Harding Lawson Associates

Groundwater Monitoring - 1996
Utility Trailer Manufacturing Company
17300 East Chestnut Street
City of Industry, California

Engineering and Environmental Services

HLA

UTM 005870

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Utility Trailer Manufacturing Company
17300 East Chestnut Street
City of Industry, California

Prepared for

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INTRODUCTION

This report presents groundwater depth measurement and groundwater sample analytical data compiled by Harding Lawson Associates (HLA) for the period from January 1 through December 31, 1996, for Utility Trailer Manufacturing Company (UTM), 17300 East Chestnut Street, City of Industry, California (Plate 1). These data are reported annually, as approved by the Regional Water Quality Control Board - Los Angeles Region (RWQCB). Although the RWQCB requires that groundwater sampling at UTM be performed only once per year, UTM voluntarily performed two groundwater sampling events in 1996.

WORK CONDUCTED IN 1996

Groundwater Depth Measurement

Depth to groundwater was measured quarterly in each onsite monitoring well using an electric well sounder. Groundwater depth measurement data collected during 1996 are presented along with historical data in Table 1. Groundwater beneath the site occurs at an average depth of approximately 23 feet below ground surface (bgs), which is equivalent to an approximate elevation of 355 feet above mean sea level. The September 1996 data were used to produce the groundwater elevation contour map presented on Plate 2. The contour map indicates a northwesterly flow direction and a gradient with a magnitude of approximately 0.005 foot per foot. All of the available groundwater elevation data were used to produce the groundwater elevation hydrograph presented on Plate 3. For the first few months of 1996, the groundwater elevation increased; however, in March 1996, a decline in groundwater elevation began that continued over the remainder of 1996. Generally, 1996 groundwater elevation data indicate a continuation of an overall elevation decline trend that began in early 1993.

Groundwater Sampling

An HLA geologist collected groundwater samples for chemical analysis from site observation Wells MW-02 through MW-06 on March 11 and September 16, 1996. Prior to sampling, wells were purged of approximately four well volumes to remove standing water and to promote the flow of water from the surrounding formation into the well casing. Water was purged from each well by lowering a submersible pump to a depth approximately 5 to 10 feet above the bottom of the casing or below the static water level.

The pH, electric conductance, temperature, and turbidity of the purged groundwater were monitored during purging. Wells were purged until at least four well volumes were removed and turbidity measurements were below 5 nephelometric turbidity units (NTU). Well purge data from both sampling events are presented in Appendix A. All equipment was decontaminated prior to each use with Liqui-Nox detergent solution followed by potable and distilled water rinses.

Before any samples were collected, water levels in the well casings were allowed to recover to at least 80 percent of the original static water level observed prior to purging. To minimize agitation/volatilization, the samples were collected by gently lowering a disposable bailer into the groundwater. Groundwater turbidity was then remeasured to ensure that sample turbidity was below 5 NTUs. The collected groundwater was then immediately and carefully transferred into laboratory-prepared 40-milliliter glass volatile organic analysis vials. The vials were immediately sealed with screw caps, labeled, and placed in an iced field cooler for shipment to Del Mar Analytical (DMA), a California state-certified laboratory, in accordance with chain-of-custody protocol.

During the March sampling event, groundwater samples were collected and submitted to DMA for turbidity analysis to confirm field measurements. However, in a telephone conversation with HLA, the RWQCB stated that as long as field measurements were performed, it was not necessary to collect and submit samples for laboratory analysis of turbidity. Therefore, no samples were submitted for turbidity analysis for the September sampling event.

To check laboratory quality control, duplicate groundwater samples (labeled as MW-07) were collected from Well MW-04 during both sampling events and were submitted for analysis. To assess the effectiveness of decontamination procedures, an equipment blank (labeled as MW-08) was collected during both sampling events by running deionized water over a decontaminated pump. Equipment blanks were submitted with the groundwater samples for analysis. All samples were analyzed for chlorinated volatile organic compounds (CVOCs) using EPA Method 8010 per RWQCB Well Investigation Program (WIP) requirements.

Groundwater Analytical Results

A summary of groundwater analytical results from the March and September sampling events is presented in Table 2. Analytical laboratory reports and associated quality assurance/quality control (QA/QC) data are presented in Appendix B. Ten CVOCs were detected in the groundwater samples; the maximum concentrations detected in 1996 for four of these compounds are as follows:

- Tetrachloroethene (PCE) - 290 micrograms per liter (μg/l) in upgradient Well MW-04

- Trichloroethene (TCE) - 46 μg/l in upgradient Well MW-03

- 1,1-Dichloroethene (1,1-DCE) - 71 μg/l in Well MW-05

- 1,1,1-Trichloroethane (1,1,1-TCA) - 20 μg/l in Well MW-05

The relative percent differences (RPDs) between analytes for the duplicate sample and the original sample are presented in Table 3. In general, RPDs for both sampling events were within 20 percent; however, the RPD for PCE for the March sampling event was 41.7 percent. This relatively large RPD occurred for the MW-04 sample that was diluted by DMA in order to obtain quantitative results for PCE that met WIP requirements. DMA's letter of explanation of the cause of the large RPD is attached with the analytical laboratory reports in Appendix B. Analytical laboratory reports and QA/QC data from the laboratory analysis generally met acceptance criteria.

DISCUSSION

Plots of CVOC concentration and water elevation versus time for each well are presented on Plates 4 through 8. Isoconcentration contour maps of the average 1996 value for selected analytes at each well are presented on Plates 9 through 11. The following observations can be made for trends in individual site wells:

- MW-02 - Historically, PCE has been the predominant Method 8010 analyte detected in Well MW-02. The long-term decline trend of PCE concentrations in this well continued through 1996. The concentrations of other analytes in this well remained generally within their historical ranges, with the exception of 1,1-DCA, which increased between September 1995 and March 1996, and then decreased between March and September 1996.

- MW-03 - CVOCs, predominantly PCE and TCE, together with trichlorofluoromethane (TCFM), continue to be detected in Well MW-03.

- MW-04 - Concentrations of PCE, TCE, and 1,1-DCE in Well MW-04 were relatively constant during 1996 and largely unchanged from those reported in September 1995. A large decline in concentrations was noted in the July 1995 samples, but concentrations have since

rebounded. In the 1995 groundwater report, HLA theorized that the drop in concentrations may be due to vapor extraction system testing near Well MW-04, but further review of regional data presented in the Puente Valley Operable Unit (PVOU) steering committee Remedial Investigation report (PVOU, 1995) also shows a similar large decrease in concentrations in many wells in the PVOU.

- MW-05 - Concentrations of CVOCs in Well MW-05 were largely unchanged through 1996 and remained generally within their historical ranges.

- MW-06 - Samples collected from Well MW-06 reflect a slight though insignificant decrease in concentrations between the March and September 1996 events.

A review of these data together with data collected during the PVOU Remedial Investigation from groundwater monitoring well PVOU Well MW6-82, installed in the shallow groundwater system, upgradient of the UTM facility (Plate 1), support the contention that the elevated concentrations of PCE, TCE, and TCFM observed in UTM wells MW-03 and MW-02 are from a source upgradient of the UTM facility. Data from PVOU Well MW6-82 collected in 1995 are presented in Table 4 together with the data from MW-02 and MW-03 collected over a corresponding time period.

The downgradient trends of the average concentrations of the primary products (PCE and TCE), breakdown products (1,1 DCE, cis-1,2 DCE, and 1,1 DCA), and TCFM are presented on Plate 12. Concentrations of PCE+TCE as well as TCFM are higher in the upgradient PVOU well and clearly decrease downgradient across the UTM facility. The concentration of breakdown products, generated by the degradation of the primary products, is observed to increase downgradient of the PVOU well. These trends are consistent and representative of a source of PCE/TCE and TCFM being located upgradient of the UTM facility.

REFERENCES

Harding Lawson Associates. 1996. *Groundwater Monitoring 1995, Utility Trailer Manufacturing Company, 17300 East Chestnut Street, City of Industry, California.* January.

The Puente Valley Operable Unit. 1995. *Draft Remedial Investigation Report, Puente Valley Operable Unit Interim RI/FS, Camp Dresser and McKee Incorporated*, Table 4-4.

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TABLES

Table 1. Groundwater Depth Measurement Data
Utility Trailer Manufacturing Company

WELL NUMBER	SURVEYED ELEVATION (FEET MSL)*	DATE	DEPTH TO GROUNDWATER (FEET)**	EQUIVALENT GROUNDWATER ELEVATION (FEET MSL)
MW-02	376.66	6/1/89	22.95	353.71
		8/28/89	23.03	353.63
		9/15/89	23.05	353.61
		10/11/89	23.13	353.53
		11/16/89	23.20	353.46
		12/11/89	23.25	353.41
		1/15/90	23.26	353.40
		2/12/90	23.16	353.50
		3/9/90	23.07	353.59
		4/12/90	22.95	353.71
		5/14/90	23.48	353.18
		6/7/90	23.42	353.24
		7/10/90	23.35	353.31
		8/16/90	23.80	352.86
		9/11/90	23.47	353.19
		1/31/91	24.28	352.38
		2/27/91	24.52	352.14
		3/7/91	23.80	352.86
		4/8/91	23.36	353.30
		5/7/91	23.60	353.06
		6/7/91	23.76	352.90
		7/10/91	24.04	352.62
		8/8/91	24.22	352.44
		9/6/91	24.02	352.64
		10/7/91	23.77	352.89
		11/6/91	24.00	352.66
		12/5/91	24.10	352.56
		4/9/92	23.16	353.50
		5/7/92	23.12	353.54
		6/9/92	22.75	353.91
		7/7/92	22.90	353.76
		8/7/92	23.57	353.09
		9/8/92	23.50	353.16
		10/7/92	23.67	352.99
		11/4/92	23.66	353.00
		12/4/92	23.65	353.01
		1/8/93	22.61	354.05
		2/5/93	21.50	355.16
		3/4/93	20.99	355.67
		4/7/93	21.42	355.24
		5/4/93	21.60	355.06
		6/4/93	21.55	355.11
		7/6/93	21.60	355.06
		8/2/93	21.96	354.70
		9/7/93	21.74	354.92
		10/4/93	21.83	354.83
		11/4/93	21.86	354.80
		12/3/93	22.38	354.28
		1/10/94	22.43	354.23
		2/9/94	22.40	354.26
		3/15/94	22.55	354.11
		4/8/94	22.45	354.21
		5/9/94	22.40	354.26
		6/8/94	22.56	354.10
		7/11/94	22.70	353.96
		8/3/94	22.84	353.82
		9/1/94	23.10	353.56
		10/4/94	23.02	353.64
		11/3/94	22.90	353.76
		12/29/94	22.68	353.98
		1/19/95	22.20	354.46
		3/16/95	21.85	354.81
		6/20/95	22.12	354.54
		7/12/95	22.19	354.47
		9/14/95	22.42	354.24
		12/4/95	22.42	354.24
		3/11/96	22.16	354.50
		6/4/96	22.31	354.35
		9/16/96	22.84	353.82
		12/2/96	22.71	353.95

Notes: MSL = Mean Sea Level
* Elevation surveyed to top of well casing
** Depth to ground water referenced to top of well casing
Water levels measured quarterly starting January 1995

Table 1. Groundwater Depth Measurement Data
Utility Trailer Manufacturing Company

WELL NUMBER	SURVEYED ELEVATION (FEET MSL)*	DATE	DEPTH TO GROUNDWATER (FEET)**	EQUIVALENT GROUNDWATER ELEVATION (FEET MSL)
MW-03	378.03	6/1/89	21.77	356.26
		8/28/89	21.82	356.21
		9/15/89	21.88	356.15
		10/11/89	21.95	356.08
		11/16/89	22.02	356.01
		12/11/89	22.04	355.99
		1/15/90	22.04	355.99
		2/12/90	21.94	356.09
		3/9/90	21.77	356.26
		4/12/90	21.74	356.29
		5/14/90	22.15	355.88
		6/7/90	22.10	355.93
		7/10/90	22.09	355.94
		8/16/90	22.39	355.64
		9/11/90	22.16	355.87
		1/31/91	22.74	355.29
		2/27/91	22.92	355.11
		3/7/91	22.33	355.70
		4/8/91	21.93	356.10
		5/7/91	22.15	355.88
		6/7/91	22.46	355.57
		7/10/91	22.54	355.49
		8/8/91	22.67	355.36
		9/6/91	22.55	355.48
		10/7/91	22.37	355.66
		11/6/91	22.40	355.63
		12/5/91	22.61	355.42
		4/9/92	21.83	356.20
		5/7/92	21.97	356.06
		6/9/92	21.41	356.62
		7/7/92	21.51	356.52
		8/7/92	22.22	355.81
		9/8/92	22.16	355.87
		10/7/92	22.29	355.74
		11/4/92	22.30	355.73
		12/4/92	22.30	355.73
		1/8/93	21.54	356.49
		2/5/93	20.48	357.55
		3/4/93	20.05	357.98
		4/7/93	20.35	357.68
		5/14/93	20.55	357.48
		6/4/93	20.54	357.49
		7/6/93	20.55	357.48
		8/2/93	20.89	357.14
		9/7/93	20.65	357.38
		10/4/93	20.74	357.29
		11/4/93	20.79	357.24
		12/3/93	21.37	356.66
		1/10/94	21.44	356.59
		2/9/94	21.45	356.58
		3/15/94	21.52	356.51
		4/8/94	21.43	356.60
		5/9/94	21.35	356.68
		6/8/94	21.53	356.50
		7/11/94	21.67	356.36
		8/3/94	21.77	356.26
		9/1/94	22.05	355.98
		10/4/94	21.95	356.08
		11/3/94	21.85	356.18
		12/29/94	21.62	356.41
		1/19/95	21.15	356.88
		3/16/95	20.75	357.28
		6/20/95	21.04	356.99
		7/12/95	21.12	356.91
		9/14/95	21.34	356.69
		12/4/95	21.45	356.58
		3/11/96	21.17	356.86
		6/4/96	21.29	356.74
		9/16/96	21.74	356.29
		12/2/96	21.66	356.37

Notes: MSL = Mean Sea Level
* Elevation surveyed to top of well casing
** Depth to ground water referenced to top of well casing
Water levels measured quarterly starting January 1995

Table 1. Groundwater Depth Measurement Data
Utility Trailer Manufacturing Company

WELL NUMBER	SURVEYED ELEVATION (FEET MSL)*	DATE	DEPTH TO GROUNDWATER (FEET)**	EQUIVALENT GROUNDWATER ELEVATION (FEET MSL)
MW-04	383.21	6/1/89	27.34	355.87
		8/28/89	27.41	355.80
		9/15/89	27.43	355.78
		10/11/89	27.49	355.72
		11/16/89	27.58	355.63
		12/11/89	27.65	355.56
		1/15/90	27.68	355.53
		2/12/90	27.61	355.60
		3/9/90	27.47	355.74
		4/12/90	27.56	355.65
		5/14/90	27.89	355.32
		6/7/90	27.94	355.27
		7/10/90	27.93	355.28
		8/16/90	28.14	355.07
		9/11/90	28.06	355.15
		1/31/91	28.56	354.65
		2/27/91	28.77	354.44
		3/7/91	28.19	355.02
		4/8/91	27.70	355.51
		5/7/91	27.94	355.27
		6/7/91	28.27	354.94
		7/10/91	28.39	354.82
		8/8/91	28.48	354.73
		9/6/91	28.52	354.69
		10/7/91	28.37	354.84
		11/6/91	28.44	354.77
		12/5/91	28.56	354.65
		4/9/92	27.61	355.60
		5/7/92	27.78	355.43
		6/9/92	27.33	355.88
		7/7/92	27.53	355.68
		8/7/92	28.09	355.12
		9/8/92	27.99	355.22
		10/7/92	28.14	355.07
		11/4/92	28.20	355.01
		12/4/92	28.18	355.03
		1/8/93	27.19	356.02
		2/5/93	25.88	357.33
		3/4/93	25.35	357.86
		4/7/93	25.75	357.46
		5/14/93	26.00	357.21
		6/4/93	25.96	357.25
		7/6/93	26.02	357.19
		8/2/93	26.23	356.98
		9/7/93	26.22	356.99
		10/4/93	26.35	356.86
		11/4/93	26.90	356.31
		12/3/93	26.82	356.39
		1/10/94	26.90	356.31
		2/9/94	26.92	356.29
		3/15/94	27.04	356.17
		4/8/94	26.89	356.32
		5/9/94	26.93	356.28
		6/8/94	27.16	356.05
		7/11/94	27.22	355.99
		8/3/94	27.36	355.85
		9/1/94	—	—
		10/4/94	27.56	355.65
		11/3/94	26.96	356.25
		12/29/94	27.35	355.86
		1/19/95	26.63	356.58
		3/16/95	26.25	356.96
		6/20/95	26.44	356.77
		7/12/95	26.58	356.63
		9/14/95	26.83	356.38
		12/4/95	26.92	356.29
		3/11/96	26.67	356.54
		6/4/96	26.80	356.41
		9/16/96	27.41	355.80
		12/2/96	27.26	355.95

Notes: MSL = Mean Sea Level
* Elevation surveyed to top of well casing
** Depth to ground water referenced to top of well casing
Water levels measured quarterly starting January 1995

Table 1. Groundwater Depth Measurement Data
Utility Trailer Manufacturing Company

WELL NUMBER	SURVEYED ELEVATION (FEET MSL)*	DATE	DEPTH TO GROUNDWATER (FEET)**	EQUIVALENT GROUNDWATER ELEVATION (FEET MSL)
MW-05	380.61	6/1/89	25.71	354.90
		8/28/89	25.68	354.93
		9/15/89	25.72	354.89
		10/11/89	25.76	354.85
		11/16/89	25.87	354.74
		12/11/89	25.96	354.65
		1/15/90	25.98	354.63
		2/12/90	25.92	354.69
		3/9/90	25.81	354.80
		4/12/90	25.88	354.73
		5/14/90	26.25	354.36
		6/7/90	26.31	354.30
		7/10/90	26.28	354.33
		8/16/90	26.58	354.03
		9/11/90	26.40	354.21
		1/31/91	26.97	353.64
		2/27/91	27.17	353.44
		3/7/91	26.54	354.07
		4/8/91	26.11	354.50
		5/7/91	26.29	354.32
		6/7/91	26.62	353.99
		7/10/91	26.75	353.86
		8/8/91	26.60	354.01
		9/6/91	26.90	353.71
		10/7/91	26.77	353.84
		11/6/91	26.83	353.78
		12/5/91	26.92	353.69
		4/9/92	25.90	354.71
		5/7/92	26.08	354.53
		6/9/92	25.42	355.19
		7/7/92	25.63	354.98
		8/7/92	26.43	354.18
		9/8/92	26.31	354.30
		10/7/92	26.44	354.17
		11/4/92	26.53	354.08
		12/4/92	26.49	354.12
		1/8/93	25.43	355.18
		2/5/93	24.09	356.52
		3/4/93	23.54	357.07
		4/7/93	24.03	356.58
		5/14/93	24.27	356.34
		6/4/93	23.98	356.63
		7/6/93	24.33	356.28
		8/2/93	24.60	356.01
		9/7/93	24.28	356.33
		10/4/93	24.42	356.19
		11/4/93	24.48	356.13
		12/3/93	25.06	355.55
		1/10/94	25.16	355.45
		2/9/94	25.18	355.43
		3/15/94	25.29	355.32
		4/8/94	25.15	355.46
		5/9/94	25.50	355.11
		6/8/94	25.42	355.19
		7/11/94	25.49	355.12
		8/3/94	25.64	354.97
		9/1/94	25.93	354.68
		10/4/94	25.85	354.76
		11/3/94	25.86	354.75
		12/29/94	25.59	355.02
		1/19/95	24.80	355.81
		3/16/95	24.45	356.16
		6/20/95	24.70	355.91
		7/12/95	24.85	355.76
		9/14/95	25.06	355.55
		12/4/95	25.15	355.46
		3/11/96	24.81	355.80
		6/4/96	25.02	355.59
		9/16/96	25.62	354.99
		12/2/96	25.48	355.13

Notes: MSL = Mean Sea Level
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Water levels measured quarterly starting January 1995

Table 1. Groundwater Depth Measurement Data
Utility Trailer Manufacturing Company

WELL NUMBER	SURVEYED ELEVATION (FEET MSL)*	DATE	DEPTH TO GROUNDWATER (FEET)**	EQUIVALENT GROUNDWATER ELEVATION (FEET MSL)
MW-06	379.79	6/1/89	24.04	355.75
		8/28/89	24.07	355.72
		9/15/89	24.12	355.67
		10/11/89	24.22	355.57
		11/16/89	24.26	355.53
		12/11/89	24.34	355.45
		1/15/90	24.35	355.44
		2/12/90	24.26	355.53
		3/9/90	24.11	355.68
		4/12/90	24.14	355.65
		5/14/90	24.52	355.27
		6/7/90	24.54	355.25
		7/10/90	24.51	355.28
		8/16/90	24.77	355.02
		9/11/90	24.63	355.16
		1/31/91	25.20	354.59
		2/27/91	25.38	354.41
		3/7/91	24.77	355.02
		4/8/91	24.35	355.44
		5/7/91	24.54	355.25
		6/7/91	24.88	354.91
		7/10/91	24.98	354.81
		8/8/91	24.92	354.87
		9/6/91	25.06	354.73
		10/7/91	24.89	354.90
		11/6/91	24.97	354.82
		12/5/91	25.11	354.68
		4/9/92	24.22	355.57
		5/7/92	24.39	355.40
		6/9/92	23.93	355.86
		7/7/92	24.09	355.70
		8/7/92	24.65	355.14
		9/8/92	24.15	355.64
		10/7/92	24.72	355.07
		11/4/92	24.79	355.00
		12/4/92	24.75	355.04
		1/8/93	23.95	355.84
		2/5/93	22.67	357.12
		3/4/93	22.19	357.60
		4/7/93	22.55	357.24
		5/14/93	22.79	357.00
		6/4/93	22.76	357.03
		7/6/93	22.76	357.03
		8/2/93	23.04	356.75
		9/7/93	22.98	356.81
		10/4/93	23.09	356.70
		11/4/93	23.14	356.65
		12/3/93	23.57	356.22
		1/10/94	23.54	356.25
		2/9/94	23.69	356.10
		3/15/94	23.76	356.03
		4/8/94	23.64	356.15
		5/9/94	23.64	356.15
		6/8/94	23.85	355.94
		7/11/94	23.93	355.86
		8/3/94	24.09	355.70
		9/1/94	24.31	355.48
		10/4/94	24.25	355.54
		11/3/94	24.23	355.56
		12/29/94	23.92	355.87
		1/19/95	23.30	356.49
		3/16/95	23.00	356.79
		6/23/95	23.22	356.57
		7/12/95	23.29	356.50
		9/14/95	23.53	356.26
		12/4/95	23.62	356.17
		3/11/96	23.31	356.48
		6/4/96	23.48	356.31
		9/16/96	24.03	355.76
		12/2/96	23.88	355.91

Notes: MSL = Mean Sea Level
* Elevation surveyed to top of well casing
** Depth to ground water referenced to top of well casing
Water levels measured quarterly starting January 1995

Table 2. Groundwater Chemical Analytical Data
Utility Trailer Manufacturing Company
EPA Test Method 8010

Well No.	Date	PCE (ug/L)	TCE (ug/L)	1,1-DCE (ug/L)	1,1,1-TCA (ug/L)	1,1,2-TCA (ug/L)	1,1-DCA (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	TCFM (ug/L)	Chloroform (ug/L)
MW-02	07/12/95	97	15	10	2.1	(0.5)	19	(0.5)	4.1	3.1	(0.5)
MW-02	09/14/95	120	19	11	1.3	(0.5)	13	(0.5)	4.0	2.0	0.56
MW-02	03/11/96	94	17	19	1.5	0.53	57	1.4	5.9	(0.5)	0.52
MW-02	09/16/96	68	12	3.2	1.5	(0.5)	5.4	(0.5)	5.0	0.91	(0.5)
MW-03	07/12/95	100	58	5.2	1.4	(0.5)	1.3	(0.5)	6.1	6.4	0.65
MW-03	09/14/95	87	40	6.5	0.96	(0.5)	1.3	(0.5)	8.4	4.7	0.60
MW-03	03/11/96	140	46	6.0	3.0	(0.5)	2.1	(0.5)	6.6	2.9	0.72
MW-03	09/16/96	120	36	7.5	11	(1.0)	(1.0)	(1.0)	7.3	5.3	(1.0)
MW-04	07/12/95	45	2.8	15	2.9	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
MW-04	09/14/95	290	11	88	3.0	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)
MW-04	03/11/96	190*	9.3	63	2.5	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
MW-04 Duplicate	03/11/96	290	9.7	68	2.9	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
MW-04	09/16/96	250	7.1	53	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	3.4
MW-04 Duplicate	09/16/96	250	6.4	54	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)
MW-05	07/12/95	74	13	70	31	(0.5)	19	(0.5)	0.56	(0.5)	(0.5)
MW-05	09/14/95	100	13	110	36	(0.5)	25	(0.5)	(0.5)	(0.5)	(0.5)
MW-05	03/11/96	38	6.6	71	20	(1.0)	23	(1.0)	(0.5)	(0.5)	(0.5)
MW-05	09/16/96	40	4.8	31	7.3	(0.5)	11	(0.5)	(0.5)	(0.5)	(0.5)
MW-06	07/12/95	72	13	13	14	(0.5)	4	(0.5)	(0.5)	(0.5)	(0.5)
MW-06	09/14/95	110	13	18	14	(0.5)	4.9	(0.5)	(0.5)	(0.5)	(0.5)
MW-06	03/11/96	73	9.9	17	11	(0.5)	3.9	(0.5)	(0.5)	(0.5)	(0.5)
MW-06	09/16/96	54	8.5	12	8.4	(0.5)	3.3	(0.5)	(0.5)	(0.5)	(0.5)
equipment blank	03/11/96	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
equipment blank	09/16/96	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
California MCL		5	5	6	200	32	5	0.5	6	150	100#

( ) indicates compound not detected above enclosed reporting limit.
ug/L=micrograms per liter.
PCE=tetrachloroethene, TCE=trichloroethene, DCE=dichloroethene, TCA=trichloroethane, DCA=dichloroethane
TCFM=trichlorofluoromethane
MCL=maximum contaminant level ; # = for total trihalomethanes
* = Result is out of analytical instrument calibration range, see explanation letter in Appendix B.

