	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
	WASHINGTON:	Hazardous Waste, #C048
	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
	USACOE:	Hazardous Waste Waste Water
	AFCEE	

(CN12429)

MBT Environmental Laboratories

Master Builders Technologies

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

EPA 8080:

Heptachlor Epoxide can exist as two isomers. The data reported for USEPA Method 8080 is the total Heptachlor Epoxide present in the sample, which may consist of any combination of the isomers.

EPA 8240:

The following samples were analyzed by medium level protocol due to the presence of high levels of target compounds: 12429-1, 12429-02, 12429-2 MS/MSD.

Samples 124291, 12429-2, and 12429-2 MS/MSD were analyzed using 1 gram of sample on 8/21/95. Due to chlorobenzene being outside linear range, the samples were extracted by medium protocol and reanalyzed on 8/21/95. Due to apparent non-homogeneity, chlorobenzene appeared at just the reporting limit or just below the reporting limit.

Abbreviations and Definitions:

MB	*Method Blank* - An aliquot of a blank matrix carried throughout the entire analytical process
LCS	*Laboratory Control Sample* - A blank to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the accuracy of the method
MS/MSD	*Matrix Spike/Matrix Spike Duplicate* - Duplicate samples to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the extent of matrix bias or interference on analyte recovery
RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*

(CN12429)

NA *Not Applicable*

Flags:

Organics -

J Estimated value below the reporting limit and at or above the method detection limit.

B Analyte found in the associated blank, as well as in the sample.

Inorganics -

B Estimated value below the reporting limit and at or above the method detection limit.

(CN12429)

PESTI' ES AND POLYCHLORINA' BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 35'
Sample Number: WL-104-35
Date/Time Received: 08/08/95 09:15
Date Prepared: 08/21/95 13:45:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12429
Project Number: 070803035003005
Lab ID: 12429-2/20640-7537
Date/Time Sampled: 08/07/95 12:30
Matrix: Soil (S)
Batch Number: 2724-950821
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	08/25/95
gamma-BHC (Lindane)	BRL	0.34	1	08/25/95
delta-BHC	BRL	0.34	1	08/25/95
beta-BHC	BRL	0.34	1	08/25/95
Heptachlor	BRL	0.34	1	08/25/95
Aldrin	BRL	0.34	1	08/25/95
Heptachlor Epoxide	BRL	0.34	1	08/25/95
Endosulfan I	BRL	0.34	1	08/25/95
4,4'-DDE	BRL	0.68	1	08/25/95
Dieldrin	BRL	0.68	1	08/25/95
Endrin	BRL	0.68	1	08/25/95
4,4'-DDD	BRL	0.68	1	08/25/95
Endosulfan II	BRL	0.68	1	08/25/95
4,4'-DDT	BRL	0.68	1	08/25/95
Endrin Aldehyde	BRL	0.68	1	08/25/95
Endosulfan Sulfate	BRL	0.68	1	08/25/95
Toxaphene	BRL	17	1	08/25/95
Chlordane (Technical)	BRL	3.4	1	08/25/95
Methoxychlor	BRL	3.4	1	08/25/95
Aroclor 1016	BRL	17	1	08/25/95
Aroclor 1221	BRL	34	1	08/25/95
Aroclor 1232	BRL	17	1	08/25/95
Aroclor 1242	BRL	17	1	08/25/95
Aroclor 1248	BRL	17	1	08/25/95
Aroclor 1254	BRL	17	1	08/25/95

PESTI(ES AND POLYCHLORINA' BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12429-2/20640-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	08/25/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	111	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-30-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/21/95 13:45:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 20852-MB /7537
Matrix: Soil
Batch Number: 2724-950821

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
alpha-BHC	BRL	0.34	08/25/95
gamma-BHC (Lindane)	BRL	0.34	08/25/95
delta-BHC	BRL	0.34	08/25/95
beta-BHC	BRL	0.34	08/25/95
Heptachlor	BRL	0.34	08/25/95
Aldrin	BRL	0.34	08/25/95
Heptachlor Epoxide	BRL	0.34	08/25/95
Endosulfan I	BRL	0.34	08/25/95
4,4'-DDE	BRL	0.68	08/25/95
Dieldrin	BRL	0.68	08/25/95
Endrin	BRL	0.68	08/25/95
4,4'-DDD	BRL	0.68	08/25/95
Endosulfan II	BRL	0.68	08/25/95
4,4'-DDT	BRL	0.68	08/25/95
Endrin Aldehyde	BRL	0.68	08/25/95
Endosulfan Sulfate	BRL	0.68	08/25/95
Toxaphene	BRL	17	08/25/95
Chlordane (Technical)	BRL	3.4	08/25/95
Methoxychlor	BRL	3.4	08/25/95
Aroclor 1016	BRL	17	08/25/95
Aroclor 1221	BRL	34	08/25/95
Aroclor 1232	BRL	17	08/25/95
Aroclor 1242	BRL	17	08/25/95
Aroclor 1248	BRL	17	08/25/95
Aroclor 1254	BRL	17	08/25/95
Aroclor 1260	BRL	17	08/25/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	107	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-30-95

MBT Environmental Laboratories

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LABORATORY CO[illegible]OL SPIKE/LABORATORY [illegible]NTROL SPIKE DUPLICATE

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/21/95 13:45:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/25/95

Lab ID: 20853-LCS /7537
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2724-950821
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	3.05	73	NA	NA	NA	46-127	≤50
Heptachlor	0	4.17	3.55	85	NA	NA	NA	35-130	≤31
Aldrin	0	4.17	2.83	68	NA	NA	NA	34-132	≤43
Dieldrin	0	8.33	7.66	92	NA	NA	NA	31-134	≤38
Endrin	0	8.33	8.32	100	NA	NA	NA	42-139	≤45
4,4'-DDT	0	8.33	8.42	101	NA	NA	NA	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	5.99	72	NA	NA	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-30-95

MBT Environmental Laboratories

Master Builders Technologies

M/ IX SPIKE/MATRIX SPIKE PLICATE

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 35'
Sample Number: WL-104-35
Date/Time Received: 08/08/95 09:15
Date Prepared: 08/21/95 13:45:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
MS Date Analyzed: 08/25/95

SDG #: 12429
Project Number: 070803035003005
Lab ID: 12429-2/20854,20855-7537
Date/Time Sampled: 08/07/95 12:30
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2724-950821
% Moisture: NA
MSD Date Analyzed: 08/25/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	3.37	81	3.88	93	14	46-127	≤50
Heptachlor	0	4.17	3.43	82	4.01	96	16	35-130	≤31
Aldrin	0	4.17	3.16	76	3.78	91	18	34-132	≤43
Dieldrin	0	8.33	7.70	92	6.93	83	11	31-134	≤38
Endrin	0	8.33	7.78	93	5.95	71	27	42-139	≤45
4,4'-DDT	0	8.33	9.89	119	8.71	104	13	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	6.76	81	6.34	76	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 8-30-95

MBT Environmental Laboratories

Master Builders Technologies

PRI(TY POLLUTANT VOLATI')RGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 25'
Sample Number: WL-103-25
Date/Time Received: 08/08/95 09:15
Date Prepared: 08/21/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
Analyst: ED

SDG #: 12429
Project Number: 070803035003005
Lab ID: 12429-1/20639-7619
Date/Time Sampled: 08/07/95 09:00
Matrix: Soil (S)
Batch Number: 2878-950821
% Moisture: NA
Instrument/Column: MS02/RTX-502.2
Data File: V7454.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	1000	1	08/21/95
Vinyl Chloride	BRL	1000	1	08/21/95
Bromomethane	BRL	1000	1	08/21/95
Chloroethane	BRL	1000	1	08/21/95
1,1-Dichloroethene	BRL	500	1	08/21/95
Methylene Chloride	BRL	500	1	08/21/95
trans-1,2-Dichloroethene	BRL	500	1	08/21/95
1,1-Dichloroethane	BRL	500	1	08/21/95
Chloroform	BRL	500	1	08/21/95
1,2-Dichloroethane	BRL	500	1	08/21/95
1,1,1-Trichloroethane	BRL	500	1	08/21/95
Carbon Tetrachloride	BRL	500	1	08/21/95
Benzene	BRL	500	1	08/21/95
Trichloroethene	BRL	500	1	08/21/95
1,2-Dichloropropane	BRL	500	1	08/21/95
Bromodichloromethane	BRL	500	1	08/21/95
2-Chloroethylvinylether	BRL	1000	1	08/21/95
cis-1,3-Dichloropropene	BRL	500	1	08/21/95
1,1,2-Trichloroethane	BRL	500	1	08/21/95
Dibromochloromethane	BRL	500	1	08/21/95
Bromoform	BRL	500	1	08/21/95
Toluene	BRL	500	1	08/21/95
Tetrachloroethene	BRL	500	1	08/21/95
Chlorobenzene	530	500	1	08/21/95
Ethyl benzene	BRL	500	1	08/21/95
m & p Xylene	BRL	500	1	08/21/95
o-Xylene	BRL	500	1	08/21/95

PRI TY POLLUTANT VOLATI ORGANICS

Analytical Method: EPA 8240

Lab ID: 12429-1/20639-7619

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
1,1,2,2-Tetrachloroethane	BRL	500	1	08/21/95
1,3-Dichlorobenzene	BRL	500	1	08/21/95
1,4-Dichlorobenzene	BRL	500	1	08/21/95
1,2-Dichlorobenzene	BRL	500	1	08/21/95
Acrolein	BRL	10000	1	08/21/95
Acrylonitrile	BRL	10000	1	08/21/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	120	70 - 121
Toluene-d8	110	81 - 117
Bromofluorobenzene	109	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: CM Date: 9-5-95

MBT Environmental Laboratories

Master Builders Technologies

PRI' TY POLLUTANT VOLATI' ORGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 35'
Sample Number: WL-104-35
Date/Time Received: 08/08/95 09:15
Date Prepared: 08/21/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
Analyst: ED

SDG #: 12429
Project Number: 070803035003005
Lab ID: 12429-2/20640-7619
Date/Time Sampled: 08/07/95 12:30
Matrix: Soil (S)
Batch Number: 2878-950821
% Moisture: NA
Instrument/Column: MS02/RTX-502.2
Data File: V7453.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	1000	1	08/21/95
Vinyl Chloride	BRL	1000	1	08/21/95
Bromomethane	BRL	1000	1	08/21/95
Chloroethane	BRL	1000	1	08/21/95
1,1-Dichloroethene	BRL	500	1	08/21/95
Methylene Chloride	BRL	500	1	08/21/95
trans-1,2-Dichloroethene	BRL	500	1	08/21/95
1,1-Dichloroethane	BRL	500	1	08/21/95
Chloroform	BRL	500	1	08/21/95
1,2-Dichloroethane	BRL	500	1	08/21/95
1,1,1-Trichloroethane	BRL	500	1	08/21/95
Carbon Tetrachloride	BRL	500	1	08/21/95
Benzene	BRL	500	1	08/21/95
Trichloroethene	BRL	500	1	08/21/95
1,2-Dichloropropane	BRL	500	1	08/21/95
Bromodichloromethane	BRL	500	1	08/21/95
2-Chloroethylvinylether	BRL	1000	1	08/21/95
cis-1,3-Dichloropropene	BRL	500	1	08/21/95
1,1,2-Trichloroethane	BRL	500	1	08/21/95
Dibromochloromethane	BRL	500	1	08/21/95
Bromoform	BRL	500	1	08/21/95
Toluene	BRL	500	1	08/21/95
Tetrachloroethene	BRL	500	1	08/21/95
Chlorobenzene	220 J	500	1	08/21/95
Ethyl benzene	BRL	500	1	08/21/95
m & p Xylene	BRL	500	1	08/21/95
o-Xylene	BRL	500	1	08/21/95

PRI' TY POLLUTANT VOLATI ORGANICS

Analytical Method: EPA 8240

Lab ID: 12429-2/20640-7619

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
1,1,2,2-Tetrachloroethane	BRL	500	1	08/21/95
1,3-Dichlorobenzene	BRL	500	1	08/21/95
1,4-Dichlorobenzene	BRL	500	1	08/21/95
1,2-Dichlorobenzene	BRL	500	1	08/21/95
Acrolein	BRL	10000	1	08/21/95
Acrylonitrile	BRL	10000	1	08/21/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	115	70 - 121
Toluene-d8	103	81 - 117
Bromofluorobenzene	103	74 - 121

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: CM Date: 9-5-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/21/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL

Analyst: ED

Lab ID: 21943-MB /7619
Matrix: Soil
Batch Number: 2878-950821
Instrument/Column: MS02/RTX-502.2
Data File: V7451.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	1000	08/21/95
Vinyl Chloride	BRL	1000	08/21/95
Bromomethane	BRL	1000	08/21/95
Chloroethane	BRL	1000	08/21/95
1,1-Dichloroethene	BRL	500	08/21/95
Methylene Chloride	BRL	500	08/21/95
trans-1,2-Dichloroethene	BRL	500	08/21/95
1,1-Dichloroethane	BRL	500	08/21/95
Chloroform	BRL	500	08/21/95
1,2-Dichloroethane	BRL	500	08/21/95
1,1,1-Trichloroethane	BRL	500	08/21/95
Carbon Tetrachloride	BRL	500	08/21/95
Benzene	BRL	500	08/21/95
Trichloroethene	BRL	500	08/21/95
1,2-Dichloropropane	BRL	500	08/21/95
Bromodichloromethane	BRL	500	08/21/95
2-Chloroethylvinylether	BRL	1000	08/21/95
cis-1,3-Dichloropropene	BRL	500	08/21/95
1,1,2-Trichloroethane	BRL	500	08/21/95
Dibromochloromethane	BRL	500	08/21/95
Bromoform	BRL	500	08/21/95
Toluene	BRL	500	08/21/95
Tetrachloroethene	BRL	500	08/21/95
Chlorobenzene	BRL	500	08/21/95
Ethyl benzene	BRL	500	08/21/95
m & p Xylene	BRL	500	08/21/95
o-Xylene	BRL	500	08/21/95
1,1,2,2-Tetrachloroethane	BRL	500	08/21/95
1,3-Dichlorobenzene	BRL	500	08/21/95
1,4-Dichlorobenzene	BRL	500	08/21/95
1,2-Dichlorobenzene	BRL	500	08/21/95
Acrolein	BRL	10000	08/21/95

METHOD BLANK

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Acrylonitrile	BRL	10000	08/21/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	109	70 - 121
Toluene-d8	97	81 - 117
Bromofluorobenzene	97	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: TM Date: 9-5-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 08/21/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
LCS Date Analyzed: 08/22/95

Analyst: TS

Lab ID: 21944-LCS /7619
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2878-950821
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: V7466.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	5000	4560	91	NA	NA	NA	59-172	≤22
Benzene	0	5000	4720	94	NA	NA	NA	66-142	≤21
Trichloroethene	0	5000	4760	95	NA	NA	NA	62-137	≤24
Toluene	0	5000	4820	96	NA	NA	NA	59-139	≤21
Chlorobenzene	0	5000	4960	99	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	5000	5370	107	NA	NA	70-121
Toluene-d8	5000	5140	103	NA	NA	81-117
Bromofluorobenzene	5000	4960	99	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-5-95

MBT Environmental Laboratories

Master Builders Technologies

M/ IX SPIKE/MATRIX SPIKE PLICATE

PRIORITY POLLUTANT VOLATILE ORGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 1 35'
Sample Number: WL-104-35
Date/Time Received: 08/08/95 09:15
Date Prepared: 08/21/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
MS Date Analyzed: 08/21/95

SDG #: 12429
Project Number: 070803035003005
Lab ID: 12429-2/21941,21942-7619
Date/Time Sampled: 08/07/95 12:30
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2878-950821
% Moisture: NA
MSD Date Analyzed: 08/21/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	5000	4570	91	4740	95	4	59-172	≤22
Benzene	0	5000	4900	98	4940	99	1	66-142	≤21
Trichloroethene	0	5000	4800	96	4890	98	2	62-137	≤24
Toluene	0	5000	4780	96	4760	95	1	59-139	≤21
Chlorobenzene	220	5000	5250	101	5220	100	1	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	5000	5740	115	5410	108	70-121
Toluene-d8	5000	5200	104	4950	99	81-117
Bromofluorobenzene	5000	5270	105	4970	99	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-5-95

MBT Environmental Laboratories

Master Builders Technologies

LP 12457

MBT Environment
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

COPY

Date: October 26, 1995
LP #: 12457

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed is the revised case narrative for the samples submitted to MBT Environmental Laboratories on August 26, 1995, for the project *Westlake*.

The revision includes the additional comment in EPA 8080 section which details the inability to reanalyze the samples.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

John Mough
Project Coordinator

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

Priority Pollutant Metals:

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

Matrix spike recovery for Zinc is outside of advisory quality control limits due to the high concentration of that analyte in the sample.

EPA 8270:

The following samples were analyzed at a dilution to bring target analytes within linear working range: 12457-1 and 12457-2.

The surrogate recoveries for the analytes flagged on the data sheet were diluted out for the following samples: 12457-1 and 12457-2.

EPA 8080 PCB:

The following sample was analyzed at a dilution due to the presence of non-target analyte interferences: 12457-1.

The following sample was analyzed at a dilution to bring target analytes within linear working range: 12457-2.

The surrogate recoveries for the analytes flagged on the data sheet were diluted out for the following samples: 12457-1 and 12457-2.

All samples of this LP were initially analyzed for PCB's only. Not enough sample remained for a full list 8080 re-extraction and reanalysis.[a]

Modified EPA 8015:

The reported result for Motor Oil for the following samples is calculated based on the Motor Oil standard; however, the chromatographic pattern in the sample does not exactly resemble that of the Motor Oil standard: 12457-1 and 12457-3.

[a] Revised 10/26/95.

The reported result for Gas for the following samples is calculated based on the Gas standard; however, the chromatographic pattern in the sample does not exactly resemble that of the Gas standard: 12457-1, 12457-2, 12457-3, and 12457-4.

The chromatographic pattern of the reported results for the following sample does not resemble that of the diesel standard: 12457-2.

The following samples were analyzed at a dilution to bring target analytes within linear working range: 12457-1, 12457-2, and 12457-3.

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

EPA 8240:

The following samples were analyzed at a dilution to bring target analytes within linear working range: 12457-1, 12457-2, and 12457-3.

The surrogate recoveries for the analytes flagged on the data sheet were diluted out for the following samples: 12457-1 and 12457-2.

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

The matrix spike/matrix spike duplicate RPDs flagged on the matrix spike data sheet are outside of advisory quality control limits, indicating possible sample matrix nonhomogeneity.

Abbreviations and Definitions:

MB	*Method Blank* - An aliquot of a blank matrix carried throughout the entire analytical process
LCS	*Laboratory Control Sample* - A blank to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the accuracy of the method
MS/MSD	*Matrix Spike/Matrix Spike Duplicate* - Duplicate samples to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the extent of matrix bias or interference on analyte recovery
RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*
NA	*Not Applicable*

Flags:

Organics -

J	Estimated value below the reporting limit and at or above the method detection limit.
B	Analyte found in the associated blank, as well as in the sample.

Inorganics -

B	Estimated value below the reporting limit and at or above the method detection limit.

Master Builders Technologies

Mi[illegible]nvironmental Labo[illegible]atories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

0031

SEE SIDE 2 FOR COMPLETE INSTRUCTIONS

Ship To: _____

Address: _____

Project Name: [illegible]

Project Number: [illegible]

Project Location: (State) [illegible]

FOR LABORATORY USE ONLY

Laboratory Project #: 12457

Storage Refrigerator ID: 12-C 4-27

Storage Freezer ID: _____

Sampler Name: John D Regan

Signature: John D Regan

PPE Worn in Field: Level C/D

8/23/95 1600

Relinquished By: John D Regan — Date/Time: 8/23/95 1615 — Received By or Method of Shipment/Shipment I.D.: Fed Ex Air Bill # 6537339451 — Date/Time: 8/23/95 1615

Relinquished By: FED EX — Date/Time: — Received By or Method of Shipment/Shipment I.D.: Cindy Nishiyama — Date/Time: 8/26/95 0940

Relinquished By: — Date/Time: — Received By or Method of Shipment/Shipment I.D.: — Date/Time:

Sample Disposal (check one)

- [X] Laboratory Standard
- [ ] Other

Level of QC (see Side 2): [X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT	[illegible]	[illegible]	[illegible]	8240	8270	[illegible]	[illegible]	[illegible]	TPH 8015
1 12457 - 001	WL-208-U	8/23	1045	Area 2	?	6	4oz G	soil	ice	Ø				X	X	X	X	X	X
2 002	WL-210-15'	8/23	1400	Area 2	15'	6	4oz G	soil	ice	Ø				X	X	X	X	X	X
3 003	WL-208-15'	8/23	1000	Area 2	15'	6	4oz G	soil	ice	Ø				X	X	X	X	X	X
4 004	WL 208-28	8/23	1000	Area 2	28'	6	4oz G	soil	ice	Ø				X	X	X	X	X	X
5																			
6																			
7																			
8																			
9																			
10																			

Special Instructions/Comments: [illegible]

Same as previous shipments

Container Types: B=Brass Tube, G=Glass Jar, O=Other _____; A=1 Liter Amber, C=Cassette, P=Polyethylene, V=Voa Vial

TAT (Analytical Turn Around Time): 1 = 24 hours, 2 = 48 hours, 3 = 1 week, 4 = 2 weeks, 0 = Other Standard

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: REC'D UNCHILLED & POORLY PACKED. 3 JARS (2-002, 1-003) REC'D BROKEN. STRONG ODOR!

SEND DOCUMENTATION AND RESULTS TO (Check one):

- [X] Project Manager/Office: [illegible]
- [ ] Client Name: _____

Company: _____

Address: _____

Phone: _____ FAX: _____

Common Analytical Methods

413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

MBT Environment
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

Date: September 12, 1995
LP #: 12457

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed are the laboratory results for the four samples submitted to MBT Environmental Laboratories on August 26, 1995, for the project *Westlake*.

The report consists of the following sections:

1. Cover Page
2. Copy of Chain-of-Custody
3. General Narrative
4. Analytical and Quality Control Results

Unless otherwise instructed by you, samples will be disposed of two weeks from the date of this letter.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Shakoora Azimi
Laboratory Director, Principal Scientist

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12457

WESTLAKE

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417
	CONNECTICUT:	Waste Water, #PH0799
	FLORIDA:	Environmental Water, #E87298 CQAPP #930105
	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192
	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A
	NEW JERSEY:	Waste Water, #44818
	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241
	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
	TENNESSEE:	Underground Storage Tank
	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
	WASHINGTON:	Hazardous Waste, #C048
	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
	USACOE:	Hazardous Waste Waste Water
	AFCEE	

(CN12457)

MBT Environmental Laboratories

Master Builders Technologies

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

Priority Pollutant Metals:

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

Matrix spike recovery for Zinc is outside of advisory quality control limits due to the high concentration of that analyte in the sample.

EPA 8270:

The following samples were analyzed at a dilution to bring target analytes within linear working range: 12457-1 and 12457-2.

The surrogate recoveries for the analytes flagged on the data sheet were diluted out for the following samples: 12457-1 and 12457-2.

EPA 8080 PCB:

The following sample was analyzed at a dilution due to the presence of non-target analyte interferences: 12457-1.

The following sample was analyzed at a dilution to bring target analytes within linear working range: 12457-2.

The surrogate recoveries for the analytes flagged on the data sheet were diluted out for the following samples: 12457-1 and 12457-2.

Modified EPA 8015:

The reported result for Motor Oil for the following samples is calculated based on the Motor Oil standard; however, the chromatographic pattern in the sample does not exactly resemble that of the Motor Oil standard: 12457-1 and 12457-3.

The reported result for Gas for the following samples is calculated based on the Gas standard; however, the chromatographic pattern in the sample does not exactly resemble that of the Gas standard: 12457-1, 12457-2, 12457-3, and 12457-4.

(CN12457)

The chromatographic pattern of the reported results for the following sample does not resemble that of the diesel standard: 12457-2.

The following samples were analyzed at a dilution to bring target analytes within linear working range: 12457-1, 12457-2, and 12457-3.

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

EPA 8240:

The following samples were analyzed at a dilution to bring target analytes within linear working range: 12457-1, 12457-2, and 12457-3.

The surrogate recoveries for the analytes flagged on the data sheet were diluted out for the following samples: 12457-1 and 12457-2.

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

The matrix spike/matrix spike duplicate RPDs flagged on the matrix spike data sheet are outside of advisory quality control limits, indicating possible sample matrix nonhomogeneity.

Abbreviations and Definitions:

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RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*
NA	*Not Applicable*

(CN12457)

Flags:

Organics -

J	Estimated value below the reporting limit and at or above the method detection limit.
B	Analyte found in the associated blank, as well as in the sample.

Inorganics -

B	Estimated value below the reporting limit and at or above the method detection limit.