Table 3. Relative Percent Difference of Quality Control Sample
Utility Trailer Manufacturing Company

Well No.	Date	PCE (ug/L)	TCE (ug/L)	1,1-DCE (ug/L)	1,1,1-TCA (ug/L)	1,1,2-TCA (ug/L)	1,1-DCA (ug/L)	1,2-DCA (ug/L)	cis-1,2-DCE (ug/L)	TCFM (ug/L)	Chloroform (ug/L)
MW-04	03/11/96	190	9.3	63	2.5	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
MW-04 Duplicate	03/11/96	290	9.7	68	2.9	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
RPD	03/11/96	41.7%	4.2%	7.6%	14.8%	N/A	N/A	N/A	N/A	N/A	N/A
MW-04	09/16/96	250	7.1	53	(0.5)	(2.5)	(0.5)	(2.5)	(0.5)	(0.5)	(0.5)
MW-04 Duplicate	09/16/96	250	6.4	54	(0.5)	(2.5)	(0.5)	(2.5)	(0.5)	(0.5)	(0.5)
RPD	09/16/96	0.0%	10.4%	1.9%	N/A	N/A	N/A	N/A	N/A	N/A	N/A

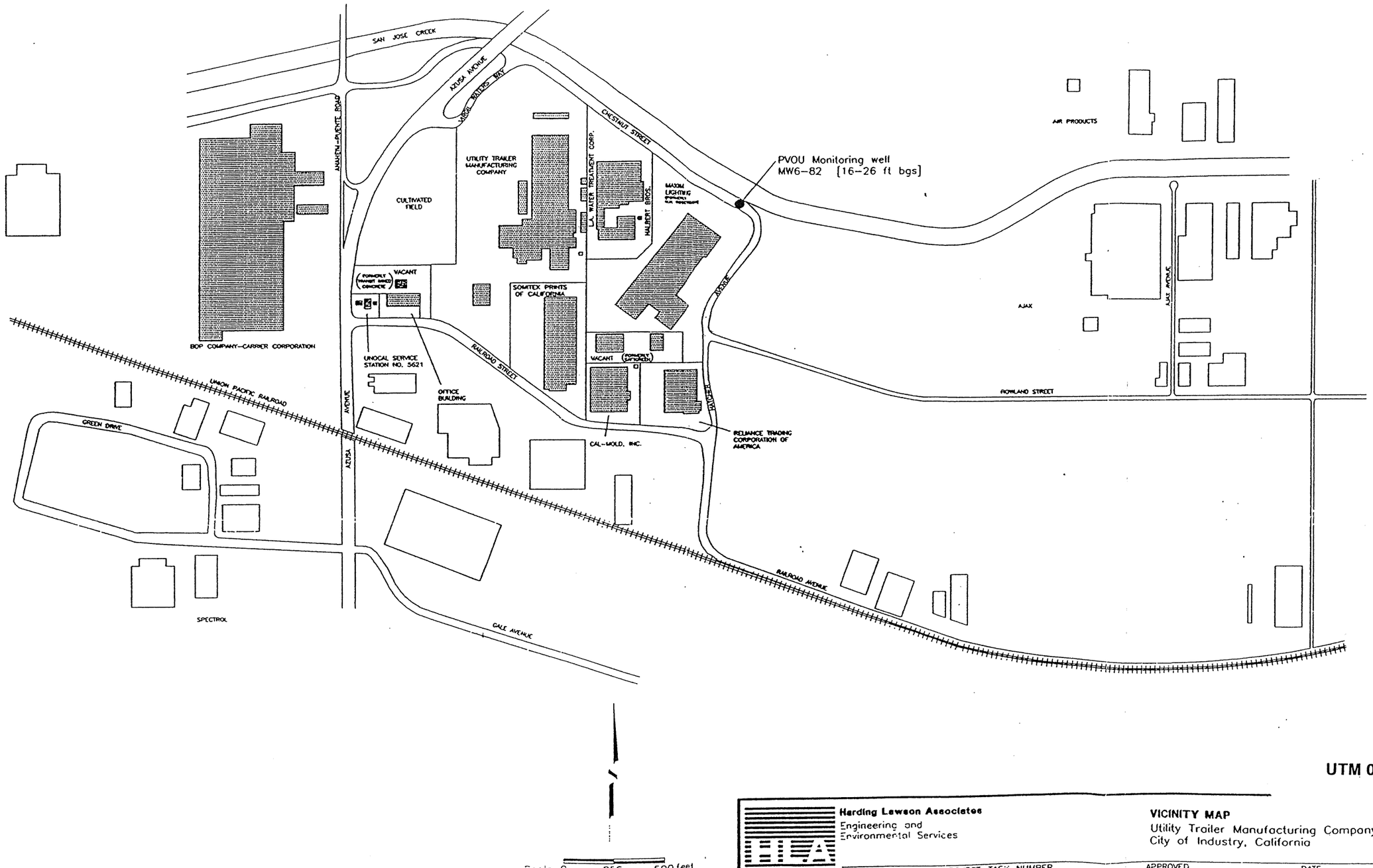
( ) indicates compound not detected above enclosed reporting limit.
ug/L=micrograms per liter.
PCE=tetrachloroethene, TCE=trichloroethene, DCE=dichloroethene, TCA=trichloroethane, DCA=dichloroethane
TCFM=trichlorofluoromethane
NA = RPD is not applicable, compound not detected at or above enclosed reporting limit.

Table 4. Groundwater Chemical Analytical Data from PVOU Well MW6-82 and UTM Wells MW-3 and MW-2
Utility Trailer Manufacturing Company

		Primary Products		Combined	Breakdown Products			Combined	
Well No.	Date	PCE (ug/L)	TCE (ug/L)	PCE/TCE (ug/L)	1,1-DCA (ug/L)	cis-1,2-DCE (ug/L)	1,1-DCE (ug/L)	DCA/DCE's (ug/L)	TCFM (ug/L)
MW6-82	5/95	160	31	191	0.38	9.1	4.9	14.4	10.0
MW6-82	8/95	160	39	199	(.32)	7.9	6.5	14.4	7.6
MW6-82	10/95	88	35	123	0.80	6.8	4.4	12.0	5.6
Average				**171**				**13.6**	**7.7**
MW-03	7/95	100	58	158	1.3	6.1	5.2	12.6	6.4
MW-03	9/95	87	40	127	1.3	8.4	6.5	16.2	4.7
MW-03	3/96	140	40	180	2.1	6.6	6.0	14.7	4.8
Average				**155**				**14.5**	**5.3**
MW-02	7/95	97	15	112	19	4.1	10	33.1	3.1
MW-02	9/95	120	19	139	13	4.0	11	28.0	2.0
MW-02	3/96	94	17	111	57	5.9	19	81.9	0.5
Average				**121**				**47.7**	**1.9**

( ) indicates compound not detected above enclosed reporting limit.
ug/L=micrograms per liter.
PCE=tetrachloroethene, TCE=trichloroethene, DCE=dichloroethene, DCA=dichloroethane, TCFM=trichlorofluoromethane

PLATES



UTM 005888

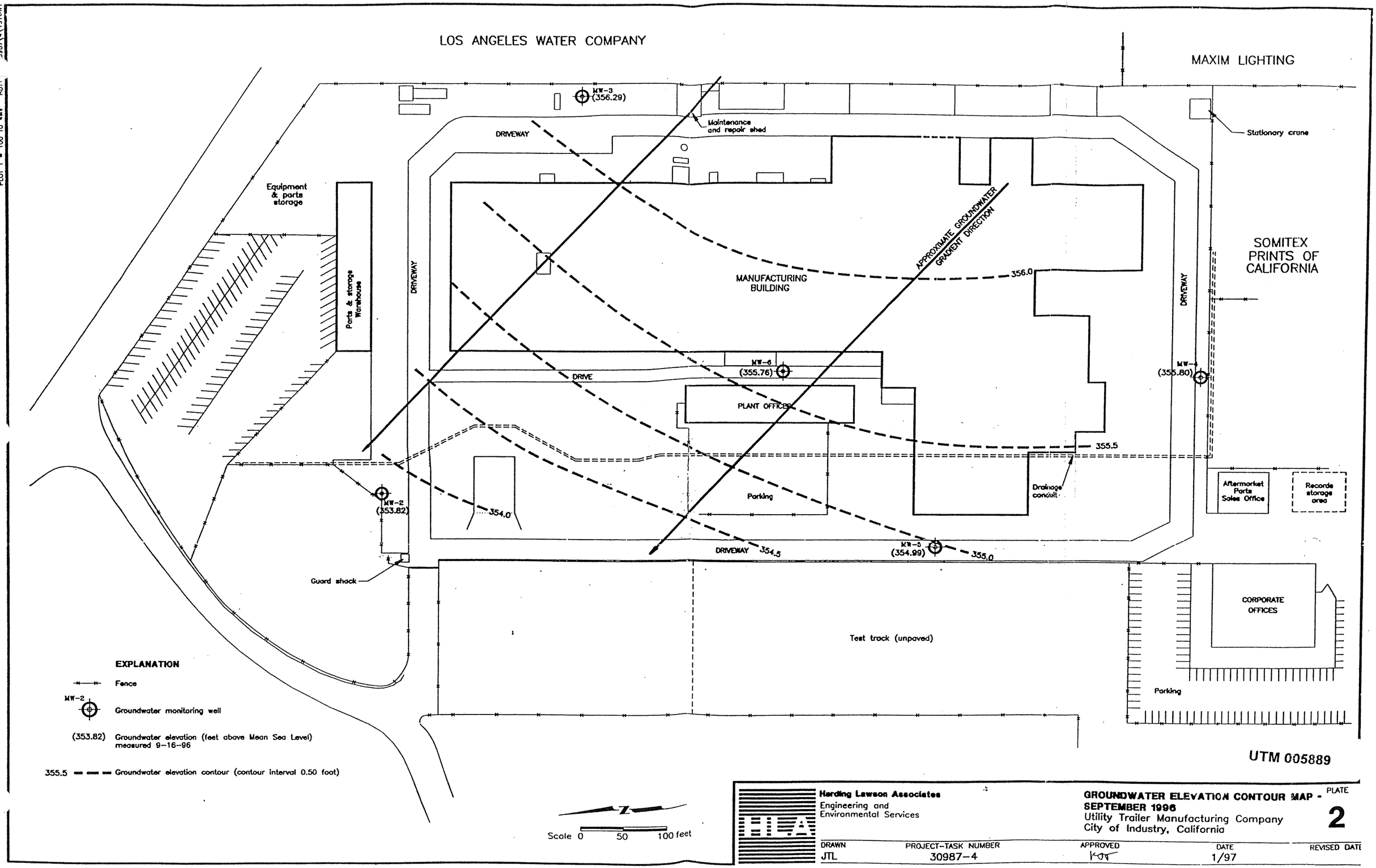
Scale 0 250 500 feet

Harding Lawson Associates
Engineering and Environmental Services

VICINITY MAP
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **1**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KTT	1/96	



Harding Lawson Associates
Engineering and Environmental Services

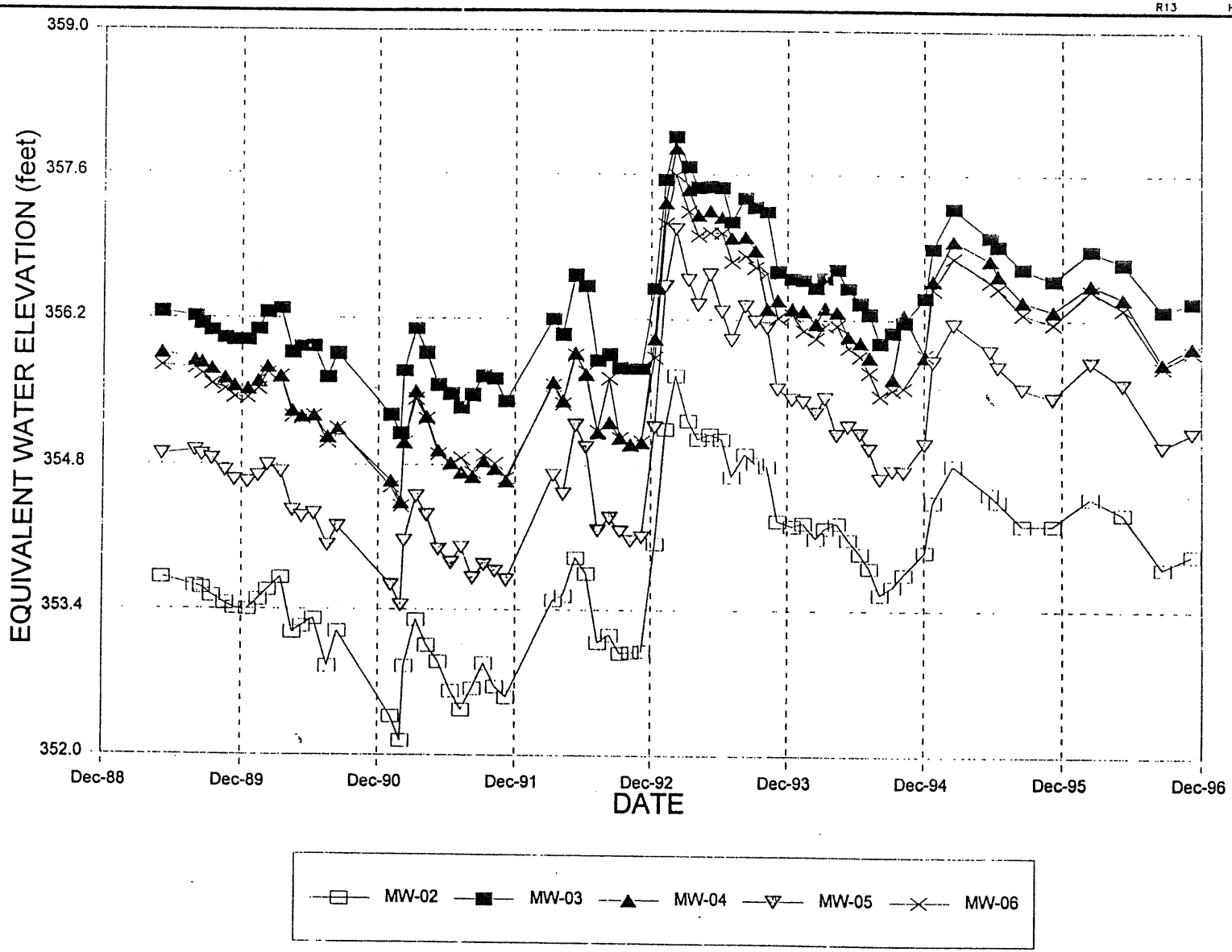
GROUNDWATER ELEVATION CONTOUR MAP - SEPTEMBER 1996
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **2**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KGT	1/97	

PLOT 1 = 100 TO 4KV HDT 30987\4\197CW1

R13 HDT\30987\4\GRAPH



Harding Lawson Associates
Engineering and
Environmental Services

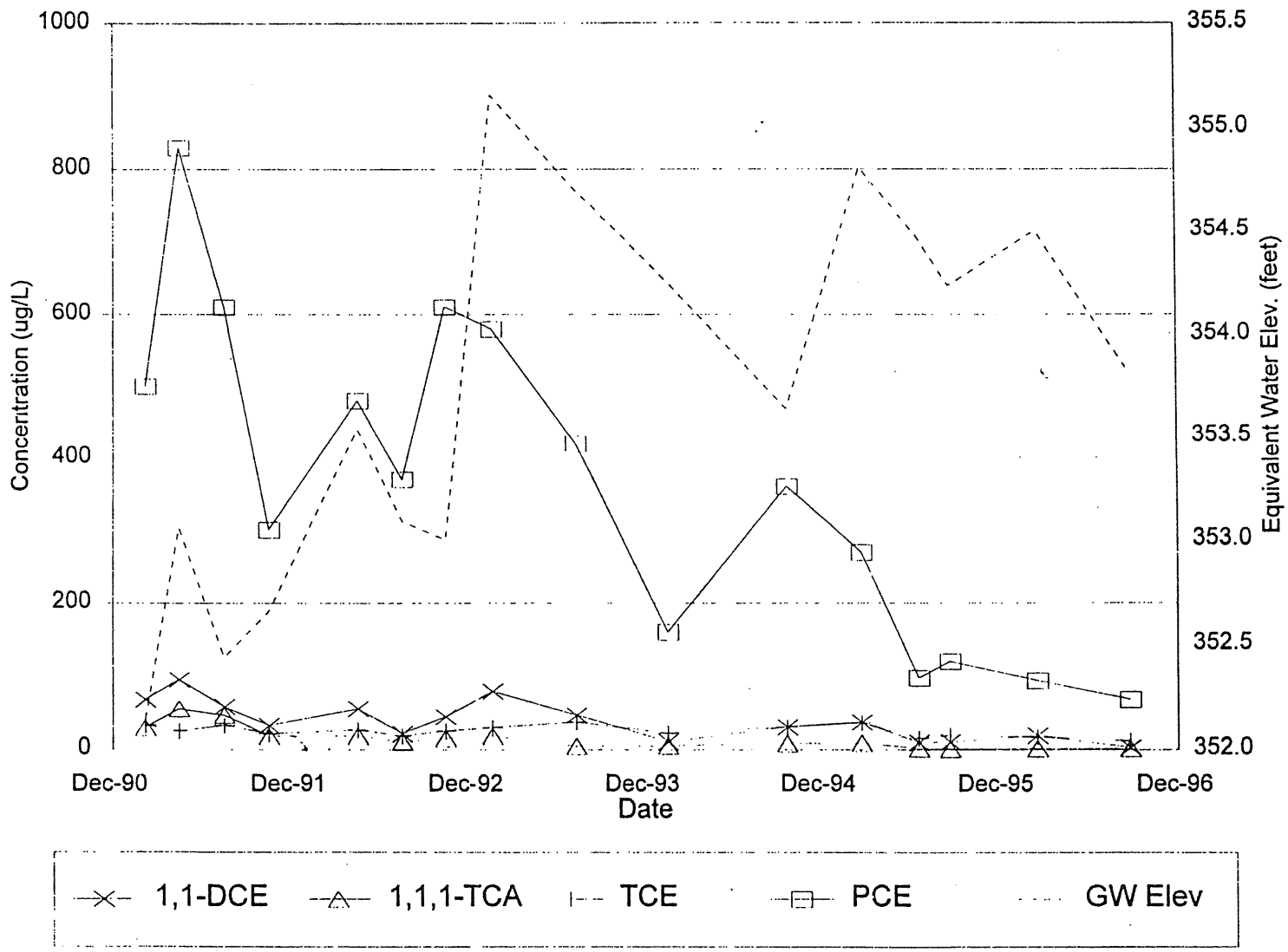
GROUNDWATER ELEVATION HYDROGRAPH
Utility Trailer Manufacturing Company
City of Industry, California

PLATE
3

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KOT	12/96	

UTM 005890

R13 HDT\30987\4\1295G1



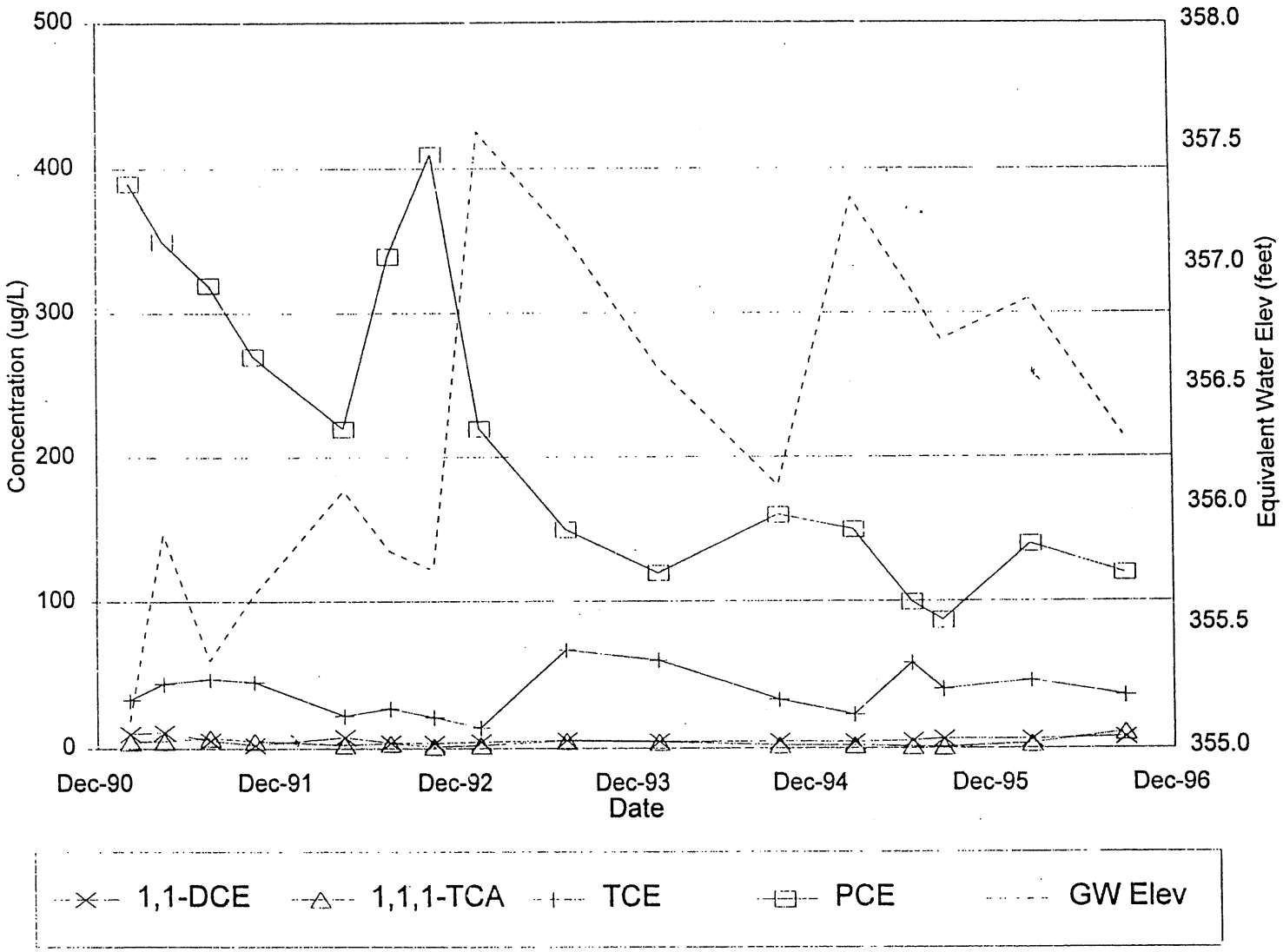
Harding Lawson Associates
Engineering and Environmental Services

CONCENTRATION AND GROUNDWATER ELEVATION VERSUS TIME - MW-02
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **4**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KOT	12/96	

UTM 005891



Harding Lawson Associates
Engineering and Environmental Services

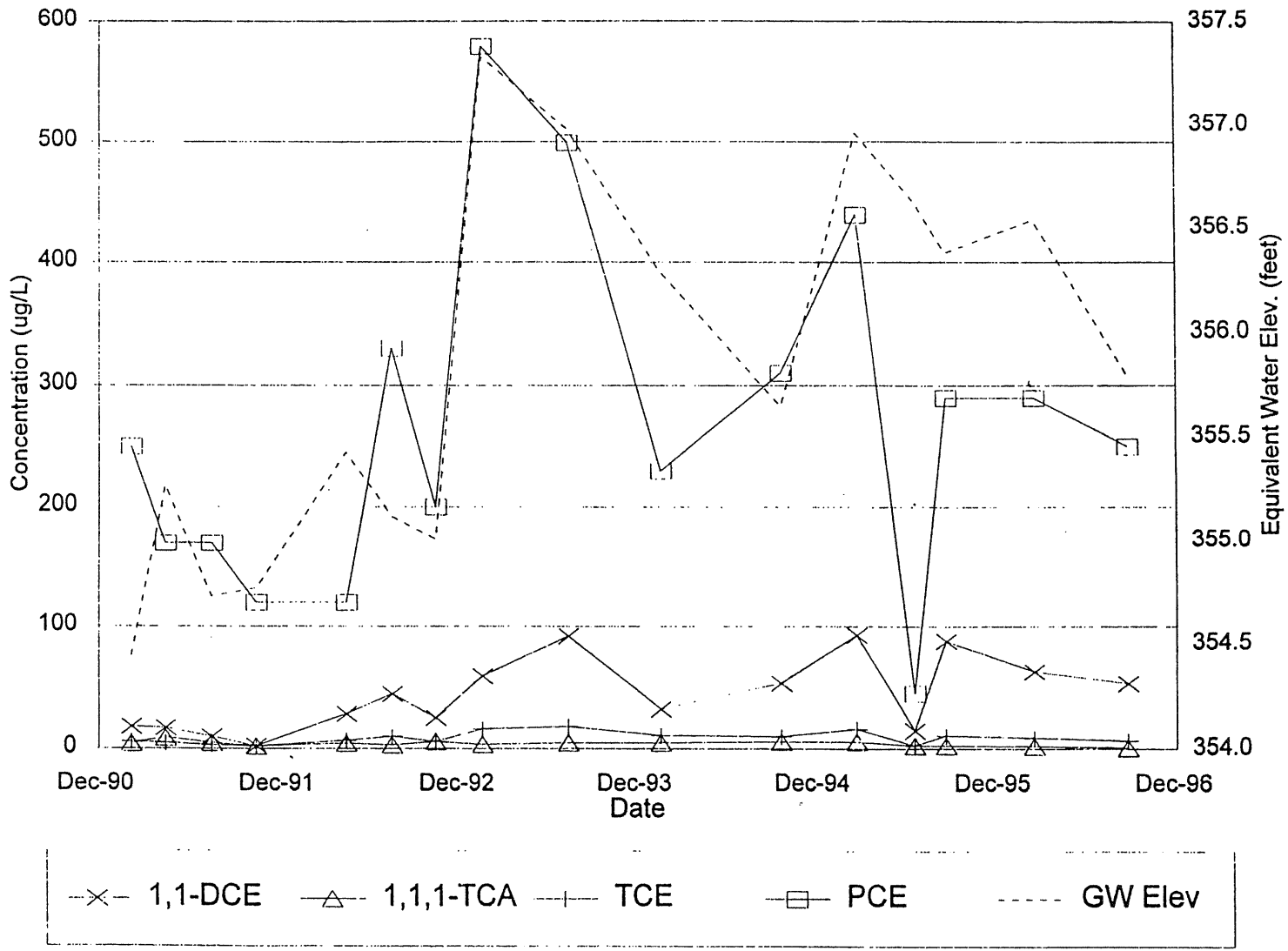
CONCENTRATION AND GROUNDWATER ELEVATION VERSUS TIME - MW-03
Utility Trailer Manufacturing Company
City of Industry, California

PLATE 5

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KOT	12/96	

UTM 005892

R13 HDT\30987\4\1295G1



Harding Lawson Associates
Engineering and Environmental Services

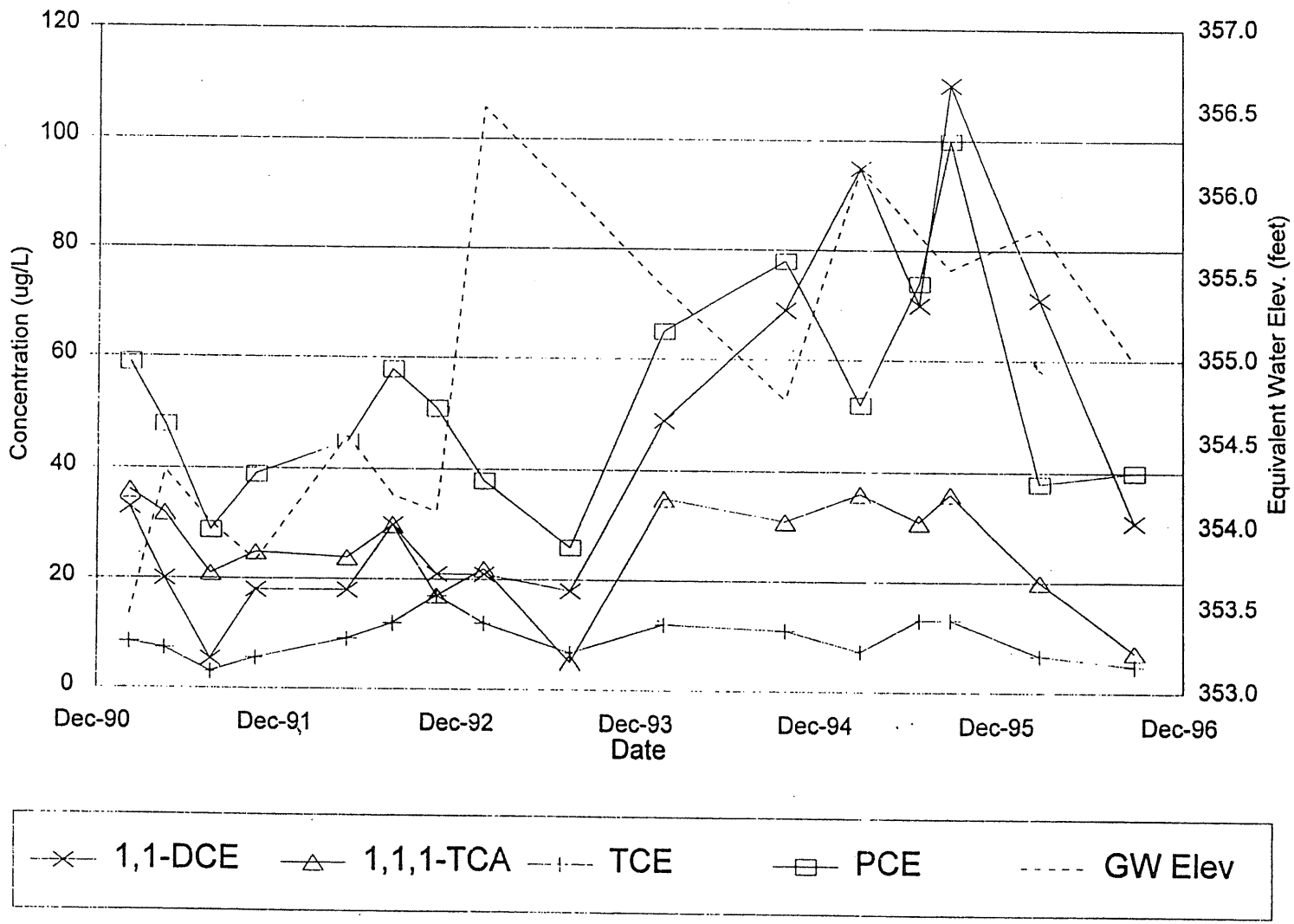
CONCENTRATION AND GROUNDWATER ELEVATION VERSUS TIME - MW-04
Utility Trailer Manufacturing Company
City of Industry, California

PLATE 6

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KJT	12/96	

UTM 005893

R13 HDT\30987\4\1295G1



Harding Lawson Associates
Engineering and
Environmental Services

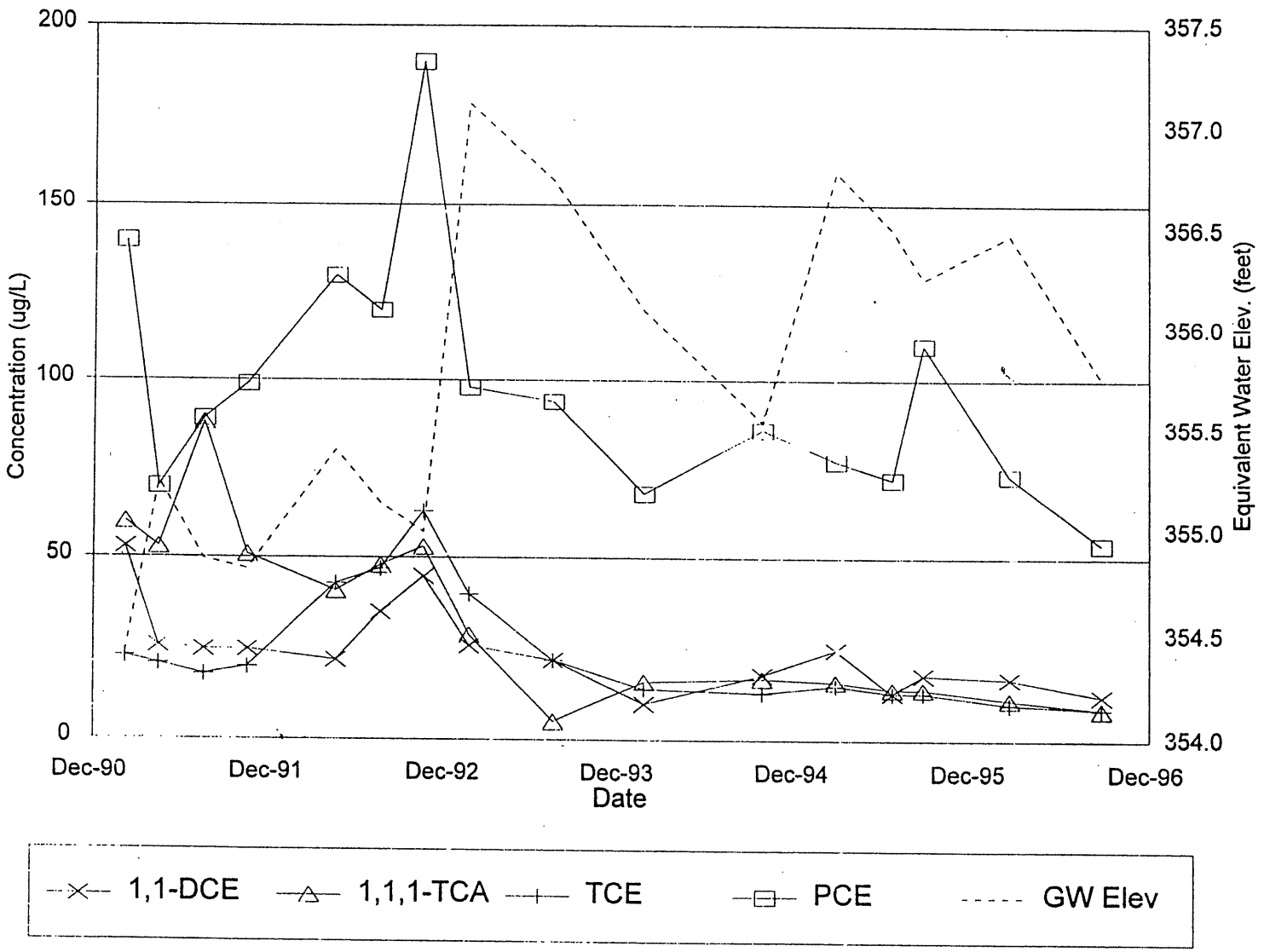
CONCENTRATION AND GROUNDWATER ELEVATION VERSUS TIME - MW-05
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **7**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KGT	12/96	

UTM 005894

R13 HDT\30987\4\1295G1



Harding Lawson Associates
Engineering and Environmental Services

CONCENTRATION AND GROUNDWATER ELEVATION VERSUS TIME - MW-06
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **8**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KOT	12/96	

UTM 005895

PLOT 1 = 100 TO 4W HDT\CAD\30987\4\197PCE

LOS ANGELES WATER COMPANY

MAXIM LIGHTING

SOMITEX PRINTS OF CALIFORNIA

MW-3 130

Maintenance and repair shed

Stationary crane

DRIVEWAY

Equipment & parts storage

Parts & storage Warehouse

DRIVEWAY

MANUFACTURING BUILDING

APPROXIMATE GROUNDWATER GRADIENT DIRECTION

DRIVEWAY

MW-6 64

DRIVE

PLANT OFFICES

MW-4 270

250

200

Aftermarket Parts Sales Office

Records storage area

Parking

Drainage conduit

150

MW-2 81

DRIVEWAY

MW-5 39

100

Guard shack

50

CORPORATE OFFICES

Test track (unpaved)

Parking

UTM 005896

EXPLANATION

Fence

MW-2 — Groundwater monitoring well

81 — PCE Concentration (ug/L) (Average of March and September 1996 sampling rounds)

100 — PCE Isoconcentration contour, queried where uncertain (contour interval 50 ug/L)

N

Scale 0 50 100 feet

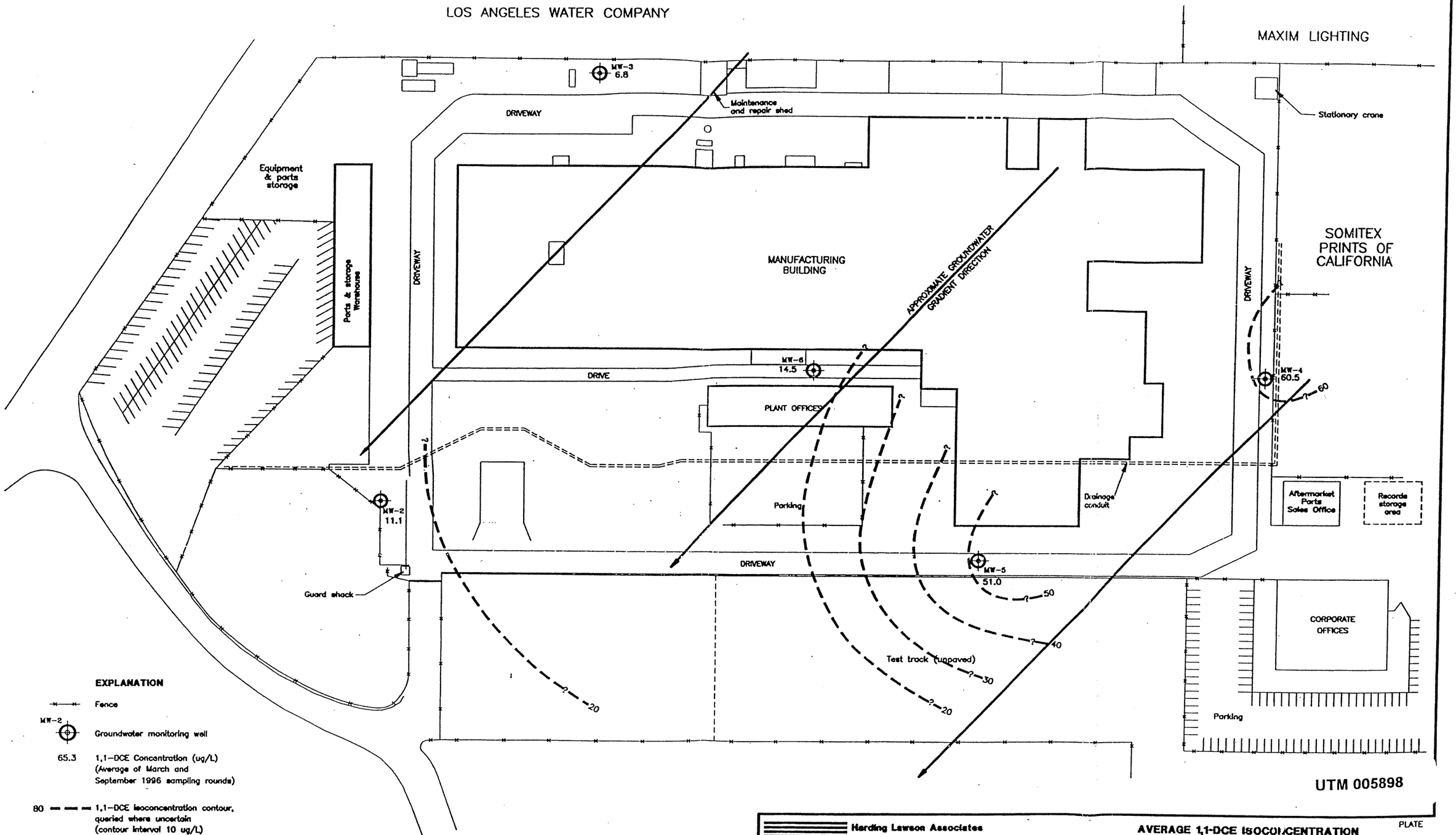
Harding Lawson Associates
Engineering and Environmental Services

AVERAGE PCE ISOCONCENTRATION CONTOUR MAP 1996
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **9**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DAT
JTL	30987-4	KAP	1/97	

PLOT 1 = 100 TO 4MV HOT\CADT\30987\A\1972



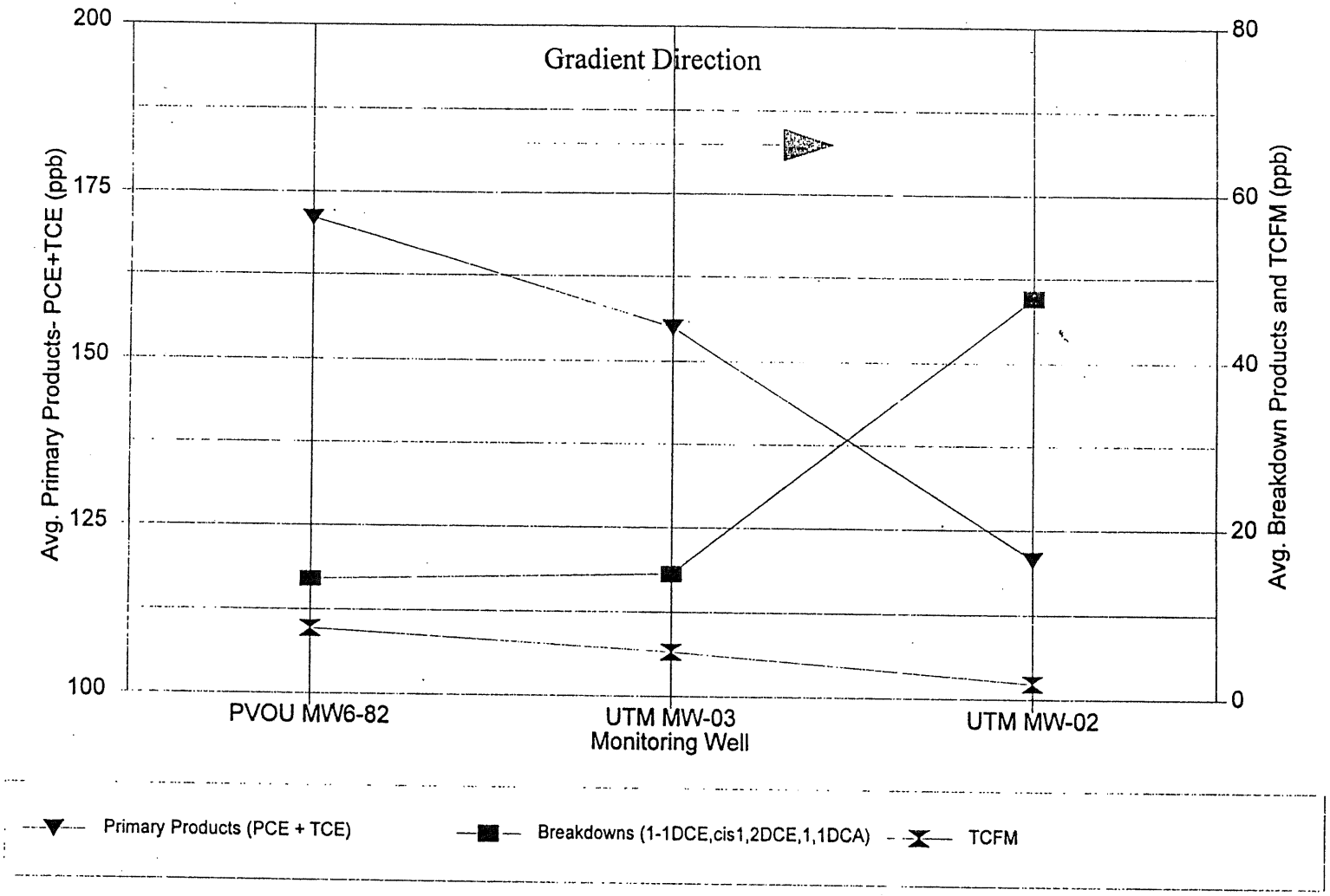
Harding Lawson Associates
Engineering and Environmental Services

AVERAGE 1,1-DCE ISOCONCENTRATION CONTOUR MAP 1996
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **11**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KOT	1/97	

R13 HDT\30987\4\GRAPH2



Harding Lawson Associates
Engineering and
Environmental Services

DOWNGRADIENT CONCENTRATION VARIATION
Utility Trailer Manufacturing Company
City of Industry, California

PLATE **12**

DRAWN	PROJECT-TASK NUMBER	APPROVED	DATE	REVISED DATE
JTL	30987-4	KJT	1/97	

UTM 005899

APPENDIX B

APPENDIX A

WELL PURGING DATA

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 30987-3
Recorded by: (Signature)

Well No.: MW-2
Well Type: ☒ Monitor ☐ Extraction ☐ Other
Well Material: ☒ PVC ☐ St. Steel ☐ Other
Date: 3/11/96 Time:
Sampled by: JF (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC):
Water Level Depth (WL in feet BTOC):
Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type:

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☒ Other 37'
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(43.55 TD (feet) - 22.16 WL (feet)) X 4 D (inches)^2 X 4 # Vols X 0.0408 = 55.8 gallons Calculated Purge Volume

PURGE TIME

0953 Start 1019 Stop 26 Elapsed

PURGE RATE

Initial 2.9 gpm Final 2.2 gpm

ACTUAL PURGE VOLUME

56 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	TURB Other	GAL
INITIAL	7.26	1749	70.3	1.85	0
0958	7.03	1711	72.2	3.32	14
1002	7.03	1744	72.6	2.15	21
1007	7.03	1733	71.8	1.05	30
1011	7.00	1743	72.5	0.80	40

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	TURB Other	GAL
1015	6.99	1743	72.5	0.82	50
1019	7.00	1728	71.7	0.60	56
Meter Nos.					

Observations During Purging (Well Condition, Turbidity, Color, Odor):

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: DISPOSABLE
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☒ Grab - Type: 8010 / TURBIDITY
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-2	3 x 40ml	8010	NONE	Del Mar	
MW-2	1 x 40ml	TURB 180.1	NONE	Del Mar	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005902

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 30987-3
Recorded by: (Signature)

Well No.: MW-3
Well Type: ☐ Monitor ☐ Extraction ☐ Other
Well Material: ☐ PVC ☐ St. Steel ☐ Other
Date: 3/11/96 Time:
Sampled by: JF + BJH (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC):
Water Level Depth (WL in feet BTOC):
Number of Well Volumes to be purged (# Vols)
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type:

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☐ Other
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(38.22 − 21.17) × 4² × 4 × 0.0408 = 44.5 gallons

TD (feet) − WL (feet) × D (inches) × # Vols × 0.0408 = Calculated Purge Volume

PURGE TIME

1104 Start 1139 Stop 35 Elapsed

PURGE RATE

Initial 1.4 gpm Final 1.33 gpm

ACTUAL PURGE VOLUME

46.5 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other: TURB	Other: WL	Other: GAL	Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other: TURB	Other: GAL	Other: WL
INITIAL	6.96	1840	72.4	.39	21.7	2	1123/19	6.89	1831	73.4	0.60	26	31.4
1109	6.92	1809	74.9	1.88	26.3	7	1127/23	6.91	1873	73.2	0.98	31.5	32.35
1111	6.92	1796	74.2	2.48	27.4	10	1131/27	6.89	1888	73.6	0.60	35.7	33.2
1115	6.93	1807	74.2	3.40	29.1	16	1135/31	6.89	1861	72.9	0.42	40.7	33.5
1119	6.92	1803	74.5	1.07	30.5	20	1139/35	6.89	1869	72.8	0.56	46.5	33.8

Observations During Purging (Well Condition, Turbidity, Color, Odor):

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☐ Other

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: Teflon - disposable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☒ Grab - Type: BOLO
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-3	40ml/3	BOLO	NONE	Del Mar	
MW-3	4oml/1	TURBIDITY	NONE		

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005903

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Well No. MW-4

Well Type: ☒ Monitor ☐ Extraction ☐ Other

Well Material: ☒ PVC ☐ St. Steel ☐ Other

Job Name UTM

Job Number 30987-3

Date 3/11/96 Time

Recorded by (Signature)

Sampled by JF + BJH (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other

Total Depth of Casing (TD in feet BTOC):

Water Level Depth (WL in feet BTOC):

Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☒ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type:

PUMP INTAKE SETTING

☒ Near Bottom ☐ Near Top ☐ Other
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(5398 - 26.67) X 4² X 4 X 0.0408 = 71.3 gallons

TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE TIME

1507 Start 1533 Stop 26 Elapsed

PURGE RATE

Initial 2.86 gpm Final 2.86 gpm

ACTUAL PURGE VOLUME

74.4 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other TURB	GAL
INITIAL	7.16	1957	72.6	1.99	0
1512/5	7.27	1670	71.4	0.10	14.3
1517/10	7.12	1542	70.4	0.03	28.6
1522/15	7.12	1562	70.5	0.01	43
1526/19	7.12	1553	70.2	0.00	54

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other TURB	GAL
1531/24	7.23	1551	69.9	0.00	69
1533/26	7.14	1550	70.4	0.00	74.4
Meter Nos.					

Observations During Purging (Well Condition, Turbidity, Color, Odor): clear/no odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other ON SITE. 55 gallons drum.

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: Teflon - Disposable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:

☐ Same As Above
☒ Grab - Type: 8010/TURB, DTW
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-4	40ml/3	8010	None	Del Mar	
MW-4	40ml/1	Turbidity	None	Del Mar	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.
MW-4	MW-7

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005904

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 30987-2
Recorded by: _____ (Signature)

Well No.: MW-5
Well Type: ☑ Monitor ☐ Extraction ☐ Other _____
Well Material: ☑ PVC ☐ St. Steel ☐ Other _____
Date: 3/12/90 Time: _____
Sampled by: JF (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Total Depth of Casing (TD in feet BTOC): _____
Water Level Depth (WL in feet BTOC): _____
Number of Well Volumes to be purged (# Vols)
☐ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other _____

PURGE METHOD

☐ Bailer - Type: _____
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.: _____
☐ Other - Type: _____

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☐ Other _____
Depth in feet (BTOC): _____ Screen Interval in Feet (BTOC) from _____ to _____

PURGE VOLUME CALCULATION

(_____ - _____) X _____ ^{2} X _____ X 0.0408 = _____ gallons
TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE TIME

1016 Start _____ Stop _____ Elapsed

PURGE RATE

Initial 2.5 gpm Final 2.5 gpm

ACTUAL PURGE VOLUME

_____ gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☑ °F	Other NTU	Other GAL
1017	7.25	1750	66.5	6.0	2.0
1018 30	7.20	1745	66.7	8.5	5.0
1021	7.40	1749	66.5	5.0	12.50
1025	7.64	1749	67.9	3.66	22.50
1028	7.50	1744	67.4	2.61	30 gallons

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☐ °F	Other _____
Meter Nos.				

Observations During Purging (Well Condition, Turbidity, Color, Odor): _____

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☑ Other on 55 gallons drum

WELL SAMPLING

SAMPLING METHOD

☐ Bailer - Type: Teflon - Disposable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.: _____
☐ Same As Above
☑ Grab - Type: 8010
☐ Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: _____

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-5	40ml/3	8010	None	Del Mar	
MW-5	40ml/1	turbidity	None	Del Mar	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005905

9 of 10

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 30987-3
Recorded by: _____ (signature)

Well No.: MW-6
Well Type: ☒ Monitor ☐ Extraction ☐ Other
Well Material: ☒ PVC ☐ St. Steel ☐ Other
Date: 3/11/96 Time: 1601
Sampled by: JF (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC):
Water Level Depth (WL in feet BTOC):
Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☒ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type:

PUMP INTAKE SETTING

☒ Near Bottom ☐ Near Top ☐ Other
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(39.7 TD (feet) - 23.31 WL (feet)) X 4 D (inches)^2 X 4 # Vols X 0.0408 = 42.8 gallons Calculated Purge Volume

PURGE TIME

837 Start 0857 Stop 20 Elapsed

PURGE RATE

Initial 2.5 gpm Final 2.2 gpm

ACTUAL PURGE VOLUME

44 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other ~~Turb~~ GAL	~~Turb~~
INITIAL	7.24	1606	66.4	0	.25
0841	7.12	1639	67.7	10	.45
0845	7.14	1650	68.7	20	1.00
0849	7.16	1650	68.6	30	1.86
0854	7.16	1640	68.6	39.0	1.15

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other GAL	TUR
0857	7.12	1641	68.9	44.0	.15
Meter Nos.					

Observations During Purging (Well Condition, Turbidity, Color, Odor): clear / No odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other ON SITE 55 gls. Drums.

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: TEFLON DISPOSABLE
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☒ Grab - Type: 8010 / TURBIDITY.
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-6	4 Home/3	8010		Del Mar	
MW-6	Home/1	Turbidity			

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005906

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 30487-3
Recorded by: Melissa L Pratt (Signature)

Well No.: MW-2
Well Type: ☒ Monitor ☐ Extraction ☐ Other
Well Material: ☒ PVC ☐ St. Steel ☐ Other
Date: 9-16-96 Time: 1310
Sampled by: BJH + MLP (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC): 42.85
Water Level Depth (WL in feet BTOC): 22.84
Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☒ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type: 2" Grundfos

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☒ Other 7' Below static WL
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(22.84 - 42.85) X 4 ^{2} X 4 X 0.0408 = 52.2 gallons

TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE TIME

1337 Start 1445 Stop ~40 mins Elapsed (~25 min. recovery of Grundfos working)

PURGE RATE

Initial ~3.8 gpm (then 1.8 then) Final 3.8 gpm

ACTUAL PURGE VOLUME

53 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Turbidity (NTUs)
Initial	8.02	1616	75.7	4.48
7 gallons	7.01	1559	74.3	2.58
11 gallons	6.93	1554	74.2	2.36
20 gallons	7.16	1566	75.4	5.56
30 gallons	6.93	1542	73.7	4.80

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other TURB.
40 gallon	6.95	1546	73.3	2.91
53 gallon	6.98	1546	73.6	1.60
~~47 gallon~~		WL = 23.09		
~~53 gallon~~		Turbidity of Bailer water: 2.25		
Meter Nos.	Hydac SN = 9511 / Turb. Mtr. SN = ~~900629~~ 2916			

Observations During Purging (Well Condition, Turbidity, Color, Odor): Well ≠ D.K., H_2O = Clear, No Odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other 55 gallon drum(s).