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21258-7826
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
ICAP	EPA 3050H	2826-950828	08/28/95	2.0 grams	100 mL	WL-208-U

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	7.2	2.5	1	08/31/95
Beryllium (Be)/6010	BRL	0.25	1	08/31/95
Cadmium (Cd)/6010	1.3	0.50	1	08/31/95
Chromium (Cr)/6010	890	1.0	1	08/31/95
Copper (Cu)/6010	46	1.0	1	08/31/95
Lead (Pb)/6010	2100	2.5	1	08/31/95
Nickel (Ni)/6010	58	1.0	1	08/31/95
Silver (Ag)/6010	BRL	1.0	1	08/31/95
Zinc (Zn)/6010	1100	1.0	1	08/31/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

'RIORITY POLLUTANT M[illegible]ALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21260-7826
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
ICAP	EPA 3050H	2826-950828	08/28/95	2.0 grams	100 mL	WL-208-15

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	08/31/95
Beryllium (Be)/6010	0.27	0.25	1	08/31/95
Cadmium (Cd)/6010	BRL	0.50	1	08/31/95
Chromium (Cr)/6010	6.4	1.0	1	08/31/95
Copper (Cu)/6010	7.0	1.0	1	08/31/95
Lead (Pb)/6010	6.8	2.5	1	08/31/95
Nickel (Ni)/6010	12	1.0	1	08/31/95
Silver (Ag)/6010	BRL	1.0	1	08/31/95
Zinc (Zn)/6010	40	1.0	1	08/31/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21261-7826
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
ICAP	EPA 3050H	2826-950828	08/28/95	2.0 grams	100 mL	WL-208-28

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	08/31/95
Beryllium (Be)/6010	0.60	0.25	1	08/31/95
Cadmium (Cd)/6010	BRL	0.50	1	08/31/95
Chromium (Cr)/6010	10	1.0	1	08/31/95
Copper (Cu)/6010	17	1.0	1	08/31/95
Lead (Pb)/6010	21	2.5	1	08/31/95
Nickel (Ni)/6010	16	1.0	1	08/31/95
Silver (Ag)/6010	BRL	1.0	1	08/31/95
Zinc (Zn)/6010	50	1.0	1	08/31/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

METALS

Preparation Method: EPA 3050H

Date Prepared: 08/28/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 21418-MB /7826
Matrix: Soil
Batch Number: 2826-950828

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	08/31/95
Beryllium (Be)/6010	BRL	0.25	08/31/95
Cadmium (Cd)/6010	BRL	0.50	08/31/95
Chromium (Cr)/6010	BRL	1.0	08/31/95
Copper (Cu)/6010	BRL	1.0	08/31/95
Lead (Pb)/6010	BRL	2.5	08/31/95
Nickel (Ni)/6010	BRL	1.0	08/31/95
Silver (Ag)/6010	BRL	1.0	08/31/95
Zinc (Zn)/6010	BRL	1.0	08/31/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050H

Date Prepared: 08/28/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 08/31/95

Lab ID: 21419-LCS /7826
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2826-950828
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Antimony (Sb)/6010	0	25.000	23.935	96	NA	NA	NA	75-125	≤20
Beryllium (Be)/6010	0	2.500	2.430	97	NA	NA	NA	75-125	≤20
Cadmium (Cd)/6010	0	2.500	2.435	97	NA	NA	NA	75-125	≤20
Chromium (Cr)/6010	0	10.000	10.045	100	NA	NA	NA	75-125	≤20
Copper (Cu)/6010	0	12.000	12.085	101	NA	NA	NA	75-125	≤20
Lead (Pb)/6010	0	25.000	24.660	99	NA	NA	NA	75-125	≤20
Nickel (Ni)/6010	0	25.000	24.280	97	NA	NA	NA	75-125	≤20
Silver (Ag)/6010	0	2.500	2.480	99	NA	NA	NA	75-125	≤20
Zinc (Zn)/6010	0	25.000	23.170	93	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050H

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-208-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
MS Date Analyzed: 08/31/95

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21420,21421-7826
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2826-950828
% Moisture: NA
MSD Date Analyzed: 08/31/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Antimony (Sb)/6010	0	25.000	8.290	33*	7.845	31*	6	75-125	≤20
Beryllium (Be)/6010	0.27	2.500	2.680	96	2.620	94	2	75-125	≤20
Cadmium (Cd)/6010	0	2.500	2.260	90	5.370	215*	82*	75-125	≤20
Chromium (Cr)/6010	6.4	10.000	16.670	103	18.610	122	11	75-125	≤20
Copper (Cu)/6010	7.0	12.000	19.055	100	19.000	100	0	75-125	≤20
Lead (Pb)/6010	6.8	25.000	32.360	102	32.990	105	2	75-125	≤20
Nickel (Ni)/6010	12	25.000	35.280	93	34.795	91	1	75-125	≤20
Silver (Ag)/6010	0	2.500	2.260	90	2.130	85	6	75-125	≤20
Zinc (Zn)/6010	40	25.000	52.960	52*	55.835	63*	5	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21258-7878
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
GFAA	EPA 3050N	2827-950828	08/28/95	2.0 grams	100 mL	WL-208-U

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Arsenic (As)/7060	1.2	0.50	1	09/01/95
Selenium (Se)/7740	BRL	0.25	1	09/01/95
Thallium (Tl)/7841	BRL	0.50	1	08/31/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

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Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21260-7878
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
GFAA	EPA 3050N	2827-950828	08/28/95	2.0 grams	100 mL	WL-208-15

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Arsenic (As)/7060	2.8	0.50	1	09/01/95
Selenium (Se)/7740	BRL	0.25	1	09/01/95
Thallium (Tl)/7841	BRL	0.50	1	08/31/95

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Approved by: _____ Date: 9-6-95

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Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21261-7878
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
GFAA	EPA 3050N	2827-950828	08/28/95	2.0 grams	100 mL	WL-208-28

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Arsenic (As)/7060	3.0	0.50	1	09/01/95
Selenium (Se)/7740	BRL	0.25	1	09/01/95
Thallium (Tl)/7841	BRL	0.50	1	08/31/95

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Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

DUPLICATE

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050N

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-208-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/ 21422-7878
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 2827-950828
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Arsenic (As)/7060	3.1	0.50	1	09/01/95
Selenium (Se)/7740	BRL	0.25	1	09/01/95
Thallium (Tl)/7841	BRL	0.50	1	08/31/95

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Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

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METHOD BLANK

METALS

Preparation Method: EPA 3050N

Date Prepared: 08/28/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 21425-MB /8280
Matrix: Soil
Batch Number: 2827-950828

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Arsenic(As)/7060	BRL	0.50	09/01/95
Selenium (Se)/7740	BRL	0.25	09/01/95
Thallium (Tl)/7841	BRL	0.50	08/31/95

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LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050N

Date Prepared: 08/28/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 09/01/95

Lab ID: 21426-LCS /8280
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2827-950828
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Arsenic(As)/7060	0	2.000	1.745	87	NA	NA	NA	75-125	≤20
Selenium (Se)/7740	0	0.500	0.410	82	NA	NA	NA	75-125	≤20
Thallium (Tl)/7841	0	2.500	2.075	83	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Master Builders Technologies

MA' 'IX SPIKE/MATRIX SPIKE ' 'PLICATE

' PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050N

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-208-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
MS Date Analyzed: 09/01/95

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21423,21424-7878
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2827-950828
% Moisture: NA
MSD Date Analyzed: 09/01/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Arsenic (As)/7060	2.8	2.000	3.840	52*	3.780	49*	2	75-125	≤20
Selenium (Se)/7740	0	0.500	0.335	67*	0.360	72*	7	75-125	≤20
Thallium (Tl)/7841	0	2.500	2.060	82	2.265	91	9	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Qualifier Legend:
* - Values outside QC

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Approved by: _____ Date: 9-6-95

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Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21258-7840
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	2830-950829	08/29/95	0.2 grams	35 mL	WL-208-U

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	1	08/30/95

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PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21260-7840
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	2830-950829	08/29/95	0.2 grams	35 mL	WL-208-15

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	1	08/30/95

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Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT M ALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Date/Time Received: 08/26/95 08:40

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21261-7840
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	2830-950829	08/29/95	0.2 grams	35 mL	WL-208-28

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	1	08/30/95

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Approved by: _____ Date: 9-6-95

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Master Builders Technologies

METHOD BLANK

METALS

Preparation Method: EPA 7471

Date Prepared: 08/29/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL

Lab ID: 21435-MB /7847
Matrix: Soil
Batch Number: 2830-950829

Analyst: JMC

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	08/30/95

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MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON' 'OL SPIKE/LABORATORY ' 'NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 7471

Date Prepared: 08/29/95
Initial Wt./Volume: 0.20 grams
Final Volume: 35 mL
LCS Date Analyzed: 08/30/95

Lab ID: 21436-LCS /7847
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2830-950829
LCSD Date Analyzed: NA

Analyst: JMC

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Mercury(Hg)/7471	0	0.175	0.175	100	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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MBT Environmental Laboratories

Master Builders Technologies

MA' 'X SPIKE/MATRIX SPIKE ' 'PLICATE

PRIORITY POLLUTANT METALS

Preparation Method: EPA 7471

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Sample Number:
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/29/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL
MS Date Analyzed: 08/30/95

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21439,21440-7840
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2830-950829
% Moisture: NA
MSD Date Analyzed: 08/30/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Mercury(Hg)/7471	0	0.175	0.184	105	0.179	102	3	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

TOTAL CYANIDE

Analytical Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL

SDG #: 12457
Project Number: 070803035003005
Date Sampled: 08/25/95
Matrix: Soil (S)
Batch Number: 2812-950828

Lab ID	Sample Description/ Sample Number	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
12457-1/21258-2079	Area 2 ? / WL-208-U	0.62	0.50	1	08/28/95
12457-2/21259-2079	Area 2 15' / WL-210-15	BRL	0.50	1	08/28/95
12457-3/21260-2079	Area 2 15' / WL-208-15	BRL	0.50	1	08/28/95
12457-4/21261-2079	Area 2 28' / WL-208-28	BRL	0.50	1	08/28/95

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Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 08/28/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL

Lab ID: 21347-MB /2079
Matrix: Soil
Batch Number: 2812-950828

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Cyanide	BRL	0.50	08/28/95

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Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO' 'OL SPIKE/LABORATORY 'NTROL SPIKE DUPLICATE

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 08/28/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL
LCS Date Analyzed: 08/28/95

Lab ID: 21348-LCS /2079
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2812-950828
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Cyanide	0	5.000	5.075	102	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

MA' IX SPIKE/MATRIX SPIKE ' PLICATE

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Sample Number: WL-208-28
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL
MS Date Analyzed: 08/28/95

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21349,21350-2079
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2812-950828
% Moisture: NA
MSD Date Analyzed: 08/28/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Cyanide	0	5.000	4.350	87	4.935	99	13	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 9-6-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGAN[illegible]S

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Sample Number: WL-208-U
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/31/95 19:30:
Initial Wt./Volume: 30 grams
Final Volume: 10.0 mL
Analyst: ED

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21258-7918
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S)
Batch Number: 2923-950831
% Moisture: NA
Instrument/Column: MS03/XTI-5
Data File: K4046.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	670000	200	09/06/95
Bis(2-Chloroethyl)ether	BRL	670000	200	09/06/95
2-Chlorophenol	BRL	670000	200	09/06/95
1,3-Dichlorobenzene	BRL	670000	200	09/06/95
1,4-Dichlorobenzene	BRL	670000	200	09/06/95
Benzyl alcohol	BRL	670000	200	09/06/95
2-Methylphenol	BRL	670000	200	09/06/95
1,2-Dichlorobenzene	BRL	670000	200	09/06/95
Bis(2-Chloroisopropyl)ether	BRL	670000	200	09/06/95
4-Methylphenol	BRL	670000	200	09/06/95
N-Nitroso-di-n-propylamine	BRL	670000	200	09/06/95
Hexachloroethane	BRL	670000	200	09/06/95
Nitrobenzene	BRL	670000	200	09/06/95
Isophorone	BRL	670000	200	09/06/95
2,4-Dimethylphenol	BRL	670000	200	09/06/95
1,2,4-Trichlorobenzene	BRL	670000	200	09/06/95
2-Nitrophenol	BRL	670000	200	09/06/95
Benzoic acid	BRL	1700000	200	09/06/95
Bis(2-Chloroethoxy)methane	BRL	670000	200	09/06/95
2,4-Dichlorophenol	BRL	670000	200	09/06/95
Naphthalene	BRL	670000	200	09/06/95
4-Chloroaniline	BRL	670000	200	09/06/95
Hexachlorobutadiene	BRL	670000	200	09/06/95
4-Chloro-3-methylphenol	BRL	670000	200	09/06/95
2-Methylnaphthalene	BRL	670000	200	09/06/95

SEMIVOLATILE ORGA[illegible]

Analytical Method: EPA 8270

Lab ID: 12457-1/21258-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	670000	200	09/06/95
2,4,6-Trichlorophenol	BRL	670000	200	09/06/95
2,4,5-Trichlorophenol	BRL	670000	200	09/06/95
2-Chloronaphthalene	BRL	670000	200	09/06/95
3-Nitroaniline	BRL	1700000	200	09/06/95
Dimethylphthalate	BRL	670000	200	09/06/95
2,6-Dinitrotoluene	BRL	670000	200	09/06/95
Acenaphthylene	BRL	670000	200	09/06/95
2-Nitroaniline	BRL	1700000	200	09/06/95
Acenaphthene	BRL	670000	200	09/06/95
2,4-Dinitrophenol	BRL	1700000	200	09/06/95
4-Nitrophenol	BRL	1700000	200	09/06/95
2,4-Dinitrotoluene	BRL	670000	200	09/06/95
Dibenzofuran	BRL	670000	200	09/06/95
Diethylphthalate	BRL	670000	200	09/06/95
alpha-BHC	BRL	670000	200	09/06/95
4-Chlorophenyl phenyl ether	BRL	670000	200	09/06/95
Fluorene	BRL	670000	200	09/06/95
4-Nitroaniline	BRL	1700000	200	09/06/95
4,6-Dinitro-2-methylphenol	BRL	1700000	200	09/06/95
N-Nitrosodiphenylamine	BRL	670000	200	09/06/95
4-Bromophenyl phenyl ether	BRL	670000	200	09/06/95
beta-BHC	BRL	670000	200	09/06/95
Lindane	BRL	670000	200	09/06/95
Hexachlorobenzene	BRL	670000	200	09/06/95
Pentachlorophenol	BRL	1700000	200	09/06/95
Phenanthrene	BRL	670000	200	09/06/95
Anthracene	BRL	670000	200	09/06/95
Delta-BHC	BRL	670000	200	09/06/95
Heptachlor	BRL	670000	200	09/06/95
Aldrin	BRL	670000	200	09/06/95
Endrin	BRL	670000	200	09/06/95
Butyl benzyl phthalate	5100000	670000	200	09/06/95
Fluoranthene	BRL	670000	200	09/06/95
Heptachlor Epoxide	BRL	670000	200	09/06/95
Pyrene	BRL	670000	200	09/06/95
Dieldrin	BRL	670000	200	09/06/95

SEMIVOLATILE ORGA S

Analytical Method: EPA 8270

Lab ID: 12457-1/21258-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	670000	200	09/06/95
Endosulfan sulfate	BRL	670000	200	09/06/95
4,4'-DDT	BRL	670000	200	09/06/95
4,4'-DDD	BRL	670000	200	09/06/95
Di-n-butylphthalate	BRL	670000	200	09/06/95
3,3'-Dichlorobenzidine	BRL	1300000	200	09/06/95
Benzo(a)anthracene	BRL	670000	200	09/06/95
Bis(2-Ethylhexyl)phthalate	180000 J	670000	200	09/06/95
Chrysene	BRL	670000	200	09/06/95
Di-n-octylphthalate	BRL	670000	200	09/06/95
Benzo(b)fluoranthene	BRL	670000	200	09/06/95
Benzo(k)fluoranthene	BRL	670000	200	09/06/95
Benzo(a)pyrene	BRL	670000	200	09/06/95
Indeno(1,2,3-c,d)pyrene	BRL	670000	200	09/06/95
Dibenz(a,h)anthracene	BRL	670000	200	09/06/95
Benzo(g,h,i)perylene	BRL	670000	200	09/06/95

Surrogates	% Recovery	Limits
2-Fluorophenol	0 *	25 - 121
Phenol-d5	0 *	24 - 113
Nitrobenzene-d5	0 *	23 - 120
2-Fluorobiphenyl	0 *	30 - 115
2,4,6-Tribromophenol	0 *	19 - 122
Terphenyl-d14	0 *	18 - 137

Qualifier Legend:
J - estimated value * - Values outside QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGAN[illegible]

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-208-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/31/95 19:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21260-7918
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 2923-950831
% Moisture: NA
Instrument/Column: MS03/XTI-5
Data File: K4040.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	900	330	1	09/05/95
Bis(2-Chloroethyl)ether	BRL	330	1	09/05/95
2-Chlorophenol	BRL	330	1	09/05/95
1,3-Dichlorobenzene	BRL	330	1	09/05/95
1,4-Dichlorobenzene	140 J	330	1	09/05/95
Benzyl alcohol	BRL	330	1	09/05/95
2-Methylphenol	63 J	330	1	09/05/95
1,2-Dichlorobenzene	290 J	330	1	09/05/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	09/05/95
4-Methylphenol	160 J	330	1	09/05/95
N-Nitroso-di-n-propylamine	BRL	330	1	09/05/95
Hexachloroethane	BRL	330	1	09/05/95
Nitrobenzene	BRL	330	1	09/05/95
Isophorone	BRL	330	1	09/05/95
2,4-Dimethylphenol	BRL	330	1	09/05/95
1,2,4-Trichlorobenzene	BRL	330	1	09/05/95
2-Nitrophenol	BRL	330	1	09/05/95
Benzoic acid	360 J	830	1	09/05/95
Bis(2-Chloroethoxy)methane	BRL	330	1	09/05/95
2,4-Dichlorophenol	BRL	330	1	09/05/95
Naphthalene	820	330	1	09/05/95
4-Chloroaniline	BRL	330	1	09/05/95
Hexachlorobutadiene	BRL	330	1	09/05/95
4-Chloro-3-methylphenol	BRL	330	1	09/05/95
2-Methylnaphthalene	190 J	330	1	09/05/95

SEMIVOLATILE ORGA[illegible]S

Analytical Method: EPA 8270

Lab ID: 12457-3/21260-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	09/05/95
2,4,6-Trichlorophenol	BRL	330	1	09/05/95
2,4,5-Trichlorophenol	BRL	330	1	09/05/95
2-Chloronaphthalene	BRL	330	1	09/05/95
3-Nitroaniline	BRL	830	1	09/05/95
Dimethylphthalate	BRL	330	1	09/05/95
2,6-Dinitrotoluene	BRL	330	1	09/05/95
Acenaphthylene	BRL	330	1	09/05/95
2-Nitroaniline	BRL	830	1	09/05/95
Acenaphthene	BRL	330	1	09/05/95
2,4-Dinitrophenol	BRL	830	1	09/05/95
4-Nitrophenol	BRL	830	1	09/05/95
2,4-Dinitrotoluene	BRL	330	1	09/05/95
Dibenzofuran	BRL	330	1	09/05/95
Diethylphthalate	82 J	330	1	09/05/95
alpha-BHC	BRL	330	1	09/05/95
4-Chlorophenyl phenyl ether	BRL	330	1	09/05/95
Fluorene	BRL	330	1	09/05/95
4-Nitroaniline	BRL	830	1	09/05/95
4,6-Dinitro-2-methylphenol	BRL	830	1	09/05/95
N-Nitrosodiphenylamine	BRL	330	1	09/05/95
4-Bromophenyl phenyl ether	BRL	330	1	09/05/95
beta-BHC	BRL	330	1	09/05/95
Lindane	BRL	330	1	09/05/95
Hexachlorobenzene	BRL	330	1	09/05/95
Pentachlorophenol	BRL	830	1	09/05/95
Phenanthrene	73 J	330	1	09/05/95
Anthracene	BRL	330	1	09/05/95
Delta-BHC	BRL	330	1	09/05/95
Heptachlor	BRL	330	1	09/05/95
Aldrin	BRL	330	1	09/05/95
Endrin	BRL	330	1	09/05/95
Butyl benzyl phthalate	520	330	1	09/05/95
Fluoranthene	BRL	330	1	09/05/95
Heptachlor Epoxide	BRL	330	1	09/05/95
Pyrene	BRL	330	1	09/05/95
Dieldrin	BRL	330	1	09/05/95

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270

Lab ID: 12457-3/21260-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	09/05/95
Endosulfan sulfate	BRL	330	1	09/05/95
4,4'-DDT	BRL	330	1	09/05/95
4,4'-DDD	BRL	330	1	09/05/95
Di-n-butylphthalate	200 J	330	1	09/05/95
3,3'-Dichlorobenzidine	BRL	670	1	09/05/95
Benzo(a)anthracene	BRL	330	1	09/05/95
Bis(2-Ethylhexyl)phthalate	2200	330	1	09/05/95
Chrysene	BRL	330	1	09/05/95
Di-n-octylphthalate	BRL	330	1	09/05/95
Benzo(b)fluoranthene	BRL	330	1	09/05/95
Benzo(k)fluoranthene	BRL	330	1	09/05/95
Benzo(a)pyrene	BRL	330	1	09/05/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	09/05/95
Dibenz(a,h)anthracene	BRL	330	1	09/05/95
Benzo(g,h,i)perylene	BRL	330	1	09/05/95

Surrogates	% Recovery	Limits
2-Fluorophenol	72	25 - 121
Phenol-d5	44	24 - 113
Nitrobenzene-d5	31	23 - 120
2-Fluorobiphenyl	57	30 - 115
2,4,6-Tribromophenol	68	19 - 122
Terphenyl-d14	66	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGA' 'S

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Sample Number: WL-208-28
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/31/95 19:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21261-7918
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 2923-950831
% Moisture: NA
Instrument/Column: MS03/XTI-5
Data File: K4041.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	410	330	1	09/05/95
Bis(2-Chloroethyl)ether	BRL	330	1	09/05/95
2-Chlorophenol	BRL	330	1	09/05/95
1,3-Dichlorobenzene	BRL	330	1	09/05/95
1,4-Dichlorobenzene	BRL	330	1	09/05/95
Benzyl alcohol	79 J	330	1	09/05/95
2-Methylphenol	BRL	330	1	09/05/95
1,2-Dichlorobenzene	74 J	330	1	09/05/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	09/05/95
4-Methylphenol	78 J	330	1	09/05/95
N-Nitroso-di-n-propylamine	BRL	330	1	09/05/95
Hexachloroethane	BRL	330	1	09/05/95
Nitrobenzene	BRL	330	1	09/05/95
Isophorone	BRL	330	1	09/05/95
2,4-Dimethylphenol	120 J	330	1	09/05/95
1,2,4-Trichlorobenzene	BRL	330	1	09/05/95
2-Nitrophenol	BRL	330	1	09/05/95
Benzoic acid	150 J	830	1	09/05/95
Bis(2-Chloroethoxy)methane	BRL	330	1	09/05/95
2,4-Dichlorophenol	BRL	330	1	09/05/95
Naphthalene	95 J	330	1	09/05/95
4-Chloroaniline	BRL	330	1	09/05/95
Hexachlorobutadiene	BRL	330	1	09/05/95
4-Chloro-3-methylphenol	BRL	330	1	09/05/95
2-Methylnaphthalene	BRL	330	1	09/05/95

SEMIVOLATILE ORGAN[illegible]S

Analytical Method: EPA 8270

Lab ID: 12457-4/21261-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	09/05/95
2,4,6-Trichlorophenol	BRL	330	1	09/05/95
2,4,5-Trichlorophenol	BRL	330	1	09/05/95
2-Chloronaphthalene	BRL	330	1	09/05/95
3-Nitroaniline	BRL	830	1	09/05/95
Dimethylphthalate	BRL	330	1	09/05/95
2,6-Dinitrotoluene	BRL	330	1	09/05/95
Acenaphthylene	BRL	330	1	09/05/95
2-Nitroaniline	BRL	830	1	09/05/95
Acenaphthene	BRL	330	1	09/05/95
2,4-Dinitrophenol	BRL	830	1	09/05/95
4-Nitrophenol	BRL	830	1	09/05/95
2,4-Dinitrotoluene	BRL	330	1	09/05/95
Dibenzofuran	BRL	330	1	09/05/95
Diethylphthalate	53 J	330	1	09/05/95
alpha-BHC	BRL	330	1	09/05/95
4-Chlorophenyl phenyl ether	BRL	330	1	09/05/95
Fluorene	BRL	330	1	09/05/95
4-Nitroaniline	BRL	830	1	09/05/95
4,6-Dinitro-2-methylphenol	BRL	830	1	09/05/95
N-Nitrosodiphenylamine	BRL	330	1	09/05/95
4-Bromophenyl phenyl ether	BRL	330	1	09/05/95
beta-BHC	BRL	330	1	09/05/95
Lindane	BRL	330	1	09/05/95
Hexachlorobenzene	BRL	330	1	09/05/95
Pentachlorophenol	85 J	830	1	09/05/95
Phenanthrene	BRL	330	1	09/05/95
Anthracene	BRL	330	1	09/05/95
Delta-BHC	BRL	330	1	09/05/95
Heptachlor	BRL	330	1	09/05/95
Aldrin	BRL	330	1	09/05/95
Endrin	BRL	330	1	09/05/95
Butyl benzyl phthalate	BRL	330	1	09/05/95
Fluoranthene	BRL	330	1	09/05/95
Heptachlor Epoxide	BRL	330	1	09/05/95
Pyrene	BRL	330	1	09/05/95
Dieldrin	BRL	330	1	09/05/95