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: 2" Disposable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☐ Grab - Type:
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-2	4x40ml VOAs	8010	HCl	Del Mar	Collected @ 1445

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005907

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 309873
Recorded by: [signature] (Signature)

Well No.: MW-3
Well Type: ☒ Monitor ☐ Extraction ☐ Other
Well Material: ☒ PVC ☐ St. Steel ☐ Other
Date: 9-16-96 Time: 1500
Sampled by: BJH & MLP (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC): 37.40
Water Level Depth (WL in feet BTOC): 21.74
Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☒ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type: 2" Grundfos

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☒ Other ~7' Below static WL then @ ~32' BTOC (5' above bottom)
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(37.40 - 21.74) x 4² x 4 x 0.0408 = ~41 gallons

TD (feet) - WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE TIME

1516 Start 1555 Stop 39 mins Elapsed

PURGE RATE

Initial ~3.25 then ~2.5 ... 0.75 gpm Final ~2.5 (min) gpm

ACTUAL PURGE VOLUME

~42 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Turbidity ~~Other~~ NTU's
Initial	7.93	1662	76.7	6.72
12 gallons	6.91	1638	74.7	6.59
20 gallons	6.87	1647	74.3	2.04
27 gallons	6.84	1648	73.7	1.10
35 gallons	6.77	1645	73.6	1.07

1 L pumped

VOL. Pumped

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Turbidity ~~Other~~ NTU's
42 gallons	6.82	1636	73.3	0.71
Turbidity in Sample Bucket = 2.51 NTU's				
Meter Nos.	Hydrolab SN=9511	Turb. Mtr. SN=~~800627~~ 2916		

Observations During Purging (Well Condition, Turbidity, Color, Odor): Well = OK, H2O = Clear, No Odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other 55 gallon drum

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: 2" Disposable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☐ Grab - Type:
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-3	4x40ml VOAs	8010	HCl	Delmar	Collected @ 1555

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005908

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 30987-3
Recorded by: [signature] (Signature)

Well No.: MW-4
Well Type: ☒ Monitor ☐ Extraction ☐ Other
Well Material: ☒ PVC ☐ St. Steel ☐ Other
Date: 9-16-96 Time: 1615
Sampled by: BJH + MLP (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC): 53.50
Water Level Depth (WL in feet BTOC): 27.41
Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☒ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type: → 2" Grundfos

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☒ Other ~7' Below static wl
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(53.50 − 27.41) × 4² × 4 × 0.0408 = ~68 gallons

TD (feet) − WL (feet) × D (inches) × # Vols × 0.0408 = Calculated Purge Volume

PURGE TIME

1630 Start 1657 Stop 27 mins Elapsed

PURGE RATE

Initial 3.0 gpm Final 3.0 gpm

ACTUAL PURGE VOLUME

~70 gallons

FIELD PARAMETER MEASUREMENT

Purged

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Turb/Hydr Other NTUs
Initial	7.47	1446	73.3	0.50
9	7.18	1338	72.3	0.35
18	7.06	1296	71.7	3.58
27	6.98	1296	71.9	0.91
36	7.01	1268	71.6	0.42

Vol-Purged

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	Other Turb.
45	7.06	1292	71.3	0.32
54	7.05	1284	71.1	0.29
63	7.04	1281	70.9	0.25
70	7.08	1279	70.8	0.25
Meter Nos.	Hydac SN=9511 / Turb. Mtr. SN=~~800627~~ 2916 (MLP)			

Observations During Purging (Well Condition, Turbidity, Color, Odor): Well = ok, H_2O = clear, No odor
Sample-3.64
Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other 55 gallon drum

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: 2" Disposeable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☐ Grab - Type:
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-4	4x40ml VOAs	8010	HCl	Delmar	Collected @ 1300 (MLP)
MW-7	"	"	"	"	Collected @ 1305 (MLP)
MW-8	"	"	"	"	Collected @ 1310

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.
MW-4	MW-7

Blank Samples

Type	Sample No.
EQUIPMENT	MW-8

Other Samples

Type	Sample No.

UTM 005909

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name: UTM
Job Number: 30987-3
Recorded by: [signature] (Signature)

Well No.: MW-5
Well Type: ☒ Monitor ☐ Extraction ☐ Other
Well Material: ☒ PVC ☐ St. Steel ☐ Other
Date: 9-16-96 Time: 1130
Sampled by: BJH - MLP (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC): 44.15
Water Level Depth (WL in feet BTOC): 25.62
Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☒ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type: 2" Grundfos

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☒ Other 5' Below static WL
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

$(44.15 - 25.62) \times 4^2 \times 4 \times 0.0408 = \approx 48.4$ gallons

TD (feet) − WL (feet) × D (inches)² × # Vols × 0.0408 = Calculated Purge Volume

PURGE TIME

1148 (MLP) Start 1245 Stop 49 mins Elapsed

PURGE RATE

Initial ~1.0 gpm Final ~1.0 gpm

ACTUAL PURGE VOLUME

~49 gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	~~Other~~ Turbidity (MLP) NTUs
initial	7.41	~~8.0~~ 0900	93.4	7.37
6 gallons	7.26	~~8.0~~ 0700	98.3	3.30
12 gallons	7.35	~~8.0~~ 0700	97.3	3.06
18 gals	7.14	1312	75.4	3.26
24 gals	7.15	1342	73.5	1.36

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	~~Other~~ Turbidity (MLP) NTUs
30 gallons	7.01	1343	73.4	0.85
36 gallons	7.06	1343	72.7	0.46
42 gallons	7.02	1345	72.9	0.40
49 gallons	6.95	1340	72.5	0.23
Meter Nos.	Hydac S/N 9511	Turbidity meter S/N ~~[illegible]~~ 2916 (MLP)		

Observations During Purging (Well Condition, Turbidity, Color, Odor): *Well* OK, H_2O = Clear, No odor

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other 55-gallon drum

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: 2" Disposeable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☐ Grab - Type:
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-5	4 x 40 ml VOAs	8010	HCl	Del Mar	Collected @ ~~1245~~ (MLP) 1755
					Turbidity ~7.71 NTUs

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005910

Harding Lawson Associates
Engineering and Environmental Services

GROUND-WATER SAMPLING FORM

Job Name UTM
Job Number 30987-3
Recorded by Melissa L. Pratt (Signature)

Well No. MW-6
Well Type: ☒ Monitor ☐ Extraction ☐ Other
Well Material: ☒ PVC ☐ St. Steel ☐ Other
Date 9-16-96 Time 0730
Sampled by MLP + BJH (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
☐ 2-inch ☒ 4-inch ☐ 6-inch ☐ Other
Total Depth of Casing (TD in feet BTOC): 39.15
Water Level Depth (WL in feet BTOC): 24.03
Number of Well Volumes to be purged (# Vols)
☐ 3 ☒ 4 ☐ 5 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type:
☒ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Other - Type: 2" Grundfos

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☒ Other ~5' Below static WL
Depth in feet (BTOC): Screen Interval in Feet (BTOC) from to

PURGE VOLUME CALCULATION

(39.15 − 24.03) × 4² × 4 × 0.0408 = 39.5 gallons
TD (feet) − WL (feet) D (inches) # Vols Calculated Purge Volume

PURGE TIME

1020 Start 1050 Stop 30 mins Elapsed

PURGE RATE

Initial ~1.2 then 3.8 gpm Final ~~3.4~~ 3.5 (mlp) gpm

ACTUAL PURGE VOLUME

~ 40 gallons

FIELD PARAMETER MEASUREMENT

Minutes ~~Since Pumping Began~~	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	~~Other~~ Turbidity NTU's
Initial	8.37	730	82.7	2.69
7 gallons	7.35	910	80.6	7.02
15 gallons	6.78	760	80.5	2.44
20 gallons	6.95	760	80.0	0.95
27 gallons	7.08	760	79.5	0.53

1 L removed

Vol. Pumped — Turbidity

Minutes ~~Since Pumping Began~~	pH	Cond. (µmhos/cm)	T ☐ °C ☒ °F	~~Other~~ Turbidity NTU's
35 gallons	6.85	740	79.5	1.35
40 gallons	6.81	740	80.2	0.50
WL = 24.04' BTOC			Before	Sampling
Turbidity in Bailer = 2.65				
Meter Nos.	Hydac SN 9511	Turb. Meter S/N ~~800627~~ 2916 (mlp)		

Observations During Purging (Well Condition, Turbidity, Color, Odor): Well = OK, No odor, Purge H2O = Clear

Discharge Water Disposal: ☐ Sanitary Sewer ☐ Storm Sewer ☒ Other 55 gallon drum(s.)

WELL SAMPLING

SAMPLING METHOD

☒ Bailer - Type: 2" Disposable
☐ Submersible ☐ Centrifugal ☐ Bladder; Pump No.:
☐ Same As Above
☐ Grab - Type:
☐ Other - Type:

SAMPLING DISTRIBUTION

Sample Series:

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-6	4x40 ml VOAs	8010	HCl	Del Mar	Collected @ 1110

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

UTM 005911

APPENDIX B

APPENDIX B

SUPPORTING LABORATORY DOCUMENTATION

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261 1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

January 22, 1997

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92606

Attention: Mr. Kevin Trout

Subject: 30987-3 UTM

Dear Mr. Trout:

This letter is in response to your facsimile regarding quality control issues for your project, 30987-3 UTM. First, the midpoint recovery for the analyte, trichlorofluoromethane, by EPA method 8010 was outside of acceptance limits on March 15, 1996. However, the sample, MW-3, that contained trichlorofluoromethane was re-analyzed on March 16, 1996 with an acceptable midpoint recovery for trichlorofluoromethane. Since the sample dilution from March 16, 1996 is within calibration range and thus more accurate, the trichlorofluoromethane result from this analysis should be used. The sample result from the March 15, 1996 analysis should be flagged as an estimate for trichlorofluoromethane.

The relative percent difference (RPD) for some compounds in the matrix spike/matrix spike duplicate (MS/MSD) were outside of established acceptance limits. In general, if the mean percent recovery (PR) is within acceptance limits, and there is no indication of an out of control event, no formal corrective action is taken with an unacceptable RPD. unacceptable RPDs are tracked, however, to determine if there is a pattern or trend. If a trend is discovered, then corrective action is taken.

The samples, MW-2 and MW-6, analyzed on September 19, 1996 had surrogate recoveries outside of acceptance limits. The samples contained a high level of tetrachloroethene which co-eluted with the surrogate. This co-elution caused the surrogate recoveries to be high. Since the unacceptable recoveries are attributed to matrix effects, no formal corrective action was taken.

The recovery of chloroform in the laboratory control sample (LCS) analyzed September 19, 1996 was outside of acceptance limits. The cause for this fluctuation cannot be determined at this time. The chloroform recoveries in the midpoint and MS/MSD were acceptable, thus the analytical batch was validated. The chloroform recovery in the MS analyzed September 20, 1996 was also outside of acceptance limits. Again, the midpoint, MSD and LCS were all within acceptance limits which validated the analytical batch. Please see the attached corrective action form that was completed in September and submitted with the original report.

If you have any questions, please call me at (714) 261-1022.

Sincerely,
DEL MAR ANALYTICAL

Debbie Ranck

Debbie Ranck
Quality Assurance Officer

Del Mar Analytical

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April 3, 1996

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714

Attention: Mr. Kevin Trout

Subject: 30987-3, UTM

Dear Mr. Trout:

Del Mar Analytical analyzed water samples from the project 30987-3, UTM on March 15-16, 1996 for EPA 8010. You notified us on April 2, 1996 that two of the samples, MW-4 and MW-7, were duplicates. The tetrachloroethene results for MW-4 and MW-7 were 190ppb and 290ppb respectively. Upon internal review of the data, it was determined that the result of 190ppb is inaccurate because it is outside of the working calibration curve. The sample, MW-4, should have been diluted by a factor of 5 to obtain a result for tetrachloroethene that would be within the working calibration curve of the instrument. The tetrachloroethene result for MW-7 is the acceptable sample result.

I apologize for any problems that this error may have caused. If you have any questions, please call me at (714) 261-1022.

Sincerely,

DEL MAR ANALYTICAL

Debbie Ranck
Project Manager

Del Mar Analytical

2652 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228
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Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-2
Lab Number: FC01731

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 15, 1996
Analyzed: Mar 15, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	**0.50**	**0.52**
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	**0.50**	**57**
1,2-Dichloroethane	**0.50**	**1.4**
1,1-Dichloroethene	**0.50**	**19**
cis-1,2-Dichloroethene	**0.50**	**5.9**
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>60**
1,1,1-Trichloroethane	**0.50**	**1.5**
1,1,2-Trichloroethane	**0.50**	**0.53**
Trichloroethene	**0.50**	**17**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.
Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	102%

UTM 005916

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-2
Lab Number: FC01731

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 16, 1996
Analyzed: Mar 16, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,1-Dichloroethane	**1.0**	**58**
1,2-Dichloroethane	**1.0**	**1.3**
1,1-Dichloroethene	**1.0**	**17**
cis-1,2-Dichloroethene	**1.0**	**5.7**
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Methylene chloride	10	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	**1.0**	**94**
1,1,1-Trichloroethane	**1.0**	**1.2**
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	**1.0**	**17**
Trichlorofluoromethane	1.0	N.D.
Vinyl chloride	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	102%

UTM 005917

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Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-3
Lab Number: FC01732

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 15, 1996
Analyzed: Mar 15, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	**0.50**	**0.72**
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	**0.50**	**2.1**
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**6.0**
cis-1,2-Dichloroethene	**0.50**	**6.6**
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>60**
1,1,1-Trichloroethane	**0.50**	**3.0**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**46**
Trichlorofluoromethane	**0.50**	**4.8**
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.
Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	103%

UTM 005918

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-3
Lab Number: FC01732

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 16, 1996
Analyzed: Mar 16, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,1-Dichloroethane	1.0	N.D.
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	**1.0**	**3.7**
cis-1,2-Dichloroethene	**1.0**	**3.7**
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Methylene chloride	10	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	**1.0**	**140**
1,1,1-Trichloroethane	1.0	N.D.
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	**1.0**	**54**
Trichlorofluoromethane	**1.0**	**2.9**
Vinyl chloride	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	94%

UTM 005919

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates	Client Project ID: 30987-3	Sampled: Mar 11, 1996
30 Corporate Park, Suite 400	UTM	Received: Mar 12, 1996
Irvine, CA 92714	Sample Descript: Water, MW-4	Extracted: Mar 15, 1996
Attention: Kurt Wiebe	Lab Number: FC01733	Analyzed: Mar 15, 1996
		Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**>60**
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>60**
1,1,1-Trichloroethane	**0.50**	**2.5**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**9.3**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.
Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	116%

UTM 005920

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-4
Lab Number: FC01733

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 16, 1996
Analyzed: Mar 16, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,1-Dichloroethane	1.0	N.D.
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	**1.0**	**63**
cis-1,2-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Methylene chloride	10	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	**1.0**	**190**
1,1,1-Trichloroethane	**1.0**	**2.2**
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	**1.0**	**9.6**
Trichlorofluoromethane	1.0	N.D.
Vinyl chloride	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	111%

UTM 005921

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Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-6
Lab Number: FC01734

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 15, 1996
Analyzed: Mar 15, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	**0.50**	**3.9**
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**17**
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>60**
1,1,1-Trichloroethane	**0.50**	**11**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**9.9**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.
Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	103%

UTM 005922

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Harding Lawson Associates	Client Project ID: 30987-3	Sampled: Mar 11, 1996
30 Corporate Park, Suite 400	UTM	Received: Mar 12, 1996
Irvine, CA 92714	Sample Descript: Water, MW-6	Extracted: Mar 16, 1996
Attention: Kurt Wiebe	Lab Number: FC01734	Analyzed: Mar 16, 1996
		Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,1-Dichloroethane	**1.0**	**3.5**
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	**1.0**	**15**
cis-1,2-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Methylene chloride	10	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	**1.0**	**73**
1,1,1-Trichloroethane	**1.0**	**10**
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	**1.0**	**9.8**
Trichlorofluoromethane	1.0	N.D.
Vinyl chloride	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	98%

UTM 005923

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Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-7
Lab Number: FC01735

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 15, 1996
Analyzed: Mar 15, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**>60**
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>60**
1,1,1-Trichloroethane	**0.50**	**2.9**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**9.7**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.
Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	120%

UTM 005924

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-7
Lab Number: FC01735

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 16, 1996
Analyzed: Mar 16, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	2.5	N.D.
Bromoform	2.5	N.D.
Bromomethane	5.0	N.D.
Carbon tetrachloride	2.5	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	13	N.D.
2-Chloroethylvinyl ether	13	N.D.
Chloroform	2.5	N.D.
Chloromethane	5.0	N.D.
Dibromochloromethane	2.5	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
1,1-Dichloroethane	2.5	N.D.
1,2-Dichloroethane	2.5	N.D.
1,1-Dichloroethene	**2.5**	**68**
cis-1,2-Dichloroethene	2.5	N.D.
trans-1,2-Dichloroethene	2.5	N.D.
1,2-Dichloropropane	2.5	N.D.
cis-1,3-Dichloropropene	2.5	N.D.
trans-1,3-Dichloropropene	2.5	N.D.
Methylene chloride	25	N.D.
1,1,2,2-Tetrachloroethane	2.5	N.D.
Tetrachloroethene	**2.5**	**290**
1,1,1-Trichloroethane	2.5	N.D.
1,1,2-Trichloroethane	2.5	N.D.
Trichloroethene	**2.5**	**9.7**
Trichlorofluoromethane	2.5	N.D.
Vinyl chloride	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 5.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	103

UTM 005925

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water, MW-8
Lab Number: FC01736

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 16, 1996
Analyzed: Mar 16, 1996
Reported: Mar 18, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	93%

UTM 005926

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: 30987-3
UTM
Sample Descript: Water
First Sample #: FC01731

Sampled: Mar 11, 1996
Received: Mar 12, 1996
Extracted: Mar 12, 1996
Analyzed: Mar 12, 1996
Reported: Mar 18, 1996

TURBIDITY (EPA 180.1)

Laboratory Number	Sample Description	Detection Limit NTU	Sample Result NTU
FC01731	MW-2	1.0	N.D.
FC01732	MW-3	1.0	N.D.
FC01733	MW-4	1.0	N.D.
FC01734	MW-6	1.0	N.D.
FC01735	MW-7	1.0	N.D.
FC01736	MW-8	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

UTM 005927

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Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Method Blank

Extracted: Mar 15, 1996
Analyzed: Mar 15, 1996
Reported: Mar 18, 1996
Matrix: Water

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	97%

UTM 005928

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Method Blank

Extracted: Mar 16, 1996
Analyzed: Mar 16, 1996
Reported: Mar 18, 1996
Matrix: Water

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	96%

UTM 005929

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

MS/MSD DATA REPORT

EPA Method 601/602

Matrix: Water

Date: 03/15/96

Sample #: BLANK

Batch #: FC15101W

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %	Mean PR %	Acceptance Limits RPD	Acceptance Limits Mean PR
Benzene	0	10	9.1	9.0	91	90	1.2	90	≤10	88 - 108
Chloroform	0	10	9.9	9.6	99	96	2.4	97	≤10	87 - 109
1,1-Dichloroethane	0	10	10	9.7	100	97	3.0	99	≤13	85 - 111
1,2-Dichloroethane	0	10	9.9	9.8	99	98	1.1	98	≤10	84 - 112
1,1-Dichloroethene	0	10	9.7	9.6	97	96	1.4	97	≤11	83 - 113
Tetrachloroethene	0	10	11	10	109	101	7.4	105	≤10	87 - 109
Toluene	0	10	9.4	9.6	94	96	1.6	95	≤12	84 - 112
Trichloroethene	0	10	10	11	104	107	2.7	106	≤11	76 - 120

Definition of Terms

R1..... Result of Sample Analysis
Sp..... Spike Concentration added to sample
MS..... Matrix Spike Result
MSD..... Matrix Spike Duplicate Result
PR1..... Percent Recovery of MS; ((MS-R1)/SP) X 100
PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) X 100
RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100
Mean PR..... Mean Percent Recovery
Acceptance Limits..... Determined by in-house Control Charts

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MS/MSD DATA REPORT

EPA METHOD: **601/602**
Matrix: Water

Date: 3/16/96

Sample #: BLANK

Batch #: FC16101W

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %	MEAN PR %
Benzene	0	10	10	9.5	102%	95%	6.5%	98%
Chloroform	0	10	10	10	103%	101%	1.8%	102%
1,1-Dichloroethane	0	10	8.9	10	89%	102%	1.4%	96%
1,2-Dichloroethane	0	10	11	10	110%	103%	6.4%	107%
1,1-Dichloroethene	0	10	8.0	9.9	80%	99%	21%	90%
Tetrachloroethene	0	10	11	11	110%	106%	3.5%	108%
Toluene	0	10	9.7	9.9	97%	99%	3.0%	98%
Trichloroethene	0	10	11	11	112%	113%	0.72%	113%

Definition of Terms:

R1..... Result of Sample Analysis

Sp..... Spike Concentration Added to Sample

MS..... Matrix Spike Result

MSD..... Matrix Spike Duplicate Result

PR1..... Percent Recovery of MS; ((MS-R1) / SP) X 100

PR2..... Percent Recovery of MSD; ((MSD-R1) / SP) X 100

RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2)) X 100

Del Mar Analytical

[illegible]
30 Corporate Park, Suite 400
Irvine, CA 92714
(714) 260-1800

CHAIN OF CUSTODY FORM

Lab: JEL MAK NORMAL

Job Number: 30987-3
Name/Location: UTM
Project Manager: KURT WIEBE

Samplers: JUAN FAUSTO & BRYAN HAWES
Recorder: [illegible] (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	TURBIDITY 180.1
23	X				4						96	03	11	1615	MW-2 (4x40ml VOAS)	X						X
											96	03	11	1630	MW-3							
											96	03	11	1720	MW-4							
											96	03	11	1601	MW-6							
											96	03	11	1730	MW-7							
											96	03	11	1450	MW-8							

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Analysis to be completed following RWQCB WIP guidelines detection limits of 0.5 to 1.0 must be met for all compounds.

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Juan Fausto	DATE/TIME 3/11/96 1802	RECEIVED BY: (Signature) [illegible]	DATE/TIME 3/11/96 1810
RELINQUISHED BY: (Signature) [illegible]	DATE/TIME 3-12-96/7:30	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature) M. Nevins	DATE/TIME 3/12/96 7:30am

METHOD OF SHIPMENT: IN TACT/ON ICE

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

CRWQCB - L.A. REGION
WELL INVESTIGATION PROGRAM
QA/QC REPORT

PREPARED FOR HARDING LAWSON ASSOCIATES
PROJECT: 30987-3 UTM
SAMPLED: 3/11/96

ATTENTION: KURT WIEBE

Corp Park, 400
Irvine, CA 92714
(714) 260-1800

CHAIN OF CUSTODY FORM

Lab: NORMAL

Samplers: JUAN FAUSTO & BRYAN HAWES

Job Number: 30987-3

Name/Location: UTM

Project Manager: KURT WIEBE

Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	TURBIDITY 180.1
23	X				4						96	03	11	1615	MW-2 (4x40ml VOAS)	X						X
											96	03	11	1630	MW-3							
											96	03	11	1720	MW-4							
											96	03	11	1601	MW-6							
											96	03	11	1730	MW-7							
											96	03	11	1450	MW-8							

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Analysis to be completed following RWQCB WIP guidelines detection limits of 0.5 to 1.0 must be met for all compounds.

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Juan Fausto 3/11/96 1802	[signature]	3/11/96 1810
[signature] 3-12-96 7:30		

DISPATCHED BY: (Signature) DATE/TIME

RECEIVED FOR LAB BY: (Signature) M. Weiner DATE/TIME 3/12/96 7:30am

METHOD OF SHIPMENT: IN TACT/ON ICE

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 1)

Laboratory Name: Del Mar Analytical

Address: 2852 Alton Avenue
Irvine, CA 92714

Telephone/FAX: (714) 261-1022 / (714) 261-1228

ELAP Certification No.: 1197 Expiration Date: May 31, 1996

Authorized Signature:
Name, Title (print) Debbie Ranck, Quality Assurance Officer

Signature, Date: Debbie Ranck 4/1/96

Client Name: Harding Lawson Associates

Project No.: 30987-3 UTM

Date(s) Sampled: 3/11/96 To

Date(s) Received: 3/12/96 To

Date(s) Reported: 3/18/96 To

Chain of Custody received: Yes X No

Comments:

(RWQCB LabForm; Ver 12/94)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 2)

Organic Analyses	# of Samples	# of Samples Subcontracted
EPA 8010	6	0

Sample Condition: Acceptable

Inorganic Analyses	# of Samples	# of Samples Subcontracted
Turbidity	6	0

Sample Condition: Acceptable

Microbiological Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

Other Types of Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

(RWQCB LabForm; Ver 12/94)

PROJECT NO: 30987-3 UTM (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 **REPORTING UNIT:** µg/L

		DATE ANALYZED	3/15/96	3/15/96	3/15/96	3/15/96
		DATE EXTRACTED	3/15/96	3/15/96	3/15/96	3/15/96
		LAB SAMPLE ID	Method Blank	FC01731	FC01732	FC01733
		CLIENT SAMPLE ID	n/a	MW-2	MW-3	MW-4
		EXTRACTION SOLVENT	n/a	n/a	n/a	n/a
		EXTRACTION METHOD	5030	5030	5030	5030
		DILUTION FACTOR	1	1	1	1
COMPOUND		**CRDL**				
Bromodichloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromomethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon tetrachloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		0.50	< 0.50	**0.52**	**0.72**	< 0.50
Chloromethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		0.50	< 0.50	**57**	**2.1**	< 0.50
1,2-Dichloroethane		0.50	< 0.50	**1.4**	< 0.50	< 0.50
1,1-Dichloroethene		0.50	< 0.50	**19**	**6.0**	**>60**
cis-1,2-Dichloroethene		0.50	< 0.50	**5.9**	**6.6**	< 0.50
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloropropane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Methylene chloride		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethene		0.50	< 0.50	**>60**	**>60**	**>60**
1,1,1-Trichloroethane		0.50	< 0.50	**1.5**	**3.0**	**2.5**
1,1,2-Trichloroethane		0.50	< 0.50	**0.53**	< 0.50	< 0.50
Trichloroethene		0.50	< 0.50	**17**	**46**	**9.3**
Trichlorofluoromethane		0.50	< 0.50	< 0.50	**4.8**	< 0.50
Vinyl chloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
SURROGATE	**SPIKE CONC**	**ACCEPT LIMITS %**	**% RECOVERY**	**% RECOVERY**	**% RECOVERY**	**% RECOVERY**
1-Chloro-3-fluorobenzene	10	80-120	97	102	103	116

PROJECT NO: 30987-3 UTM (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 **REPORTING UNIT:** µg/L

		DATE ANALYZED	3/15/96	3/15/96		
		DATE EXTRACTED	3/15/96	3/15/96		
		LAB SAMPLE ID	FC01734	FC01735		
		CLIENT SAMPLE ID	MW-6	MW-7		
		EXTRACTION SOLVENT	n/a	n/a		
		EXTRACTION METHOD	5030	5030		
		DILUTION FACTOR	1	1		
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50	< 0.50		
Bromoform		0.50	< 0.50	< 0.50		
Bromomethane		1.0	< 1.0	< 1.0		
Carbon tetrachloride		0.50	< 0.50	< 0.50		
Chlorobenzene		1.0	< 1.0	< 1.0		
Chloroethane		1.0	< 1.0	< 1.0		
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0		
Chloroform		0.50	< 0.50	< 0.50		
Chloromethane		1.0	< 1.0	< 1.0		
Dibromochloromethane		0.50	< 0.50	< 0.50		
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,1-Dichloroethane		0.50	**3.9**	< 0.50		
1,2-Dichloroethane		0.50	< 0.50	< 0.50		
1,1-Dichloroethene		0.50	**17**	**>60**		
cis-1,2-Dichloroethene		0.50	< 0.50	< 0.50		
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50		
1,2-Dichloropropane		0.50	< 0.50	< 0.50		
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50		
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50		
Methylene chloride		1.0	< 1.0	< 1.0		
1,1.2,2-Tetrachloroethane		0.50	< 0.50	< 0.50		
Tetrachloroethene		0.50	**>60**	**>60**		
1,1,1-Trichloroethane		0.50	**11**	**2.9**		
1,1.2-Trichloroethane		0.50	< 0.50	< 0.50		
Trichloroethene		0.50	**9.9**	**9.7**		
Trichlorofluoromethane		0.50	< 0.50	< 0.50		
Vinyl chloride		0.50	< 0.50	< 0.50		
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	103	120		

PROJECT NO: 30987-3 UTM (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 **REPORTING UNIT:** µg/L