SEMIVOLATILE ORGAN S

Analytical Method: EPA 8270

Lab ID: 12457-4/21261-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	09/05/95
Endosulfan sulfate	BRL	330	1	09/05/95
4,4'-DDT	BRL	330	1	09/05/95
4,4'-DDD	BRL	330	1	09/05/95
Di-n-butylphthalate	BRL	330	1	09/05/95
3,3'-Dichlorobenzidine	BRL	670	1	09/05/95
Benzo(a)anthracene	BRL	330	1	09/05/95
Bis(2-Ethylhexyl)phthalate	260 J	330	1	09/05/95
Chrysene	BRL	330	1	09/05/95
Di-n-octylphthalate	BRL	330	1	09/05/95
Benzo(b)fluoranthene	BRL	330	1	09/05/95
Benzo(k)fluoranthene	BRL	330	1	09/05/95
Benzo(a)pyrene	BRL	330	1	09/05/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	09/05/95
Dibenz(a,h)anthracene	BRL	330	1	09/05/95
Benzo(g,h,i)perylene	BRL	330	1	09/05/95

Surrogates	% Recovery	Limits
2-Fluorophenol	88	25 - 121
Phenol-d5	71	24 - 113
Nitrobenzene-d5	63	23 - 120
2-Fluorobiphenyl	58	30 - 115
2,4,6-Tribromophenol	81	19 - 122
Terphenyl-d14	86	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/31/95 19:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL

Lab ID: 22951-MB /7918
Matrix: Soil
Batch Number: 2923-950831

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Phenol	BRL	330	09/05/95
Bis(2-Chloroethyl)ether	BRL	330	09/05/95
2-Chlorophenol	BRL	330	09/05/95
1,3-Dichlorobenzene	BRL	330	09/05/95
1,4-Dichlorobenzene	BRL	330	09/05/95
Benzyl alcohol	BRL	330	09/05/95
2-Methylphenol	BRL	330	09/05/95
1,2-Dichlorobenzene	BRL	330	09/05/95
Bis(2-Chloroisopropyl)ether	BRL	330	09/05/95
4-Methylphenol	BRL	330	09/05/95
N-Nitroso-di-n-propylamine	BRL	330	09/05/95
Hexachloroethane	BRL	330	09/05/95
Nitrobenzene	BRL	330	09/05/95
Isophorone	BRL	330	09/05/95
2,4-Dimethylphenol	BRL	330	09/05/95
1,2,4-Trichlorobenzene	BRL	330	09/05/95
2-Nitrophenol	BRL	330	09/05/95
Benzoic acid	BRL	1600	09/05/95
Bis(2-Chloroethoxy)methane	BRL	330	09/05/95
2,4-Dichlorophenol	BRL	330	09/05/95
Naphthalene	BRL	330	09/05/95
4-Chloroaniline	BRL	330	09/05/95
Hexachlorobutadiene	BRL	330	09/05/95
4-Chloro-3-methylphenol	BRL	330	09/05/95
2-Methylnaphthalene	BRL	330	09/05/95
Hexachlorocyclopentadiene	BRL	330	09/05/95
2,4,6-Trichlorophenol	BRL	330	09/05/95
2,4,5-Trichlorophenol	BRL	330	09/05/95
2-Chloronaphthalene	BRL	330	09/05/95
3-Nitroaniline	BRL	1600	09/05/95
Dimethylphthalate	BRL	330	09/05/95

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
2,6-Dinitrotoluene	BRL	330	09/05/95
Acenaphthylene	BRL	330	09/05/95
2-Nitroaniline	BRL	1600	09/05/95
Acenaphthene	BRL	330	09/05/95
2,4-Dinitrophenol	BRL	1600	09/05/95
4-Nitrophenol	BRL	1600	09/05/95
2,4-Dinitrotoluene	BRL	330	09/05/95
Dibenzofuran	BRL	330	09/05/95
Diethylphthalate	BRL	330	09/05/95
alpha-BHC	BRL	330	09/05/95
4-Chlorophenyl phenyl ether	BRL	330	09/05/95
Fluorene	BRL	330	09/05/95
4-Nitroaniline	BRL	1600	09/05/95
4,6-Dinitro-2-methylphenol	BRL	1600	09/05/95
N-Nitrosodiphenylamine	BRL	330	09/05/95
4-Bromophenyl phenyl ether	BRL	330	09/05/95
beta-BHC	BRL	330	09/05/95
Lindane	BRL	330	09/05/95
Hexachlorobenzene	BRL	330	09/05/95
Pentachlorophenol	BRL	1600	09/05/95
Phenanthrene	BRL	330	09/05/95
Anthracene	BRL	330	09/05/95
Delta-BHC	BRL	330	09/05/95
Heptachlor	BRL	330	09/05/95
Aldrin	BRL	330	09/05/95
Endrin	BRL	330	09/05/95
Butyl benzyl phthalate	BRL	330	09/05/95
Fluoranthene	BRL	330	09/05/95
Heptachlor Epoxide	BRL	330	09/05/95
Pyrene	BRL	330	09/05/95
Dieldrin	BRL	330	09/05/95
4,4'-DDE	BRL	330	09/05/95
Endosulfan sulfate	BRL	330	09/05/95
4,4'-DDT	BRL	330	09/05/95
4,4'-DDD	BRL	330	09/05/95
Di-n-butylphthalate	BRL	330	09/05/95
3,3'-Dichlorobenzidine	BRL	660	09/05/95

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Benzo(a)anthracene	BRL	330	09/05/95
Bis(2-Ethylhexyl)phthalate	BRL	330	09/05/95
Chrysene	BRL	330	09/05/95
Di-n-octylphthalate	BRL	330	09/05/95
Benzo(b)fluoranthene	BRL	330	09/05/95
Benzo(k)fluoranthene	BRL	330	09/05/95
Benzo(a)pyrene	BRL	330	09/05/95
Indeno(1,2,3-c,d)pyrene	BRL	330	09/05/95
Dibenz(a,h)anthracene	BRL	330	09/05/95
Benzo(g,h,i)perylene	BRL	330	09/05/95

Surrogates	% Recovery	Limits
2-Fluorophenol	97	25 - 121
Phenol-d5	78	24 - 113
Nitrobenzene-d5	72	23 - 120
2-Fluorobiphenyl	64	30 - 115
2,4,6-Tribromophenol	112	19 - 122
Terphenyl-d14	90	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON' 'OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 08/31/95 19:30:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
LCS Date Analyzed: 09/05/95

Lab ID: 22950-LCS /7918
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2923-950831
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Phenol	0	2500	1430	57	NA	NA	NA	26-90	≤35
2-Chlorophenol	0	2500	1660	66	NA	NA	NA	25-102	≤50
1,4-Dichlorobenzene	0	1670	1010	61	NA	NA	NA	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1250	75	NA	NA	NA	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1000	60	NA	NA	NA	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1600	64	NA	NA	NA	26-103	≤33
Acenaphthene	0	1670	964	58	NA	NA	NA	31-137	≤19
4-Nitrophenol	0	2500	1040	42	NA	NA	NA	11-114	≤50
2,4-Dinitrotoluene	0	1670	1170	70	NA	NA	NA	28-89	≤47
Pentachlorophenol	0	2500	1850	74	NA	NA	NA	17-109	≤47
Pyrene	0	1670	968	58	NA	NA	NA	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	2550	102	NA	NA	25-121
Phenol-d5	2500	1880	75	NA	NA	24-113
Nitrobenzene-d5	1670	1170	70	NA	NA	23-120
2-Fluorobiphenyl	1670	1040	62	NA	NA	30-115

LABORATORY CON' 'OL SPIKE/LABORATORY ' 'NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 22950-LCS /7918

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2,4,6-Tribromophenol	2500	2540	102	NA	NA	19-122
Terphenyl-d14	1670	1520	91	NA	NA	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

ʔLYCHLORINATED BIPH ʼʼLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Sample Number: WL-208-U
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95 13:00:
Initial Wt./Volume: 30 grams
Final Volume: 10 mL

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21258-7535
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S)
Batch Number: 2818-950828
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1016	BRL	340	20	08/30/95
Aroclor 1221	BRL	680	20	08/30/95
Aroclor 1232	BRL	340	20	08/30/95
Aroclor 1242	BRL	340	20	08/30/95
Aroclor 1248	BRL	340	20	08/30/95
Aroclor 1254	BRL	340	20	08/30/95
Aroclor 1260	BRL	340	20	08/30/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	0 *	60 - 150

Qualifier Legend:
* - Values outside QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

'OLYCHLORINATED BIPH' 'YLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-208-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95 13:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21260-7535
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 2818-950828
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1016	BRL	17	1	09/05/95
Aroclor 1221	BRL	34	1	09/05/95
Aroclor 1232	BRL	17	1	09/05/95
Aroclor 1242	BRL	17	1	09/05/95
Aroclor 1248	BRL	17	1	09/05/95
Aroclor 1254	180	17	1	09/05/95
Aroclor 1260	BRL	17	1	09/05/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	88	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

"OLYCHLORINATED BIPH' 'YLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Sample Number: WL-208-28
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95 13:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21261-7535
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 2818-950828
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1016	BRL	17	1	09/05/95
Aroclor 1221	BRL	34	1	09/05/95
Aroclor 1232	BRL	17	1	09/05/95
Aroclor 1242	BRL	17	1	09/05/95
Aroclor 1248	BRL	17	1	09/05/95
Aroclor 1254	BRL	17	1	09/05/95
Aroclor 1260	BRL	17	1	09/05/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	98	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/28/95 13:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 21375-MB /7535
Matrix: Soil
Batch Number: 2818-950828

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Aroclor 1016	BRL	17	08/29/95
Aroclor 1221	BRL	34	08/29/95
Aroclor 1232	BRL	17	08/29/95
Aroclor 1242	BRL	17	08/29/95
Aroclor 1248	BRL	17	08/29/95
Aroclor 1254	BRL	17	08/29/95
Aroclor 1260	BRL	17	08/29/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	98	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON`OL SPIKE/LABORATORY `NTROL SPIKE DUPLICATE

POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 08/28/95 13:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/29/95

Lab ID: 21376-LCS /7535
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2818-950828
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Aroclor 1254	0	83.3	84.1	101	NA	NA	NA	45-121	≤25

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	8.13	98	NA	NA	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

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Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

T AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Sample Number: WL-208-U
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21258-25
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S)
Batch Number: 2804-950828
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	5000	4000	400	08/30/95
Diesel Range (C12-C22)	BRL	4000	400	08/30/95
Motor Oil Range (C22-C32)	16000	4000	400	08/30/95

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Approved by: _____ Date: 9-7-95

MBT Environmental Laboratories

Master Builders Technologies

T AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-208-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21260-25
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 2804-950828
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	240	50	5	08/30/95
Diesel Range (C12-C22)	51	10	1	08/30/95
Motor Oil Range (C22-C32)	79	50	5	08/30/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-7-95

MBT Environmental Laboratories

Master Builders Technologies

T AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Sample Number: WL-208-28
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21261-25
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 2804-950828
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	24	10	1	08/30/95
Diesel Range (C12-C22)	BRL	10	1	08/30/95
Motor Oil Range (C22-C32)	BRL	10	1	08/30/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-7-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Date Prepared: 08/28/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 21275-MB /25
Matrix: Soil
Batch Number: 2804-950828

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	08/30/95
Diesel Range (C12-C22)	BRL	10	08/30/95
Motor Oil Range (C22-C32)	BRL	10	08/30/95

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Approved by: _____ Date: 9-7-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Date Prepared: 08/28/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 08/30/95

Lab ID: 21276-LCS /25
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2804-950828
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Diesel Range (C12-C22)	0	83.3	54.0	65	NA	NA	NA	52-125	≤

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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MBT Environmental Laboratories

Master Builders Technologies

MA' 'X SPIKE/MATRIX SPIKE ' 'LICATE

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-210-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 08/28/95 07:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
MS Date Analyzed: 08/30/95

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-2/21277,21278-25
Date/Time Sampled: 08/25/95 14:00
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2804-950828
% Moisture: NA
MSD Date Analyzed: 08/30/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Diesel Range (C12-C22)	1200	83.3	1260	72	1360	192*	8	52-125	≤

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Qualifier Legend:
* - Values outside QC

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Approved by: _____ Date: 9-7-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 ?
Sample Number: WL-208-U
Date/Time Received: 08/26/95 08:40
Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: TB

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-1/21258-7616
Date/Time Sampled: 08/25/95 10:45
Matrix: Soil (S)
Batch Number: 3053-950907
% Moisture: NA
Instrument/Column: MS05/RTX-502.2
Data File: z2781.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	1000000	1000	09/08/95
Vinyl Chloride	BRL	1000000	1000	09/08/95
Bromomethane	BRL	1000000	1000	09/08/95
Chloroethane	BRL	1000000	1000	09/08/95
Trichlorofluoromethane	BRL	1000000	1000	09/08/95
Acetone	1400000 JB	2500000	1000	09/08/95
1,1-Dichloroethene	BRL	500000	1000	09/08/95
Methylene Chloride	240000 J	500000	1000	09/08/95
Carbon Disulfide	BRL	500000	1000	09/08/95
trans-1,2-Dichloroethene	BRL	500000	1000	09/08/95
1,1-Dichloroethane	270000 J	500000	1000	09/08/95
cis-1,2-Dichloroethene	BRL	500000	1000	09/08/95
Chloroform	BRL	500000	1000	09/08/95
1,2-Dichloroethane	BRL	500000	1000	09/08/95
2-Butanone	BRL	2500000	1000	09/08/95
1,1,1-Trichloroethane	BRL	500000	1000	09/08/95
Carbon Tetrachloride	BRL	500000	1000	09/08/95
Benzene	120000 J	500000	1000	09/08/95
Trichloroethene	BRL	500000	1000	09/08/95
1,2-Dichloropropane	BRL	500000	1000	09/08/95
Bromodichloromethane	BRL	500000	1000	09/08/95
2-Chloroethylvinylether	BRL	1000000	1000	09/08/95
trans-1,3-Dichloropropene	BRL	500000	1000	09/08/95
cis-1,3-Dichloropropene	BRL	500000	1000	09/08/95
1,1,2-Trichloroethane	BRL	500000	1000	09/08/95
Dibromochloromethane	BRL	500000	1000	09/08/95
Bromoform	BRL	500000	1000	09/08/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12457-1/21258-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	2500000	1000	09/08/95
Toluene	8300000	500000	1000	09/08/95
2-Hexanone	BRL	2500000	1000	09/08/95
Tetrachloroethene	BRL	500000	1000	09/08/95
Chlorobenzene	BRL	500000	1000	09/08/95
Ethyl benzene	300000 J	500000	1000	09/08/95
m & p Xylene	1800000	500000	1000	09/08/95
o-Xylene	500000 J	500000	1000	09/08/95
Styrene	BRL	500000	1000	09/08/95
1,1,2,2-Tetrachloroethane	BRL	500000	1000	09/08/95
1,3-Dichlorobenzene	BRL	500000	1000	09/08/95
1,4-Dichlorobenzene	BRL	500000	1000	09/08/95
1,2-Dichlorobenzene	BRL	500000	1000	09/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	0 *	70 - 121
Toluene-d8	0 *	81 - 117
Bromofluorobenzene	0 *	74 - 121

Qualifier Legend:
J - estimated value B - Detected in blank * - Values outside QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 15'
Sample Number: WL-208-15
Date/Time Received: 08/26/95 08:40
Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: TB

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-3/21260-7616
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 3053-950907
% Moisture: NA
Instrument/Column: MS05/RTX-502.2
Data File: z2783.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	5000	5	09/08/95
Vinyl Chloride	BRL	5000	5	09/08/95
Bromomethane	BRL	5000	5	09/08/95
Chloroethane	BRL	5000	5	09/08/95
Trichlorofluoromethane	BRL	5000	5	09/08/95
Acetone	19000	12000	5	09/08/95
1,1-Dichloroethene	BRL	2500	5	09/08/95
Methylene Chloride	BRL	2500	5	09/08/95
Carbon Disulfide	BRL	2500	5	09/08/95
trans-1,2-Dichloroethene	BRL	2500	5	09/08/95
1,1-Dichloroethane	BRL	2500	5	09/08/95
cis-1,2-Dichloroethene	BRL	2500	5	09/08/95
Chloroform	BRL	2500	5	09/08/95
1,2-Dichloroethane	BRL	2500	5	09/08/95
2-Butanone	52000	12000	5	09/08/95
1,1,1-Trichloroethane	BRL	2500	5	09/08/95
Carbon Tetrachloride	BRL	2500	5	09/08/95
Benzene	BRL	2500	5	09/08/95
Trichloroethene	BRL	2500	5	09/08/95
1,2-Dichloropropane	BRL	2500	5	09/08/95
Bromodichloromethane	BRL	2500	5	09/08/95
2-Chloroethylvinylether	BRL	5000	5	09/08/95
trans-1,3-Dichloropropene	BRL	2500	5	09/08/95
cis-1,3-Dichloropropene	BRL	2500	5	09/08/95
1,1,2-Trichloroethane	BRL	2500	5	09/08/95
Dibromochloromethane	BRL	2500	5	09/08/95
Bromoform	BRL	2500	5	09/08/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12457-3/21260-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	7700 J	12000	5	09/08/95
Toluene	BRL	2500	5	09/08/95
2-Hexanone	BRL	12000	5	09/08/95
Tetrachloroethene	BRL	2500	5	09/08/95
Chlorobenzene	BRL	2500	5	09/08/95
Ethyl benzene	BRL	2500	5	09/08/95
m & p Xylene	1300 J	2500	5	09/08/95
o-Xylene	BRL	2500	5	09/08/95
Styrene	BRL	2500	5	09/08/95
1,1,2,2-Tetrachloroethane	BRL	2500	5	09/08/95
1,3-Dichlorobenzene	BRL	2500	5	09/08/95
1,4-Dichlorobenzene	BRL	2500	5	09/08/95
1,2-Dichlorobenzene	BRL	2500	5	09/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	99	70 - 121
Toluene-d8	99	81 - 117
Bromofluorobenzene	101	74 - 121

Qualifier Legend:
J - estimated value

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Approved by: _____ Date: 9-11-9.

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Sample Number: WL-208-28
Date/Time Received: 08/26/95 08:40
Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: TB

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/21261-7616
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S)
Batch Number: 3053-950907
% Moisture: NA
Instrument/Column: MS05/RTX-502.2
Data File: z2780.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	1000	1	09/08/95
Vinyl Chloride	BRL	1000	1	09/08/95
Bromomethane	BRL	1000	1	09/08/95
Chloroethane	BRL	1000	1	09/08/95
Trichlorofluoromethane	BRL	1000	1	09/08/95
Acetone	3300 B	2500	1	09/08/95
1,1-Dichloroethene	BRL	500	1	09/08/95
Methylene Chloride	470 J	500	1	09/08/95
Carbon Disulfide	BRL	500	1	09/08/95
trans-1,2-Dichloroethene	BRL	500	1	09/08/95
1,1-Dichloroethane	BRL	500	1	09/08/95
cis-1,2-Dichloroethene	BRL	500	1	09/08/95
Chloroform	BRL	500	1	09/08/95
1,2-Dichloroethane	BRL	500	1	09/08/95
2-Butanone	8400	2500	1	09/08/95
1,1,1-Trichloroethane	BRL	500	1	09/08/95
Carbon Tetrachloride	BRL	500	1	09/08/95
Benzene	BRL	500	1	09/08/95
Trichloroethene	BRL	500	1	09/08/95
1,2-Dichloropropane	BRL	500	1	09/08/95
Bromodichloromethane	BRL	500	1	09/08/95
2-Chloroethylvinylether	BRL	1000	1	09/08/95
trans-1,3-Dichloropropene	BRL	500	1	09/08/95
cis-1,3-Dichloropropene	BRL	500	1	09/08/95
1,1,2-Trichloroethane	BRL	500	1	09/08/95
Dibromochloromethane	BRL	500	1	09/08/95
Bromoform	BRL	500	1	09/08/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12457-4/21261-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	970 J	2500	1	09/08/95
Toluene	BRL	500	1	09/08/95
2-Hexanone	BRL	2500	1	09/08/95
Tetrachloroethene	BRL	500	1	09/08/95
Chlorobenzene	BRL	500	1	09/08/95
Ethyl benzene	290 J	500	1	09/08/95
m & p Xylene	1400	500	1	09/08/95
o-Xylene	460 J	500	1	09/08/95
Styrene	BRL	500	1	09/08/95
1,1,2,2-Tetrachloroethane	BRL	500	1	09/08/95
1,3-Dichlorobenzene	BRL	500	1	09/08/95
1,4-Dichlorobenzene	BRL	500	1	09/08/95
1,2-Dichlorobenzene	BRL	500	1	09/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	88	70 - 121
Toluene-d8	92	81 - 117
Bromofluorobenzene	92	74 - 121

Qualifier Legend:
J - estimated value B - Detected in blank

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL

Analyst: TB

Lab ID: 23008-MB /7616
Matrix: Soil
Batch Number: 3053-950907
Instrument/Column: MS05/RTX-502.2
Data File: z2769.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	1000	09/08/95
Vinyl Chloride	BRL	1000	09/08/95
Bromomethane	BRL	1000	09/08/95
Chloroethane	BRL	1000	09/08/95
Trichlorofluoromethane	BRL	1000	09/08/95
Acetone	720 J	2500	09/08/95
1,1-Dichloroethene	BRL	500	09/08/95
Methylene Chloride	BRL	500	09/08/95
Carbon Disulfide	BRL	500	09/08/95
trans-1,2-Dichloroethene	BRL	500	09/08/95
1,1-Dichloroethane	BRL	500	09/08/95
cis-1,2-Dichloroethene	BRL	500	09/08/95
Chloroform	BRL	500	09/08/95
1,2-Dichloroethane	BRL	500	09/08/95
2-Butanone	BRL	2500	09/08/95
1,1,1-Trichloroethane	BRL	500	09/08/95
Carbon Tetrachloride	BRL	500	09/08/95
Benzene	BRL	500	09/08/95
Trichloroethene	BRL	500	09/08/95
1,2-Dichloropropane	BRL	500	09/08/95
Bromodichloromethane	BRL	500	09/08/95
2-Chloroethylvinylether	BRL	1000	09/08/95
trans-1,3-Dichloropropene	BRL	500	09/08/95
cis-1,3-Dichloropropene	BRL	500	09/08/95
1,1,2-Trichloroethane	BRL	500	09/08/95
Dibromochloromethane	BRL	500	09/08/95
Bromoform	BRL	500	09/08/95
4-Methyl-2-Pentanone	BRL	2500	09/08/95
Toluene	BRL	500	09/08/95
2-Hexanone	BRL	2500	09/08/95
Tetrachloroethene	BRL	500	09/08/95
Chlorobenzene	BRL	500	09/08/95

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Ethyl benzene	BRL	500	09/08/95
m & p Xylene	BRL	500	09/08/95
o-Xylene	BRL	500	09/08/95
Styrene	BRL	500	09/08/95
1,1,2,2-Tetrachloroethane	BRL	500	09/08/95
1,3-Dichlorobenzene	BRL	500	09/08/95
1,4-Dichlorobenzene	BRL	500	09/08/95
1,2-Dichlorobenzene	BRL	500	09/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	91	70 - 121
Toluene-d8	95	81 - 117
Bromofluorobenzene	94	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
LCS Date Analyzed: 09/08/95

Analyst: TB

Lab ID: 23007-LCS /7616
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 3053-950907
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: z2768.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
1,1-Dichloroethene	0	5000	3390	68	NA	NA	NA	59-172	≤22
Benzene	0	5000	4220	84	NA	NA	NA	66-142	≤21
Trichloroethene	0	5000	4030	80	NA	NA	NA	62-137	≤24
Toluene	0	5000	3610	72	NA	NA	NA	59-139	≤21
Chlorobenzene	0	5000	4300	86	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	5000	4260	85	NA	NA	70-121
Toluene-d8	5000	4500	90	NA	NA	81-117
Bromofluorobenzene	5000	4310	86	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

M/ IX SPIKE/MATRIX SPIKE PLICATE

VOLATILE ORGANICS

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 28'
Sample Number: WL-208-28
Date/Time Received: 08/26/95 08:40
Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
MS Date Analyzed: 09/08/95

SDG #: 12457
Project Number: 070803035003005
Lab ID: 12457-4/23009,23010-7616
Date/Time Sampled: 08/25/95 10:00
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 3053-950907
% Moisture: NA

MSD Date Analyzed: 09/08/95
Instrument/Column: /RTX-502.2
Data File: z2774.d

Analyst: TB

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	5000	2530	51*	3580	72	34*	59-172	≤22
Benzene	0	5000	3090	62*	4270	85	32*	66-142	≤21
Trichloroethene	0	5000	3000	60*	4220	84	34*	62-137	≤24
Toluene	0	5000	3270	65	4500	90	32*	59-139	≤21
Chlorobenzene	0	5000	3170	63	4420	88	33*	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	5000	4200	84	4750	95	70-121
Toluene-d8	5000	4310	86	5110	102	81-117
Bromofluorobenzene	5000	4270	85	4990	100	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

LP 12496

MBT Environment
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

COPY

Date: September 20, 1995
LP #: 12496

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed are the laboratory results for the three samples submitted to MBT Environmental Laboratories on September 1, 1995, for the project *Westlake*.

The report consists of the following sections:

1. Cover Page
2. Copy of Chain-of-Custody
3. General Narrative
4. Analytical and Quality Control Results

Unless otherwise instructed by you, samples will be disposed of two weeks from the date of this letter.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Shakoora Azimi
Laboratory Director, Principal Scientist

MF nvironmental
Lab tories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

00016

SIDE 2 FOR COMPLETE INSTRUCTIONS

Ship To:
Address:

Project Name:
Project Number:
Project Location: (State)

FOR LABORATORY USE ONLY
Laboratory Project #: 12496
Storage Refrigerator ID:
Storage Freezer ID:

Sampler Name	Signature	PPE Worn in Field	
John D Ryan	John D Ryan	Level D	8/31/95 1800

Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
John D Ryan	8/31/95 1800	FED EX # 4261441195	
FED EX			9-6-95 0930

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT				8240	8270	8015 Mod	8021		8015
1 12496	001	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				X	X	X	X	X	X
2	002	[illegible]	[illegible]	↑	↓	↓	↓	↓	↓	↓				X	X	X	X	X	X
3 ✓	003	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				X	X	X	X	X	X
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Special Instructions/Comments: [illegible]

Container Types:
B=Brass Tube
G=Glass Jar
O=Other
A=1 Liter Amber
C=Cassette
P=Polyethylene
V=Voa Vial

TAT (Analytical Turn Around Time)
1 = 24 hours
2 = 48 hours
3 = 1 week
4 = 2 weeks
0 = Other

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: [illegible]
TEMP 2°C.

SEND DOCUMENTATION AND RESULTS TO (Check one):
- [x] Project Manager/Office: [illegible]
- [ ] Client Name:

Company:
Address:
Phone: FAX:

Common Analytical Methods

413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12496

WESTLAKE

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417
	CONNECTICUT:	Waste Water, #PH0799
	FLORIDA:	Environmental Water, #E87298 CQAPP #930105
	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192
	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A
	NEW JERSEY:	Waste Water, #44818
	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241
	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
	TENNESSEE:	Underground Storage Tank
	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
	WASHINGTON:	Hazardous Waste, #C048
	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
	USACOE:	Hazardous Waste Waste Water
	AFCEE	

(CN12496)

MBT Environmental Laboratories

Master Builders Technologies

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

EPA 8080

Heptachlor Epoxide can exist as two isomers. The data reported for USEPA Method EPA 8080 is the total Heptachlor Epoxide present in the sample, which may consist of any combination of the isomers.

The following sample was analyzed at a dilution due to the presence of non-target analyte interferences: 12496-1

The following samples were analyzed at a dilution to bring target analyte(s) within linear working range: 12496-3, 12496-3 MS, 12496-3 MSD

For sample 12496-3, the final result from the primary column for Beta-BHC and Endosulfan Sulfate did not quantitatively agree with the confirmation result. A matrix interferant is suspect and possibly responsible for the disagreement. The estimated confirmation results for Beta-BHC and Endosulfan Sulfate were 810 and 840 ug/Kg, respectively.

The surrogate recoveries for the analytes flagged on the data sheet were diluted out for the following sample: 12496-3

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

The matrix spike/matrix spike duplicate RPDs flagged on the matrix spike data sheet are outside of advisory quality control limits, indicating possible sample matrix nonhomogeneity.

The surrogate recoveries for the analytes flagged on the data sheet were beyond acceptance limits for the following samples: 12496-3 MSD

(CN12496)

EPA 8270

The following samples were analyzed at a dilution to bring target analyte(s) within linear working range: 12496-1, 12496-3

The LCS recoveries for the analytes flagged on the LCS data sheets are outside of advisory acceptance limits. The calibration data associated with this laboratory project were within acceptance limits.

EPA 8240

The following samples were analyzed by medium level protocol due to the presence of high levels of target compounds: 12496-1, 12496-2, 12496-3

PP Metals

Matrix spike recoveries flagged on the matrix spike data sheets are outside of advisory quality control limits, indicating possible matrix effects. The laboratory control sample results meet QC criteria.

The following sample was analyzed at a dilution to bring target analyte(s) within linear working range: 12496-3

EPA 8015 Modified

The reported result for Motor Oil for the following samples is calculated based on the Motor Oil standard; however, the chromatographic pattern in the sample does not resemble that of the Motor Oil standard: 12496-1, 12496-2

The following sample was analyzed at a dilution due to the presence of non-target analyte interferences: 12496-1

Non-target analytes are present on the chromatograph for the following sample: 12496-2

The reported result for Gas for the following sample is calculated based on the Gas standard; however, the chromatographic pattern in the sample does not exactly resemble that of the Gas standard: 12496-3

The following sample was analyzed at a dilution to bring target analyte(s) within linear working range: 12496-3

(CN12496)

Abbreviations and Definitions:

MB	*Method Blank* - An aliquot of a blank matrix carried throughout the entire analytical process
LCS	*Laboratory Control Sample* - A blank to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the accuracy of the method
MS/MSD	*Matrix Spike/Matrix Spike Duplicate* - Duplicate samples to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the extent of matrix bias or interference on analyte recovery
RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*
NA	*Not Applicable*

Flags:

Organics -

J	Estimated value below the reporting limit and at or above the method detection limit.
B	Analyte found in the associated blank, as well as in the sample.

Inorganics -

B	Estimated value below the reporting limit and at or above the method detection limit.

(CN12496)

PESTIC ES AND POLYCHLORINA BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-214-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-1/22283-7537
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 2978-950907
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	3.4	10	09/09/95
gamma-BHC (Lindane)	BRL	3.4	10	09/09/95
delta-BHC	BRL	3.4	10	09/09/95
beta-BHC	BRL	3.4	10	09/09/95
Heptachlor	BRL	3.4	10	09/09/95
Aldrin	9.0	3.4	10	09/09/95
Heptachlor Epoxide	BRL	3.4	10	09/09/95
Endosulfan I	11	3.4	10	09/09/95
4,4'-DDE	7.8	6.8	10	09/09/95
Dieldrin	BRL	6.8	10	09/09/95
Endrin	BRL	6.8	10	09/09/95
4,4'-DDD	BRL	6.8	10	09/09/95
Endosulfan II	BRL	6.8	10	09/09/95
4,4'-DDT	BRL	6.8	10	09/09/95
Endrin Aldehyde	BRL	6.8	10	09/09/95
Endosulfan Sulfate	BRL	6.8	10	09/09/95
Toxaphene	BRL	170	10	09/09/95
Chlordane (Technical)	BRL	34	10	09/09/95
Methoxychlor	BRL	34	10	09/09/95
Aroclor 1016	BRL	17	1	09/11/95
Aroclor 1221	BRL	34	1	09/11/95
Aroclor 1232	BRL	17	1	09/11/95
Aroclor 1242	BRL	17	1	09/11/95
Aroclor 1248	220	17	1	09/11/95
Aroclor 1254	BRL	17	1	09/11/95

PESTI('S AND POLYCHLORINA' BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12496-1/22283-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	09/11/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	62	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-19-95

MBT Environmental Laboratories

Master Builders Technologies

PESTIC S AND POLYCHLORINAT' 'IPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-213-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-2/22284-7537
Date/Time Sampled: 08/30/95 10:00
Matrix: Soil (S)
Batch Number: 2978-950907
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	09/09/95
gamma-BHC (Lindane)	BRL	0.34	1	09/09/95
delta-BHC	BRL	0.34	1	09/09/95
beta-BHC	BRL	0.34	1	09/09/95
Heptachlor	BRL	0.34	1	09/09/95
Aldrin	1.1	0.34	1	09/09/95
Heptachlor Epoxide	BRL	0.34	1	09/09/95
Endosulfan I	BRL	0.34	1	09/09/95
4,4'-DDE	BRL	0.68	1	09/09/95
Dieldrin	BRL	0.68	1	09/09/95
Endrin	BRL	0.68	1	09/09/95
4,4'-DDD	BRL	0.68	1	09/09/95
Endosulfan II	BRL	0.68	1	09/09/95
4,4'-DDT	BRL	0.68	1	09/09/95
Endrin Aldehyde	BRL	0.68	1	09/09/95
Endosulfan Sulfate	BRL	0.68	1	09/09/95
Toxaphene	BRL	17	1	09/09/95
Chlordane (Technical)	BRL	3.4	1	09/09/95
Methoxychlor	BRL	3.4	1	09/09/95
Aroclor 1016	BRL	17	1	09/09/95
Aroclor 1221	BRL	34	1	09/09/95
Aroclor 1232	BRL	17	1	09/09/95
Aroclor 1242	BRL	17	1	09/09/95
Aroclor 1248	BRL	17	1	09/09/95
Aroclor 1254	BRL	17	1	09/09/95

PESTIC S AND POLYCHLORINATI IPHENYLS

Analytical Method: EPA 8080

Lab ID: 12496-2/22284-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	09/09/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	65	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-19-95

MBT Environmental Laboratories

Master Builders Technologies

PESTIC ES AND POLYCHLORINAT BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-218-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-3/22285-7537
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 2978-950907
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	17	50	09/13/95
gamma-BHC (Lindane)	BRL	17	50	09/13/95
delta-BHC	BRL	17	50	09/13/95
beta-BHC	28	17	50	09/13/95
Heptachlor	BRL	17	50	09/13/95
Aldrin	470	17	50	09/13/95
Heptachlor Epoxide	BRL	17	50	09/13/95
Endosulfan I	BRL	17	50	09/13/95
4,4'-DDE	BRL	34	50	09/13/95
Dieldrin	BRL	34	50	09/13/95
Endrin	180	34	50	09/13/95
4,4'-DDD	BRL	34	50	09/13/95
Endosulfan II	BRL	34	50	09/13/95
4,4'-DDT	BRL	34	50	09/13/95
Endrin Aldehyde	BRL	34	50	09/13/95
Endosulfan Sulfate	110	34	50	09/13/95
Toxaphene	BRL	850	50	09/13/95
Chlordane (Technical)	BRL	170	50	09/13/95
Methoxychlor	BRL	170	50	09/13/95
Aroclor 1016	BRL	850	50	09/10/95
Aroclor 1221	BRL	1700	50	09/10/95
Aroclor 1232	BRL	850	50	09/10/95
Aroclor 1242	BRL	850	50	09/10/95
Aroclor 1248	18000	850	50	09/10/95
Aroclor 1254	BRL	850	50	09/10/95

PESTIC ES AND POLYCHLORINA BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12496-3/22285-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	850	50	09/10/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	0 *	60 - 150

Qualifier Legend:
* - Values outside QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: TM Date: 9-19-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 22610-MB /7537
Matrix: Soil
Batch Number: 2978-950907

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
alpha-BHC	BRL	0.34	09/08/95
gamma-BHC (Lindane)	BRL	0.34	09/08/95
delta-BHC	BRL	0.34	09/08/95
beta-BHC	BRL	0.34	09/08/95
Heptachlor	BRL	0.34	09/08/95
Aldrin	BRL	0.34	09/08/95
Heptachlor Epoxide	BRL	0.34	09/08/95
Endosulfan I	BRL	0.34	09/08/95
4,4'-DDE	BRL	0.68	09/08/95
Dieldrin	BRL	0.68	09/08/95
Endrin	BRL	0.68	09/08/95
4,4'-DDD	BRL	0.68	09/08/95
Endosulfan II	BRL	0.68	09/08/95
4,4'-DDT	BRL	0.68	09/08/95
Endrin Aldehyde	BRL	0.68	09/08/95
Endosulfan Sulfate	BRL	0.68	09/08/95
Toxaphene	BRL	17	09/08/95
Chlordane (Technical)	BRL	3.4	09/08/95
Methoxychlor	BRL	3.4	09/08/95
Aroclor 1016	BRL	17	09/08/95
Aroclor 1221	BRL	34	09/08/95
Aroclor 1232	BRL	17	09/08/95
Aroclor 1242	BRL	17	09/08/95
Aroclor 1248	BRL	17	09/08/95
Aroclor 1254	BRL	17	09/08/95
Aroclor 1260	BRL	17	09/08/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	78	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: TM Date: 9-19-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 09/08/95

Lab ID: 22611-LCS /7537
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2978-950907
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	3.18	76	NA	NA	NA	46-127	≤50
Heptachlor	0	4.17	3.18	76	NA	NA	NA	35-130	≤31
Aldrin	0	4.17	3.30	79	NA	NA	NA	34-132	≤43
Dieldrin	0	8.33	6.75	81	NA	NA	NA	31-134	≤38
Endrin	0	8.33	6.97	84	NA	NA	NA	42-139	≤45
4,4'-DDT	0	8.33	7.12	85	NA	NA	NA	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	6.53	78	NA	NA	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-19-95

MBT Environmental Laboratories

Master Builders Technologies

MA' 'X SPIKE/MATRIX SPIKE I' 'LICATE

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-218-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
MS Date Analyzed: 09/13/95

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-3/22612,22613-7537
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2978-950907
% Moisture: NA
MSD Date Analyzed: 09/13/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
gamma-BHC (Lindane)	0	4.17	0	0*	0	0*	0	46-127	≤50
Heptachlor	0	4.17	0	0*	0	0*	0	35-130	≤31
Aldrin	470	4.17	497	647*	695	5396*	33	34-132	≤43
Dieldrin	0	8.33	0	0*	420	5042*	200*	31-134	≤38
Endrin	180	8.33	202	264*	0	0*	200*	42-139	≤45
4,4'-DDT	0	8.33	933	11200*	1320	15800*	34	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	5.07	61	51.5	620*	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-214-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-1/22283-7918
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 2977-950907
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7282.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	10000	30	09/13/95
Bis(2-Chloroethyl)ether	BRL	10000	30	09/13/95
2-Chlorophenol	BRL	10000	30	09/13/95
1,3-Dichlorobenzene	BRL	10000	30	09/13/95
1,4-Dichlorobenzene	BRL	10000	30	09/13/95
Benzyl alcohol	BRL	10000	30	09/13/95
2-Methylphenol	BRL	10000	30	09/13/95
1,2-Dichlorobenzene	BRL	10000	30	09/13/95
Bis(2-Chloroisopropyl)ether	BRL	10000	30	09/13/95
4-Methylphenol	BRL	10000	30	09/13/95
N-Nitroso-di-n-propylamine	BRL	10000	30	09/13/95
Hexachloroethane	BRL	10000	30	09/13/95
Nitrobenzene	BRL	10000	30	09/13/95
Isophorone	BRL	10000	30	09/13/95
2,4-Dimethylphenol	BRL	10000	30	09/13/95
1,2,4-Trichlorobenzene	BRL	10000	30	09/13/95
2-Nitrophenol	BRL	10000	30	09/13/95
Benzoic acid	BRL	25000	30	09/13/95
Bis(2-Chloroethoxy)methane	BRL	10000	30	09/13/95
2,4-Dichlorophenol	BRL	10000	30	09/13/95
Naphthalene	BRL	10000	30	09/13/95
4-Chloroaniline	BRL	10000	30	09/13/95
Hexachlorobutadiene	BRL	10000	30	09/13/95
4-Chloro-3-methylphenol	BRL	10000	30	09/13/95
2-Methylnaphthalene	BRL	10000	30	09/13/95

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 12496-1/22283-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	10000	30	09/13/95
2,4,6-Trichlorophenol	BRL	10000	30	09/13/95
2,4,5-Trichlorophenol	BRL	10000	30	09/13/95
2-Chloronaphthalene	BRL	10000	30	09/13/95
3-Nitroaniline	BRL	25000	30	09/13/95
Dimethylphthalate	BRL	10000	30	09/13/95
2,6-Dinitrotoluene	BRL	10000	30	09/13/95
Acenaphthylene	BRL	10000	30	09/13/95
2-Nitroaniline	BRL	25000	30	09/13/95
Acenaphthene	BRL	10000	30	09/13/95
2,4-Dinitrophenol	BRL	25000	30	09/13/95
4-Nitrophenol	BRL	25000	30	09/13/95
2,4-Dinitrotoluene	BRL	10000	30	09/13/95
Dibenzofuran	BRL	10000	30	09/13/95
Diethylphthalate	BRL	10000	30	09/13/95
alpha-BHC	BRL	10000	30	09/13/95
4-Chlorophenyl phenyl ether	BRL	10000	30	09/13/95
Fluorene	BRL	10000	30	09/13/95
4-Nitroaniline	BRL	25000	30	09/13/95
4,6-Dinitro-2-methylphenol	BRL	25000	30	09/13/95
N-Nitrosodiphenylamine	BRL	10000	30	09/13/95
4-Bromophenyl phenyl ether	BRL	10000	30	09/13/95
beta-BHC	BRL	10000	30	09/13/95
Lindane	BRL	10000	30	09/13/95
Hexachlorobenzene	BRL	10000	30	09/13/95
Pentachlorophenol	BRL	25000	30	09/13/95
Phenanthrene	BRL	10000	30	09/13/95
Anthracene	BRL	10000	30	09/13/95
Delta-BHC	BRL	10000	30	09/13/95
Heptachlor	BRL	10000	30	09/13/95
Aldrin	BRL	10000	30	09/13/95
Endrin	BRL	10000	30	09/13/95
Butyl benzyl phthalate	BRL	10000	30	09/13/95
Fluoranthene	BRL	10000	30	09/13/95
Heptachlor Epoxide	BRL	10000	30	09/13/95
Pyrene	BRL	10000	30	09/13/95
Dieldrin	BRL	10000	30	09/13/95

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 12496-1/22283-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	10000	30	09/13/95
Endosulfan sulfate	BRL	10000	30	09/13/95
4,4'-DDT	BRL	10000	30	09/13/95
4,4'-DDD	BRL	10000	30	09/13/95
Di-n-butylphthalate	BRL	10000	30	09/13/95
3,3'-Dichlorobenzidine	BRL	20000	30	09/13/95
Benzo(a)anthracene	BRL	10000	30	09/13/95
Bis(2-Ethylhexyl)phthalate	63000	10000	30	09/13/95
Chrysene	BRL	10000	30	09/13/95
Di-n-octylphthalate	BRL	10000	30	09/13/95
Benzo(b)fluoranthene	BRL	10000	30	09/13/95
Benzo(k)fluoranthene	BRL	10000	30	09/13/95
Benzo(a)pyrene	BRL	10000	30	09/13/95
Indeno(1,2,3-c,d)pyrene	BRL	10000	30	09/13/95
Dibenz(a,h)anthracene	BRL	10000	30	09/13/95
Benzo(g,h,i)perylene	BRL	10000	30	09/13/95

Surrogates	% Recovery	Limits
2-Fluorophenol	46	25 - 121
Phenol-d5	53	24 - 113
Nitrobenzene-d5	47	23 - 120
2-Fluorobiphenyl	74	30 - 115
2,4,6-Tribromophenol	0 *	19 - 122
Terphenyl-d14	42	18 - 137

Qualifier Legend:
* - Values outside QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGAN' 'S

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-213-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-2/22284-7918
Date/Time Sampled: 08/30/95 10:00
Matrix: Soil (S)
Batch Number: 2977-950907
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7245.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	750	330	1	09/08/95
Bis(2-Chloroethyl)ether	BRL	330	1	09/08/95
2-Chlorophenol	BRL	330	1	09/08/95
1,3-Dichlorobenzene	BRL	330	1	09/08/95
1,4-Dichlorobenzene	BRL	330	1	09/08/95
Benzyl alcohol	BRL	330	1	09/08/95
2-Methylphenol	170 J	330	1	09/08/95
1,2-Dichlorobenzene	BRL	330	1	09/08/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	09/08/95
4-Methylphenol	980	330	1	09/08/95
N-Nitroso-di-n-propylamine	BRL	330	1	09/08/95
Hexachloroethane	BRL	330	1	09/08/95
Nitrobenzene	BRL	330	1	09/08/95
Isophorone	BRL	330	1	09/08/95
2,4-Dimethylphenol	BRL	330	1	09/08/95
1,2,4-Trichlorobenzene	BRL	330	1	09/08/95
2-Nitrophenol	BRL	330	1	09/08/95
Benzoic acid	790 J	830	1	09/08/95
Bis(2-Chloroethoxy)methane	BRL	330	1	09/08/95
2,4-Dichlorophenol	BRL	330	1	09/08/95
Naphthalene	34 J	330	1	09/08/95
4-Chloroaniline	BRL	330	1	09/08/95
Hexachlorobutadiene	BRL	330	1	09/08/95
4-Chloro-3-methylphenol	BRL	330	1	09/08/95
2-Methylnaphthalene	BRL	330	1	09/08/95

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 12496-2/22284-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	09/08/95
2,4,6-Trichlorophenol	BRL	330	1	09/08/95
2,4,5-Trichlorophenol	BRL	330	1	09/08/95
2-Chloronaphthalene	BRL	330	1	09/08/95
3-Nitroaniline	BRL	830	1	09/08/95
Dimethylphthalate	BRL	330	1	09/08/95
2,6-Dinitrotoluene	BRL	330	1	09/08/95
Acenaphthylene	BRL	330	1	09/08/95
2-Nitroaniline	BRL	830	1	09/08/95
Acenaphthene	BRL	330	1	09/08/95
2,4-Dinitrophenol	BRL	830	1	09/08/95
4-Nitrophenol	BRL	830	1	09/08/95
2,4-Dinitrotoluene	BRL	330	1	09/08/95
Dibenzofuran	BRL	330	1	09/08/95
Diethylphthalate	BRL	330	1	09/08/95
alpha-BHC	BRL	330	1	09/08/95
4-Chlorophenyl phenyl ether	BRL	330	1	09/08/95
Fluorene	BRL	330	1	09/08/95
4-Nitroaniline	BRL	830	1	09/08/95
4,6-Dinitro-2-methylphenol	BRL	830	1	09/08/95
N-Nitrosodiphenylamine	BRL	330	1	09/08/95
4-Bromophenyl phenyl ether	BRL	330	1	09/08/95
beta-BHC	BRL	330	1	09/08/95
Lindane	BRL	330	1	09/08/95
Hexachlorobenzene	BRL	330	1	09/08/95
Pentachlorophenol	BRL	830	1	09/08/95
Phenanthrene	BRL	330	1	09/08/95
Anthracene	BRL	330	1	09/08/95
Delta-BHC	BRL	330	1	09/08/95
Heptachlor	BRL	330	1	09/08/95
Aldrin	BRL	330	1	09/08/95
Endrin	BRL	330	1	09/08/95
Butyl benzyl phthalate	BRL	330	1	09/08/95
Fluoranthene	BRL	330	1	09/08/95
Heptachlor Epoxide	BRL	330	1	09/08/95
Pyrene	BRL	330	1	09/08/95
Dieldrin	BRL	330	1	09/08/95

SEMIVOLATILE ORGAN[illegible]S

Analytical Method: EPA 8270

Lab ID: 12496-2/22284-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	09/08/95
Endosulfan sulfate	BRL	330	1	09/08/95
4,4'-DDT	BRL	330	1	09/08/95
4,4'-DDD	BRL	330	1	09/08/95
Di-n-butylphthalate	BRL	330	1	09/08/95
3,3'-Dichlorobenzidine	BRL	670	1	09/08/95
Benzo(a)anthracene	BRL	330	1	09/08/95
Bis(2-Ethylhexyl)phthalate	BRL	330	1	09/08/95
Chrysene	BRL	330	1	09/08/95
Di-n-octylphthalate	BRL	330	1	09/08/95
Benzo(b)fluoranthene	BRL	330	1	09/08/95
Benzo(k)fluoranthene	BRL	330	1	09/08/95
Benzo(a)pyrene	BRL	330	1	09/08/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	09/08/95
Dibenz(a,h)anthracene	BRL	330	1	09/08/95
Benzo(g,h,i)perylene	BRL	330	1	09/08/95

Surrogates	% Recovery	Limits
2-Fluorophenol	67	25 - 121
Phenol-d5	55	24 - 113
Nitrobenzene-d5	30	23 - 120
2-Fluorobiphenyl	69	30 - 115
2,4,6-Tribromophenol	60	19 - 122
Terphenyl-d14	52	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGAN' 'S