		DATE ANALYZED	3/16/96	3/16/96	3/16/96	3/16/96
		DATE EXTRACTED	3/16/96	3/16/96	3/16/96	3/16/96
		LAB SAMPLE ID	Method Blank	FC01731	FC01732	FC01733
		CLIENT SAMPLE ID	n/a	MW-2	MW-3	MW-4
		EXTRACTION SOLVENT	n/a	n/a	n/a	n/a
		EXTRACTION METHOD	5030	5030	5030	5030
		DILUTION FACTOR	1	2	2	2
COMPOUND		**CRDL**				
Bromodichloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromomethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon tetrachloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chloromethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		0.50	< 0.50	**58**	< 0.50	< 0.50
1,2-Dichloroethane		0.50	< 0.50	**1.3**	< 0.50	< 0.50
1,1-Dichloroethene		0.50	< 0.50	**17**	**3.7**	**63**
cis-1,2-Dichloroethene		0.50	< 0.50	**5.7**	**3.7**	< 0.50
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloropropane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Methylene chloride		1.0	**2.5**	**3.5**	**14**	**4.6**
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethene		0.50	< 0.50	**94**	**140**	**190**
1,1,1-Trichloroethane		0.50	< 0.50	**1.2**	< 0.50	**2.2**
1,1,2-Trichloroethane		0.50	< 0.50	<0.50	< 0.50	< 0.50
Trichloroethene		0.50	< 0.50	**17**	**54**	**9.6**
Trichlorofluoromethane		0.50	< 0.50	< 0.50	**2.9**	< 0.50
Vinyl chloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
SURROGATE	**SPIKE CONC**	**ACCEPT LIMITS %**	**% RECOVERY**	**% RECOVERY**	**% RECOVERY**	**% RECOVERY**
1-Chloro-3-fluorobenzene	10	80-120	96	102	94	111

PROJECT NO: 30987-3 UTM (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 **REPORTING UNIT:** µg/L

		DATE ANALYZED	3/16/96	3/16/96	3/16/96	
		DATE EXTRACTED	3/16/96	3/16/96	3/16/96	
		LAB SAMPLE ID	FC01734	FC01735	FC01736	
		CLIENT SAMPLE ID	MW-6	MW-7	MW-8	
		EXTRACTION SOLVENT	n/a	n/a	n/a	
		EXTRACTION METHOD	5030	5030	5030	
		DILUTION FACTOR	2	5	1	
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50	< 0.50	< 0.50	
Bromoform		0.50	< 0.50	< 0.50	< 0.50	
Bromomethane		1.0	< 1.0	< 1.0	< 1.0	
Carbon tetrachloride		0.50	< 0.50	< 0.50	< 0.50	
Chlorobenzene		1.0	< 1.0	< 1.0	< 1.0	
Chloroethane		1.0	< 1.0	< 1.0	< 1.0	
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0	< 1.0	
Chloroform		0.50	< 0.50	< 0.50	< 0.50	
Chloromethane		1.0	< 1.0	< 1.0	< 1.0	
Dibromochloromethane		0.50	< 0.50	< 0.50	< 0.50	
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethane		0.50	**3.5**	< 0.50	< 0.50	
1,2-Dichloroethane		0.50	< 0.50	< 0.50	< 0.50	
1,1-Dichloroethene		0.50	**15**	**68**	< 0.50	
cis-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	
1,2-Dichloropropane		0.50	< 0.50	< 0.50	< 0.50	
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	
Methylene chloride		1.0	**11**	**14**	**6.8**	
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50	< 0.50	
Tetrachloroethene		0.50	**73**	**290**	< 0.50	
1,1,1-Trichloroethane		0.50	**10**	< 0.50	< 0.50	
1,1,2-Trichloroethane		0.50	< 0.50	< 0.50	< 0.50	
Trichloroethene		0.50	**9.8**	**9.7**	< 0.50	
Trichlorofluoromethane		0.50	< 0.50	< 0.50	< 0.50	
Vinyl chloride		0.50	< 0.50	< 0.50	< 0.50	
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	98	103	93	

UTM 005940

PROJECT NO: 30987-3 UTM

(RWQCB LabForm 10A; Ver12/94)

QA/QC REPORT

II. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATE (MSD)

Date Performed: 3/15/96
Batch Number: FC15101W
Lab Sample I.D.: BLANK

Analytical Method: EPA 8010
Reporting Unit: µg/L

Analyte	Sample Result	Spike Conc	MS	% MS	Spike Conc (Dup)	MSD	%MSD	RPD	MS/MSD Limit	RPD Limit
Chloroform	0	10	9.9	99%	10	9.6	96%	3.1%	80-120	≤ 20
1,1-Dichloroethane	0	10	10	100%	10	9.7	97%	3.0%	80-120	≤ 20
1,2-Dichloroethane	0	10	9.9	99%	10	9.8	98%	1.0%	80-120	≤ 20
1,1-Dichloroethene	0	10	9.7	97%	10	9.6	96%	1.0%	80-120	≤ 20
Tetrachloroethene	0	10	11	110%	10	10	100%	9.5%	80-120	≤ 20
Trichloroethene	0	10	10	100%	10	11	110%	9.5%	80-120	≤ 20

III. LABORATORY QUALITY CONTROL CHECK SAMPLE (LCS)

Date Performed: 3/15/96
Supply Source: Supelco
Lot Number: 084-268
Date of Source: 3/13/96

Analytical Method: EPA 8010
Reporting Unit: µg/L
Lab LCS I.D.: LCS

Analyte	Spike Concentration	Result	% Recovery	Acceptance % Recovery Limit
Chloroform	10	9.8	98%	80-120
1,1-Dichloroethane	10	9.8	98%	80-120
1,2-Dichloroethane	10	10	100%	80-120
1,1-Dichloroethene	10	9.6	96%	80-120
Tetrachloroethene	10	10	100%	80-120
Trichloroethene	10	10	100%	80-120

PROJECT NO: 30987-3 UTM (RWQCB LabForm 10A; Ver12/94)

QA/QC REPORT

II. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATE (MSD)

Date Performed: 3/16/96
Batch Number: FC16101W
Lab Sample I.D.: BLANK

Analytical Method: EPA 8010
Reporting Unit: µg/L

Analyte	Sample Result	Spike Conc	MS	% MS	Spike Conc (Dup)	MSD	%MSD	RPD	MS/MSD Limit	RPD Limit
Chloroform	0	10	10	100%	10	10	100%	0.0%	80-120	≤ 20
1,1-Dichloroethane	0	10	8.9	89%	10	10	100%	11.6%	80-120	≤ 20
1,2-Dichloroethane	0	10	11	110%	10	10	100%	9.5%	80-120	≤ 20
1,1-Dichloroethene	0	10	8.0	80%	10	9.9	99%	21.2%	80-120	≤ 20
Tetrachloroethene	0	10	11	110%	10	11	110%	0.0%	80-120	≤ 20
Trichloroethene	0	10	11	110%	10	11	110%	0.0%	80-120	≤ 20

III. LABORATORY QUALITY CONTROL CHECK SAMPLE (LCS)

Date Performed: 3/16/96
Supply Source: Supelco
Lot Number: 084-268
Date of Source: 3/13/96

Analytical Method: EPA 8010
Reporting Unit: µg/L
Lab LCS I.D.: LCS

Analyte	Spike Concentration	Result	% Recovery	Acceptance % Recovery Limit
Chloroform	10	10	100%	80-120
1,1-Dichloroethane	10	10	100%	80-120
1,2-Dichloroethane	10	10	100%	80-120
1,1-Dichloroethene	10	10	100%	80-120
Tetrachloroethene	10	11	110%	80-120
Trichloroethene	10	12	120%	80-120

Calibration data for Sequence file: **h:\data\gc10\c15p.seq**

Initial Calibration Date: ~~10/5/95~~ 3/11/96 DMG
Created by: DM-AB
Midpoint Acquire Date: 3/15/96
Date Printed: 03/18/96

PID Sample File: h:\data\gc10\p-503-v.smp
ELCD Sample File: h:\data\gc10\e-502-v.smp
PID MP File: h:\data\gc10\c15a001.rst
ELCD MP File: h:\data\gc10\c15b001.rst

Supply Source: Ultra Scientific
Lot Number: H-0202
Standard Prep. Date: ~~10/2/95~~ 2/15/96 DMG

INITIAL CALIBRATION — DAILY MIDPOINT CALIBRATION

BROMODICHLOROMETHAN (RT = 18.82 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33892	1.624
2	10	62013	1.458
3	30	211653	1.600
4	50	376526	1.662
5	100	773214	1.707
6	120	901080	1.623
7	160	1201101	1.625
8	200	1593576	1.702
9	300	2172831	1.476

(Ave. RF = 1.609)
%RSD = 5.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.712	10.0	10.6	6.4	475314	≤ 15%

BROMOFORM (RT = 24.28 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	12184	0.584
2	10	23170	0.545
3	30	84251	0.637
4	50	145770	0.643
5	100	303446	0.670
6	120	378996	0.683
7	160	516394	0.699
8	200	641880	0.685
9	300	1023812	0.696

(Ave. RF = 0.649)
%RSD = 8.22

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.664	10.0	10.2	2.3	184294	≤ 15%

BROMOMETHANE (RT = 4.17 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	9579	0.459
2	10	18070	0.425
3	30	65712	0.497
4	50	114660	0.506
5	100	245770	0.543
6	120	295811	0.533
7	160	399614	0.541
8	200	505310	0.540
9	300	747665	0.508

(Ave. RF = 0.506)
%RSD = 8.05

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.170	10.0	3.4	66	47310	≤ 15%

CARBON TETRACHLORIDE (RT = 16.16 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50077	2.400
2	10	89241	2.099
3	30	286897	2.169
4	50	494469	2.183
5	100	999657	2.207
6	120	1206992	2.175
7	160	1570572	2.125
8	200	1998004	2.133
9	300	2956713	2.009

(Ave. RF = 2.167)
%RSD = 4.86

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.076	10.0	9.6	4.2	576233	≤ 15%

CHLOROETHANE (RT = 4.42 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18573	0.890
2	10	32825	0.772
3	30	113790	0.860
4	50	194181	0.857
5	100	406290	0.897
6	120	485985	0.876
7	160	652310	0.882
8	200	825846	0.882
9	300	1232101	0.837

(Ave. RF = 0.861)
%RSD = 4.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.802	10.0	9.3	6.9	222572	≤ 15%

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CHLOROFORM (RT = 12.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50592	2.425
2	10	91515	2.152
3	30	298017	2.253
4	50	498740	2.202
5	100	1013213	2.237
6	120	1215413	2.190
7	160	1615006	2.185
8	200	2012925	2.149
9	300	2996441	2.036

(Ave. RF = 2.203)
%RSD = 4.73

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.155	10.0	9.8	2.2	598080	≤ 15%

CHLOROMETHANE ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	10306	0.242
3	30	36510	0.276
4	50	58516	0.258
5	100	107499	0.237
6	120	125231	0.226
7	160	161604	0.219

(Ave. RF = 0.243)
%RSD = 8.74

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.347	10.0	14.3	43	96237	≤ 15%

DIBROMOCHLOROMETHAN (RT = 22.23 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	22321	1.070
2	10	39898	0.938
3	30	142234	1.076
4	50	237877	1.050
5	100	486926	1.075
6	120	599745	1.081
7	160	801798	1.085
8	200	979921	1.046
9	300	1546270	1.051

(Ave. RF = 1.052)
%RSD = 4.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.082	10.0	10.3	2.8	300397	≤ 15%

CH2BR2 (RT = 18.34 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13860	0.664
2	10	26275	0.618
3	30	92334	0.698
4	50	167735	0.740
5	100	342728	0.757
6	120	431852	0.778
7	160	578686	0.783
8	200	707655	0.756
9	300	1126739	0.765

(Ave. RF = 0.729)
%RSD = 7.78

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.000	10.0	0.0	100	0	≤ 15%

MECL2 (RT = 6.74 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
3	30	340777	2.577
4	50	527023	2.326
5	100	975915	2.155
6	120	1178286	2.123
7	160	1524055	2.062
8	200	1921196	2.051

(Ave. RF = 2.216)
%RSD = 9.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.249	10.0	10.2	1.5	624319	≤ 15%

1,1-DCA (RT = 9.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36539	1.751
2	10	66274	1.558
3	30	217246	1.643
4	50	378650	1.671
5	100	765295	1.690
6	120	908768	1.637
7	160	1207441	1.633
8	200	1554558	1.660
9	300	2319739	1.576

(Ave. RF = 1.647)
%RSD = 3.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.618	10.0	9.8	1.8	449068	≤ 15%

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1,2-DCA (RT = 14.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32920	1.578
2	10	61269	1.441
3	30	203042	1.535
4	50	347758	1.535
5	100	709815	1.567
6	120	861148	1.551
7	160	1128096	1.526
8	200	1416289	1.512
9	300	2147647	1.459

(Ave. RF = 1.523)
%RSD = 3.03

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.484	10.0	9.7	2.5	412055	≤ 15%

1,1-DCE (RT = 6.39 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	37140	1.780
2	10	64183	1.509
3	30	209226	1.582
4	50	355599	1.570
5	100	715622	1.580
6	120	850156	1.532
7	160	1119635	1.515
8	200	1431351	1.528
9	300	2084314	1.416

(Ave. RF = 1.557)
%RSD = 6.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.506	10.0	9.7	3.3	418021	≤ 15%

T-1,2-DCE (RT = 8.44 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34540	1.655
2	10	61974	1.457
3	30	207631	1.570
4	50	360646	1.592
5	100	737492	1.628
6	120	876568	1.579
7	160	1166578	1.578
8	200	1466755	1.566
9	300	2210024	1.501

(Ave. RF = 1.570)
%RSD = 3.82

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.556	10.0	9.9	0.87	431956	≤ 15%

1,2-DCP (RT = 18.53 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34669	1.661
2	10	61921	1.456
3	30	203623	1.540
4	50	356407	1.573
5	100	701026	1.548
6	120	859795	1.549
7	160	1123722	1.520
8	200	1452940	1.551
9	300	2110421	1.434

(Ave. RF = 1.537)
%RSD = 4.29

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.501	10.0	9.8	2.4	416550	≤ 15%

C1,3-DCP (RT = 20.47 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	31316	1.501
2	10	55451	1.304
3	30	190284	1.439
4	50	322986	1.426
5	100	652613	1.441
6	120	768213	1.384
7	160	1043460	1.412
8	200	1303347	1.392
9	300	1916656	1.302

(Ave. RF = 1.400)
%RSD = 4.61

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.374	10.0	9.8	1.9	381377	≤ 15%

T-1,3-DCP (RT = 21.33 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	28763	1.378
2	10	52009	1.223
3	30	173953	1.315
4	50	295299	1.304
5	100	579005	1.278
6	120	711620	1.282
7	160	941817	1.274
8	200	1161750	1.240
9	300	1764007	1.198

(Ave. RF = 1.277)
%RSD = 4.19

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.217	10.0	9.5	4.7	337755	≤ 15%

1,1,1,2-TCA (RT = 23.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	51021	2.445
2	10	88534	2.082
3	30	278767	2.108
4	50	455201	2.009
5	100	882186	1.948
6	120	1093089	1.969
7	160	1429931	1.934
8	200	1819757	1.943
9	300	2688619	1.827

(Ave. RF = 2.029)
%RSD = 8.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.833	10.0	9.0	9.7	511442	≤ 15%

1,1,2,2-TCA (RT = 24.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26699	1.280
2	10	48304	1.136
3	30	156010	1.180
4	50	257828	1.138
5	100	508892	1.124
6	120	619476	1.116
7	160	836515	1.132
8	200	1013126	1.082
9	300	1591407	1.081

(Ave. RF = 1.141)
%RSD = 5.26

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.136	10.0	10.0	0.43	316994	≤ 15%

TETRACHLOROETHENE (RT = 22.85 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	90581	2.130
3	30	284902	2.154
4	50	469471	2.072
5	100	884470	1.953
6	120	1076837	1.940
7	160	1411358	1.909
8	200	1733048	1.850
9	300	2565209	1.743

(Ave. RF = 1.969)
%RSD = 7.20

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.081	10.0	10.6	5.7	580877	≤ 15%

1,1,1-TCA (RT = 14.90 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39492	1.893
2	10	76423	1.797
3	30	256578	1.940
4	50	455687	2.011
5	100	909096	2.007
6	120	1088400	1.961
7	160	1431786	1.937
8	200	1783816	1.905
9	300	2762588	1.877

(Ave. RF = 1.925)
%RSD = 3.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.896	10.0	9.8	1.5	529085	≤ 15%

1,1,2-TCA (RT = 21.52 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39881	1.911
2	10	70883	1.667
3	30	230906	1.746
4	50	388270	1.714
5	100	752134	1.661
6	120	899721	1.621
7	160	1186965	1.606
8	200	1490402	1.591
9	300	2274057	1.545

(Ave. RF = 1.674)
%RSD = 6.49

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.709	10.0	10.2	2.1	476919	≤ 15%

TCE (RT = 18.70 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	48328	2.316
2	10	85508	2.011
3	30	270509	2.045
4	50	465327	2.054
5	100	902865	1.993
6	120	1109354	1.999
7	160	1420240	1.921
8	200	1691230	1.806
9	300	2739459	1.861

(Ave. RF = 2.001)
%RSD = 7.25

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.866	10.0	9.3	6.7	520879	≤ 15%

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1,2,3-TCP (RT = 24.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20293	0.973
2	10	37254	0.876
3	30	121097	0.916
4	50	201576	0.890
5	100	409618	0.904
6	120	496078	0.894
7	160	668920	0.905
8	200	809989	0.865
9	300	1290768	0.877

(Ave. RF = 0.900)
%RSD = 3.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.956	10.0	10.6	6.2	266782	≤ 15%

TRICHLOROFLUOROMETH (RT = 5.36 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33992	1.629
2	10	55707	1.310
3	30	189041	1.429
4	50	315944	1.395
5	100	652740	1.441
6	120	785494	1.415
7	160	1027175	1.390
8	200	1292014	1.380
9	300	1959996	1.332

(Ave. RF = 1.413)
%RSD = 6.47

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.626	10.0	11.5	15	453818	≤ 15%

VINYL CHLORIDE (RT = 3.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	14190	0.680
2	10	26484	0.623
3	30	92582	0.700
4	50	159726	0.705
5	100	334158	0.738
6	120	402163	0.725
7	160	532044	0.720
8	200	678220	0.724
9	300	1002626	0.681

(Ave. RF = 0.699)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.664	10.0	9.5	5.0	185435	≤ 15%

BENZENE (RT = 16.37 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	17243	2.175
2	10	28212	1.666
3	30	83367	1.746
4	50	138475	1.686
5	100	284272	1.737
6	120	338207	1.782
7	160	459178	1.780
8	200	592517	1.886
9	300	875013	1.732

(Ave. RF = 1.799)
%RSD = 8.60

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.638	10.0	9.1	9.0	140537	≤ 15%

CHLOROBNZN (RT = 23.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18260	0.875
2	10	32702	0.769
3	30	120565	0.912
4	50	198704	0.877
5	100	382095	0.844
6	120	472561	0.851
7	160	611221	0.827
8	200	711050	0.759
9	300	1116324	0.758

(Ave. RF = 0.830)
%RSD = 6.79

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.978	10.0	11.8	18	272992	≤ 15%

1,2-DCB (RT = 26.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26456	1.268
2	10	45987	1.081
3	30	151274	1.144
4	50	256189	1.131
5	100	491512	1.085
6	120	617503	1.113
7	160	818703	1.108
8	200	1007878	1.076
9	300	1520961	1.033

(Ave. RF = 1.115)
%RSD = 5.91

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.107	10.0	9.9	0.79	308827	≤ 15%

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1,3-DCB (RT = 26.31 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27481	1.317
2	10	47357	1.114
3	30	148824	1.125
4	50	260906	1.152
5	100	516224	1.140
6	120	650341	1.172
7	160	869305	1.176
8	200	937335	1.001
9	300	1559261	1.059

(Ave. RF = 1.139)
%RSD = 7.64

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.008	10.0	8.8	12	281298	≤ 15%

1,4-DCB (RT = 26.38 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27482	1.317
2	10	48752	1.146
3	30	160739	1.215
4	50	263661	1.164
5	100	491385	1.085
7	160	785538	1.063
8	200	1128414	1.205
9	300	1484987	1.009

(Ave. RF = 1.151)
%RSD = 8.51

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.237	10.0	10.8	7.5	345282	≤ 15%

ETHYLBENZENE (RT = 23.99 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13864	1.749
2	10	25271	1.493
3	30	72391	1.516
4	50	116915	1.423
5	100	232744	1.422
6	120	276473	1.457
7	160	370358	1.435
8	200	475467	1.514
9	300	713262	1.412

(Ave. RF = 1.491)
%RSD = 7.02

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.384	10.0	9.3	7.2	118760	≤ 15%

TOLUENE (RT = 21.81 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	32784	1.936
3	30	89682	1.878
4	50	139182	1.694
5	100	271424	1.659
6	120	321438	1.694
7	160	425380	1.649
8	200	552294	1.758
9	300	820396	1.624

(Ave. RF = 1.737)
%RSD = 6.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.633	10.0	9.4	6.0	140084	≤ 15%

M,P-XYLENES (RT = 24.23 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	10	34980	2.207
2	20	56774	1.677
3	60	172787	1.810
4	100	277774	1.691
5	200	555456	1.697
6	240	661043	1.742
7	320	880429	1.706
8	400	1135483	1.808
9	600	1702512	1.685

(Ave. RF = 1.780)
%RSD = 9.42

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.646	20.0	18.5	7.5	282415	≤ 15%

O-XYLENE (RT = 24.65 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	24128	1.425
3	30	75233	1.576
4	50	121708	1.482
5	100	242499	1.482
6	120	282010	1.486
7	160	379183	1.470
8	200	478492	1.523
9	300	731946	1.449

(Ave. RF = 1.487)
%RSD = 3.10

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.434	10.0	9.6	3.5	123066	≤ 15%

N-BUTYLBENZENE (RT = 26.82 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	12916	1.630
2	10	22245	1.314
3	30	64851	1.358
4	50	103145	1.256
5	100	204968	1.253
6	120	245590	1.294
7	160	344397	1.335
8	200	424469	1.351
9	300	628530	1.244

(Ave. RF = 1.337)
%RSD = 8.81

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.252	10.0	9.4	6.4	107425	≤ 15%

SEC-BUTYLBENZENE (RT = 26.25 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13963	1.762
2	10	22616	1.336
3	30	68975	1.445
4	50	115577	1.407
5	100	241888	1.478
6	120	290666	1.532
7	160	397578	1.541

(Ave. RF = 1.500)
%RSD = 9.04

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.027	10.0	6.8	32	88128	≤ 15%

T-BUTYLBENZENE (RT = 26.05 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	11385	1.436
2	10	20005	1.182
3	30	58223	1.219
4	50	91098	1.109
5	100	182810	1.117
6	120	216134	1.139
7	160	285481	1.106
8	200	374598	1.193
9	300	559781	1.108

(Ave. RF = 1.179)
%RSD = 8.93

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.100	10.0	9.3	6.7	94346	≤ 15%

2-CVE (RT = 20.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	14972	0.352
3	30	54128	0.409
4	50	100470	0.443
5	100	211658	0.467
6	120	263425	0.475
7	160	353351	0.478
8	200	442988	0.473
9	300	695470	0.472

(Ave. RF = 0.446)
%RSD = 9.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.476	10.0	10.7	6.6	132717	≤ 15%

2-CHLOROTOLUENE (RT = 25.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15678	0.751
2	10	27145	0.638
3	30	90510	0.684
4	50	149579	0.660
5	100	297748	0.657
6	120	369098	0.665
7	160	494422	0.669
8	200	634635	0.678
9	300	921744	0.626

(Ave. RF = 0.670)
%RSD = 5.30

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.609	10.0	9.1	9.1	169901	≤ 15%

4-CHLOROTOLUENE (RT = 25.65 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15641	0.750
2	10	27496	0.647
3	30	99072	0.749
4	50	160009	0.706
5	100	310933	0.686
6	120	381200	0.687
7	160	498102	0.674
8	200	622273	0.664
9	300	931747	0.633

(Ave. RF = 0.688)
%RSD = 5.94

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.697	10.0	10.1	1.3	194647	≤ 15%

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DICHLORODIFLUOROMETH (RT = 3.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	7764	0.183
3	30	28042	0.212
4	50	43944	0.194
5	100	85539	0.189
6	120	102211	0.184
7	160	135064	0.183
8	200	170069	0.182
9	300	246402	0.167

(Ave. RF = 0.187)
%RSD = 6.83

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.153	10.0	8.2	18	42713	≤ 15%

CIS-1,2-DCE (RT = 11.20 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36554	1.752
2	10	64679	1.521
3	30	217221	1.643
4	50	393280	1.736
5	100	814293	1.798
6	120	971479	1.750
7	160	1291032	1.746
8	200	1632257	1.743
9	300	2426120	1.648

(Ave. RF = 1.704)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.757	10.0	10.3	3.1	490375	≤ 15%

1,3-DCP (RT = 21.91 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32144	1.540
2	10	59725	1.405
3	30	190890	1.443
4	50	315351	1.392
5	100	602281	1.330
6	120	731719	1.318
7	160	953254	1.290
8	200	1181697	1.262
9	300	1799182	1.222

(Ave. RF = 1.356)
%RSD = 7.31

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.391	10.0	10.3	2.6	388122	≤ 15%

2,2-DCP (RT = 12.32 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20902	1.002
2	10	36324	0.854
3	30	127124	0.961
4	50	234755	1.036
5	100	474491	1.048
6	120	550266	0.991
7	160	748731	1.013
8	200	949982	1.014
9	300	1366042	0.928

(Ave. RF = 0.983)
%RSD = 6.17

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.894	10.0	9.1	9.0	249608	≤ 15%

1,1-DICHLOROPROPENE (RT = 15.68 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33382	1.600
2	10	58879	1.385
3	30	197075	1.490
4	50	341353	1.507
5	100	689306	1.522
6	120	831123	1.497
7	160	1093557	1.479
8	200	1350538	1.442
9	300	2043008	1.388

(Ave. RF = 1.479)
%RSD = 4.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.559	10.0	10.5	5.4	435149	≤ 15%

EDB (RT = 22.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13225	0.634
2	10	24324	0.572
3	30	87236	0.660
4	50	151676	0.670
5	100	298931	0.660
6	120	375572	0.677
7	160	509348	0.689
8	200	632359	0.675
9	300	1008945	0.685

(Ave. RF = 0.658)
%RSD = 5.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.684	10.0	10.4	3.9	190808	≤ 15%

HEXACHLOROBUTADIENE (RT = 29.04 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	41042	1.967
2	10	73630	1.731
3	30	216519	1.637
4	50	374774	1.654
5	100	721114	1.592
6	120	875058	1.577
7	160	1186000	1.604
8	200	1487147	1.588
9	300	2145826	1.458

(Ave. RF = 1.645)
%RSD = 8.56

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.663	10.0	10.1	1.1	464039	≤ 15%

P-ISOPROPYLTOLUENE (RT = 26.43 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	20630	1.219
3	30	61998	1.299
4	50	92419	1.125
5	100	179341	1.096
6	120	214303	1.129
7	160	284449	1.102
8	200	362722	1.155
9	300	555233	1.099

(Ave. RF = 1.153)
%RSD = 6.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.191	10.0	10.3	3.3	102159	≤ 15%

NAPHTHALENE (RT = 28.97 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	4951	0.625
2	10	9696	0.573
4	50	52939	0.644
5	100	105184	0.643
6	120	113986	0.601
7	160	149994	0.581
8	200	204653	0.652
9	300	371682	0.736