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-218-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-3/22285-7918
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 2977-950907
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7283.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	13000	40	09/13/95
Bis(2-Chloroethyl)ether	BRL	13000	40	09/13/95
2-Chlorophenol	BRL	13000	40	09/13/95
1,3-Dichlorobenzene	BRL	13000	40	09/13/95
1,4-Dichlorobenzene	BRL	13000	40	09/13/95
Benzyl alcohol	BRL	13000	40	09/13/95
2-Methylphenol	BRL	13000	40	09/13/95
1,2-Dichlorobenzene	BRL	13000	40	09/13/95
Bis(2-Chloroisopropyl)ether	BRL	13000	40	09/13/95
4-Methylphenol	BRL	13000	40	09/13/95
N-Nitroso-di-n-propylamine	BRL	13000	40	09/13/95
Hexachloroethane	BRL	13000	40	09/13/95
Nitrobenzene	BRL	13000	40	09/13/95
Isophorone	BRL	13000	40	09/13/95
2,4-Dimethylphenol	BRL	13000	40	09/13/95
1,2,4-Trichlorobenzene	BRL	13000	40	09/13/95
2-Nitrophenol	BRL	13000	40	09/13/95
Benzoic acid	BRL	33000	40	09/13/95
Bis(2-Chloroethoxy)methane	BRL	13000	40	09/13/95
2,4-Dichlorophenol	BRL	13000	40	09/13/95
Naphthalene	10000 J	13000	40	09/13/95
4-Chloroaniline	BRL	13000	40	09/13/95
Hexachlorobutadiene	BRL	13000	40	09/13/95
4-Chloro-3-methylphenol	BRL	13000	40	09/13/95
2-Methylnaphthalene	BRL	13000	40	09/13/95

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 12496-3/22285-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	13000	40	09/13/95
2,4,6-Trichlorophenol	BRL	13000	40	09/13/95
2,4,5-Trichlorophenol	BRL	13000	40	09/13/95
2-Chloronaphthalene	BRL	13000	40	09/13/95
3-Nitroaniline	BRL	33000	40	09/13/95
Dimethylphthalate	BRL	13000	40	09/13/95
2,6-Dinitrotoluene	BRL	13000	40	09/13/95
Acenaphthylene	BRL	13000	40	09/13/95
2-Nitroaniline	BRL	33000	40	09/13/95
Acenaphthene	BRL	13000	40	09/13/95
2,4-Dinitrophenol	BRL	33000	40	09/13/95
4-Nitrophenol	BRL	33000	40	09/13/95
2,4-Dinitrotoluene	BRL	13000	40	09/13/95
Dibenzofuran	BRL	13000	40	09/13/95
Diethylphthalate	BRL	13000	40	09/13/95
alpha-BHC	BRL	13000	40	09/13/95
4-Chlorophenyl phenyl ether	BRL	13000	40	09/13/95
Fluorene	BRL	13000	40	09/13/95
4-Nitroaniline	BRL	33000	40	09/13/95
4,6-Dinitro-2-methylphenol	BRL	33000	40	09/13/95
N-Nitrosodiphenylamine	BRL	13000	40	09/13/95
4-Bromophenyl phenyl ether	BRL	13000	40	09/13/95
beta-BHC	BRL	13000	40	09/13/95
Lindane	BRL	13000	40	09/13/95
Hexachlorobenzene	BRL	13000	40	09/13/95
Pentachlorophenol	BRL	33000	40	09/13/95
Phenanthrene	BRL	13000	40	09/13/95
Anthracene	BRL	13000	40	09/13/95
Delta-BHC	BRL	13000	40	09/13/95
Heptachlor	BRL	13000	40	09/13/95
Aldrin	BRL	13000	40	09/13/95
Endrin	BRL	13000	40	09/13/95
Butyl benzyl phthalate	BRL	13000	40	09/13/95
Fluoranthene	BRL	13000	40	09/13/95
Heptachlor Epoxide	BRL	13000	40	09/13/95
Pyrene	BRL	13000	40	09/13/95
Dieldrin	BRL	13000	40	09/13/95

SEMIVOLATILE ORGAN[illegible]S

Analytical Method: EPA 8270

Lab ID: 12496-3/22285-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	13000	40	09/13/95
Endosulfan sulfate	BRL	13000	40	09/13/95
4,4'-DDT	BRL	13000	40	09/13/95
4,4'-DDD	BRL	13000	40	09/13/95
Di-n-butylphthalate	BRL	13000	40	09/13/95
3,3'-Dichlorobenzidine	BRL	27000	40	09/13/95
Benzo(a)anthracene	BRL	13000	40	09/13/95
Bis(2-Ethylhexyl)phthalate	91000	13000	40	09/13/95
Chrysene	BRL	13000	40	09/13/95
Di-n-octylphthalate	BRL	13000	40	09/13/95
Benzo(b)fluoranthene	BRL	13000	40	09/13/95
Benzo(k)fluoranthene	BRL	13000	40	09/13/95
Benzo(a)pyrene	BRL	13000	40	09/13/95
Indeno(1,2,3-c,d)pyrene	BRL	13000	40	09/13/95
Dibenz(a,h)anthracene	BRL	13000	40	09/13/95
Benzo(g,h,i)perylene	BRL	13000	40	09/13/95

Surrogates	% Recovery	Limits
2-Fluorophenol	61	25 - 121
Phenol-d5	76	24 - 113
Nitrobenzene-d5	66	23 - 120
2-Fluorobiphenyl	99	30 - 115
2,4,6-Tribromophenol	32	19 - 122
Terphenyl-d14	69	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL

Analyst: ED

Lab ID: 22606-MB /7918
Matrix: Soil
Batch Number: 2977-950907
Instrument/Column: MS01/XTI-5
Data File: D7240.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Phenol	BRL	330	09/08/95
Bis(2-Chloroethyl)ether	BRL	330	09/08/95
2-Chlorophenol	BRL	330	09/08/95
1,3-Dichlorobenzene	BRL	330	09/08/95
1,4-Dichlorobenzene	BRL	330	09/08/95
Benzyl alcohol	BRL	330	09/08/95
2-Methylphenol	BRL	330	09/08/95
1,2-Dichlorobenzene	BRL	330	09/08/95
Bis(2-Chloroisopropyl)ether	BRL	330	09/08/95
4-Methylphenol	BRL	330	09/08/95
N-Nitroso-di-n-propylamine	BRL	330	09/08/95
Hexachloroethane	BRL	330	09/08/95
Nitrobenzene	BRL	330	09/08/95
Isophorone	BRL	330	09/08/95
2,4-Dimethylphenol	BRL	330	09/08/95
1,2,4-Trichlorobenzene	BRL	330	09/08/95
2-Nitrophenol	BRL	330	09/08/95
Benzoic acid	BRL	830	09/08/95
Bis(2-Chloroethoxy)methane	BRL	330	09/08/95
2,4-Dichlorophenol	BRL	330	09/08/95
Naphthalene	BRL	330	09/08/95
4-Chloroaniline	BRL	330	09/08/95
Hexachlorobutadiene	BRL	330	09/08/95
4-Chloro-3-methylphenol	BRL	330	09/08/95
2-Methylnaphthalene	BRL	330	09/08/95
Hexachlorocyclopentadiene	BRL	330	09/08/95
2,4,6-Trichlorophenol	BRL	330	09/08/95
2,4,5-Trichlorophenol	BRL	330	09/08/95
2-Chloronaphthalene	BRL	330	09/08/95
3-Nitroaniline	BRL	830	09/08/95
Dimethylphthalate	BRL	330	09/08/95

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SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
2,6-Dinitrotoluene	BRL	330	09/08/95
Acenaphthylene	BRL	330	09/08/95
2-Nitroaniline	BRL	830	09/08/95
Acenaphthene	BRL	330	09/08/95
2,4-Dinitrophenol	BRL	830	09/08/95
4-Nitrophenol	BRL	830	09/08/95
2,4-Dinitrotoluene	BRL	330	09/08/95
Dibenzofuran	BRL	330	09/08/95
Diethylphthalate	BRL	330	09/08/95
alpha-BHC	BRL	330	09/08/95
4-Chlorophenyl phenyl ether	BRL	330	09/08/95
Fluorene	BRL	330	09/08/95
4-Nitroaniline	BRL	830	09/08/95
4,6-Dinitro-2-methylphenol	BRL	830	09/08/95
N-Nitrosodiphenylamine	BRL	330	09/08/95
4-Bromophenyl phenyl ether	BRL	330	09/08/95
beta-BHC	BRL	330	09/08/95
Lindane	BRL	330	09/08/95
Hexachlorobenzene	BRL	330	09/08/95
Pentachlorophenol	BRL	830	09/08/95
Phenanthrene	BRL	330	09/08/95
Anthracene	BRL	330	09/08/95
Delta-BHC	BRL	330	09/08/95
Heptachlor	BRL	330	09/08/95
Aldrin	BRL	330	09/08/95
Endrin	BRL	330	09/08/95
Butyl benzyl phthalate	BRL	330	09/08/95
Fluoranthene	BRL	330	09/08/95
Heptachlor Epoxide	BRL	330	09/08/95
Pyrene	BRL	330	09/08/95
Dieldrin	BRL	330	09/08/95
4,4'-DDE	BRL	330	09/08/95
Endosulfan sulfate	BRL	330	09/08/95
4,4'-DDT	BRL	330	09/08/95
4,4'-DDD	BRL	330	09/08/95
Di-n-butylphthalate	BRL	330	09/08/95
3,3'-Dichlorobenzidine	BRL	670	09/08/95

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SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Benzo(a)anthracene	BRL	330	09/08/95
Bis(2-Ethylhexyl)phthalate	BRL	330	09/08/95
Chrysene	BRL	330	09/08/95
Di-n-octylphthalate	BRL	330	09/08/95
Benzo(b)fluoranthene	BRL	330	09/08/95
Benzo(k)fluoranthene	BRL	330	09/08/95
Benzo(a)pyrene	BRL	330	09/08/95
Indeno(1,2,3-c,d)pyrene	BRL	330	09/08/95
Dibenz(a,h)anthracene	BRL	330	09/08/95
Benzo(g,h,i)perylene	BRL	330	09/08/95

Surrogates	% Recovery	Limits
2-Fluorophenol	75	25 - 121
Phenol-d5	68	24 - 113
Nitrobenzene-d5	66	23 - 120
2-Fluorobiphenyl	72	30 - 115
2,4,6-Tribromophenol	81	19 - 122
Terphenyl-d14	48	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO[illegible]OL SPIKE/LABORATORY [illegible]NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
LCS Date Analyzed: 09/08/95

Analyst: ED

Lab ID: 22607-LCS /7918
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2977-950907
LCSD Date Analyzed: NA
Instrument/Column: /XTI-5
Data File: D7241.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Phenol	0	2500	1580	63	NA	NA	NA	26-90	≤35
2-Chlorophenol	0	2500	1690	68	NA	NA	NA	25-102	≤50
1,4-Dichlorobenzene	0	1670	1030	62	NA	NA	NA	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1090	65	NA	NA	NA	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1100	66	NA	NA	NA	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1680	67	NA	NA	NA	26-103	≤33
Acenaphthene	0	1670	1110	66	NA	NA	NA	31-137	≤19
4-Nitrophenol	0	2500	2060	82	NA	NA	NA	11-114	≤50
2,4-Dinitrotoluene	0	1670	956	57	NA	NA	NA	28-89	≤47
Pentachlorophenol	0	2500	2840	114*	NA	NA	NA	17-109	≤47
Pyrene	0	1670	771	46	NA	NA	NA	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	2240	90	NA	NA	25-121
Phenol-d5	2500	1980	79	NA	NA	24-113
Nitrobenzene-d5	1670	1250	75	NA	NA	23-120
2-Fluorobiphenyl	1670	1280	77	NA	NA	30-115

LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 22607-LCS /7918

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2,4,6-Tribromophenol	2500	2100	84	NA	NA	19-122
Terphenyl-d14	1670	1010	61	NA	NA	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Value beyond QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

MA IX SPIKE/MATRIX SPIKE ' 'PLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-214-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
MS Date Analyzed: 09/08/95

Analyst: ED

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-1/22608,22609-7918
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S) Units: ug/Kg (ppb)
Batch Number: 2977-950907
% Moisture: NA

MSD Date Analyzed: 09/08/95
Instrument/Column: /XTI-5
Data File: D7243.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Phenol	0	2500	1440	57	1520	61	5	26-90	≤35
2-Chlorophenol	0	2500	1520	61	1700	68	11	25-102	≤50
1,4-Dichlorobenzene	0	1670	897	54	1080	65	19	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	904	54	1100	66	20	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	958	57	1080	65	12	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1370	55	1650	66	19	26-103	≤33
Acenaphthene	0	1670	961	58	1180	71	20*	31-137	≤19
4-Nitrophenol	0	2500	1560	62	2130	85	31	11-114	≤50
2,4-Dinitrotoluene	0	1670	698	42	935	56	29	28-89	≤47
Pentachlorophenol	0	2500	2040	81	2440	97	18	17-109	≤47
Pyrene	0	1670	818	49	1120	67	31	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

M/ IX SPIKE/MATRIX SPIKE ' PLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 12496-1/22608,22609-7918

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	1760	70	2080	83	25-121
Phenol-d5	2500	1540	62	1800	72	24-113
Nitrobenzene-d5	1670	1020	61	1280	77	23-120
2-Fluorobiphenyl	1670	1010	61	1260	76	30-115
2,4,6-Tribromophenol	2500	1430	57	1760	70	19-122
Terphenyl-d14	1670	846	51	1100	66	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Values outside QC

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

TOTAL CYANIDE

Analytical Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/05/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL

SDG #: 12496
Project Number: 070803035003005
Date Sampled: 08/30/95
Matrix: Soil (S)
Batch Number: 2948-950905

Lab ID	Sample Description/ Sample Number	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
12496-1/22283-2079	Area 2 25 / WL-214-25	BRL	0.50	1	09/06/95
12496-2/22284-2079	Area 2 25 / WL-213-25	BRL	0.50	1	09/06/95
12496-3/22285-2079	Area 2 25 / WL-218-25	BRL	0.50	1	09/06/95

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Approved by: _____ Date: 9-8-95

MBT Environmental Laboratories

Master Builders Technologies

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TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 09/05/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL

Lab ID: 22465-MB /2079
Matrix: Soil
Batch Number: 2948-950905

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Cyanide	BRL	0.50	09/06/95

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Approved by: _____ Date: 9-8-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CO[illegible]OL SPIKE/LABORATORY [illegible]NTROL SPIKE DUPLICATE

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 09/05/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL
LCS Date Analyzed: 09/06/95

Lab ID: 22466-LCS /2079
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2948-950905
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Cyanide	0	5.000	4.725	95	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 9-8-95

MBT Environmental Laboratories

Master Builders Technologies

MA X SPIKE/MATRIX SPIKE PLICATE

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-218-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/05/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL
MS Date Analyzed: 09/06/95

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-3/22467,22468-2079
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 2948-950905
% Moisture: NA
MSD Date Analyzed: 09/06/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Cyanide	0	5.000	4.590	92	4.360	87	5	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-8-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANICS

Analytical Method: EPA 8240
Preparation Method: Medium

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-214-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
Analyst: TB

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-1/22283-7616
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 3103-950907
% Moisture: NA
Instrument/Column: MS05/RTX-502.2
Data File: z2782.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	1000	1	09/08/95
Vinyl Chloride	BRL	1000	1	09/08/95
Bromomethane	BRL	1000	1	09/08/95
Chloroethane	BRL	1000	1	09/08/95
Trichlorofluoromethane	BRL	1000	1	09/08/95
Acetone	2400 JB	2500	1	09/08/95
1,1-Dichloroethene	BRL	500	1	09/08/95
Methylene Chloride	380 J	500	1	09/08/95
Carbon Disulfide	BRL	500	1	09/08/95
trans-1,2-Dichloroethene	BRL	500	1	09/08/95
1,1-Dichloroethane	BRL	500	1	09/08/95
cis-1,2-Dichloroethene	BRL	500	1	09/08/95
Chloroform	BRL	500	1	09/08/95
1,2-Dichloroethane	BRL	500	1	09/08/95
2-Butanone	BRL	2500	1	09/08/95
1,1,1-Trichloroethane	BRL	500	1	09/08/95
Carbon Tetrachloride	BRL	500	1	09/08/95
Benzene	BRL	500	1	09/08/95
Trichloroethene	BRL	500	1	09/08/95
1,2-Dichloropropane	BRL	500	1	09/08/95
Bromodichloromethane	BRL	500	1	09/08/95
2-Chloroethylvinylether	BRL	1000	1	09/08/95
trans-1,3-Dichloropropene	BRL	500	1	09/08/95
cis-1,3-Dichloropropene	BRL	500	1	09/08/95
1,1,2-Trichloroethane	BRL	500	1	09/08/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12496-1/22283-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Dibromochloromethane	BRL	500	1	09/08/95
Bromoform	BRL	500	1	09/08/95
4-Methyl-2-Pentanone	BRL	2500	1	09/08/95
Toluene	BRL	500	1	09/08/95
2-Hexanone	BRL	2500	1	09/08/95
Tetrachloroethene	BRL	500	1	09/08/95
Chlorobenzene	7800	500	1	09/08/95
Ethyl benzene	1600	500	1	09/08/95
m & p Xylene	640	500	1	09/08/95
o-Xylene	BRL	500	1	09/08/95
Styrene	BRL	500	1	09/08/95
1,1,2,2-Tetrachloroethane	BRL	500	1	09/08/95
1,3-Dichlorobenzene	BRL	500	1	09/08/95
1,4-Dichlorobenzene	750	500	1	09/08/95
1,2-Dichlorobenzene	BRL	500	1	09/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	97	70 - 121
Toluene-d8	101	81 - 117
Bromofluorobenzene	100	74 - 121

Qualifier Legend:
J - estimated value B - Detected in blank

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-13-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240
Preparation Method: Medium

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-213-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
Analyst: TB

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-2/22284-7616
Date/Time Sampled: 08/30/95 10:00
Matrix: Soil (S)
Batch Number: 3103-950907
% Moisture: NA
Instrument/Column: MS05/RTX-502.2
Data File: z2761.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	1000	1	09/07/95
Vinyl Chloride	BRL	1000	1	09/07/95
Bromomethane	BRL	1000	1	09/07/95
Chloroethane	BRL	1000	1	09/07/95
Trichlorofluoromethane	BRL	1000	1	09/07/95
Acetone	2800 B	2500	1	09/07/95
1,1-Dichloroethene	BRL	500	1	09/07/95
Methylene Chloride	220 J	500	1	09/07/95
Carbon Disulfide	BRL	500	1	09/07/95
trans-1,2-Dichloroethene	BRL	500	1	09/07/95
1,1-Dichloroethane	110 J	500	1	09/07/95
cis-1,2-Dichloroethene	BRL	500	1	09/07/95
Chloroform	BRL	500	1	09/07/95
1,2-Dichloroethane	BRL	500	1	09/07/95
2-Butanone	580 J	2500	1	09/07/95
1,1,1-Trichloroethane	BRL	500	1	09/07/95
Carbon Tetrachloride	BRL	500	1	09/07/95
Benzene	BRL	500	1	09/07/95
Trichloroethene	BRL	500	1	09/07/95
1,2-Dichloropropane	BRL	500	1	09/07/95
Bromodichloromethane	BRL	500	1	09/07/95
2-Chloroethylvinylether	BRL	1000	1	09/07/95
trans-1,3-Dichloropropene	BRL	500	1	09/07/95
cis-1,3-Dichloropropene	BRL	500	1	09/07/95
1,1,2-Trichloroethane	BRL	500	1	09/07/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12496-2/22284-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Dibromochloromethane	BRL	500	1	09/07/95
Bromoform	BRL	500	1	09/07/95
4-Methyl-2-Pentanone	BRL	2500	1	09/07/95
Toluene	3100	500	1	09/07/95
2-Hexanone	BRL	2500	1	09/07/95
Tetrachloroethene	BRL	500	1	09/07/95
Chlorobenzene	BRL	500	1	09/07/95
Ethyl benzene	160 J	500	1	09/07/95
m & p Xylene	870	500	1	09/07/95
o-Xylene	230 J	500	1	09/07/95
Styrene	BRL	500	1	09/07/95
1,1,2,2-Tetrachloroethane	BRL	500	1	09/07/95
1,3-Dichlorobenzene	BRL	500	1	09/07/95
1,4-Dichlorobenzene	BRL	500	1	09/07/95
1,2-Dichlorobenzene	BRL	500	1	09/07/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	74	70 - 121
Toluene-d8	81	81 - 117
Bromofluorobenzene	80	74 - 121

Qualifier Legend:
J - estimated value B - Detected in blank

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-13-95

MBT Environmental Laboratories

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VOLATILE ORGANICS

Analytical Method: EPA 8240
Preparation Method: Medium

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-218-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
Analyst: TB

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-3/22285-7616
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 3103-950907
% Moisture: NA
Instrument/Column: MS05/RTX-502.2
Data File: z2762.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	1000	1	09/07/95
Vinyl Chloride	BRL	1000	1	09/07/95
Bromomethane	BRL	1000	1	09/07/95
Chloroethane	BRL	1000	1	09/07/95
Trichlorofluoromethane	BRL	1000	1	09/07/95
Acetone	1000 JB	2500	1	09/07/95
1,1-Dichloroethene	BRL	500	1	09/07/95
Methylene Chloride	150 J	500	1	09/07/95
Carbon Disulfide	BRL	500	1	09/07/95
trans-1,2-Dichloroethene	BRL	500	1	09/07/95
1,1-Dichloroethane	BRL	500	1	09/07/95
cis-1,2-Dichloroethene	BRL	500	1	09/07/95
Chloroform	BRL	500	1	09/07/95
1,2-Dichloroethane	BRL	500	1	09/07/95
2-Butanone	BRL	2500	1	09/07/95
1,1,1-Trichloroethane	BRL	500	1	09/07/95
Carbon Tetrachloride	BRL	500	1	09/07/95
Benzene	BRL	500	1	09/07/95
Trichloroethene	BRL	500	1	09/07/95
1,2-Dichloropropane	BRL	500	1	09/07/95
Bromodichloromethane	BRL	500	1	09/07/95
2-Chloroethylvinylether	BRL	1000	1	09/07/95
trans-1,3-Dichloropropene	BRL	500	1	09/07/95
cis-1,3-Dichloropropene	BRL	500	1	09/07/95
1,1,2-Trichloroethane	BRL	500	1	09/07/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12496-3/22285-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Dibromochloromethane	BRL	500	1	09/07/95
Bromoform	BRL	500	1	09/07/95
4-Methyl-2-Pentanone	BRL	2500	1	09/07/95
Toluene	130 J	500	1	09/07/95
2-Hexanone	BRL	2500	1	09/07/95
Tetrachloroethene	BRL	500	1	09/07/95
Chlorobenzene	BRL	500	1	09/07/95
Ethyl benzene	BRL	500	1	09/07/95
m & p Xylene	720	500	1	09/07/95
o-Xylene	BRL	500	1	09/07/95
Styrene	BRL	500	1	09/07/95
1,1,2,2-Tetrachloroethane	BRL	500	1	09/07/95
1,3-Dichlorobenzene	BRL	500	1	09/07/95
1,4-Dichlorobenzene	950	500	1	09/07/95
1,2-Dichlorobenzene	200 J	500	1	09/07/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	83	70 - 121
Toluene-d8	91	81 - 117
Bromofluorobenzene	101	74 - 121

Qualifier Legend:
J - estimated value B - Detected in blank

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Approved by: _____ Date: 9-13-95

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Master Builders Technologies

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240
Preparation Method: Medium

Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL

Analyst: TB

Lab ID: 23234-MB /7616
Matrix: Soil
Batch Number: 3103-950907
Instrument/Column: MS05/RTX-502.2
Data File: z2769.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	1000	09/08/95
Vinyl Chloride	BRL	1000	09/08/95
Bromomethane	BRL	1000	09/08/95
Chloroethane	BRL	1000	09/08/95
Trichlorofluoromethane	BRL	1000	09/08/95
Acetone	720 J	2500	09/08/95
1,1-Dichloroethene	BRL	500	09/08/95
Methylene Chloride	BRL	500	09/08/95
Carbon Disulfide	BRL	500	09/08/95
trans-1,2-Dichloroethene	BRL	500	09/08/95
1,1-Dichloroethane	BRL	500	09/08/95
cis-1,2-Dichloroethene	BRL	500	09/08/95
Chloroform	BRL	500	09/08/95
1,2-Dichloroethane	BRL	500	09/08/95
2-Butanone	BRL	2500	09/08/95
1,1,1-Trichloroethane	BRL	500	09/08/95
Carbon Tetrachloride	BRL	500	09/08/95
Benzene	BRL	500	09/08/95
Trichloroethene	BRL	500	09/08/95
1,2-Dichloropropane	BRL	500	09/08/95
Bromodichloromethane	BRL	500	09/08/95
2-Chloroethylvinylether	BRL	1000	09/08/95
trans-1,3-Dichloropropene	BRL	500	09/08/95
cis-1,3-Dichloropropene	BRL	500	09/08/95
1,1,2-Trichloroethane	BRL	500	09/08/95
Dibromochloromethane	BRL	500	09/08/95
Bromoform	BRL	500	09/08/95
4-Methyl-2-Pentanone	BRL	2500	09/08/95
Toluene	BRL	500	09/08/95
2-Hexanone	BRL	2500	09/08/95
Tetrachloroethene	BRL	500	09/08/95

METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chlorobenzene	BRL	500	09/08/95
Ethyl benzene	BRL	500	09/08/95
m & p Xylene	BRL	500	09/08/95
o-Xylene	BRL	500	09/08/95
Styrene	BRL	500	09/08/95
1,1,2,2-Tetrachloroethane	BRL	500	09/08/95
1,3-Dichlorobenzene	BRL	500	09/08/95
1,4-Dichlorobenzene	BRL	500	09/08/95
1,2-Dichlorobenzene	BRL	500	09/08/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	91	70 - 121
Toluene-d8	95	81 - 117
Bromofluorobenzene	94	74 - 121

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Master Builders Technologies

LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE

VOLATILE ORGANICS

Analytical Method: EPA 8240
Preparation Method: Medium

Date Prepared: 09/07/95
Initial Wt./Volume: 5 grams
Final Volume: 10 mL
LCS Date Analyzed: 09/08/95

Analyst: TB

Lab ID: 23233-LCS /7616
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 3103-950907
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: z2768.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	5000	3390	68	NA	NA	NA	59-172	≤22
Benzene	0	5000	4220	84	NA	NA	NA	66-142	≤21
Trichloroethene	0	5000	4030	80	NA	NA	NA	62-137	≤24
Toluene	0	5000	3610	72	NA	NA	NA	59-139	≤21
Chlorobenzene	0	5000	4300	86	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	5000	4260	85	NA	NA	70-121
Toluene-d8	5000	4500	90	NA	NA	81-117
Bromofluorobenzene	5000	4310	86	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

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Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Date/Time Received: 09/01/95 09:30

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-1/22283-7840
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	3002-950911	09/11/95	0.2 grams	35 mL	WL-214-25
ICAP	EPA 3050H	3010-950907	09/07/95	2.0 grams	100 mL	WL-214-25
GFAA	EPA 3050N	3014-950911	09/11/95	2.0 grams	100 mL	WL-214-25

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	09/08/95
Arsenic (As)/7060	1.8	0.50	1	09/13/95
Beryllium (Be)/6010	0.29	0.25	1	09/08/95
Cadmium (Cd)/6010	BRL	0.50	1	09/08/95
Chromium (Cr)/6010	8.9	1.0	1	09/08/95
Copper (Cu)/6010	15	1.0	1	09/08/95
Lead (Pb)/6010	22	2.5	1	09/08/95
Mercury(Hg)/7471	BRL	0.10	1	09/11/95
Nickel (Ni)/6010	11	1.0	1	09/08/95
Selenium (Se)/7740	BRL	0.25	1	09/12/95
Silver (Ag)/6010	BRL	1.0	1	09/08/95
Thallium (Tl)/7841	BRL	0.50	1	09/13/95
Zinc (Zn)/6010	46	1.0	1	09/08/95

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Approved by: _____ Date: 9-13-95

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Master Builders Technologies

'RIORITY POLLUTANT M' \LS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Date/Time Received: 09/01/95 09:30

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-2/22284-7840
Date/Time Sampled: 08/30/95 10:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	3002-950911	09/11/95	0.2 grams	35 mL	WL-213-25
ICAP	EPA 3050H	3010-950907	09/07/95	2.0 grams	100 mL	WL-213-25
GFAA	EPA 3050N	3014-950911	09/11/95	2.0 grams	100 mL	WL-213-25

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	09/08/95
Arsenic (As)/7060	2.2	0.50	1	09/13/95
Beryllium (Be)/6010	0.29	0.25	1	09/08/95
Cadmium (Cd)/6010	BRL	0.50	1	09/08/95
Chromium (Cr)/6010	8.4	1.0	1	09/08/95
Copper (Cu)/6010	6.4	1.0	1	09/08/95
Lead (Pb)/6010	5.5	2.5	1	09/08/95
Mercury(Hg)/7471	BRL	0.10	1	09/11/95
Nickel (Ni)/6010	10	1.0	1	09/08/95
Selenium (Se)/7740	BRL	0.25	1	09/12/95
Silver (Ag)/6010	BRL	1.0	1	09/08/95
Thallium (Tl)/7841	BRL	0.50	1	09/13/95
Zinc (Zn)/6010	56	1.0	1	09/08/95

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MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Date/Time Received: 09/01/95 09:30

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-3/22285-7840
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	3002-950911	09/11/95	0.2 grams	35 mL	WL-218-25
ICAP	EPA 3050H	3010-950907	09/07/95	2.0 grams	100 mL	WL-218-25
GFAA	EPA 3050N	3014-950911	09/11/95	2.0 grams	100 mL	WL-218-25

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	09/08/95
Arsenic (As)/7060	11	2.5	5	09/13/95
Beryllium (Be)/6010	0.32	0.25	1	09/08/95
Cadmium (Cd)/6010	1.3	0.50	1	09/08/95
Chromium (Cr)/6010	72	1.0	1	09/08/95
Copper (Cu)/6010	100	1.0	1	09/08/95
Lead (Pb)/6010	180	2.5	1	09/08/95
Mercury(Hg)/7471	BRL	0.10	1	09/11/95
Nickel (Ni)/6010	13	1.0	1	09/08/95
Selenium (Se)/7740	BRL	0.25	1	09/12/95
Silver (Ag)/6010	BRL	1.0	1	09/08/95
Thallium (Tl)/7841	BRL	0.50	1	09/13/95
Zinc (Zn)/6010	90	1.0	1	09/08/95

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Master Builders Technologies

METHOD BLANK

METALS

Preparation Method: EPA 3050H

Date Prepared: 09/07/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 22761-MB /7826
Matrix: Soil
Batch Number: 3010-950907

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	09/08/95
Beryllium (Be)/6010	BRL	0.25	09/08/95
Cadmium (Cd)/6010	BRL	0.50	09/08/95
Chromium (Cr)/6010	BRL	1.0	09/08/95
Copper (Cu)/6010	BRL	1.0	09/08/95
Lead (Pb)/6010	BRL	2.5	09/08/95
Nickel (Ni)/6010	BRL	1.0	09/08/95
Silver (Ag)/6010	BRL	1.0	09/08/95
Zinc (Zn)/6010	BRL	1.0	09/08/95

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Master Builders Technologies

LABORATORY CON' ')L SPIKE/LABORATORY ' NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050H

Date Prepared: 09/07/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 09/08/95

Lab ID: 22762-LCS /7826
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 3010-950907
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Antimony (Sb)/6010	0	25.000	22.830	91	NA	NA	NA	75-125	≤20
Beryllium (Be)/6010	0	2.500	2.340	94	NA	NA	NA	75-125	≤20
Cadmium (Cd)/6010	0	2.500	2.110	84	NA	NA	NA	75-125	≤20
Chromium (Cr)/6010	0	10.000	9.655	97	NA	NA	NA	75-125	≤20
Copper (Cu)/6010	0	12.000	11.525	96	NA	NA	NA	75-125	≤20
Lead (Pb)/6010	0	25.000	23.600	94	NA	NA	NA	75-125	≤20
Nickel (Ni)/6010	0	25.000	22.925	92	NA	NA	NA	75-125	≤20
Silver (Ag)/6010	0	2.500	2.265	91	NA	NA	NA	75-125	≤20
Zinc (Zn)/6010	0	25.000	22.475	90	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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METHOD BLANK

METALS

Preparation Method: EPA 3050N

Date Prepared: 09/11/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 23199-MB /7878
Matrix: Soil
Batch Number: 3014-950911

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Arsenic (As)/7060	BRL	0.50	09/12/95
Selenium (Se)/7740	BRL	0.25	09/12/95
Thallium (Tl)/7841	BRL	0.50	09/12/95

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LABORATORY CON' 'OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050N

Date Prepared: 09/11/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 09/12/95

Lab ID: 23198-LCS /7878
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 3014-950911
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Arsenic (As)/7060	0	2.000	2.215	111	NA	NA	NA	75-125	≤20
Selenium (Se)/7740	0	0.500	0.570	114	NA	NA	NA	75-125	≤20
Thallium (Tl)/7841	0	2.500	2.610	104	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 9-13-95

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Master Builders Technologies

MA' 'X SPIKE/MATRIX SPIKE ' 'LICATE

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050N

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-214-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/11/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
MS Date Analyzed: 09/13/95

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-1/23197,23200-7878
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S) Units: mg/Kg (ppm)
Batch Number: 3014-950911
% Moisture: NA
MSD Date Analyzed: 09/13/95

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Arsenic (As)/7060	1.8	2.000	3.855	103	3.685	94	5	75-125	≤20
Selenium (Se)/7740	0	0.500	0.355	71*	0.365	73*	3	75-125	≤20
Thallium (Tl)/7841	0	2.500	1.780	71*	1.925	77	8	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Qualifier Legend:
* - Values outside QC

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Master Builders Technologies

METHOD BLANK

METALS

Preparation Method: EPA 7471

Date Prepared: 09/11/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL

Lab ID: 22682-MB /7842
Matrix: Soil
Batch Number: 3002-950911

Analyst: MANUEL

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	09/11/95

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Master Builders Technologies

LABORATORY CON' ')L SPIKE/LABORATORY (NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 7471

Date Prepared: 09/11/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL
LCS Date Analyzed: 09/11/95

Lab ID: 22683-LCS /7842
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 3002-950911
LCSD Date Analyzed: NA

Analyst: MANUEL

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Mercury(Hg)/7471	0	0.175	0.169	96	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-13-95

MBT Environmental Laboratories

Master Builders Technologies

T[illegible]AL PETROLEUM HYDRO[illegible]RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-214-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-1/22283-25
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 2941-950906
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	BRL	50	5	09/07/95
Diesel Range (C12-C22)	BRL	50	5	09/07/95
Motor Oil Range (C22-C32)	190	50	5	09/07/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-18-95

MBT Environmental Laboratories

Master Builders Technologies

T 'AL PETROLEUM HYDRO('RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-213-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-2/22284-25
Date/Time Sampled: 08/30/95 10:00
Matrix: Soil (S)
Batch Number: 2941-950906
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	1	09/07/95
Diesel Range (C12-C22)	BRL	10	1	09/07/95
Motor Oil Range (C22-C32)	19	10	1	09/07/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-18-95

MBT Environmental Laboratories

Master Builders Technologies

T AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 25
Sample Number: WL-218-25
Date/Time Received: 09/01/95 09:30
Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12496
Project Number: 070803035003005
Lab ID: 12496-3/22285-25
Date/Time Sampled: 08/30/95 15:00
Matrix: Soil (S)
Batch Number: 2941-950906
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	880	100	10	09/07/95
Diesel Range (C12-C22)	310	100	10	09/07/95
Motor Oil Range (C22-C32)	900	100	10	09/07/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-18-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3510

Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 23022-MB /25
Matrix: Soil
Batch Number: 2941-950906

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	09/07/95
Diesel Range (C12-C22)	BRL	10	09/07/95
Motor Oil Range (C22-C32)	BRL	10	09/07/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-18-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON')L SPIKE/LABORATORY (NTROL SPIKE DUPLICATE

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3510

Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 09/07/95

Lab ID: 23021-LCS /25
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2941-950906
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Diesel Range (C12-C22)	0	41.7	26.6	64	NA	NA	NA	52-125	≤

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-18-95

MBT Environmental Laboratories

Master Builders Technologies

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12496

PROJECT NAME

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

_	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468	_	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417	_	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
_	CONNECTICUT:	Waste Water, #PH0799	_	TENNESSEE:	Underground Storage Tank
_	FLORIDA:	Environmental Water, #E87298 CQAPP #930105	_	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
_	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192	_	WASHINGTON:	Hazardous Waste, #C048
_	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A	_	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
_	NEW JERSEY:	Waste Water, #44818	_	USACOE:	Hazardous Waste Waste Water
_	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241	_	AFCEE	

(CN/////)

LP 12505

MBT Environmental
Laboratories

3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

COPY

Date: September 21, 1995
LP #: 12505

Carol Riget
McLaren/Hart Environmental Engineering
502 Earth City Expressway, Ste 206
St. Louis, MO 63045

Dear Ms. Riget:

Enclosed are the laboratory results for the three samples submitted to MBT Environmental Laboratories on September 2, 1995, for the project *Westlake*.

The report consists of the following sections:

1. Cover Page
2. Copy of Chain-of-Custody
3. General Narrative
4. Analytical and Quality Control Results

Unless otherwise instructed by you, samples will be disposed of two weeks from the date of this letter.

Thank you for choosing MBT Environmental Laboratories. We are looking forward to serving you in the future. Should you have any questions concerning this analytical report or the analytical methods employed, please do not hesitate to call.

Sincerely,

Shakoora Azimi
Laboratory Director, Principal Scientist

M' 'nvironmental
La. atories
3083 Gold Canal Drive
Rancho Cordova
CA 95670
Phone 916/852-6600
Fax 916/852-7292

CHAIN OF CUSTODY RECORD

0003

SIDE 2 FOR COMPLETE INSTRUCTIONS

Ship To:
Address:

Project Name:
Project Number:
Project Location: (State)

FOR LABORATORY USE ONLY
Laboratory Project #: 12564
Storage Refrigerator ID: 19-3712-C
Storage Freezer ID:

Sampler Name	Signature	PPE Worn in Field	
John D Regan		Level D	9/1/15 1145

Relinquished By:	Date/Time	Received By or Method of Shipment/Shipment I.D.	Date/Time
	9/1/15 1455	Fed Ex # 470149184	
	9-2-15 2:55		9-2-15 8:5

Sample Disposal (check one)
- [x] Laboratory Standard
- [ ] Other

Level of QC (see Side 2): [x] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6A [ ] 6B [ ] 6C [ ] 6D [ ] 6E [ ] 7

Write in Analysis Method →

SAMPLE INFORMATION

ANALYSES REQUESTED

FOR LABORATORY USE ONLY Lab ID	Sample ID Number	Date	Time	Description: Locator	Description: Depth	Container(s): #	Container(s): Type	Matrix Type	Pres. Type	TAT				8240	8270	8015 Mod.	8020	8021	8080
1 12564-001	WL-321-35	9/1/15	1100	Area 2	35	6	4oz G	soil	ice	Ø				X	X	X	X	X	X
2 002	WL-322-30	↑	1300	↑	30	↓	↓	↓		↓				X	X	X	X	X	X
3 003	WL 323B-30	9/1/15	1300	Area 2	30	6	4oz G	soil	ice	Ø				X	X	X	X	X	X
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Special Instructions/Comments:

Container Types:
B=Brass Tube
G=Glass Jar
O=Other
A=1 Liter Amber
C=Cassette
P=Polyethylene
V=Voa Vial

TAT (Analytical Turn Around Time)
1 = 24 hours
2 = 48 hours
3 = 1 week
4 = 2 weeks
0 = Other Standard

FOR LABORATORY USE ONLY Sample Condition Upon Receipt: Temp 5.6
Sample Intact
Also, no emissions items Attached

SEND DOCUMENTATION AND RESULTS TO (Check one):
- [x] Project Manager/Office:
- [ ] Client Name:

Company:
Address:
Phone: FAX:

Common Analytical Methods
413.1
413.2 Long Method
413.2 Short Method
418.1 Long Method
418.1 Short Method
420.1
502.2
503E
503.1
524.2
601
602
604
608
610
624
625
8010
8015
8015 Mod.
8020
8021
8040
8080
8100
8150
8240
8270
8310
Acidity
Alkalinity
BTEX
Chloride
CLP (see Side 2)
COD
Color
Conductivity
Corrosivity
Cyanide
Flashpoint
Fluoride
General Mineral
Hex. Chromium
Ion Balance
Metals (write specific metal & method #)*
Metals 6010*
Metals PP*
Metals Title 22:
TTLC Level
STLC Level
(see Side 2)
Nitrate
Nitrite
Odor
Org. Lead
Org. Mercury
Percent Moisture
Percent Solid
Perchlorate
pH
Phosphates
Phosphorus
Sulfate
Sulfides
TCLP:
VOA
Semivoa
Metals
Pesticide
TDS
Total Hardness
Total Solids
TPH/D
TPH/G
TSS
Turbidity

* Specify Total or Dissolved

ANALYTICAL REPORT

LABORATORY PROJECT (LP) NUMBER 12505

WESTLAKE

The analyses performed by MBT Environmental Laboratories in this report comply with the requirements under the following certification/approval:

	ARIZONA:	Hazardous Waste, #AZ0468 Waste Water, # AZ0468 Drinking Water, #AZ0468
✓	CALIFORNIA:	Hazardous Waste, #1417 Waste Water, # 1417 Drinking Water, #1417
	CONNECTICUT:	Waste Water, #PH0799
	FLORIDA:	Environmental Water, #E87298 CQAPP #930105
	KANSAS:	Hazardous Waste, #E-1167 Waste Water, #E-192 Drinking Water, #E-192
	NEW HAMPSHIRE:	Waste Water, #253195-B Drinking Water, #253195-A
	NEW JERSEY:	Waste Water, #44818
	NEW YORK:	Hazardous Waste, #11241 Waste Water, #11241 CLP, #11241
	OKLAHOMA:	Hazardous Waste, #9318 Waste Water, #9318
	SOUTH CAROLINA:	Hazardous Waste, #87013 Waste Water, #87013
	TENNESSEE:	Underground Storage Tank
	UTAH:	Hazardous Waste, #E-165 Waste Water, #E-165 Drinking Water, #E-165
	WASHINGTON:	Hazardous Waste, #C048
	WISCONSIN:	Hazardous Waste, #999940920 Waste Water, #999940920
	USACOE:	Hazardous Waste Waste Water
	AFCEE	

(CN12505)

MBT Environmental Laboratories

Master Builders Technologies

GENERAL NARRATIVE

Comments:

Test methods may include minor modifications of published EPA methods (e.g., reporting limits or parameter lists). Reporting limits are adjusted to reflect dilution of the sample when appropriate. Solids and waste are analyzed with no correction made for moisture content.

Percent recoveries for laboratory control samples and matrix spikes have been calculated using unrounded concentration values. Therefore, percent recoveries reported may differ slightly from those obtained from the rounded concentration values which appear on the report.

EPA 8080:

The surrogate recoveries for the analytes flagged on the data sheet were beyond acceptance limits for the following samples: 12505-1.

Heptachlor Epoxide can exist as two isomers. The data reported for USEPA Method 8080 is the total Heptachlor Epoxide present in the sample, which may consist of any combination of the isomers.

EPA 8270:

The LCS recoveries for the analytes flagged on the LCS data sheets are outside of advisory acceptance limits. The calibration data associated with this laboratory project were within acceptance limits.

Abbreviations and Definitions:

MB	*Method Blank* - An aliquot of a blank matrix carried throughout the entire analytical process
LCS	*Laboratory Control Sample* - A blank to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the accuracy of the method
MS/MSD	*Matrix Spike/Matrix Spike Duplicate* - Duplicate samples to which known quantities of specific analytes are added prior to sample preparation and analysis to assess the extent of matrix bias or interference on analyte recovery
RPD	*Relative Percent Difference* - The measurement of precision between duplicate analyses
BRL	*Below Reporting Limit*
NS	*Not Specified*
NA	*Not Applicable*

(CN12505)

Flags:

Organics -

J	Estimated value below the reporting limit and at or above the method detection limit.
B	Analyte found in the associated blank, as well as in the sample.

Inorganics -

B	Estimated value below the reporting limit and at or above the method detection limit.

(CN12505)

TOTAL CYANIDE

Analytical Method: EPA 9010

Company: McLaren/Hart
Project Name: Westlake
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/05/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL

SDG #: 12505
Project Number: 070803035003005
Date Sampled: 09/01/95
Matrix: Soil (S)
Batch Number: 2948-950905

Lab ID	Sample Description/ Sample Number	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
12505-1/22201-2079	Area 2 35 / WL-221-35	BRL	0.50	1	09/06/95
12505-2/22202-2079	Area 2 30 / WL-222-30	BRL	0.50	1	09/06/95
12505-3/22203-2079	Area 2 30 / WL-222B-30	BRL	0.50	1	09/06/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-8-95

MBT Environmental Laboratories

Master Builders Technologies

METHOD BLANK

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 09/05/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL

Lab ID: 22465-MB /2079
Matrix: Soil
Batch Number: 2948-950905

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Cyanide	BRL	0.50	09/06/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-8-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

TOTAL CYANIDE

Analytical Method: EPA 9010
Preparation Method: EPA 9010

Date Prepared: 09/05/95
Initial Wt./Volume: 1 grams
Final Volume: 50 mL
LCS Date Analyzed: 09/06/95

Lab ID: 22466-LCS /2079
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2948-950905
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Cyanide	0	5.000	4.725	95	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-8-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGA' S

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 35
Sample Number: WL-221-35
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-1/22201-7918
Date/Time Sampled: 09/01/95 11:00
Matrix: Soil (S)
Batch Number: 2977-950907
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7247.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	09/08/95
Bis(2-Chloroethyl)ether	BRL	330	1	09/08/95
2-Chlorophenol	BRL	330	1	09/08/95
1,3-Dichlorobenzene	BRL	330	1	09/08/95
1,4-Dichlorobenzene	BRL	330	1	09/08/95
Benzyl alcohol	BRL	330	1	09/08/95
2-Methylphenol	BRL	330	1	09/08/95
1,2-Dichlorobenzene	BRL	330	1	09/08/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	09/08/95
4-Methylphenol	BRL	330	1	09/08/95
N-Nitroso-di-n-propylamine	BRL	330	1	09/08/95
Hexachloroethane	BRL	330	1	09/08/95
Nitrobenzene	BRL	330	1	09/08/95
Isophorone	BRL	330	1	09/08/95
2,4-Dimethylphenol	BRL	330	1	09/08/95
1,2,4-Trichlorobenzene	BRL	330	1	09/08/95
2-Nitrophenol	BRL	330	1	09/08/95
Benzoic acid	BRL	830	1	09/08/95
Bis(2-Chloroethoxy)methane	BRL	330	1	09/08/95
2,4-Dichlorophenol	BRL	330	1	09/08/95
Naphthalene	BRL	330	1	09/08/95
4-Chloroaniline	BRL	330	1	09/08/95
Hexachlorobutadiene	BRL	330	1	09/08/95
4-Chloro-3-methylphenol	BRL	330	1	09/08/95
2-Methylnaphthalene	BRL	330	1	09/08/95

SEMIVOLATILE ORGA' S

Analytical Method: EPA 8270

Lab ID: 12505-1/22201-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	09/08/95
2,4,6-Trichlorophenol	BRL	330	1	09/08/95
2,4,5-Trichlorophenol	BRL	330	1	09/08/95
2-Chloronaphthalene	BRL	330	1	09/08/95
3-Nitroaniline	BRL	830	1	09/08/95
Dimethylphthalate	BRL	330	1	09/08/95
2,6-Dinitrotoluene	BRL	330	1	09/08/95
Acenaphthylene	BRL	330	1	09/08/95
2-Nitroaniline	BRL	830	1	09/08/95
Acenaphthene	BRL	330	1	09/08/95
2,4-Dinitrophenol	BRL	830	1	09/08/95
4-Nitrophenol	BRL	830	1	09/08/95
2,4-Dinitrotoluene	BRL	330	1	09/08/95
Dibenzofuran	BRL	330	1	09/08/95
Diethylphthalate	BRL	330	1	09/08/95
alpha-BHC	BRL	330	1	09/08/95
4-Chlorophenyl phenyl ether	BRL	330	1	09/08/95
Fluorene	BRL	330	1	09/08/95
4-Nitroaniline	BRL	830	1	09/08/95
4,6-Dinitro-2-methylphenol	BRL	830	1	09/08/95
N-Nitrosodiphenylamine	BRL	330	1	09/08/95
4-Bromophenyl phenyl ether	BRL	330	1	09/08/95
beta-BHC	BRL	330	1	09/08/95
Lindane	BRL	330	1	09/08/95
Hexachlorobenzene	BRL	330	1	09/08/95
Pentachlorophenol	BRL	830	1	09/08/95
Phenanthrene	BRL	330	1	09/08/95
Anthracene	BRL	330	1	09/08/95
Delta-BHC	BRL	330	1	09/08/95
Heptachlor	BRL	330	1	09/08/95
Aldrin	BRL	330	1	09/08/95
Endrin	BRL	330	1	09/08/95
Butyl benzyl phthalate	BRL	330	1	09/08/95
Fluoranthene	BRL	330	1	09/08/95
Heptachlor Epoxide	BRL	330	1	09/08/95
Pyrene	BRL	330	1	09/08/95
Dieldrin	BRL	330	1	09/08/95

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270

Lab ID: 12505-1/22201-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	09/08/95
Endosulfan sulfate	BRL	330	1	09/08/95
4,4'-DDT	BRL	330	1	09/08/95
4,4'-DDD	BRL	330	1	09/08/95
Di-n-butylphthalate	BRL	330	1	09/08/95
3,3'-Dichlorobenzidine	BRL	670	1	09/08/95
Benzo(a)anthracene	BRL	330	1	09/08/95
Bis(2-Ethylhexyl)phthalate	180 J	330	1	09/08/95
Chrysene	BRL	330	1	09/08/95
Di-n-octylphthalate	BRL	330	1	09/08/95
Benzo(b)fluoranthene	BRL	330	1	09/08/95
Benzo(k)fluoranthene	BRL	330	1	09/08/95
Benzo(a)pyrene	BRL	330	1	09/08/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	09/08/95
Dibenz(a,h)anthracene	BRL	330	1	09/08/95
Benzo(g,h,i)perylene	BRL	330	1	09/08/95

Surrogates	% Recovery	Limits
2-Fluorophenol	77	25 - 121
Phenol-d5	69	24 - 113
Nitrobenzene-d5	72	23 - 120
2-Fluorobiphenyl	70	30 - 115
2,4,6-Tribromophenol	71	19 - 122
Terphenyl-d14	61	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-2/22202-7918
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 2977-950907
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7248.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	09/08/95
Bis(2-Chloroethyl)ether	BRL	330	1	09/08/95
2-Chlorophenol	BRL	330	1	09/08/95
1,3-Dichlorobenzene	BRL	330	1	09/08/95
1,4-Dichlorobenzene	BRL	330	1	09/08/95
Benzyl alcohol	BRL	330	1	09/08/95
2-Methylphenol	BRL	330	1	09/08/95
1,2-Dichlorobenzene	BRL	330	1	09/08/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	09/08/95
4-Methylphenol	BRL	330	1	09/08/95
N-Nitroso-di-n-propylamine	BRL	330	1	09/08/95
Hexachloroethane	BRL	330	1	09/08/95
Nitrobenzene	BRL	330	1	09/08/95
Isophorone	BRL	330	1	09/08/95
2,4-Dimethylphenol	BRL	330	1	09/08/95
1,2,4-Trichlorobenzene	BRL	330	1	09/08/95
2-Nitrophenol	BRL	330	1	09/08/95
Benzoic acid	BRL	830	1	09/08/95
Bis(2-Chloroethoxy)methane	BRL	330	1	09/08/95
2,4-Dichlorophenol	BRL	330	1	09/08/95
Naphthalene	41 J	330	1	09/08/95
4-Chloroaniline	BRL	330	1	09/08/95
Hexachlorobutadiene	BRL	330	1	09/08/95
4-Chloro-3-methylphenol	BRL	330	1	09/08/95
2-Methylnaphthalene	BRL	330	1	09/08/95

SEMIVOLATILE ORGA' S

Analytical Method: EPA 8270

Lab ID: 12505-2/22202-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	09/08/95
2,4,6-Trichlorophenol	BRL	330	1	09/08/95
2,4,5-Trichlorophenol	BRL	330	1	09/08/95
2-Chloronaphthalene	BRL	330	1	09/08/95
3-Nitroaniline	BRL	830	1	09/08/95
Dimethylphthalate	BRL	330	1	09/08/95
2,6-Dinitrotoluene	BRL	330	1	09/08/95
Acenaphthylene	BRL	330	1	09/08/95
2-Nitroaniline	BRL	830	1	09/08/95
Acenaphthene	BRL	330	1	09/08/95
2,4-Dinitrophenol	BRL	830	1	09/08/95
4-Nitrophenol	BRL	830	1	09/08/95
2,4-Dinitrotoluene	BRL	330	1	09/08/95
Dibenzofuran	BRL	330	1	09/08/95
Diethylphthalate	BRL	330	1	09/08/95
alpha-BHC	BRL	330	1	09/08/95
4-Chlorophenyl phenyl ether	BRL	330	1	09/08/95
Fluorene	BRL	330	1	09/08/95
4-Nitroaniline	BRL	830	1	09/08/95
4,6-Dinitro-2-methylphenol	BRL	830	1	09/08/95
N-Nitrosodiphenylamine	BRL	330	1	09/08/95
4-Bromophenyl phenyl ether	BRL	330	1	09/08/95
beta-BHC	BRL	330	1	09/08/95
Lindane	BRL	330	1	09/08/95
Hexachlorobenzene	BRL	330	1	09/08/95
Pentachlorophenol	BRL	830	1	09/08/95
Phenanthrene	BRL	330	1	09/08/95
Anthracene	BRL	330	1	09/08/95
Delta-BHC	BRL	330	1	09/08/95
Heptachlor	BRL	330	1	09/08/95
Aldrin	BRL	330	1	09/08/95
Endrin	BRL	330	1	09/08/95
Butyl benzyl phthalate	BRL	330	1	09/08/95
Fluoranthene	BRL	330	1	09/08/95
Heptachlor Epoxide	BRL	330	1	09/08/95
Pyrene	BRL	330	1	09/08/95
Dieldrin	BRL	330	1	09/08/95

SEMIVOLATILE ORGAN[illegible]S

Analytical Method: EPA 8270

Lab ID: 12505-2/22202-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	09/08/95
Endosulfan sulfate	BRL	330	1	09/08/95
4,4'-DDT	BRL	330	1	09/08/95
4,4'-DDD	BRL	330	1	09/08/95
Di-n-butylphthalate	BRL	330	1	09/08/95
3,3'-Dichlorobenzidine	BRL	670	1	09/08/95
Benzo(a)anthracene	BRL	330	1	09/08/95
Bis(2-Ethylhexyl)phthalate	150 J	330	1	09/08/95
Chrysene	BRL	330	1	09/08/95
Di-n-octylphthalate	BRL	330	1	09/08/95
Benzo(b)fluoranthene	BRL	330	1	09/08/95
Benzo(k)fluoranthene	BRL	330	1	09/08/95
Benzo(a)pyrene	BRL	330	1	09/08/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	09/08/95
Dibenz(a,h)anthracene	BRL	330	1	09/08/95
Benzo(g,h,i)perylene	BRL	330	1	09/08/95

Surrogates	% Recovery	Limits
2-Fluorophenol	73	25 - 121
Phenol-d5	66	24 - 113
Nitrobenzene-d5	72	23 - 120
2-Fluorobiphenyl	70	30 - 115
2,4,6-Tribromophenol	76	19 - 122
Terphenyl-d14	58	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

SEMIVOLATILE ORGA

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222B-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
Analyst: ED

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-3/22203-7918
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 2977-950907
% Moisture: NA
Instrument/Column: MS01/XTI-5
Data File: D7249.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Phenol	BRL	330	1	09/08/95
Bis(2-Chloroethyl)ether	BRL	330	1	09/08/95
2-Chlorophenol	BRL	330	1	09/08/95
1,3-Dichlorobenzene	BRL	330	1	09/08/95
1,4-Dichlorobenzene	BRL	330	1	09/08/95
Benzyl alcohol	BRL	330	1	09/08/95
2-Methylphenol	BRL	330	1	09/08/95
1,2-Dichlorobenzene	BRL	330	1	09/08/95
Bis(2-Chloroisopropyl)ether	BRL	330	1	09/08/95
4-Methylphenol	BRL	330	1	09/08/95
N-Nitroso-di-n-propylamine	BRL	330	1	09/08/95
Hexachloroethane	BRL	330	1	09/08/95
Nitrobenzene	BRL	330	1	09/08/95
Isophorone	BRL	330	1	09/08/95
2,4-Dimethylphenol	BRL	330	1	09/08/95
1,2,4-Trichlorobenzene	BRL	330	1	09/08/95
2-Nitrophenol	BRL	330	1	09/08/95
Benzoic acid	BRL	830	1	09/08/95
Bis(2-Chloroethoxy)methane	BRL	330	1	09/08/95
2,4-Dichlorophenol	BRL	330	1	09/08/95
Naphthalene	180 J	330	1	09/08/95
4-Chloroaniline	BRL	330	1	09/08/95
Hexachlorobutadiene	BRL	330	1	09/08/95
4-Chloro-3-methylphenol	BRL	330	1	09/08/95
2-Methylnaphthalene	BRL	330	1	09/08/95

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270

Lab ID: 12505-3/22203-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	BRL	330	1	09/08/95
2,4,6-Trichlorophenol	BRL	330	1	09/08/95
2,4,5-Trichlorophenol	BRL	330	1	09/08/95
2-Chloronaphthalene	BRL	330	1	09/08/95
3-Nitroaniline	BRL	830	1	09/08/95
Dimethylphthalate	BRL	330	1	09/08/95
2,6-Dinitrotoluene	BRL	330	1	09/08/95
Acenaphthylene	BRL	330	1	09/08/95
2-Nitroaniline	BRL	830	1	09/08/95
Acenaphthene	BRL	330	1	09/08/95
2,4-Dinitrophenol	BRL	830	1	09/08/95
4-Nitrophenol	BRL	830	1	09/08/95
2,4-Dinitrotoluene	BRL	330	1	09/08/95
Dibenzofuran	BRL	330	1	09/08/95
Diethylphthalate	BRL	330	1	09/08/95
alpha-BHC	BRL	330	1	09/08/95
4-Chlorophenyl phenyl ether	BRL	330	1	09/08/95
Fluorene	BRL	330	1	09/08/95
4-Nitroaniline	BRL	830	1	09/08/95
4,6-Dinitro-2-methylphenol	BRL	830	1	09/08/95
N-Nitrosodiphenylamine	BRL	330	1	09/08/95
4-Bromophenyl phenyl ether	BRL	330	1	09/08/95
beta-BHC	BRL	330	1	09/08/95
Lindane	BRL	330	1	09/08/95
Hexachlorobenzene	BRL	330	1	09/08/95
Pentachlorophenol	BRL	830	1	09/08/95
Phenanthrene	BRL	330	1	09/08/95
Anthracene	BRL	330	1	09/08/95
Delta-BHC	BRL	330	1	09/08/95
Heptachlor	BRL	330	1	09/08/95
Aldrin	BRL	330	1	09/08/95
Endrin	BRL	330	1	09/08/95
Butyl benzyl phthalate	BRL	330	1	09/08/95
Fluoranthene	BRL	330	1	09/08/95
Heptachlor Epoxide	BRL	330	1	09/08/95
Pyrene	BRL	330	1	09/08/95
Dieldrin	BRL	330	1	09/08/95

SEMIVOLATILE ORGAN

Analytical Method: EPA 8270

Lab ID: 12505-3/22203-7918

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4,4'-DDE	BRL	330	1	09/08/95
Endosulfan sulfate	BRL	330	1	09/08/95
4,4'-DDT	BRL	330	1	09/08/95
4,4'-DDD	BRL	330	1	09/08/95
Di-n-butylphthalate	BRL	330	1	09/08/95
3,3'-Dichlorobenzidine	BRL	670	1	09/08/95
Benzo(a)anthracene	BRL	330	1	09/08/95
Bis(2-Ethylhexyl)phthalate	240 J	330	1	09/08/95
Chrysene	BRL	330	1	09/08/95
Di-n-octylphthalate	BRL	330	1	09/08/95
Benzo(b)fluoranthene	BRL	330	1	09/08/95
Benzo(k)fluoranthene	BRL	330	1	09/08/95
Benzo(a)pyrene	BRL	330	1	09/08/95
Indeno(1,2,3-c,d)pyrene	BRL	330	1	09/08/95
Dibenz(a,h)anthracene	BRL	330	1	09/08/95
Benzo(g,h,i)perylene	BRL	330	1	09/08/95

Surrogates	% Recovery	Limits
2-Fluorophenol	78	25 - 121
Phenol-d5	66	24 - 113
Nitrobenzene-d5	76	23 - 120
2-Fluorobiphenyl	71	30 - 115
2,4,6-Tribromophenol	78	19 - 122
Terphenyl-d14	63	18 - 137

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

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SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL

Analyst: ED

Lab ID: 22606-MB /7918
Matrix: Soil
Batch Number: 2977-950907
Instrument/Column: MS01/XTI-5
Data File: D7240.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Phenol	BRL	330	09/08/95
Bis(2-Chloroethyl)ether	BRL	330	09/08/95
2-Chlorophenol	BRL	330	09/08/95
1,3-Dichlorobenzene	BRL	330	09/08/95
1,4-Dichlorobenzene	BRL	330	09/08/95
Benzyl alcohol	BRL	330	09/08/95
2-Methylphenol	BRL	330	09/08/95
1,2-Dichlorobenzene	BRL	330	09/08/95
Bis(2-Chloroisopropyl)ether	BRL	330	09/08/95
4-Methylphenol	BRL	330	09/08/95
N-Nitroso-di-n-propylamine	BRL	330	09/08/95
Hexachloroethane	BRL	330	09/08/95
Nitrobenzene	BRL	330	09/08/95
Isophorone	BRL	330	09/08/95
2,4-Dimethylphenol	BRL	330	09/08/95
1,2,4-Trichlorobenzene	BRL	330	09/08/95
2-Nitrophenol	BRL	330	09/08/95
Benzoic acid	BRL	830	09/08/95
Bis(2-Chloroethoxy)methane	BRL	330	09/08/95
2,4-Dichlorophenol	BRL	330	09/08/95
Naphthalene	BRL	330	09/08/95
4-Chloroaniline	BRL	330	09/08/95
Hexachlorobutadiene	BRL	330	09/08/95
4-Chloro-3-methylphenol	BRL	330	09/08/95
2-Methylnaphthalene	BRL	330	09/08/95
Hexachlorocyclopentadiene	BRL	330	09/08/95
2,4,6-Trichlorophenol	BRL	330	09/08/95
2,4,5-Trichlorophenol	BRL	330	09/08/95
2-Chloronaphthalene	BRL	330	09/08/95
3-Nitroaniline	BRL	830	09/08/95
Dimethylphthalate	BRL	330	09/08/95

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SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
2,6-Dinitrotoluene	BRL	330	09/08/95
Acenaphthylene	BRL	330	09/08/95
2-Nitroaniline	BRL	830	09/08/95
Acenaphthene	BRL	330	09/08/95
2,4-Dinitrophenol	BRL	830	09/08/95
4-Nitrophenol	BRL	830	09/08/95
2,4-Dinitrotoluene	BRL	330	09/08/95
Dibenzofuran	BRL	330	09/08/95
Diethylphthalate	BRL	330	09/08/95
alpha-BHC	BRL	330	09/08/95
4-Chlorophenyl phenyl ether	BRL	330	09/08/95
Fluorene	BRL	330	09/08/95
4-Nitroaniline	BRL	830	09/08/95
4,6-Dinitro-2-methylphenol	BRL	830	09/08/95
N-Nitrosodiphenylamine	BRL	330	09/08/95
4-Bromophenyl phenyl ether	BRL	330	09/08/95
beta-BHC	BRL	330	09/08/95
Lindane	BRL	330	09/08/95
Hexachlorobenzene	BRL	330	09/08/95
Pentachlorophenol	BRL	830	09/08/95
Phenanthrene	BRL	330	09/08/95
Anthracene	BRL	330	09/08/95
Delta-BHC	BRL	330	09/08/95
Heptachlor	BRL	330	09/08/95
Aldrin	BRL	330	09/08/95
Endrin	BRL	330	09/08/95
Butyl benzyl phthalate	BRL	330	09/08/95
Fluoranthene	BRL	330	09/08/95
Heptachlor Epoxide	BRL	330	09/08/95
Pyrene	BRL	330	09/08/95
Dieldrin	BRL	330	09/08/95
4,4'-DDE	BRL	330	09/08/95
Endosulfan sulfate	BRL	330	09/08/95
4,4'-DDT	BRL	330	09/08/95
4,4'-DDD	BRL	330	09/08/95
Di-n-butylphthalate	BRL	330	09/08/95
3,3'-Dichlorobenzidine	BRL	670	09/08/95

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SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Benzo(a)anthracene	BRL	330	09/08/95
Bis(2-Ethylhexyl)phthalate	BRL	330	09/08/95
Chrysene	BRL	330	09/08/95
Di-n-octylphthalate	BRL	330	09/08/95
Benzo(b)fluoranthene	BRL	330	09/08/95
Benzo(k)fluoranthene	BRL	330	09/08/95
Benzo(a)pyrene	BRL	330	09/08/95
Indeno(1,2,3-c,d)pyrene	BRL	330	09/08/95
Dibenz(a,h)anthracene	BRL	330	09/08/95
Benzo(g,h,i)perylene	BRL	330	09/08/95

Surrogates	% Recovery	Limits
2-Fluorophenol	75	25 - 121
Phenol-d5	68	24 - 113
Nitrobenzene-d5	66	23 - 120
2-Fluorobiphenyl	72	30 - 115
2,4,6-Tribromophenol	81	19 - 122
Terphenyl-d14	48	18 - 137

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON' 'OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 1.0 mL
LCS Date Analyzed: 09/08/95

Analyst: ED

Lab ID: 22607-LCS /7918
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2977-950907
LCSD Date Analyzed: NA
Instrument/Column: /XTI-5
Data File: D7241.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Phenol	0	2500	1580	63	NA	NA	NA	26-90	≤35
2-Chlorophenol	0	2500	1690	68	NA	NA	NA	25-102	≤50
1,4-Dichlorobenzene	0	1670	1030	62	NA	NA	NA	28-104	≤27
N-Nitroso-di-n-propylamine	0	1670	1090	65	NA	NA	NA	41-126	≤38
1,2,4-Trichlorobenzene	0	1670	1100	66	NA	NA	NA	38-107	≤23
4-Chloro-3-methylphenol	0	2500	1680	67	NA	NA	NA	26-103	≤33
Acenaphthene	0	1670	1110	66	NA	NA	NA	31-137	≤19
4-Nitrophenol	0	2500	2060	82	NA	NA	NA	11-114	≤50
2,4-Dinitrotoluene	0	1670	956	57	NA	NA	NA	28-89	≤47
Pentachlorophenol	0	2500	2840	114*	NA	NA	NA	17-109	≤47
Pyrene	0	1670	771	46	NA	NA	NA	35-142	≤36

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2-Fluorophenol	2500	2240	90	NA	NA	25-121
Phenol-d5	2500	1980	79	NA	NA	24-113
Nitrobenzene-d5	1670	1250	75	NA	NA	23-120
2-Fluorobiphenyl	1670	1280	77	NA	NA	30-115

LABORATORY CON' 'OL SPIKE/LABORATORY ' NTROL SPIKE DUPLICATE

SEMIVOLATILE ORGANICS

Analytical Method: EPA 8270

Lab ID: 22607-LCS /7918

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
2,4,6-Tribromophenol	2500	2100	84	NA	NA	19-122
Terphenyl-d14	1670	1010	61	NA	NA	18-137

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

Qualifier Legend:
* - Value beyond QC limits

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 35
Sample Number: WL-221-35
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/11/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-1/22201-7616
Date/Time Sampled: 09/01/95 11:00
Matrix: Soil (S)
Batch Number: 3127-950911
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P7097.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	09/11/95
Vinyl Chloride	BRL	10	1	09/11/95
Bromomethane	BRL	10	1	09/11/95
Chloroethane	BRL	10	1	09/11/95
Trichlorofluoromethane	BRL	10	1	09/11/95
Acetone	26	25	1	09/11/95
1,1-Dichloroethene	BRL	5.0	1	09/11/95
Methylene Chloride	4.0 J	5.0	1	09/11/95
Carbon Disulfide	BRL	5.0	1	09/11/95
trans-1,2-Dichloroethene	BRL	5.0	1	09/11/95
1,1-Dichloroethane	BRL	5.0	1	09/11/95
cis-1,2-Dichloroethene	BRL	5.0	1	09/11/95
Chloroform	BRL	5.0	1	09/11/95
1,2-Dichloroethane	BRL	5.0	1	09/11/95
2-Butanone	BRL	25	1	09/11/95
1,1,1-Trichloroethane	BRL	5.0	1	09/11/95
Carbon Tetrachloride	BRL	5.0	1	09/11/95
Benzene	BRL	5.0	1	09/11/95
Trichloroethene	BRL	5.0	1	09/11/95
1,2-Dichloropropane	BRL	5.0	1	09/11/95
Bromodichloromethane	BRL	5.0	1	09/11/95
2-Chloroethylvinylether	BRL	10	1	09/11/95
trans-1,3-Dichloropropene	BRL	5.0	1	09/11/95
cis-1,3-Dichloropropene	BRL	5.0	1	09/11/95
1,1,2-Trichloroethane	BRL	5.0	1	09/11/95
Dibromochloromethane	BRL	5.0	1	09/11/95
Bromoform	BRL	5.0	1	09/11/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12505-1/22201-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	25	1	09/11/95
Toluene	BRL	5.0	1	09/11/95
2-Hexanone	BRL	25	1	09/11/95
Tetrachloroethene	BRL	5.0	1	09/11/95
Chlorobenzene	3.0 J	5.0	1	09/11/95
Ethyl benzene	BRL	5.0	1	09/11/95
m & p Xylene	BRL	5.0	1	09/11/95
o-Xylene	BRL	5.0	1	09/11/95
Styrene	BRL	5.0	1	09/11/95
1,1,2,2-Tetrachloroethane	BRL	5.0	1	09/11/95
1,3-Dichlorobenzene	BRL	5.0	1	09/11/95
1,4-Dichlorobenzene	BRL	5.0	1	09/11/95
1,2-Dichlorobenzene	BRL	5.0	1	09/11/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	98	70 - 121
Toluene-d8	100	81 - 117
Bromofluorobenzene	89	74 - 121

Qualifier Legend:
J - estimated value

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/11/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-2/22202-7616
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 3127-950911
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P7098.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	09/11/95
Vinyl Chloride	BRL	10	1	09/11/95
Bromomethane	BRL	10	1	09/11/95
Chloroethane	BRL	10	1	09/11/95
Trichlorofluoromethane	BRL	10	1	09/11/95
Acetone	33	25	1	09/11/95
1,1-Dichloroethene	BRL	5.0	1	09/11/95
Methylene Chloride	BRL	5.0	1	09/11/95
Carbon Disulfide	BRL	5.0	1	09/11/95
trans-1,2-Dichloroethene	BRL	5.0	1	09/11/95
1,1-Dichloroethane	BRL	5.0	1	09/11/95
cis-1,2-Dichloroethene	BRL	5.0	1	09/11/95
Chloroform	BRL	5.0	1	09/11/95
1,2-Dichloroethane	BRL	5.0	1	09/11/95
2-Butanone	BRL	25	1	09/11/95
1,1,1-Trichloroethane	BRL	5.0	1	09/11/95
Carbon Tetrachloride	BRL	5.0	1	09/11/95
Benzene	BRL	5.0	1	09/11/95
Trichloroethene	BRL	5.0	1	09/11/95
1,2-Dichloropropane	BRL	5.0	1	09/11/95
Bromodichloromethane	BRL	5.0	1	09/11/95
2-Chloroethylvinylether	BRL	10	1	09/11/95
trans-1,3-Dichloropropene	BRL	5.0	1	09/11/95
cis-1,3-Dichloropropene	BRL	5.0	1	09/11/95
1,1,2-Trichloroethane	BRL	5.0	1	09/11/95
Dibromochloromethane	BRL	5.0	1	09/11/95
Bromoform	BRL	5.0	1	09/11/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12505-2/22202-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	25	1	09/11/95
Toluene	BRL	5.0	1	09/11/95
2-Hexanone	BRL	25	1	09/11/95
Tetrachloroethene	BRL	5.0	1	09/11/95
Chlorobenzene	BRL	5.0	1	09/11/95
Ethyl benzene	BRL	5.0	1	09/11/95
m & p Xylene	BRL	5.0	1	09/11/95
o-Xylene	BRL	5.0	1	09/11/95
Styrene	BRL	5.0	1	09/11/95
1,1,2,2-Tetrachloroethane	BRL	5.0	1	09/11/95
1,3-Dichlorobenzene	BRL	5.0	1	09/11/95
1,4-Dichlorobenzene	BRL	5.0	1	09/11/95
1,2-Dichlorobenzene	BRL	5.0	1	09/11/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	102	70 - 121
Toluene-d8	103	81 - 117
Bromofluorobenzene	98	74 - 121

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

VOLATILE ORGANIC

Analytical Method: EPA 8240

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222B-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/11/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
Analyst: DLA

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-3/22203-7616
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 3127-950911
% Moisture: NA
Instrument/Column: MS04/RTX-502.2
Data File: P7099.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Chloromethane	BRL	10	1	09/11/95
Vinyl Chloride	BRL	10	1	09/11/95
Bromomethane	BRL	10	1	09/11/95
Chloroethane	BRL	10	1	09/11/95
Trichlorofluoromethane	BRL	10	1	09/11/95
Acetone	46	25	1	09/11/95
1,1-Dichloroethene	BRL	5.0	1	09/11/95
Methylene Chloride	11	5.0	1	09/11/95
Carbon Disulfide	BRL	5.0	1	09/11/95
trans-1,2-Dichloroethene	BRL	5.0	1	09/11/95
1,1-Dichloroethane	BRL	5.0	1	09/11/95
cis-1,2-Dichloroethene	BRL	5.0	1	09/11/95
Chloroform	BRL	5.0	1	09/11/95
1,2-Dichloroethane	BRL	5.0	1	09/11/95
2-Butanone	BRL	25	1	09/11/95
1,1,1-Trichloroethane	BRL	5.0	1	09/11/95
Carbon Tetrachloride	BRL	5.0	1	09/11/95
Benzene	BRL	5.0	1	09/11/95
Trichloroethene	BRL	5.0	1	09/11/95
1,2-Dichloropropane	BRL	5.0	1	09/11/95
Bromodichloromethane	BRL	5.0	1	09/11/95
2-Chloroethylvinylether	BRL	10	1	09/11/95
trans-1,3-Dichloropropene	BRL	5.0	1	09/11/95
cis-1,3-Dichloropropene	BRL	5.0	1	09/11/95
1,1,2-Trichloroethane	BRL	5.0	1	09/11/95
Dibromochloromethane	BRL	5.0	1	09/11/95
Bromoform	BRL	5.0	1	09/11/95