(Ave. RF = 0.632)
%RSD = 8.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.890	10.0	14.1	41	76341	≤ 15%

N-PROPYLBENZENE (RT = 25.49 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13902	1.754
2	10	22897	1.352
3	30	69589	1.458
4	50	112108	1.365
5	100	225395	1.377
6	120	270901	1.428
7	160	339301	1.315
8	200	436639	1.390
9	300	700767	1.387

(Ave. RF = 1.425)
%RSD = 9.12

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.307	10.0	9.2	8.3	112113	≤ 15%

STYRENE (RT = 24.58 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	18829	2.376
2	10	30875	1.824
3	30	94027	1.969
4	50	151841	1.848
5	100	305581	1.867
6	120	366561	1.932
7	160	491578	1.905
8	200	651733	2.075
9	300	968376	1.917

(Ave. RF = 1.968)
%RSD = 8.63

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.749	10.0	8.9	11	150089	≤ 15%

1,2,3-TCB (RT = 29.19 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	5210	0.123
3	30	19576	0.148
4	50	40157	0.177
5	100	74052	0.163
6	120	73911	0.133

(Ave. RF = 0.149)
%RSD = 14.88

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.720	10.0	48.4	380	200981	≤ 15%

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1,2,4-TCB (RT = 28.71 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	17946	0.860
2	10	34438	0.810
3	30	106605	0.806
4	50	197376	0.871
5	100	390990	0.863
6	120	457810	0.825
7	160	593283	0.803
8	200	859214	0.917
9	300	1300386	0.883

(Ave. RF = 0.849)
%RSD = 4.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.114	10.0	13.1	31	310839	≤ 15%

1,2,4-TRIMETHYLBENZE (RT = 26.16 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	14780	1.865
2	10	26764	1.581
3	30	75632	1.584
4	50	121349	1.477
5	100	241797	1.478
6	120	289591	1.526
7	160	405340	1.571
8	200	501364	1.596
9	300	751392	1.487

(Ave. RF = 1.574)
%RSD = 7.57

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.455	10.0	9.2	7.6	124843	≤ 15%

1,3,5-TRIMETHYLBENZE (RT = 25.78 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	19488	2.459
2	10	32462	1.917
3	30	100515	2.105
4	50	161899	1.971
5	100	318918	1.949
6	120	381002	2.008
7	160	521322	2.020
8	200	658061	2.095
9	300	984378	1.949

(Ave. RF = 2.053)
%RSD = 8.06

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.895	10.0	9.2	7.7	162548	≤ 15%

Calibration data for Sequence file: h:\data\gc10\c16p.seq

Initial Calibration Date: ~~10/5/95~~ 3/11/96
Created by: DM-AB DMG
Midpoint Acquire Date: 3/16/96
Date Printed: 03/18/96

PID Sample File: h:\data\gc10\p-503-v.smp
ELCD Sample File: h:\data\gc10\e-502-v.smp
PID MP File: h:\data\gc10\c16a001.rst
ELCD MP File: h:\data\gc10\c16b001.rst

Supply Source: Ultra Scientific
Lot Number: H-0202
Standard Prep. Date: ~~10/2/95~~ 2/15/96

INITIAL CALIBRATION — DAILY MIDPOINT CALIBRATION

BROMODICHLOROMETHAN (RT = 18.82 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33892	1.624
2	10	62013	1.458
3	30	211653	1.600
4	50	376526	1.662
5	100	773214	1.707
6	120	901080	1.623
7	160	1201101	1.625
8	200	1593576	1.702
9	300	2172831	1.476

(Ave. RF = 1.609)
%RSD = 5.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.829	10.0	11.4	14	510405	≤ 15%

BROMOFORM (RT = 24.28 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	12184	0.584
2	10	23170	0.545
3	30	84251	0.637
4	50	145770	0.643
5	100	303446	0.670
6	120	378996	0.683
7	160	516394	0.699
8	200	641880	0.685
9	300	1023812	0.696

(Ave. RF = 0.649)
%RSD = 8.22

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.707	10.0	10.9	8.9	197309	≤ 15%

BROMOMETHANE (RT = 4.17 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	9579	0.459
2	10	18070	0.425
3	30	65712	0.497
4	50	114660	0.506
5	100	245770	0.543
6	120	295811	0.533
7	160	399614	0.541
8	200	505310	0.540
9	300	747665	0.508

(Ave. RF = 0.506)
%RSD = 8.05

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.076	10.0	1.5	85	21077	≤ 15%

CARBON TETRACHLORIDE (RT = 16.16 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50077	2.400
2	10	89241	2.099
3	30	286897	2.169
4	50	494469	2.183
5	100	999657	2.207
6	120	1206992	2.175
7	160	1570572	2.125
8	200	1998004	2.133
9	300	2956713	2.009

(Ave. RF = 2.167)
%RSD = 4.86

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.074	10.0	9.6	4.3	578722	≤ 15%

CHLOROETHANE (RT = 4.42 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18573	0.890
2	10	32825	0.772
3	30	113790	0.860
4	50	194181	0.857
5	100	406290	0.897
6	120	485985	0.876
7	160	652310	0.882
8	200	825846	0.882
9	300	1232101	0.837

(Ave. RF = 0.861)
%RSD = 4.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.687	10.0	8.0	20	191620	≤ 15%

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CHLOROFORM (RT = 12.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50592	2.425
2	10	91515	2.152
3	30	298017	2.253
4	50	498740	2.202
5	100	1013213	2.237
6	120	1215413	2.190
7	160	1615006	2.185
8	200	2012925	2.149
9	300	2996441	2.036

(Ave. RF = 2.203)
%RSD = 4.73

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.242	10.0	10.2	1.8	625788	≤ 15%

CHLOROMETHANE ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	10306	0.242
3	30	36510	0.276
4	50	58516	0.258
5	100	107499	0.237
6	120	125231	0.226
7	160	161604	0.219

(Ave. RF = 0.243)
%RSD = 8.74

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.247	10.0	10.2	1.5	68866	≤ 15%

DIBROMOCHLOROMETHAN (RT = 22.23 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	22321	1.070
2	10	39898	0.938
3	30	142234	1.076
4	50	237877	1.050
5	100	486926	1.075
6	120	599745	1.081
7	160	801798	1.085
8	200	979921	1.046
9	300	1546270	1.051

(Ave. RF = 1.052)
%RSD = 4.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.109	10.0	10.5	5.3	309369	≤ 15%

CH2BR2 (RT = 18.34 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13860	0.664
2	10	26275	0.618
3	30	92334	0.698
4	50	167735	0.740
5	100	342728	0.757
6	120	431852	0.778
7	160	578686	0.783
8	200	707655	0.756
9	300	1126739	0.765

(Ave. RF = 0.729)
%RSD = 7.78

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.000	10.0	0.0	100	0	≤ 15%

MECL2 (RT = 6.74 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
3	30	340777	2.577
4	50	527023	2.326
5	100	975915	2.155
6	120	1178286	2.123
7	160	1524055	2.062
8	200	1921196	2.051

(Ave. RF = 2.216)
%RSD = 9.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.363	10.0	6.2	38	380502	≤ 15%

1,1-DCA (RT = 9.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36539	1.751
2	10	66274	1.558
3	30	217246	1.643
4	50	378650	1.671
5	100	765295	1.690
6	120	908768	1.637
7	160	1207441	1.633
8	200	1554558	1.660
9	300	2319739	1.576

(Ave. RF = 1.647)
%RSD = 3.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.641	10.0	10.0	0.36	457895	≤ 15%

1,2-DCA (RT = 14.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32920	1.578
2	10	61269	1.441
3	30	203042	1.535
4	50	347758	1.535
5	100	709815	1.567
6	120	861148	1.551
7	160	1128096	1.526
8	200	1416289	1.512
9	300	2147647	1.459

(Ave. RF = 1.523)
%RSD = 3.03

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.536	10.0	10.1	0.85	428593	≤ 15%

1,1-DCE (RT = 6.39 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	37140	1.780
2	10	64183	1.509
3	30	209226	1.582
4	50	355599	1.570
5	100	715622	1.580
6	120	850156	1.532
7	160	1119635	1.515
8	200	1431351	1.528
9	300	2084314	1.416

(Ave. RF = 1.557)
%RSD = 6.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.410	10.0	9.1	9.4	393424	≤ 15%

T-1,2-DCE (RT = 8.44 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34540	1.655
2	10	61974	1.457
3	30	207631	1.570
4	50	360646	1.592
5	100	737492	1.628
6	120	876568	1.579
7	160	1166578	1.578
8	200	1466755	1.566
9	300	2210024	1.501

(Ave. RF = 1.570)
%RSD = 3.82

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.544	10.0	9.8	1.6	430970	≤ 15%

1,2-DCP (RT = 18.53 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34669	1.661
2	10	61921	1.456
3	30	203623	1.540
4	50	356407	1.573
5	100	701026	1.548
6	120	859795	1.549
7	160	1123722	1.520
8	200	1452940	1.551
9	300	2110421	1.434

(Ave. RF = 1.537)
%RSD = 4.29

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.540	10.0	10.0	0.19	429728	≤ 15%

C1,3-DCP (RT = 20.47 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	31316	1.501
2	10	55451	1.304
3	30	190284	1.439
4	50	322986	1.426
5	100	652613	1.441
6	120	768213	1.384
7	160	1043460	1.412
8	200	1303347	1.392
9	300	1916656	1.302

(Ave. RF = 1.400)
%RSD = 4.61

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.448	10.0	10.3	3.4	403985	≤ 15%

T-1,3-DCP (RT = 21.33 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	28763	1.378
2	10	52009	1.223
3	30	173953	1.315
4	50	295299	1.304
5	100	579005	1.278
6	120	711620	1.282
7	160	941817	1.274
8	200	1161750	1.240
9	300	1764007	1.198

(Ave. RF = 1.277)
%RSD = 4.19

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.277	10.0	10.0	0.033	356286	≤ 15%

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1,1,1,2-TCA (RT = 23.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	51021	2.445
2	10	88534	2.082
3	30	278767	2.108
4	50	455201	2.009
5	100	882186	1.948
6	120	1093089	1.969
7	160	1429931	1.934
8	200	1819757	1.943
9	300	2688619	1.827

(Ave. RF = 2.029)
%RSD = 8.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.895	10.0	9.3	6.6	525886	≤ 15%

1,1,2,2-TCA (RT = 24.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26699	1.280
2	10	48304	1.136
3	30	156010	1.180
4	50	257828	1.138
5	100	508892	1.124
6	120	619476	1.116
7	160	836515	1.132
8	200	1013126	1.082
9	300	1591407	1.081

(Ave. RF = 1.141)
%RSD = 5.26

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.057	10.0	9.3	7.3	293484	≤ 15%

TETRACHLOROETHENE (RT = 22.85 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	90581	2.130
3	30	284902	2.154
4	50	469471	2.072
5	100	884470	1.953
6	120	1076837	1.940
7	160	1411358	1.909
8	200	1733048	1.850
9	300	2565209	1.743

(Ave. RF = 1.969)
%RSD = 7.20

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.061	10.0	10.5	4.7	571969	≤ 15%

1,1,1-TCA (RT = 14.90 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39492	1.893
2	10	76423	1.797
3	30	256578	1.940
4	50	455687	2.011
5	100	909096	2.007
6	120	1088400	1.961
7	160	1431786	1.937
8	200	1783816	1.905
9	300	2762588	1.877

(Ave. RF = 1.925)
%RSD = 3.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.917	10.0	10.0	0.42	532178	≤ 15%

1,1,2-TCA (RT = 21.52 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39881	1.911
2	10	70883	1.667
3	30	230906	1.746
4	50	388270	1.714
5	100	752134	1.661
6	120	899721	1.621
7	160	1186965	1.606
8	200	1490402	1.591
9	300	2274057	1.545

(Ave. RF = 1.674)
%RSD = 6.49

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.596	10.0	9.5	4.6	442940	≤ 15%

TCE (RT = 18.70 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	48328	2.316
2	10	85508	2.011
3	30	270509	2.045
4	50	465327	2.054
5	100	902865	1.993
6	120	1109354	1.999
7	160	1420240	1.921
8	200	1691230	1.806
9	300	2739459	1.861

(Ave. RF = 2.001)
%RSD = 7.25

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.824	10.0	9.1	8.8	506279	≤ 15%

1,2,3-TCP (RT = 24.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20293	0.973
2	10	37254	0.876
3	30	121097	0.916
4	50	201576	0.890
5	100	409618	0.904
6	120	496078	0.894
7	160	668920	0.905
8	200	809989	0.865
9	300	1290768	0.877

(Ave. RF = 0.900)
%RSD = 3.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.834	10.0	9.3	7.3	231631	≤ 15%

TRICHLOROFLUOROMETH (RT = 5.36 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33992	1.629
2	10	55707	1.310
3	30	189041	1.429
4	50	315944	1.395
5	100	652740	1.441
6	120	785494	1.415
7	160	1027175	1.390
8	200	1292014	1.380
9	300	1959996	1.332

(Ave. RF = 1.413)
%RSD = 6.47

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.664	10.0	11.8	18	461885	≤ 15%

VINYL CHLORIDE (RT = 3.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	14190	0.680
2	10	26484	0.623
3	30	92582	0.700
4	50	159726	0.705
5	100	334158	0.738
6	120	402163	0.725
7	160	532044	0.720
8	200	678220	0.724
9	300	1002626	0.681

(Ave. RF = 0.699)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.701	10.0	10.0	0.24	194624	≤ 15%

BENZENE (RT = 16.37 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	17243	2.175
2	10	28212	1.666
3	30	83367	1.746
4	50	138475	1.686
5	100	284272	1.737
6	120	338207	1.782
7	160	459178	1.780
8	200	592517	1.886
9	300	875013	1.732

(Ave. RF = 1.799)
%RSD = 8.60

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.611	10.0	9.0	10	143689	≤ 15%

CHLOROBNZN (RT = 23.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18260	0.875
2	10	32702	0.769
3	30	120565	0.912
4	50	198704	0.877
5	100	382095	0.844
6	120	472561	0.851
7	160	611221	0.827
8	200	711050	0.759
9	300	1116324	0.758

(Ave. RF = 0.830)
%RSD = 6.79

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.804	10.0	9.7	3.1	223214	≤ 15%

1,2-DCB (RT = 26.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26456	1.268
2	10	45987	1.081
3	30	151274	1.144
4	50	256189	1.131
5	100	491512	1.085
6	120	617503	1.113
7	160	818703	1.108
8	200	1007878	1.076
9	300	1520961	1.033

(Ave. RF = 1.115)
%RSD = 5.91

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.054	10.0	9.4	5.5	292553	≤ 15%

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1,3-DCB (RT = 26.31 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27481	1.317
2	10	47357	1.114
3	30	148824	1.125
4	50	260906	1.152
5	100	516224	1.140
6	120	650341	1.172
7	160	869305	1.176
8	200	937335	1.001
9	300	1559261	1.059

(Ave. RF = 1.139)
%RSD = 7.64

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.957	10.0	8.4	16	265682	≤ 15%

1,4-DCB (RT = 26.38 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27482	1.317
2	10	48752	1.146
3	30	160739	1.215
4	50	263661	1.164
5	100	491385	1.085
7	160	785538	1.063
8	200	1128414	1.205
9	300	1484987	1.009

(Ave. RF = 1.151)
%RSD = 8.51

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.207	10.0	10.5	4.9	335114	≤ 15%

ETHYLBENZENE (RT = 23.99 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13864	1.749
2	10	25271	1.493
3	30	72391	1.516
4	50	116915	1.423
5	100	232744	1.422
6	120	276473	1.457
7	160	370358	1.435
8	200	475467	1.514
9	300	713262	1.412

(Ave. RF = 1.491)
%RSD = 7.02

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.359	10.0	9.1	8.9	121203	≤ 15%

TOLUENE (RT = 21.81 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	32784	1.936
3	30	89682	1.878
4	50	139182	1.694
5	100	271424	1.659
6	120	321438	1.694
7	160	425380	1.649
8	200	552294	1.758
9	300	820396	1.624

(Ave. RF = 1.737)
%RSD = 6.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.603	10.0	9.2	7.7	142947	≤ 15%

M,P-XYLENES (RT = 24.23 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	10	34980	2.207
2	20	56774	1.677
3	60	172787	1.810
4	100	277774	1.691
5	200	555456	1.697
6	240	661043	1.742
7	320	880429	1.706
8	400	1135483	1.808
9	600	1702512	1.685

(Ave. RF = 1.780)
%RSD = 9.42

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.615	20.0	18.1	9.3	288073	≤ 15%

O-XYLENE (RT = 24.65 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	24128	1.425
3	30	75233	1.576
4	50	121708	1.482
5	100	242499	1.482
6	120	282010	1.486
7	160	379183	1.470
8	200	478492	1.523
9	300	731946	1.449

(Ave. RF = 1.487)
%RSD = 3.10

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.301	10.0	8.8	12	116070	≤ 15%

N-BUTYLBENZENE (RT = 26.82 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	12916	1.630
2	10	22245	1.314
3	30	64851	1.358
4	50	103145	1.256
5	100	204968	1.253
6	120	245590	1.294
7	160	344397	1.335
8	200	424469	1.351
9	300	628530	1.244

(Ave. RF = 1.337)
%RSD = 8.81

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.227	10.0	9.2	8.2	109478	≤ 15%

SEC-BUTYLBENZENE (RT = 26.25 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13963	1.762
2	10	22616	1.336
3	30	68975	1.445
4	50	115577	1.407
5	100	241888	1.478
6	120	290666	1.532
7	160	397578	1.541

(Ave. RF = 1.500)
%RSD = 9.04

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.002	10.0	6.7	33	89381	≤ 15%

T-BUTYLBENZENE (RT = 26.05 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	11385	1.436
2	10	20005	1.182
3	30	58223	1.219
4	50	91098	1.109
5	100	182810	1.117
6	120	216134	1.139
7	160	285481	1.106
8	200	374598	1.193
9	300	559781	1.108

(Ave. RF = 1.179)
%RSD = 8.93

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.050	10.0	8.9	11	93657	≤ 15%

2-CVE (RT = 20.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	14972	0.352
3	30	54128	0.409
4	50	100470	0.443
5	100	211658	0.467
6	120	263425	0.475
7	160	353351	0.478
8	200	442988	0.473
9	300	695470	0.472

(Ave. RF = 0.446)
%RSD = 9.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.433	10.0	9.7	3.0	120137	≤ 15%

2-CHLOROTOLUENE (RT = 25.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15678	0.751
2	10	27145	0.638
3	30	90510	0.684
4	50	149579	0.660
5	100	297748	0.657
6	120	369098	0.665
7	160	494422	0.669
8	200	634635	0.678
9	300	921744	0.626

(Ave. RF = 0.670)
%RSD = 5.30

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.655	10.0	9.8	2.2	181839	≤ 15%

4-CHLOROTOLUENE (RT = 25.65 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15641	0.750
2	10	27496	0.647
3	30	99072	0.749
4	50	160009	0.706
5	100	310933	0.686
6	120	381200	0.687
7	160	498102	0.674
8	200	622273	0.664
9	300	931747	0.633

(Ave. RF = 0.688)
%RSD = 5.94

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.662	10.0	9.6	3.9	183736	≤ 15%

DICHLORODIFLUOROMETH (RT = 3.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	7764	0.183
3	30	28042	0.212
4	50	43944	0.194
5	100	85539	0.189
6	120	102211	0.184
7	160	135064	0.183
8	200	170069	0.182
9	300	246402	0.167

(Ave. RF = 0.187)
%RSD = 6.83

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.170	10.0	9.1	9.0	47165	≤ 15%

CIS-1,2-DCE (RT = 11.20 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36554	1.752
2	10	64679	1.521
3	30	217221	1.643
4	50	393280	1.736
5	100	814293	1.798
6	120	971479	1.750
7	160	1291032	1.746
8	200	1632257	1.743
9	300	2426120	1.648

(Ave. RF = 1.704)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.693	10.0	9.9	0.67	469866	≤ 15%

1,3-DCP (RT = 21.91 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32144	1.540
2	10	59725	1.405
3	30	190890	1.443
4	50	315351	1.392
5	100	602281	1.330
6	120	731719	1.318
7	160	953254	1.290
8	200	1181697	1.262
9	300	1799182	1.222

(Ave. RF = 1.356)
%RSD = 7.31

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.314	10.0	9.7	3.0	364873	≤ 15%

2,2-DCP (RT = 12.32 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20902	1.002
2	10	36324	0.854
3	30	127124	0.961
4	50	234755	1.036
5	100	474491	1.048
6	120	550266	0.991
7	160	748731	1.013
8	200	949982	1.014
9	300	1366042	0.928

(Ave. RF = 0.983)
%RSD = 6.17

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.930	10.0	9.5	5.4	258105	≤ 15%

1,1-DICHLOROPROPENE (RT = 15.68 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33382	1.600
2	10	58879	1.385
3	30	197075	1.490
4	50	341353	1.507
5	100	689306	1.522
6	120	831123	1.497
7	160	1093557	1.479
8	200	1350538	1.442
9	300	2043008	1.388

(Ave. RF = 1.479)
%RSD = 4.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.516	10.0	10.3	2.5	420874	≤ 15%

EDB (RT = 22.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13225	0.634
2	10	24324	0.572
3	30	87236	0.660
4	50	151676	0.670
5	100	298931	0.660
6	120	375572	0.677
7	160	509348	0.689
8	200	632359	0.675
9	300	1008945	0.685

(Ave. RF = 0.658)
%RSD = 5.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.659	10.0	10.0	0.19	182974	≤ 15%

HEXACHLOROBUTADIENE (RT = 29.04 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	41042	1.967
2	10	73630	1.731
3	30	216519	1.637
4	50	374774	1.654
5	100	721114	1.592
6	120	875058	1.577
7	160	1186000	1.604
8	200	1487147	1.588
9	300	2145826	1.458

(Ave. RF = 1.645)
%RSD = 8.56

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.606	10.0	9.8	2.4	445753	≤ 15%

P-ISOPROPYLTOLUENE (RT = 26.43 Minutes) — PID

Calibration Levels

Level	Amount	Area	Response
2	10	20630	1.219
3	30	61998	1.299
4	50	92419	1.125
5	100	179341	1.096
6	120	214303	1.129
7	160	284449	1.102
8	200	362722	1.155
9	300	555233	1.099

(Ave. RF = 1.153)
%RSD = 6.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.000	10.0	0.0	100	0	≤ 15%

NAPHTHALENE (RT = 28.97 Minutes) — PID

Calibration Levels

Level	Amount	Area	Response
1	5	4951	0.625
2	10	9696	0.573
4	50	52939	0.644
5	100	105184	0.643
6	120	113986	0.601
7	160	149994	0.581
8	200	204653	0.652
9	300	371682	0.736

(Ave. RF = 0.632)
%RSD = 8.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.804	10.0	12.7	27	71675	≤ 15%

N-PROPYLBENZENE (RT = 25.49 Minutes) — PID

Calibration Levels

Level	Amount	Area	Response
1	5	13902	1.754
2	10	22897	1.352
3	30	69589	1.458
4	50	112108	1.365
5	100	225395	1.377
6	120	270901	1.428
7	160	339301	1.315
8	200	436639	1.390
9	300	700767	1.387

(Ave. RF = 1.425)
%RSD = 9.12

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.259	10.0	8.8	12	112269	≤ 15%

STYRENE (RT = 24.58 Minutes) — PID

Calibration Levels

Level	Amount	Area	Response
1	5	18829	2.376
2	10	30875	1.824
3	30	94027	1.969
4	50	151841	1.848
5	100	305581	1.867
6	120	366561	1.932
7	160	491578	1.905
8	200	651733	2.075
9	300	968376	1.917

(Ave. RF = 1.968)
%RSD = 8.63

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.805	10.0	9.2	8.3	160947	≤ 15%

1,2,3-TCB (RT = 29.19 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	5210	0.123
3	30	19576	0.148
4	50	40157	0.177
5	100	74052	0.163
6	120	73911	0.133

(Ave. RF = 0.149)
%RSD = 14.88

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.449	10.0	30.2	200	124684	≤ 15%

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1,2,4-TCB (RT = 28.71 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	17946	0.860
2	10	34438	0.810
3	30	106605	0.806
4	50	197376	0.871
5	100	390990	0.863
6	120	457810	0.825
7	160	593283	0.803
8	200	859214	0.917
9	300	1300386	0.883

(Ave. RF = 0.849)
%RSD = 4.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.935	10.0	11.0	10	259409	≤ 15%

1,2,4-TRIMETHYLBENZE (RT = 26.16 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	14780	1.865
2	10	26764	1.581
3	30	75632	1.584
4	50	121349	1.477
5	100	241797	1.478
6	120	289591	1.526
7	160	405340	1.571
8	200	501364	1.696
9	300	751392	1.487

(Ave. RF = 1.574)
%RSD = 7.57

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.351	10.0	8.6	14	120459	≤ 15%

1,3,5-TRIMETHYLBENZE (RT = 25.78 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	19488	2.459
2	10	32462	1.917
3	30	100515	2.105
4	50	161899	1.971
5	100	318918	1.949
6	120	381002	2.008
7	160	521322	2.020
8	200	658061	2.095
9	300	984378	1.949

(Ave. RF = 2.053)
%RSD = 8.06

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.856	10.0	9.0	9.6	165552	≤ 15%

Del Mar Analytical

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Harding Lawson Associates	Client Project ID: #30987-3	Sampled: Mar 12, 1996
30 Corporate Park, Suite 400	UTM	Received: Mar 12, 1996
Irvine, CA 92714	Sample Descript: Water, MW-5	Extracted: Mar 18, 1996
Attention: Kurt Wiebe	Lab Number: FC01800	Analyzed: Mar 18, 1996
		Reported: Mar 20, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,1-Dichloroethane	**1.0**	**25**
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	**1.0**	**71**
cis-1,2-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Methylene chloride	10	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	**1.0**	**41**
1,1,1-Trichloroethane	**1.0**	**21**
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	**1.0**	**6.8**
Trichlorofluoromethane	1.0	N.D.
Vinyl chloride	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	96%

UTM 005963

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Del Mar Analytical

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: #30987-3
UTM
Sample Descript: Water, MW-5
Lab Number: FC01800

Sampled: Mar 12, 1996
Received: Mar 12, 1996
Extracted: Mar 19, 1996
Analyzed: Mar 19, 1996
Reported: Mar 20, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	**0.50**	**23**
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**>60**
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**38**
1,1,1-Trichloroethane	**0.50**	**20**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**6.6**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.
Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	97%

UTM 005964

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Client Project ID: #30987-3
UTM
Sample Descript: Water
First Sample #: FC01800

Sampled: Mar 12, 1996
Received: Mar 12, 1996
Extracted: Mar 14, 1996
Analyzed: Mar 14, 1996
Reported: Mar 20, 1996

TURBIDITY (EPA 180.1)

Laboratory Number	Sample Description	Detection Limit NTU	Sample Result NTU
FC01800	MW-5	1.0	16

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

UTM 005965

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Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Method Blank

Extracted: Mar 18, 1996
Analyzed: Mar 18, 1996
Reported: Mar 20, 1996
Matrix: Water

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	100%

UTM 005966

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
Attention: Kurt Wiebe

Method Blank

Extracted: Mar 19, 1996
Analyzed: Mar 19, 1996
Reported: Mar 20, 1996
Matrix: Water

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL, IRVINE (ELAP #1197)