VOLATILE ORGANIC

Analytical Method: EPA 8240

Lab ID: 12505-3/22203-7616

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
4-Methyl-2-Pentanone	BRL	25	1	09/11/95
Toluene	BRL	5.0	1	09/11/95
2-Hexanone	BRL	25	1	09/11/95
Tetrachloroethene	BRL	5.0	1	09/11/95
Chlorobenzene	5.0	5.0	1	09/11/95
Ethyl benzene	4.0 J	5.0	1	09/11/95
m & p Xylene	BRL	5.0	1	09/11/95
o-Xylene	BRL	5.0	1	09/11/95
Styrene	BRL	5.0	1	09/11/95
1,1,2,2-Tetrachloroethane	BRL	5.0	1	09/11/95
1,3-Dichlorobenzene	BRL	5.0	1	09/11/95
1,4-Dichlorobenzene	8.0	5.0	1	09/11/95
1,2-Dichlorobenzene	BRL	5.0	1	09/11/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	100	70 - 121
Toluene-d8	104	81 - 117
Bromofluorobenzene	94	74 - 121

Qualifier Legend:
J - estimated value

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Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

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METHOD BLANK

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 09/11/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL

Analyst: DLA

Lab ID: 23364-MB /7616
Matrix: Soil
Batch Number: 3127-950911
Instrument/Column: MS04/RTX-502.2
Data File: P7085.d

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Chloromethane	BRL	10	09/11/95
Vinyl Chloride	BRL	10	09/11/95
Bromomethane	BRL	10	09/11/95
Chloroethane	BRL	10	09/11/95
Trichlorofluoromethane	BRL	10	09/11/95
Acetone	BRL	25	09/11/95
1,1-Dichloroethene	BRL	5.0	09/11/95
Methylene Chloride	BRL	5.0	09/11/95
Carbon Disulfide	BRL	5.0	09/11/95
trans-1,2-Dichloroethene	BRL	5.0	09/11/95
1,1-Dichloroethane	BRL	5.0	09/11/95
cis-1,2-Dichloroethene	BRL	5.0	09/11/95
Chloroform	BRL	5.0	09/11/95
1,2-Dichloroethane	BRL	5.0	09/11/95
2-Butanone	BRL	25	09/11/95
1,1,1-Trichloroethane	BRL	5.0	09/11/95
Carbon Tetrachloride	BRL	5.0	09/11/95
Benzene	BRL	5.0	09/11/95
Trichloroethene	BRL	5.0	09/11/95
1,2-Dichloropropane	BRL	5.0	09/11/95
Bromodichloromethane	BRL	5.0	09/11/95
2-Chloroethylvinylether	BRL	10	09/11/95
trans-1,3-Dichloropropene	BRL	5.0	09/11/95
cis-1,3-Dichloropropene	BRL	5.0	09/11/95
1,1,2-Trichloroethane	BRL	5.0	09/11/95
Dibromochloromethane	BRL	5.0	09/11/95
Bromoform	BRL	5.0	09/11/95
4-Methyl-2-Pentanone	BRL	25	09/11/95
Toluene	BRL	5.0	09/11/95
2-Hexanone	BRL	25	09/11/95
Tetrachloroethene	BRL	5.0	09/11/95
Chlorobenzene	BRL	5.0	09/11/95

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VOLATILE ORGANICS

Analytical Method: EPA 8240

Lab ID:

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Ethyl benzene	BRL	5.0	09/11/95
m & p Xylene	BRL	5.0	09/11/95
o-Xylene	BRL	5.0	09/11/95
Styrene	BRL	5.0	09/11/95
1,1,2,2-Tetrachloroethane	BRL	5.0	09/11/95
1,3-Dichlorobenzene	BRL	5.0	09/11/95
1,4-Dichlorobenzene	BRL	5.0	09/11/95
1,2-Dichlorobenzene	BRL	5.0	09/11/95

Surrogates	% Recovery	Limits
1,2-Dichloroethane-d4	101	70 - 121
Toluene-d8	104	81 - 117
Bromofluorobenzene	100	74 - 121

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Approved by: _____ Date: 9-14-95

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LABORATORY CON) L SPIKE/LABORATORY NTROL SPIKE DUPLICATE

VOLATILE ORGANICS

Analytical Method: EPA 8240

Date Prepared: 09/11/95
Initial Wt./Volume: 5 grams
Final Volume: 5 mL
LCS Date Analyzed: 09/11/95

Analyst: DLA

Lab ID: 23365-LCS /7616
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 3127-950911
LCSD Date Analyzed: NA
Instrument/Column: /RTX-502.2
Data File: P7087.d

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
1,1-Dichloroethene	0	50.0	41.0	83	NA	NA	NA	59-172	≤22
Benzene	0	50.0	43.0	86	NA	NA	NA	66-142	≤21
Trichloroethene	0	50.0	37.0	74	NA	NA	NA	62-137	≤24
Toluene	0	50.0	45.0	89	NA	NA	NA	59-139	≤21
Chlorobenzene	0	50.0	44.0	89	NA	NA	NA	60-133	≤21

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
1,2-Dichloroethane-d4	50.0	48.0	95	NA	NA	70-121
Toluene-d8	50.0	50.0	99	NA	NA	81-117
Bromofluorobenzene	50.0	47.0	94	NA	NA	74-121

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-14-95

MBT Environmental Laboratories

Master Builders Technologies

T AL PETROLEUM HYDRO('BONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 35
Sample Number: WL-221-35
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-1/22204-25
Date/Time Sampled: 09/01/95 11:00
Matrix: Soil (S)
Batch Number: 2941-950906
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	1	09/07/95
Diesel Range (C12-C22)	BRL	10	1	09/07/95
Motor Oil Range (C22-C32)	35	10	1	09/07/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

T AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-2/22205-25
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 2941-950906
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	1	09/07/95
Diesel Range (C12-C22)	BRL	10	1	09/07/95
Motor Oil Range (C22-C32)	BRL	10	1	09/07/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

T 'AL PETROLEUM HYDRO RBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3550S

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222B-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-3/22206-25
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 2941-950906
% Moisture: NA

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	1	09/07/95
Diesel Range (C12-C22)	BRL	10	1	09/07/95
Motor Oil Range (C22-C32)	BRL	10	1	09/07/95

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Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

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TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3510

Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 23022-MB /25
Matrix: Soil
Batch Number: 2941-950906

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Gasoline Range (C7-C14)	BRL	10	09/07/95
Diesel Range (C12-C22)	BRL	10	09/07/95
Motor Oil Range (C22-C32)	BRL	10	09/07/95

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Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

LABORATORY CON' ')L SPIKE/LABORATORY ')TROL SPIKE DUPLICATE

TOTAL PETROLEUM HYDROCARBONS

Analytical Method: Modified EPA 8015
Preparation Method: EPA 3510

Date Prepared: 09/06/95 07:30:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 09/07/95

Lab ID: 23021-LCS /25
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 2941-950906
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
Diesel Range (C12-C22)	0	41.7	26.6	64	NA	NA	NA	52-125	≤

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 9-11-95

MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 35
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-1/22201-7826
Date/Time Sampled: 09/01/95 11:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
ICAP	EPA 3050H	3010-950907	09/07/95	2.0 grams	100 mL	WL-221-35

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	09/08/95
Beryllium (Be)/6010	BRL	0.25	1	09/08/95
Cadmium (Cd)/6010	BRL	0.50	1	09/08/95
Chromium (Cr)/6010	14	1.0	1	09/08/95
Copper (Cu)/6010	17	1.0	1	09/08/95
Lead (Pb)/6010	39	2.5	1	09/08/95
Nickel (Ni)/6010	8.0	1.0	1	09/08/95
Silver (Ag)/6010	BRL	1.0	1	09/08/95
Zinc (Zn)/6010	91	1.0	1	09/08/95

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-13-95

MBT Environmental Laboratories

Master Builders Technologies

PRIORITY POLLUTANT METALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-2/22202-7826
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
ICAP	EPA 3050H	3010-950907	09/07/95	2.0 grams	100 mL	WL-222-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	09/08/95
Beryllium (Be)/6010	BRL	0.25	1	09/08/95
Cadmium (Cd)/6010	BRL	0.50	1	09/08/95
Chromium (Cr)/6010	4.0	1.0	1	09/08/95
Copper (Cu)/6010	3.2	1.0	1	09/08/95
Lead (Pb)/6010	4.6	2.5	1	09/08/95
Nickel (Ni)/6010	8.2	1.0	1	09/08/95
Silver (Ag)/6010	BRL	1.0	1	09/08/95
Zinc (Zn)/6010	20	1.0	1	09/08/95

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Approved by: _____ Date: 9-13-95

MBT Environmental Laboratories

Master Builders Technologies

'RIORITY POLLUTANT M ALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-3/22203-7826
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
ICAP	EPA 3050H	3010-950907	09/07/95	2.0 grams	100 mL	WL-222B-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	1	09/08/95
Beryllium (Be)/6010	BRL	0.25	1	09/08/95
Cadmium (Cd)/6010	BRL	0.50	1	09/08/95
Chromium (Cr)/6010	3.2	1.0	1	09/08/95
Copper (Cu)/6010	1.8	1.0	1	09/08/95
Lead (Pb)/6010	4.5	2.5	1	09/08/95
Nickel (Ni)/6010	6.9	1.0	1	09/08/95
Silver (Ag)/6010	BRL	1.0	1	09/08/95
Zinc (Zn)/6010	15	1.0	1	09/08/95

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Approved by: _____ Date: 9-13-95

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Master Builders Technologies

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METALS

Preparation Method: EPA 3050H

Date Prepared: 09/07/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 22761-MB /7826
Matrix: Soil
Batch Number: 3010-950907

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Antimony (Sb)/6010	BRL	2.5	09/08/95
Beryllium (Be)/6010	BRL	0.25	09/08/95
Cadmium (Cd)/6010	BRL	0.50	09/08/95
Chromium (Cr)/6010	BRL	1.0	09/08/95
Copper (Cu)/6010	BRL	1.0	09/08/95
Lead (Pb)/6010	BRL	2.5	09/08/95
Nickel (Ni)/6010	BRL	1.0	09/08/95
Silver (Ag)/6010	BRL	1.0	09/08/95
Zinc (Zn)/6010	BRL	1.0	09/08/95

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Approved by: _____ Date: 9-13-95

MBT Environmental Laboratories

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LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050H

Date Prepared: 09/07/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 09/08/95

Lab ID: 22762-LCS /7826
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 3010-950907
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Antimony (Sb)/6010	0	25.000	22.830	91	NA	NA	NA	75-125	≤20
Beryllium (Be)/6010	0	2.500	2.340	94	NA	NA	NA	75-125	≤20
Cadmium (Cd)/6010	0	2.500	2.110	84	NA	NA	NA	75-125	≤20
Chromium (Cr)/6010	0	10.000	9.655	97	NA	NA	NA	75-125	≤20
Copper (Cu)/6010	0	12.000	11.525	96	NA	NA	NA	75-125	≤20
Lead (Pb)/6010	0	25.000	23.600	94	NA	NA	NA	75-125	≤20
Nickel (Ni)/6010	0	25.000	22.925	92	NA	NA	NA	75-125	≤20
Silver (Ag)/6010	0	2.500	2.265	91	NA	NA	NA	75-125	≤20
Zinc (Zn)/6010	0	25.000	22.475	90	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 9-13-95

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'RIORITY POLLUTANT M' \LS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 35
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-1/22201-7878
Date/Time Sampled: 09/01/95 11:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
GFAA	EPA 3050N	3014-950911	09/11/95	2.0 grams	100 mL	WL-221-35

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Arsenic (As)/7060	1.5	0.50	1	09/13/95
Selenium (Se)/7740	BRL	0.25	1	09/12/95
Thallium (Tl)/7841	BRL	0.50	1	09/13/95

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Approved by: _____ Date: 9-13-95

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'RIORITY POLLUTANT M ALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-2/22202-7878
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
GFAA	EPA 3050N	3014-950911	09/11/95	2.0 grams	100 mL	WL-222-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Arsenic (As)/7060	1.9	0.50	1	09/13/95
Selenium (Se)/7740	BRL	0.25	1	09/12/95
Thallium (Tl)/7841	BRL	0.50	1	09/13/95

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Approved by: _____ Date: 9-13-95

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'RIORITY POLLUTANT M ALS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-3/22203-7878
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
GFAA	EPA 3050N	3014-950911	09/11/95	2.0 grams	100 mL	WL-222B-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Arsenic (As)/7060	1.4	0.50	1	09/13/95
Selenium (Se)/7740	BRL	0.25	1	09/12/95
Thallium (Tl)/7841	BRL	0.50	1	09/13/95

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Approved by: _____ Date: 9-13-95

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METHOD BLANK

METALS

Preparation Method: EPA 3050N

Date Prepared: 09/11/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL

Lab ID: 23199-MB /7878
Matrix: Soil
Batch Number: 3014-950911

Analyte	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Date Analyzed
Arsenic (As)/7060	BRL	0.50	09/12/95
Selenium (Se)/7740	BRL	0.25	09/12/95
Thallium (Tl)/7841	BRL	0.50	09/12/95

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LABORATORY CON ‘OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 3050N

Date Prepared: 09/11/95
Initial Wt./Volume: 2.0 grams
Final Volume: 100 mL
LCS Date Analyzed: 09/12/95

Lab ID: 23198-LCS /7878
Matrix: Soil Units: mg/Kg (ppm)
Batch Number: 3014-950911
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Arsenic (As)/7060	0	2.000	2.215	111	NA	NA	NA	75-125	≤20
Selenium (Se)/7740	0	0.500	0.570	114	NA	NA	NA	75-125	≤20
Thallium (Tl)/7841	0	2.500	2.610	104	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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Approved by: _____ Date: 9-13-95

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'RIORITY POLLUTANT M' \LS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 35
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-1/22201-7840
Date/Time Sampled: 09/01/95 11:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	3002-950911	09/11/95	0.2 grams	35 mL	WL-221-35

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Mercury(Hg)/7471	0.18	0.10	1	09/11/95

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'RIORITY POLLUTANT M LS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-2/22202-7840
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	3002-950911	09/11/95	0.2 grams	35 mL	WL-222-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	1	09/11/95

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Approved by: _____ Date: 9-13-95

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'RIORITY POLLUTANT M .LS

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Date/Time Received: 09/02/95 8:55

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-3/22203-7840
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
% Moisture: NA

Preparation Information	Prep Method	Batch Number	Date Prepared	Initial Wt./Vol.	Final Vol.	Sample Number
Mercury	EPA 7471	3002-950911	09/11/95	0.2 grams	35 mL	WL-222B-30

Analyte/Method	Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	1	09/11/95

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METALS

Preparation Method: EPA 7471

Date Prepared: 09/11/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL

Lab ID: 22682-MB /7842
Matrix: Soil
Batch Number: 3002-950911

Analyst: MANUEL

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
Mercury(Hg)/7471	BRL	0.10	09/11/95

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LABORATORY CON ›L SPIKE/LABORATORY NTROL SPIKE DUPLICATE

METALS

Preparation Method: EPA 7471

Date Prepared: 09/11/95
Initial Wt./Volume: 0.2 grams
Final Volume: 35 mL
LCS Date Analyzed: 09/11/95

Lab ID: 22683-LCS /7842
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 3002-950911
LCSD Date Analyzed: NA

Analyst: MANUEL

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	Acceptance Limits RPD
Mercury(Hg)/7471	0	0.175	0.169	96	NA	NA	NA	75-125	≤20

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

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PESTIC ES AND POLYCHLORINA BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 35
Sample Number: WL-221-35
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-1/22201-7537
Date/Time Sampled: 09/01/95 11:00
Matrix: Soil (S)
Batch Number: 2978-950907
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	09/08/95
gamma-BHC (Lindane)	BRL	0.34	1	09/08/95
delta-BHC	BRL	0.34	1	09/08/95
beta-BHC	BRL	0.34	1	09/08/95
Heptachlor	BRL	0.34	1	09/08/95
Aldrin	BRL	0.34	1	09/08/95
Heptachlor Epoxide	BRL	0.34	1	09/08/95
Endosulfan I	BRL	0.34	1	09/08/95
4,4'-DDE	BRL	0.68	1	09/08/95
Dieldrin	BRL	0.68	1	09/08/95
Endrin	BRL	0.68	1	09/08/95
4,4'-DDD	BRL	0.68	1	09/08/95
Endosulfan II	BRL	0.68	1	09/08/95
4,4'-DDT	BRL	0.68	1	09/08/95
Endrin Aldehyde	BRL	0.68	1	09/08/95
Endosulfan Sulfate	BRL	0.68	1	09/08/95
Toxaphene	BRL	17	1	09/08/95
Chlordane (Technical)	BRL	3.4	1	09/08/95
Methoxychlor	BRL	3.4	1	09/08/95
Aroclor 1016	BRL	17	1	09/08/95
Aroclor 1221	BRL	34	1	09/08/95
Aroclor 1232	BRL	17	1	09/08/95
Aroclor 1242	BRL	17	1	09/08/95
Aroclor 1248	BRL	17	1	09/08/95
Aroclor 1254	BRL	17	1	09/08/95

PESTI' ES AND POLYCHLORINA' ' BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12505-1/22201-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	09/08/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	26 *	60 - 150

Qualifier Legend:
* - Values outside QC limits

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PESTIC ES AND POLYCHLORINA BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-2/22202-7537
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 2978-950907
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	09/09/95
gamma-BHC (Lindane)	BRL	0.34	1	09/09/95
delta-BHC	BRL	0.34	1	09/09/95
beta-BHC	BRL	0.34	1	09/09/95
Heptachlor	BRL	0.34	1	09/09/95
Aldrin	BRL	0.34	1	09/09/95
Heptachlor Epoxide	BRL	0.34	1	09/09/95
Endosulfan I	BRL	0.34	1	09/09/95
4,4'-DDE	BRL	0.68	1	09/09/95
Dieldrin	BRL	0.68	1	09/09/95
Endrin	BRL	0.68	1	09/09/95
4,4'-DDD	BRL	0.68	1	09/09/95
Endosulfan II	BRL	0.68	1	09/09/95
4,4'-DDT	BRL	0.68	1	09/09/95
Endrin Aldehyde	BRL	0.68	1	09/09/95
Endosulfan Sulfate	BRL	0.68	1	09/09/95
Toxaphene	BRL	17	1	09/09/95
Chlordane (Technical)	BRL	3.4	1	09/09/95
Methoxychlor	BRL	3.4	1	09/09/95
Aroclor 1016	BRL	17	1	09/09/95
Aroclor 1221	BRL	34	1	09/09/95
Aroclor 1232	BRL	17	1	09/09/95
Aroclor 1242	BRL	17	1	09/09/95
Aroclor 1248	BRL	17	1	09/09/95
Aroclor 1254	BRL	17	1	09/09/95

PESTI' ES AND POLYCHLORINA' BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12505-2/22202-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	09/09/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	61	60 - 150

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Approved by: _____ Date: 9-19-95

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PESTIC ES AND POLYCHLORINA BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Company: McLaren/Hart
Project Name: Westlake
Sample Description: Area 2 30
Sample Number: WL-222B-30
Date/Time Received: 09/02/95 8:55
Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

SDG #: 12505
Project Number: 070803035003005
Lab ID: 12505-3/22203-7537
Date/Time Sampled: 09/01/95 13:00
Matrix: Soil (S)
Batch Number: 2978-950907
% Moisture: NA

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
alpha-BHC	BRL	0.34	1	09/09/95
gamma-BHC (Lindane)	BRL	0.34	1	09/09/95
delta-BHC	BRL	0.34	1	09/09/95
beta-BHC	BRL	0.34	1	09/09/95
Heptachlor	BRL	0.34	1	09/09/95
Aldrin	0.44	0.34	1	09/09/95
Heptachlor Epoxide	BRL	0.34	1	09/09/95
Endosulfan I	BRL	0.34	1	09/09/95
4,4'-DDE	BRL	0.68	1	09/09/95
Dieldrin	BRL	0.68	1	09/09/95
Endrin	BRL	0.68	1	09/09/95
4,4'-DDD	BRL	0.68	1	09/09/95
Endosulfan II	BRL	0.68	1	09/09/95
4,4'-DDT	BRL	0.68	1	09/09/95
Endrin Aldehyde	BRL	0.68	1	09/09/95
Endosulfan Sulfate	BRL	0.68	1	09/09/95
Toxaphene	BRL	17	1	09/09/95
Chlordane (Technical)	BRL	3.4	1	09/09/95
Methoxychlor	BRL	3.4	1	09/09/95
Aroclor 1016	BRL	17	1	09/09/95
Aroclor 1221	BRL	34	1	09/09/95
Aroclor 1232	BRL	17	1	09/09/95
Aroclor 1242	BRL	17	1	09/09/95
Aroclor 1248	BRL	17	1	09/09/95
Aroclor 1254	BRL	17	1	09/09/95

PESTI[illegible]ES AND POLYCHLORINA[illegible] BIPHENYLS

Analytical Method: EPA 8080

Lab ID: 12505-3/22203-7537

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Dilution Factor	Date Analyzed
Aroclor 1260	BRL	17	1	09/09/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	63	60 - 150

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Approved by: _____ Date: 9-19-95

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Master Builders Technologies

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PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL

Lab ID: 22610-MB /7537
Matrix: Soil
Batch Number: 2978-950907

Analyte	Result ug/Kg (ppb)	Reporting Limit ug/Kg (ppb)	Date Analyzed
alpha-BHC	BRL	0.34	09/08/95
gamma-BHC (Lindane)	BRL	0.34	09/08/95
delta-BHC	BRL	0.34	09/08/95
beta-BHC	BRL	0.34	09/08/95
Heptachlor	BRL	0.34	09/08/95
Aldrin	BRL	0.34	09/08/95
Heptachlor Epoxide	BRL	0.34	09/08/95
Endosulfan I	BRL	0.34	09/08/95
4,4'-DDE	BRL	0.68	09/08/95
Dieldrin	BRL	0.68	09/08/95
Endrin	BRL	0.68	09/08/95
4,4'-DDD	BRL	0.68	09/08/95
Endosulfan II	BRL	0.68	09/08/95
4,4'-DDT	BRL	0.68	09/08/95
Endrin Aldehyde	BRL	0.68	09/08/95
Endosulfan Sulfate	BRL	0.68	09/08/95
Toxaphene	BRL	17	09/08/95
Chlordane (Technical)	BRL	3.4	09/08/95
Methoxychlor	BRL	3.4	09/08/95
Aroclor 1016	BRL	17	09/08/95
Aroclor 1221	BRL	34	09/08/95
Aroclor 1232	BRL	17	09/08/95
Aroclor 1242	BRL	17	09/08/95
Aroclor 1248	BRL	17	09/08/95
Aroclor 1254	BRL	17	09/08/95
Aroclor 1260	BRL	17	09/08/95

Surrogates	% Recovery	Limits
Tetrachloro-m-xylene	78	60 - 150

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-19-95

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LABORATORY CON OL SPIKE/LABORATORY NTROL SPIKE DUPLICATE

PESTICIDES AND POLYCHLORINATED BIPHENYLS

Analytical Method: EPA 8080
Preparation Method: EPA 3550

Date Prepared: 09/07/95 08:00:
Initial Wt./Volume: 30 grams
Final Volume: 5 mL
LCS Date Analyzed: 09/08/95

Lab ID: 22611-LCS /7537
Matrix: Soil Units: ug/Kg (ppb)
Batch Number: 2978-950907
LCSD Date Analyzed: NA

Analyte	(a) Sample Conc.	(b) Spike Conc.	(c) Sample + Spike Conc.	(d) Spike Rec %	(e) Sample Dup. + Spike Conc.	(f) Spike Dup. Rec %	(g) RPD %	Acceptance Limits % Rec.	RPD
gamma-BHC (Lindane)	0	4.17	3.18	76	NA	NA	NA	46-127	≤50
Heptachlor	0	4.17	3.18	76	NA	NA	NA	35-130	≤31
Aldrin	0	4.17	3.30	79	NA	NA	NA	34-132	≤43
Dieldrin	0	8.33	6.75	81	NA	NA	NA	31-134	≤38
Endrin	0	8.33	6.97	84	NA	NA	NA	42-139	≤45
4,4'-DDT	0	8.33	7.12	85	NA	NA	NA	23-134	≤50

Spike Recovery = d = ((c-a)/b) x 100
Spike Duplicate Recovery = f = ((e-a)/b) x 100
Relative Percent Difference = g = (|c-e|)/((c+e) x .5) x 100

Surrogate	(h) Surr. Spike Conc.	(i) Sample + Surr. Spike Conc.	(j) Surr. Spike Rec %	(k) Sample Dup. + Surr. Spike Conc.	(l) Surr. Spike Dup. Rec %	Acceptance Limits
Tetrachloro-m-xylene	8.33	6.53	78	NA	NA	60-150

Surrogate % Recovery = j = (i-h) x 100
Surrogate Duplicate Recovery = l = (k/h) x 100

The cover letter and enclosures are integral parts of this report.

Approved by: _____ Date: 9-19-95

MBT Environmental Laboratories

Master Builders Technologies