Gary Steube
Laboratory Director

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	97%

UTM 005967

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

MS/MSD DATA REPORT

EPA Method 601/602

Matrix: Water

Date: 03/18/96

Sample #: BLANK

Batch #: FC18101W

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %	Mean PR %	Acceptance Limits RPD	Acceptance Limits Mean PR
enzene	0	10	9.7	9.4	97	94	3.2	95	≤10	88 - 108
Chloroform	0	10	9.5	10	95	103	7.6	99	≤10	87 - 109
,1-Dichloroethane	0	10	10	10	100	102	1.9	101	≤13	85 - 111
2-Dichloroethane	0	10	9.9	10	99	103	4.1	101	≤10	84 - 112
,1-Dichloroethene	0	10	10	9.7	101	97	4.5	99	≤11	83 - 113
etrachloroethene	0	10	10	10	104	102	1.3	103	≤10	87 - 109
Toluene	0	10	9.8	9.6	98	96	2.0	97	≤12	84 - 112
richloroethene	0	10	11	11	105	109	3.8	107	≤11	76 - 120

Definition of Terms

R1..... Result of Sample Analysis
Sp..... Spike Concentration added to sample
MS..... Matrix Spike Result
MSD..... Matrix Spike Duplicate Result
PR1..... Percent Recovery of MS; ((MS-R1)/SP) X 100
PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) X 100
RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100
Mean PR..... Mean Percent Recovery
Acceptance Limits..... Determined by in-house Control Charts

Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method 601/602

Matrix: Water

Date: 03/19/96

Sample #: FC01629

Batch #: FC19101W

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %	Mean PR %	Acceptance Limits RPD	Acceptance Limits Mean PR
Benzene	0	10	9.1	9.1	91	91	0.026	91	≤10	88 - 108
Chloroform	0	10	10	9.4	102	94	7.9	98	≤10	87 - 109
1,1-Dichloroethane	0	10	10	9.5	102	95	6.7	99	≤13	85 - 111
1,2-Dichloroethane	0	10	10	9.8	103	98	5.4	101	≤10	84 - 112
1,1-Dichloroethene	0	10	10	8.9	100	89	11	95	≤11	83 - 113
Tetrachloroethene	0.17	10	10	9.7	100	95	5.0	98	≤10	87 - 109
Toluene	0.49	10	9.4	9.4	90	89	0.13	89	≤12	84 - 112
Trichloroethene	0	10	10	9.3	105	93	12 *	99	≤11	76 - 120

Definition of Terms

R1..... Result of Sample Analysis
Sp..... Spike Concentration added to sample
MS..... Matrix Spike Result
MSD..... Matrix Spike Duplicate Result
PR1..... Percent Recovery of MS; ((MS-R1)/SP) X 100
PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) X 100
RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100
Mean PR..... Mean Percent Recovery
Acceptance Limits..... Determined by in-house Control Charts

Harding Lawson Associates
Corp..... Park, ... 400
Irvine, CA 92714
(714) 260-1800

CHAIN OF CUSTODY FORM

Lab: JELMAR
Turn Ar.: NORMAL

Samplers: Juan Fausto

Job Number: 30987-3

Name/Location: UTM

Project Manager: KURT WIEBE

Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	TURBIDITY
23	X				4						960	3	12	1058	MW-5 (4x40ml VOAS)	X						X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						NOTE: the analysis needs to be completed following RWQCB guidelines and detections limits of 0.5 to 1.0 must be met for all compounds

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
JUAN FAUSTO		
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature) Marce Lemus	DATE/TIME 3/22/96 1:44pm

METHOD OF SHIPMENT: COOL & INTACT

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

UTM 005970

Del Mar Analytical

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CRWQCB - L.A. REGION
WELL INVESTIGATION PROGRAM
QA/QC REPORT

PREPARED FOR HARDING LAWSON ASSOCIATES
PROJECT: 30987-3 UTM
SAMPLED: 3/12/96

ATTENTION: KURT WIEBE

Harding Lawson Associates
50 Corporate Park, Suite 300
Irvine, CA 92714
(714) 260-1800

CHAIN OF CUSTODY FORM

Lab: Velmark
Turn Ar.: Normal

Samplers: Juan Fausto

Job Number: 30987-3
Name/Location: UTM
Project Manager: KURT WIEBE
Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	TURBIDITY
23	X				4						96	03	12	1058	MW-5 (4x40ml VOAS)	X						X

ANALYSIS REQUESTED

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						NOTE: the analysis needs to be completed following RWQCB guidelines and detections limits of 0.5 to 1.0 must be met for all compounds

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Fausto JUAN FAUSTO		
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
	Marco Lemus	3/12/96 1:24pm

METHOD OF SHIPMENT: cool & INTACT

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

UTM 005972

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 1)

Laboratory Name: Del Mar Analytical

Address: 2852 Alton Avenue
Irvine, CA 92714

Telephone/FAX: (714) 261-1022 / (714) 261-1228

ELAP Certification No.: 1197 Expiration Date: May 31, 1996

Authorized Signature:
Name, Title (print) Debbie Ranck, Quality Assurance Officer

Signature, Date: Debbie Ranck 4/3/96

Client Name: Harding Lawson Associates

Project No.: 30987-3 UTM

Date(s) Sampled: 3/12/96 To

Date(s) Received: 3/12/96 To

Date(s) Reported: 3/20/96 To

Chain of Custody received: Yes X No

Comments:

UTM 005973

(RWQCB LabForm; Ver 12/94)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 2)

Organic Analyses	# of Samples	# of Samples Subcontracted
EPA 8010	1	0

Sample Condition: Acceptable

Inorganic Analyses	# of Samples	# of Samples Subcontracted
Turbidity	1	0

Sample Condition: Acceptable

Microbiological Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

Other Types of Analyses	# of Samples	# of Samples Subcontracted

UTM 005974

Sample Condition:

(RWQCB LabForm; Ver 12/94)

PROJECT NO: 30987-3 UTM

(RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010

REPORTING UNIT: µg/L

DATE ANALYZED		3/18/96	3/18/96			
DATE EXTRACTED		3/18/96	3/18/96			
LAB SAMPLE ID		Method Blank	FC01800			
CLIENT SAMPLE ID		n/a	MW-5			
EXTRACTION SOLVENT		n/a	n/a			
EXTRACTION METHOD		5030	5030			
DILUTION FACTOR		1	2			
COMPOUND	CRDL					
Bromodichloromethane	0.50	< 0.50	< 0.50			
Bromoform	0.50	< 0.50	< 0.50			
Bromomethane	1.0	< 1.0	< 1.0			
Carbon tetrachloride	0.50	< 0.50	< 0.50			
Chlorobenzene	1.0	< 1.0	< 1.0			
Chloroethane	1.0	< 1.0	< 1.0			
2-Chloroethylvinyl ether	1.0	< 1.0	< 1.0			
Chloroform	0.50	< 0.50	< 0.50			
Chloromethane	1.0	< 1.0	< 1.0			
Dibromochloromethane	0.50	< 0.50	< 0.50			
1,2-Dichlorobenzene	1.0	< 1.0	< 1.0			
1,3-Dichlorobenzene	1.0	< 1.0	< 1.0			
1,4-Dichlorobenzene	1.0	< 1.0	< 1.0			
1,1-Dichloroethane	0.50	< 0.50	**25**			
1,2-Dichloroethane	0.50	< 0.50	< 0.50			
1,1-Dichloroethene	0.50	< 0.50	**71**			
cis-1,2-Dichloroethene	0.50	< 0.50	< 0.50			
trans-1,2-Dichloroethene	0.50	< 0.50	< 0.50			
1,2-Dichloropropane	0.50	< 0.50	< 0.50			
cis-1,3-Dichloropropene	0.50	< 0.50	< 0.50			
trans-1,3-Dichloropropene	0.50	< 0.50	< 0.50			
Methylene chloride	1.0	< 1.0	**3.2**			
1,1,2,2-Tetrachloroethane	0.50	< 0.50	< 0.50			
Tetrachloroethene	0.50	< 0.50	**41**			
1,1,1-Trichloroethane	0.50	< 0.50	**21**			
1,1,2-Trichloroethane	0.50	< 0.50	< 0.50			
Trichloroethene	0.50	< 0.50	**6.8**			
Trichlorofluoromethane	0.50	< 0.50	< 0.50			
Vinyl chloride	0.50	< 0.50	< 0.50			
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	100	96		

UTM 005975

PROJECT NO: 30987-3 UTM

(RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010

REPORTING UNIT: µg/L

	DATE ANALYZED		3/19/96	3/19/96		
	DATE EXTRACTED		3/19/96	3/19/96		
	LAB SAMPLE ID		Method Blank	FC01800		
	CLIENT SAMPLE ID		n/a	MW-5		
	EXTRACTION SOLVENT		n/a	n/a		
	EXTRACTION METHOD		5030	5030		
	DILUTION FACTOR		1	1		
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50	< 0.50		
Bromoform		0.50	< 0.50	< 0.50		
Bromomethane		1.0	< 1.0	< 1.0		
Carbon tetrachloride		0.50	< 0.50	< 0.50		
Chlorobenzene		1.0	< 1.0	< 1.0		
Chloroethane		1.0	< 1.0	< 1.0		
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0		
Chloroform		0.50	< 0.50	< 0.50		
Chloromethane		1.0	< 1.0	< 1.0		
Dibromochloromethane		0.50	< 0.50	< 0.50		
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,1-Dichloroethane		0.50	< 0.50	**23**		
1,2-Dichloroethane		0.50	< 0.50	< 0.50		
1,1-Dichloroethene		0.50	< 0.50	**>60**		
cis-1,2-Dichloroethene		0.50	< 0.50	< 0.50		
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50		
1,2-Dichloropropane		0.50	< 0.50	< 0.50		
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50		
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50		
Methylene chloride		1.0	< 1.0	< 1.0		
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50		
Tetrachloroethene		0.50	< 0.50	**38**		
1,1,1-Trichloroethane		0.50	< 0.50	**20**		
1,1,2-Trichloroethane		0.50	< 0.50	< 0.50		
Trichloroethene		0.50	< 0.50	**6.6**		
Trichlorofluoromethane		0.50	< 0.50	< 0.50		
Vinyl chloride		0.50	< 0.50	< 0.50		
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	97	97		

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PROJECT NO: 30987-3 UTM

(RWQCB LabForm 10A; Ver12/94)

QA/QC REPORT

II. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATE (MSD)

Date Performed: 3/18/96
Batch Number: FC18101W
Lab Sample I.D.: BLANK

Analytical Method: EPA 8010
Reporting Unit: µg/L

Analyte	Sample Result	Spike Conc	MS	% MS	Spike Conc (Dup)	MSD	%MSD	RPD	MS/MSD Limit	RPD Limit
Chloroform	0	10	9.5	95%	10	10	100%	5.1%	80-120	≤ 20
1,1-Dichloroethane	0	10	10	100%	10	10	100%	0.0%	80-120	≤ 20
1,2-Dichloroethane	0	10	9.9	99%	10	10	100%	1.0%	80-120	≤ 20
1,1-Dichloroethene	0	10	10	100%	10	9.7	97%	3.0%	80-120	≤ 20
Tetrachloroethene	0	10	10	100%	10	10	100%	0.0%	80-120	≤ 20
Trichloroethene	0	10	11	110%	10	11	110%	0.0%	80-120	≤ 20

III. LABORATORY QUALITY CONTROL CHECK SAMPLE (LCS)

Date Performed: 3/18/96
Supply Source: Supelco
Lot Number: 084-268
Date of Source: 3/13/96

Analytical Method: EPA 8010
Reporting Unit: µg/L
Lab LCS I.D.: LCS

Analyte	Spike Concentration	Result	% Recovery	Acceptance % Recovery Limit
Chloroform	10	9.7	97%	80-120
1,1-Dichloroethane	10	10	100%	80-120
1,2-Dichloroethane	10	10	100%	80-120
1,1-Dichloroethene	10	10	100%	80-120
Tetrachloroethene	10	9.8	98%	80-120
Trichloroethene	10	9.8	98%	80-120

PROJECT NO: 30987-3 UTM

(RWQCB LabForm 10A; Ver12/94)

QA/QC REPORT

II. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATE (MSD)

Date Performed: 3/19/96
Batch Number: FC19101W
Lab Sample I.D.: FC01629

Analytical Method: EPA 8010
Reporting Unit: µg/L

Analyte	Sample Result	Spike Conc	MS	% MS	Spike Conc (Dup)	MSD	%MSD	RPD	MS/MSD Limit	RPD Limit
Chloroform	0	10	10	100%	10	9.4	94%	6.2%	80-120	≤ 20
1.1-Dichloroethane	0	10	10	100%	10	9.5	95%	5.1%	80-120	≤ 20
1.2-Dichloroethane	0	10	10	100%	10	9.8	98%	2.0%	80-120	≤ 20
1.1-Dichloroethene	0	10	10	100%	10	8.9	89%	11.6%	80-120	≤ 20
Tetrachloroethene	0.17	10	10	98%	10	9.7	95%	3.1%	80-120	≤ 20
Trichloroethene	0	10	10	100%	10	9.3	93%	7.3%	80-120	≤ 20

III. LABORATORY QUALITY CONTROL CHECK SAMPLE (LCS)

Date Performed: 3/19/96
Supply Source: Supelco
Lot Number: 084-268
Date of Source: 3/13/96

Analytical Method: EPA 8010
Reporting Unit: µg/L
Lab LCS I.D.: LCS

Analyte	Spike Concentration	Result	% Recovery	Acceptance % Recovery Limit
Chloroform	10	9.7	97%	80-120
1,1-Dichloroethane	10	10	100%	80-120
1.2-Dichloroethane	10	10	100%	80-120
1.1-Dichloroethene	10	10	100%	80-120
Tetrachloroethene	10	9.8	98%	80-120
Trichloroethene	10	9.9	99%	80-120

Calibration data for Sequence file: h:\data\gc10\c18p.seq

Initial Calibration Date: ~~10/5/95~~ 3/11/96 DMG
Created by: DM-AB
Midpoint Acquire Date: 3/18/96
Date Printed: 03/19/96

PID Sample File: h:\data\gc10\p-503-v.smp
ELCD Sample File: h:\data\gc10\e-502-v.smp
PID MP File: h:\data\gc10\c18a001.rst
ELCD MP File: h:\data\gc10\c18b001.rst

Supply Source: Ultra Scientific
Lot Number: H-0202
Standard Prep. Date: ~~10/2/95~~ 2/15/96 DMG

INITIAL CALIBRATION — DAILY MIDPOINT CALIBRATION

BROMODICHLOROMETHAN (RT = 18.82 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33892	1.624
2	10	62013	1.458
3	30	211653	1.600
4	50	376526	1.662
5	100	773214	1.707
6	120	901080	1.623
7	160	1201101	1.625
8	200	1593576	1.702
9	300	2172831	1.476

(Ave. RF = 1.609)
%RSD = 5.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.736	10.0	10.8	7.9	516090	≤ 15%

BROMOFORM (RT = 24.28 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	12184	0.584
2	10	23170	0.545
3	30	84251	0.637
4	50	145770	0.643
5	100	303446	0.670
6	120	378996	0.683
7	160	516394	0.699
8	200	641880	0.685
9	300	1023812	0.696

(Ave. RF = 0.649)
%RSD = 8.22

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.685	10.0	10.5	5.5	203566	≤ 15%

BROMOMETHANE (RT = 4.17 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	9579	0.459
2	10	18070	0.425
3	30	65712	0.497
4	50	114660	0.506
5	100	245770	0.543
6	120	295811	0.533
7	160	399614	0.541
8	200	505310	0.540
9	300	747665	0.508

(Ave. RF = 0.506)
%RSD = 8.05

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.127	10.0	2.5	75	37755	≤ 15%

CARBON TETRACHLORIDE (RT = 16.16 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50077	2.400
2	10	89241	2.099
3	30	286897	2.169
4	50	494469	2.183
5	100	999657	2.207
6	120	1206992	2.175
7	160	1570572	2.125
8	200	1998004	2.133
9	300	2956713	2.009

(Ave. RF = 2.167)
%RSD = 4.86

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.116	10.0	9.8	2.3	629123	≤ 15%

CHLOROETHANE (RT = 4.42 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18573	0.890
2	10	32825	0.772
3	30	113790	0.860
4	50	194181	0.857
5	100	406290	0.897
6	120	485985	0.876
7	160	652310	0.882
8	200	825846	0.882
9	300	1232101	0.837

(Ave. RF = 0.861)
%RSD = 4.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.786	10.0	9.1	8.8	233602	≤ 15%

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CHLOROFORM (RT = 12.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50592	2.425
2	10	91515	2.152
3	30	298017	2.253
4	50	498740	2.202
5	100	1013213	2.237
6	120	1215413	2.190
7	160	1615006	2.185
8	200	2012925	2.149
9	300	2996441	2.036

(Ave. RF = 2.203)
%RSD = 4.73

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.302	10.0	10.4	4.5	684428	≤ 15%

CHLOROMETHANE ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	10306	0.242
3	30	36510	0.276
4	50	58516	0.258
5	100	107499	0.237
6	120	125231	0.226
7	160	161604	0.219

(Ave. RF = 0.243)
%RSD = 8.74

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.356	10.0	14.7	47	105979	≤ 15%

DIBROMOCHLOROMETHAN (RT = 22.23 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	22321	1.070
2	10	39898	0.938
3	30	142234	1.076
4	50	237877	1.050
5	100	486926	1.075
6	120	599745	1.081
7	160	801798	1.085
8	200	979921	1.046
9	300	1546270	1.051

(Ave. RF = 1.052)
%RSD = 4.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.087	10.0	10.3	3.3	323155	≤ 15%

CH2BR2 (RT = 18.34 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13860	0.664
2	10	26275	0.618
3	30	92334	0.698
4	50	167735	0.740
5	100	342728	0.757
6	120	431852	0.778
7	160	578686	0.783
8	200	707655	0.756
9	300	1126739	0.765

(Ave. RF = 0.729)
%RSD = 7.78

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.000	10.0	0.0	100	0	≤ 15%

MECL2 (RT = 6.74 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
3	30	340777	2.577
4	50	527023	2.326
5	100	975915	2.155
6	120	1178286	2.123
7	160	1524055	2.062
8	200	1921196	2.051

(Ave. RF = 2.216)
%RSD = 9.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.573	10.0	11.6	16	765151	≤ 15%

1,1-DCA (RT = 9.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36539	1.751
2	10	66274	1.558
3	30	217246	1.643
4	50	378650	1.671
5	100	765295	1.690
6	120	908768	1.637
7	160	1207441	1.633
8	200	1554558	1.660
9	300	2319739	1.576

(Ave. RF = 1.647)
%RSD = 3.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.729	10.0	10.5	5.0	514089	≤ 15%

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1,2-DCA (RT = 14.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32920	1.578
2	10	61269	1.441
3	30	203042	1.535
4	50	347758	1.535
5	100	709815	1.567
6	120	861148	1.551
7	160	1128096	1.526
8	200	1416289	1.512
9	300	2147647	1.459

(Ave. RF = 1.523)
%RSD = 3.03

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.524	10.0	10.0	0.11	453245	≤ 15%

1,1-DCE (RT = 6.39 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	37140	1.780
2	10	64183	1.509
3	30	209226	1.582
4	50	355599	1.570
5	100	715622	1.580
6	120	850156	1.532
7	160	1119635	1.515
8	200	1431351	1.528
9	300	2084314	1.416

(Ave. RF = 1.557)
%RSD = 6.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.538	10.0	9.9	1.2	457268	≤ 15%

T-1,2-DCE (RT = 8.44 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34540	1.655
2	10	61974	1.457
3	30	207631	1.570
4	50	360646	1.592
5	100	737492	1.628
6	120	876568	1.579
7	160	1166578	1.578
8	200	1466755	1.566
9	300	2210024	1.501

(Ave. RF = 1.570)
%RSD = 3.82

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.639	10.0	10.4	4.4	487438	≤ 15%

1,2-DCP (RT = 18.53 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34669	1.661
2	10	61921	1.456
3	30	203623	1.540
4	50	356407	1.573
5	100	701026	1.548
6	120	859795	1.549
7	160	1123722	1.520
8	200	1452940	1.551
9	300	2110421	1.434

(Ave. RF = 1.537)
%RSD = 4.29

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.547	10.0	10.1	0.63	459850	≤ 15%

C1,3-DCP (RT = 20.47 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	31316	1.501
2	10	55451	1.304
3	30	190284	1.439
4	50	322986	1.426
5	100	652613	1.441
6	120	768213	1.384
7	160	1043460	1.412
8	200	1303347	1.392
9	300	1916656	1.302

(Ave. RF = 1.400)
%RSD = 4.61

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.413	10.0	10.1	0.94	420148	≤ 15%

T-1,3-DCP (RT = 21.33 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	28763	1.378
2	10	52009	1.223
3	30	173953	1.315
4	50	295299	1.304
5	100	579005	1.278
6	120	711620	1.282
7	160	941817	1.274
8	200	1161750	1.240
9	300	1764007	1.198

(Ave. RF = 1.277)
%RSD = 4.19

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.274	10.0	10.0	0.25	378756	≤ 15%

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1,1,1,2-TCA (RT = 23.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	51021	2.445
2	10	88534	2.082
3	30	278767	2.108
4	50	455201	2.009
5	100	882186	1.948
6	120	1093089	1.969
7	160	1429931	1.934
8	200	1819757	1.943
9	300	2688619	1.827

(Ave. RF = 2.029)
%RSD = 8.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.966	10.0	9.7	3.1	584684	≤ 15%

1,1,2,2-TCA (RT = 24.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26699	1.280
2	10	48304	1.136
3	30	156010	1.180
4	50	257828	1.138
5	100	508892	1.124
6	120	619476	1.116
7	160	836515	1.132
8	200	1013126	1.082
9	300	1591407	1.081

(Ave. RF = 1.141)
%RSD = 5.26

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.137	10.0	10.0	0.32	338107	≤ 15%

TETRACHLOROETHENE (RT = 22.85 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	90581	2.130
3	30	284902	2.154
4	50	469471	2.072
5	100	884470	1.953
6	120	1076837	1.940
7	160	1411358	1.909
8	200	1733048	1.850
9	300	2565209	1.743

(Ave. RF = 1.969)
%RSD = 7.20

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.136	10.0	10.9	8.5	635247	≤ 15%

1,1,1-TCA (RT = 14.90 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39492	1.893
2	10	76423	1.797
3	30	256578	1.940
4	50	455687	2.011
5	100	909096	2.007
6	120	1088400	1.961
7	160	1431786	1.937
8	200	1783816	1.905
9	300	2762588	1.877

(Ave. RF = 1.925)
%RSD = 3.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.948	10.0	10.1	1.2	579292	≤ 15%

1,1,2-TCA (RT = 21.52 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39881	1.911
2	10	70883	1.667
3	30	230906	1.746
4	50	388270	1.714
5	100	752134	1.661
6	120	899721	1.621
7	160	1186965	1.606
8	200	1490402	1.591
9	300	2274057	1.545

(Ave. RF = 1.674)
%RSD = 6.49

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.682	10.0	10.1	0.53	500251	≤ 15%

TCE (RT = 18.70 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	48328	2.316
2	10	85508	2.011
3	30	270509	2.045
4	50	465327	2.054
5	100	902865	1.993
6	120	1109354	1.999
7	160	1420240	1.921
8	200	1691230	1.806
9	300	2739459	1.861

(Ave. RF = 2.001)
%RSD = 7.25

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.008	10.0	10.0	0.38	597116	≤ 15%

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1,2,3-TCP (RT = 24.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20293	0.973
2	10	37254	0.876
3	30	121097	0.916
4	50	201576	0.890
5	100	409618	0.904
6	120	496078	0.894
7	160	668920	0.905
8	200	809989	0.865
9	300	1290768	0.877

(Ave. RF = 0.900)
%RSD = 3.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.911	10.0	10.1	1.3	270948	≤ 15%

TRICHLOROFLUOROMETH (RT = 5.36 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33992	1.629
2	10	55707	1.310
3	30	189041	1.429
4	50	315944	1.395
5	100	652740	1.441
6	120	785494	1.415
7	160	1027175	1.390
8	200	1292014	1.380
9	300	1959996	1.332

(Ave. RF = 1.413)
%RSD = 6.47

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.780	10.0	12.6	26	529285	≤ 15%

VINYL CHLORIDE (RT = 3.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	14190	0.680
2	10	26484	0.623
3	30	92582	0.700
4	50	159726	0.705
5	100	334158	0.738
6	120	402163	0.725
7	160	532044	0.720
8	200	678220	0.724
9	300	1002626	0.681

(Ave. RF = 0.699)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.699	10.0	10.0	0.0080	207962	≤ 15%

BENZENE (RT = 16.37 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	17243	2.175
2	10	28212	1.666
3	30	83367	1.746
4	50	138475	1.686
5	100	284272	1.737
6	120	338207	1.782
7	160	459178	1.780
8	200	592517	1.886
9	300	875013	1.732

(Ave. RF = 1.799)
%RSD = 8.60

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.659	10.0	9.2	7.8	144754	≤ 15%

CHLOROBNZN (RT = 23.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18260	0.875
2	10	32702	0.769
3	30	120565	0.912
4	50	198704	0.877
5	100	382095	0.844
6	120	472561	0.851
7	160	611221	0.827
8	200	711050	0.759
9	300	1116324	0.758

(Ave. RF = 0.830)
%RSD = 6.79

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.888	10.0	10.7	6.9	263960	≤ 15%

1,2-DCB (RT = 26.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26456	1.268
2	10	45987	1.081
3	30	151274	1.144
4	50	256189	1.131
5	100	491512	1.085
6	120	617503	1.113
7	160	818703	1.108
8	200	1007878	1.076
9	300	1520961	1.033

(Ave. RF = 1.115)
%RSD = 5.91

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.114	10.0	10.0	0.11	331277	≤ 15%

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1,3-DCB (RT = 26.31 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27481	1.317
2	10	47357	1.114
3	30	148824	1.125
4	50	260906	1.152
5	100	516224	1.140
6	120	650341	1.172
7	160	869305	1.176
8	200	937335	1.001
9	300	1559261	1.059

(Ave. RF = 1.139)
%RSD = 7.64

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.102	10.0	9.7	3.3	327776	≤ 15%

1,4-DCB (RT = 26.38 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27482	1.317
2	10	48752	1.146
3	30	160739	1.215
4	50	263661	1.164
5	100	491385	1.085
7	160	785538	1.063
8	200	1128414	1.205
9	300	1484987	1.009

(Ave. RF = 1.151)
%RSD = 8.51

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.170	10.0	10.2	1.7	347942	≤ 15%

ETHYLBENZENE (RT = 23.99 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13864	1.749
2	10	25271	1.493
3	30	72391	1.516
4	50	116915	1.423
5	100	232744	1.422
6	120	276473	1.457
7	160	370358	1.435
8	200	475467	1.514
9	300	713262	1.412

(Ave. RF = 1.491)
%RSD = 7.02

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.390	10.0	9.3	6.8	121289	≤ 15%

TOLUENE (RT = 21.81 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	32784	1.936
3	30	89682	1.878
4	50	139182	1.694
5	100	271424	1.659
6	120	321438	1.694
7	160	425380	1.649
8	200	552294	1.758
9	300	820396	1.624

(Ave. RF = 1.737)
%RSD = 6.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.651	10.0	9.5	4.9	144093	≤ 15%

M,P-XYLENES (RT = 24.23 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	10	34980	2.207
2	20	56774	1.677
3	60	172787	1.810
4	100	277774	1.691
5	200	555456	1.697
6	240	661043	1.742
7	320	880429	1.706
8	400	1135483	1.808
9	600	1702512	1.685

(Ave. RF = 1.780)
%RSD = 9.42

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.655	20.0	18.6	7.1	288766	≤ 15%

O-XYLENE (RT = 24.65 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	24128	1.425
3	30	75233	1.576
4	50	121708	1.482
5	100	242499	1.482
6	120	282010	1.486
7	160	379183	1.470
8	200	478492	1.523
9	300	731946	1.449

(Ave. RF = 1.487)
%RSD = 3.10

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.387	10.0	9.3	6.7	121019	≤ 15%

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N-BUTYLBENZENE (RT = 26.82 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	12916	1.630
2	10	22245	1.314
3	30	64851	1.358
4	50	103145	1.256
5	100	204968	1.253
6	120	245590	1.294
7	160	344397	1.335
8	200	424469	1.351
9	300	628530	1.244

(Ave. RF = 1.337)
%RSD = 8.81

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.215	10.0	9.1	9.1	106045	≤ 15%

SEC-BUTYLBENZENE (RT = 26.25 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13963	1.762
2	10	22616	1.336
3	30	68975	1.445
4	50	115577	1.407
5	100	241888	1.478
6	120	290666	1.532
7	160	397578	1.541

(Ave. RF = 1.500)
%RSD = 9.04

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.109	10.0	7.4	26	96781	≤ 15%

T-BUTYLBENZENE (RT = 26.05 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	11385	1.436
2	10	20005	1.182
3	30	58223	1.219
4	50	91098	1.109
5	100	182810	1.117
6	120	216134	1.139
7	160	285481	1.106
8	200	374598	1.193
9	300	559781	1.108

(Ave. RF = 1.179)
%RSD = 8.93

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.108	10.0	9.4	6.0	96713	≤ 15%

2-CVE (RT = 20.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	14972	0.352
3	30	54128	0.409
4	50	100470	0.443
5	100	211658	0.467
6	120	263425	0.475
7	160	353351	0.478
8	200	442988	0.473
9	300	695470	0.472

(Ave. RF = 0.446)
%RSD = 9.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.461	10.0	10.3	3.2	136938	≤ 15%

2-CHLOROTOLUENE (RT = 25.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15678	0.751
2	10	27145	0.638
3	30	90510	0.684
4	50	149579	0.660
5	100	297748	0.657
6	120	369098	0.665
7	160	494422	0.669
8	200	634635	0.678
9	300	921744	0.626

(Ave. RF = 0.670)
%RSD = 5.30

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.666	10.0	9.9	0.57	198058	≤ 15%

4-CHLOROTOLUENE (RT = 25.65 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15641	0.750
2	10	27496	0.647
3	30	99072	0.749
4	50	160009	0.706
5	100	310933	0.686
6	120	381200	0.687
7	160	498102	0.674
8	200	622273	0.664
9	300	931747	0.633

(Ave. RF = 0.688)
%RSD = 5.94

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.730	10.0	10.6	6.1	217183	≤ 15%

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DICHLORODIFLUOROMETH (RT = 3.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	7764	0.183
3	30	28042	0.212
4	50	43944	0.194
5	100	85539	0.189
6	120	102211	0.184
7	160	135064	0.183
8	200	170069	0.182
9	300	246402	0.167

(Ave. RF = 0.187)
%RSD = 6.83

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.171	10.0	9.2	8.5	50788	≤ 15%

CIS-1,2-DCE (RT = 11.20 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36554	1.752
2	10	64679	1.521
3	30	217221	1.643
4	50	393280	1.736
5	100	814293	1.798
6	120	971479	1.750
7	160	1291032	1.746
8	200	1632257	1.743
9	300	2426120	1.648

(Ave. RF = 1.704)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.802	10.0	10.6	5.7	535756	≤ 15%

1,3-DCP (RT = 21.91 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32144	1.540
2	10	59725	1.405
3	30	190890	1.443
4	50	315351	1.392
5	100	602281	1.330
6	120	731719	1.318
7	160	953254	1.290
8	200	1181697	1.262
9	300	1799182	1.222

(Ave. RF = 1.356)
%RSD = 7.31

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.386	10.0	10.2	2.2	411994	≤ 15%

2,2-DCP (RT = 12.32 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20902	1.002
2	10	36324	0.854
3	30	127124	0.961
4	50	234755	1.036
5	100	474491	1.048
6	120	550266	0.991
7	160	748731	1.013
8	200	949982	1.014
9	300	1366042	0.928

(Ave. RF = 0.983)
%RSD = 6.17

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.930	10.0	9.5	5.4	276565	≤ 15%

1,1-DICHLOROPROPENE (RT = 15.68 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33382	1.600
2	10	58879	1.385
3	30	197075	1.490
4	50	341353	1.507
5	100	689306	1.522
6	120	831123	1.497
7	160	1093557	1.479
8	200	1350538	1.442
9	300	2043008	1.388

(Ave. RF = 1.479)
%RSD = 4.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.588	10.0	10.7	7.4	472085	≤ 15%

EDB (RT = 22.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13225	0.634
2	10	24324	0.572
3	30	87236	0.660
4	50	151676	0.670
5	100	298931	0.660
6	120	375572	0.677
7	160	509348	0.689
8	200	632359	0.675
9	300	1008945	0.685

(Ave. RF = 0.658)
%RSD = 5.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.693	10.0	10.5	5.4	206146	≤ 15%

UTM 005986

HEXACHLOROBUTADIENE (RT = 29.04 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	41042	1.967
2	10	73630	1.731
3	30	216519	1.637
4	50	374774	1.654
5	100	721114	1.592
6	120	875058	1.577
7	160	1186000	1.604
8	200	1487147	1.588
9	300	2145826	1.458

(Ave. RF = 1.645)
%RSD = 8.56

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.705	10.0	10.4	3.6	507085	≤ 15%

P-ISOPROPYLTOLUENE (RT = 26.43 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	20630	1.219
3	30	61998	1.299
4	50	92419	1.125
5	100	179341	1.096
6	120	214303	1.129
7	160	284449	1.102
8	200	362722	1.155
9	300	555233	1.099

(Ave. RF = 1.153)
%RSD = 6.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.111	10.0	9.6	3.7	96910	≤ 15%

NAPHTHALENE (RT = 28.97 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	4951	0.625
2	10	9696	0.573
4	50	52939	0.644
5	100	105184	0.643
6	120	113986	0.601
7	160	149994	0.581
8	200	204653	0.652
9	300	371682	0.736

(Ave. RF = 0.632)
%RSD = 8.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.930	10.0	14.7	47	81134	≤ 15%

N-PROPYLBENZENE (RT = 25.49 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13902	1.754
2	10	22897	1.352
3	30	69589	1.458
4	50	112108	1.365
5	100	225395	1.377
6	120	270901	1.428
7	160	339301	1.315
8	200	436639	1.390
9	300	700767	1.387

(Ave. RF = 1.425)
%RSD = 9.12

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.270	10.0	8.9	11	110813	≤ 15%

STYRENE (RT = 24.58 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	18829	2.376
2	10	30875	1.824
3	30	94027	1.969
4	50	151841	1.848
5	100	305581	1.867
6	120	366561	1.932
7	160	491578	1.905
8	200	651733	2.075
9	300	968376	1.917

(Ave. RF = 1.968)
%RSD = 8.63

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.870	10.0	9.5	5.0	163205	≤ 15%

1,2,3-TCB (RT = 29.19 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	5210	0.123
3	30	19576	0.148
4	50	40157	0.177
5	100	74052	0.163
6	120	73911	0.133

(Ave. RF = 0.149)
%RSD = 14.88

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.834	10.0	56.0	460	247964	≤ 15%

UTM 005987

1,2,4-TCB (RT = 28.71 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	17946	0.860
2	10	34438	0.810
3	30	106605	0.806
4	50	197376	0.871
5	100	390990	0.863
6	120	457810	0.825
7	160	593283	0.803
8	200	859214	0.917
9	300	1300386	0.883

(Ave. RF = 0.849)
%RSD = 4.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.043	10.0	12.3	23	309995	≤ 15%

1,2,4-TRIMETHYLBENZE (RT = 26.16 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	14780	1.865
2	10	26764	1.581
3	30	75632	1.584
4	50	121349	1.477
5	100	241797	1.478
6	120	289591	1.526
7	160	405340	1.571
8	200	501364	1.596
9	300	751392	1.487

(Ave. RF = 1.574)
%RSD = 7.57

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.423	10.0	9.0	9.6	124215	≤ 15%

1,3,5-TRIMETHYLBENZE (RT = 25.78 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	19488	2.459
2	10	32462	1.917
3	30	100515	2.105
4	50	161899	1.971
5	100	318918	1.949
6	120	381002	2.008
7	160	521322	2.020
8	200	658061	2.095
9	300	984378	1.949

(Ave. RF = 2.053)
%RSD = 8.06

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.888	10.0	9.2	8.0	164786	≤ 15%

UTM 005988

Calibration data for Sequence file: h:\data\gc10\c19p.seq

Initial Calibration Date: ~~10/5/95~~ 3/11/96 DMC
Created by:
Midpoint Acquire Date: 3/19/96
Date Printed: 03/20/96

PID Sample File: h:\data\gc10\p-503-v.smp
ELCD Sample File: h:\data\gc10\e-502-v.smp
PID MP File: h:\data\gc10\c19a001.rst
ELCD MP File: h:\data\gc10\c19b001.rst

Supply Source: Ultra Scientific
Lot Number: H-0202
Standard Prep. Date: ~~10/2/95~~ 2/15/96 DMC

INITIAL CALIBRATION — DAILY MIDPOINT CALIBRATION

BROMODICHLOROMETHAN (RT = 18.82 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33892	1.624
2	10	62013	1.458
3	30	211653	1.600
4	50	376526	1.662
5	100	773214	1.707
6	120	901080	1.623
7	160	1201101	1.625
8	200	1593576	1.702
9	300	2172831	1.476

(Ave. RF = 1.609)
%RSD = 5.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.692	10.0	10.5	5.2	510723	≤ 15%

BROMOFORM (RT = 24.28 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	12184	0.584
2	10	23170	0.545
3	30	84251	0.637
4	50	145770	0.643
5	100	303446	0.670
6	120	378996	0.683
7	160	516394	0.699
8	200	641880	0.685
9	300	1023812	0.696

(Ave. RF = 0.649)
%RSD = 8.22

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.664	10.0	10.2	2.3	200439	≤ 15%

BROMOMETHANE (RT = 4.17 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	9579	0.459
2	10	18070	0.425
3	30	65712	0.497
4	50	114660	0.506
5	100	245770	0.543
6	120	295811	0.533
7	160	399614	0.541
8	200	505310	0.540
9	300	747665	0.508

(Ave. RF = 0.506)
%RSD = 8.05

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.117	10.0	2.3	77	35254	≤ 15%

CARBON TETRACHLORIDE (RT = 16.16 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50077	2.400
2	10	89241	2.099
3	30	286897	2.169
4	50	494469	2.183
5	100	999657	2.207
6	120	1206992	2.175
7	160	1570572	2.125
8	200	1998004	2.133
9	300	2956713	2.009

(Ave. RF = 2.167)
%RSD = 4.86

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.091	10.0	9.7	3.5	631304	≤ 15%

CHLOROETHANE (RT = 4.42 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18573	0.890
2	10	32825	0.772
3	30	113790	0.860
4	50	194181	0.857
5	100	406290	0.897
6	120	485985	0.876
7	160	652310	0.882
8	200	825846	0.882
9	300	1232101	0.837

(Ave. RF = 0.861)
%RSD = 4.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.742	10.0	8.6	14	224004	≤ 15%

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CHLOROFORM (RT = 12.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	50592	2.425
2	10	91515	2.152
3	30	298017	2.253
4	50	498740	2.202
5	100	1013213	2.237
6	120	1215413	2.190
7	160	1615006	2.185
8	200	2012925	2.149
9	300	2996441	2.036

(Ave. RF = 2.203)
%RSD = 4.73

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.221	10.0	10.1	0.82	670620	≤ 15%

CHLOROMETHANE ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	10306	0.242
3	30	36510	0.276
4	50	58516	0.258
5	100	107499	0.237
6	120	125231	0.226
7	160	161604	0.219

(Ave. RF = 0.243)
%RSD = 8.74

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.334	10.0	13.7	37	100813	≤ 15%

DIBROMOCHLOROMETHAN (RT = 22.23 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	22321	1.070
2	10	39898	0.938
3	30	142234	1.076
4	50	237877	1.050
5	100	486926	1.075
6	120	599745	1.081
7	160	801798	1.085
8	200	979921	1.046
9	300	1546270	1.051

(Ave. RF = 1.052)
%RSD = 4.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.072	10.0	10.2	1.9	323622	≤ 15%

CH2BR2 (RT = 18.34 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13860	0.664
2	10	26275	0.618
3	30	92334	0.698
4	50	167735	0.740
5	100	342728	0.757
6	120	431852	0.778
7	160	578686	0.783
8	200	707655	0.756
9	300	1126739	0.765

(Ave. RF = 0.729)
%RSD = 7.78

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.000	10.0	0.0	100	0	≤ 15%

MECL2 (RT = 6.74 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
3	30	340777	2.577
4	50	527023	2.326
5	100	975915	2.155
6	120	1178286	2.123
7	160	1524055	2.062
8	200	1921196	2.051

(Ave. RF = 2.216)
%RSD = 9.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.141	10.0	5.1	49	344368	≤ 15%

1,1-DCA (RT = 9.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36539	1.751
2	10	66274	1.558
3	30	217246	1.643
4	50	378650	1.671
5	100	765295	1.690
6	120	908768	1.637
7	160	1207441	1.633
8	200	1554558	1.660
9	300	2319739	1.576

(Ave. RF = 1.647)
%RSD = 3.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.623	10.0	9.9	1.5	489885	≤ 15%

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1,2-DCA (RT = 14.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32920	1.578
2	10	61269	1.441
3	30	203042	1.535
4	50	347758	1.535
5	100	709815	1.567
6	120	861148	1.551
7	160	1128096	1.526
8	200	1416289	1.512
9	300	2147647	1.459

(Ave. RF = 1.523)
%RSD = 3.03

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.515	10.0	9.9	0.51	457404	≤ 15%

1,1-DCE (RT = 6.39 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	37140	1.780
2	10	64183	1.509
3	30	209226	1.582
4	50	355599	1.570
5	100	715622	1.580
6	120	850156	1.532
7	160	1119635	1.515
8	200	1431351	1.528
9	300	2084314	1.416

(Ave. RF = 1.557)
%RSD = 6.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.480	10.0	9.5	4.9	446766	≤ 15%

T-1,2-DCE (RT = 8.44 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34540	1.655
2	10	61974	1.457
3	30	207631	1.570
4	50	360646	1.592
5	100	737492	1.628
6	120	876568	1.579
7	160	1166578	1.578
8	200	1466755	1.566
9	300	2210024	1.501

(Ave. RF = 1.570)
%RSD = 3.82

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.551	10.0	9.9	1.2	468114	≤ 15%

1,2-DCP (RT = 18.53 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	34669	1.661
2	10	61921	1.456
3	30	203623	1.540
4	50	356407	1.573
5	100	701026	1.548
6	120	859795	1.549
7	160	1123722	1.520
8	200	1452940	1.551
9	300	2110421	1.434

(Ave. RF = 1.537)
%RSD = 4.29

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.537	10.0	10.0	0.00040464023		≤ 15%

C1,3-DCP (RT = 20.47 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	31316	1.501
2	10	55451	1.304
3	30	190284	1.439
4	50	322986	1.426
5	100	652613	1.441
6	120	768213	1.384
7	160	1043460	1.412
8	200	1303347	1.392
9	300	1916656	1.302

(Ave. RF = 1.400)
%RSD = 4.61

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.418	10.0	10.1	1.3	428177	≤ 15%

T-1,3-DCP (RT = 21.33 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	28763	1.378
2	10	52009	1.223
3	30	173953	1.315
4	50	295299	1.304
5	100	579005	1.278
6	120	711620	1.282
7	160	941817	1.274
8	200	1161750	1.240
9	300	1764007	1.198

(Ave. RF = 1.277)
%RSD = 4.19

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.250	10.0	9.8	2.1	377432	≤ 15%

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1,1,1,2-TCA (RT = 23.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	51021	2.445
2	10	88534	2.082
3	30	278767	2.108
4	50	455201	2.009
5	100	882186	1.948
6	120	1093089	1.969
7	160	1429931	1.934
8	200	1819757	1.943
9	300	2688619	1.827

(Ave. RF = 2.029)
%RSD = 8.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.926	10.0	9.5	5.1	581466	≤ 15%

1,1,2,2-TCA (RT = 24.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26699	1.280
2	10	48304	1.136
3	30	156010	1.180
4	50	257828	1.138
5	100	508892	1.124
6	120	619476	1.116
7	160	836515	1.132
8	200	1013126	1.082
9	300	1591407	1.081

(Ave. RF = 1.141)
%RSD = 5.26

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.098	10.0	9.6	3.8	331455	≤ 15%

TETRACHLOROETHENE (RT = 22.85 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	90581	2.130
3	30	284902	2.154
4	50	469471	2.072
5	100	884470	1.953
6	120	1076837	1.940
7	160	1411358	1.909
8	200	1733048	1.850
9	300	2565209	1.743

(Ave. RF = 1.969)
%RSD = 7.20

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.089	10.0	10.6	6.1	630783	≤ 15%

1,1,1-TCA (RT = 14.90 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39492	1.893
2	10	76423	1.797
3	30	256578	1.940
4	50	455687	2.011
5	100	909096	2.007
6	120	1088400	1.961
7	160	1431786	1.937
8	200	1783816	1.905
9	300	2762588	1.877

(Ave. RF = 1.925)
%RSD = 3.48

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.928	10.0	10.0	0.16	582233	≤ 15%

1,1,2-TCA (RT = 21.52 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	39881	1.911
2	10	70883	1.667
3	30	230906	1.746
4	50	388270	1.714
5	100	752134	1.661
6	120	899721	1.621
7	160	1186965	1.606
8	200	1490402	1.591
9	300	2274057	1.545

(Ave. RF = 1.674)
%RSD = 6.49

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.661	10.0	9.9	0.76	501393	≤ 15%

TCE (RT = 18.70 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	48328	2.316
2	10	85508	2.011
3	30	270509	2.045
4	50	465327	2.054
5	100	902865	1.993
6	120	1109354	1.999
7	160	1420240	1.921
8	200	1691230	1.806
9	300	2739459	1.861

(Ave. RF = 2.001)
%RSD = 7.25

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.011	10.0	10.0	0.50	607035	≤ 15%

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1,2,3-TCP (RT = 24.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20293	0.973
2	10	37254	0.876
3	30	121097	0.916
4	50	201576	0.890
5	100	409618	0.904
6	120	496078	0.894
7	160	668920	0.905
8	200	809989	0.865
9	300	1290768	0.877

(Ave. RF = 0.900)
%RSD = 3.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.868	10.0	9.6	3.5	262156	≤ 15%

TRICHLOROFLUOROMETH (RT = 5.36 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33992	1.629
2	10	55707	1.310
3	30	189041	1.429
4	50	315944	1.395
5	100	652740	1.441
6	120	785494	1.415
7	160	1027175	1.390
8	200	1292014	1.380
9	300	1959996	1.332

(Ave. RF = 1.413)
%RSD = 6.47

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.498	10.0	10.6	6.0	452315	≤ 15%

VINYL CHLORIDE (RT = 3.61 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	14190	0.680
2	10	26484	0.623
3	30	92582	0.700
4	50	159726	0.705
5	100	334158	0.738
6	120	402163	0.725
7	160	532044	0.720
8	200	678220	0.724
9	300	1002626	0.681

(Ave. RF = 0.699)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.657	10.0	9.4	6.1	198245	≤ 15%

BENZENE (RT = 16.37 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	17243	2.175
2	10	28212	1.666
3	30	83367	1.746
4	50	138475	1.686
5	100	284272	1.737
6	120	338207	1.782
7	160	459178	1.780
8	200	592517	1.886
9	300	875013	1.732

(Ave. RF = 1.799)
%RSD = 8.60

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.630	10.0	9.1	9.4	144190	≤ 15%

CHLOROBNZN (RT = 23.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18260	0.875
2	10	32702	0.769
3	30	120565	0.912
4	50	198704	0.877
5	100	382095	0.844
6	120	472561	0.851
7	160	611221	0.827
8	200	711050	0.759
9	300	1116324	0.758

(Ave. RF = 0.830)
%RSD = 6.79

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.875	10.0	10.5	5.4	264097	≤ 15%

1,2-DCB (RT = 26.72 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	26456	1.268
2	10	45987	1.081
3	30	151274	1.144
4	50	256189	1.131
5	100	491512	1.085
6	120	617503	1.113
7	160	818703	1.108
8	200	1007878	1.076
9	300	1520961	1.033

(Ave. RF = 1.115)
%RSD = 5.91

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.078	10.0	9.7	3.3	325585	≤ 15%

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1,3-DCB (RT = 26.31 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27481	1.317
2	10	47357	1.114
3	30	148824	1.125
4	50	260906	1.152
5	100	516224	1.140
6	120	650341	1.172
7	160	869305	1.176
8	200	937335	1.001
9	300	1559261	1.059

(Ave. RF = 1.139)
%RSD = 7.64

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.114	10.0	9.8	2.3	336216	≤ 15%

1,4-DCB (RT = 26.38 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	27482	1.317
2	10	48752	1.146
3	30	160739	1.215
4	50	263661	1.164
5	100	491385	1.085
7	160	785538	1.063
8	200	1128414	1.205
9	300	1484987	1.009

(Ave. RF = 1.151)
%RSD = 8.51

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.124	10.0	9.8	2.3	339338	≤ 15%

ETHYLBENZENE (RT = 23.99 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13864	1.749
2	10	25271	1.493
3	30	72391	1.516
4	50	116915	1.423
5	100	232744	1.422
6	120	276473	1.457
7	160	370358	1.435
8	200	475467	1.514
9	300	713262	1.412

(Ave. RF = 1.491)
%RSD = 7.02

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.359	10.0	9.1	8.9	120203	≤ 15%

TOLUENE (RT = 21.81 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	32784	1.936
3	30	89682	1.878
4	50	139182	1.694
5	100	271424	1.659
6	120	321438	1.694
7	160	425380	1.649
8	200	552294	1.758
9	300	820396	1.624

(Ave. RF = 1.737)
%RSD = 6.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.626	10.0	9.4	6.4	143858	≤ 15%

M,P-XYLENES (RT = 24.23 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	10	34980	2.207
2	20	56774	1.677
3	60	172787	1.810
4	100	277774	1.691
5	200	555456	1.697
6	240	661043	1.742
7	320	880429	1.706
8	400	1135483	1.808
9	600	1702512	1.685

(Ave. RF = 1.780)
%RSD = 9.42

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.610	20.0	18.1	9.5	284945	≤ 15%

O-XYLENE (RT = 24.65 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	24128	1.425
3	30	75233	1.576
4	50	121708	1.482
5	100	242499	1.482
6	120	282010	1.486
7	160	379183	1.470
8	200	478492	1.523
9	300	731946	1.449

(Ave. RF = 1.487)
%RSD = 3.10

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.376	10.0	9.3	7.4	121772	≤ 15%

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N-BUTYLBENZENE (RT = 26.82 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	12916	1.630
2	10	22245	1.314
3	30	64851	1.358
4	50	103145	1.256
5	100	204968	1.253
6	120	245590	1.294
7	160	344397	1.335
8	200	424469	1.351
9	300	628530	1.244

(Ave. RF = 1.337)
%RSD = 8.81

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.197	10.0	8.9	11	105865	≤ 15%

SEC-BUTYLBENZENE (RT = 26.25 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13963	1.762
2	10	22616	1.336
3	30	68975	1.445
4	50	115577	1.407
5	100	241888	1.478
6	120	290666	1.532
7	160	397578	1.541

(Ave. RF = 1.500)
%RSD = 9.04

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.092	10.0	7.3	27	96622	≤ 15%

T-BUTYLBENZENE (RT = 26.05 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	11385	1.436
2	10	20005	1.182
3	30	58223	1.219
4	50	91098	1.109
5	100	182810	1.117
6	120	216134	1.139
7	160	285481	1.106
8	200	374598	1.193
9	300	559781	1.108

(Ave. RF = 1.179)
%RSD = 8.93

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.061	10.0	9.0	10	93881	≤ 15%

2-CVE (RT = 20.17 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	14972	0.352
3	30	54128	0.409
4	50	100470	0.443
5	100	211658	0.467
6	120	263425	0.475
7	160	353351	0.478
8	200	442988	0.473
9	300	695470	0.472

(Ave. RF = 0.446)
%RSD = 9.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.455	10.0	10.2	2.0	137406	≤ 15%

2-CHLOROTOLUENE (RT = 25.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15678	0.751
2	10	27145	0.638
3	30	90510	0.684
4	50	149579	0.660
5	100	297748	0.657
6	120	369098	0.665
7	160	494422	0.669
8	200	634635	0.678
9	300	921744	0.626

(Ave. RF = 0.670)
%RSD = 5.30

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.650	10.0	9.7	2.9	196317	≤ 15%

4-CHLOROTOLUENE (RT = 25.65 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	15641	0.750
2	10	27496	0.647
3	30	99072	0.749
4	50	160009	0.706
5	100	310933	0.686
6	120	381200	0.687
7	160	498102	0.674
8	200	622273	0.664
9	300	931747	0.633

(Ave. RF = 0.688)
%RSD = 5.94

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.700	10.0	10.2	1.7	211293	≤ 15%

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DICHLORODIFLUOROMETH (RT = 3.09 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	7764	0.183
3	30	28042	0.212
4	50	43944	0.194
5	100	85539	0.189
6	120	102211	0.184
7	160	135064	0.183
8	200	170069	0.182
9	300	246402	0.167

(Ave. RF = 0.187)
%RSD = 6.83

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.159	10.0	8.5	15	48037	≤ 15%

CIS-1,2-DCE (RT = 11.20 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36554	1.752
2	10	64679	1.521
3	30	217221	1.643
4	50	393280	1.736
5	100	814293	1.798
6	120	971479	1.750
7	160	1291032	1.746
8	200	1632257	1.743
9	300	2426120	1.648

(Ave. RF = 1.704)
%RSD = 4.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.766	10.0	10.4	3.6	533048	≤ 15%

1,3-DCP (RT = 21.91 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	32144	1.540
2	10	59725	1.405
3	30	190890	1.443
4	50	315351	1.392
5	100	602281	1.330
6	120	731719	1.318
7	160	953254	1.290
8	200	1181697	1.262
9	300	1799182	1.222

(Ave. RF = 1.356)
%RSD = 7.31

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.349	10.0	10.0	0.47	407422	≤ 15%

2,2-DCP (RT = 12.32 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	20902	1.002
2	10	36324	0.854
3	30	127124	0.961
4	50	234755	1.036
5	100	474491	1.048
6	120	550266	0.991
7	160	748731	1.013
8	200	949982	1.014
9	300	1366042	0.928

(Ave. RF = 0.983)
%RSD = 6.17

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.919	10.0	9.3	6.5	277499	≤ 15%

1,1-DICHLOROPROPENE (RT = 15.68 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	33382	1.600
2	10	58879	1.385
3	30	197075	1.490
4	50	341353	1.507
5	100	689306	1.522
6	120	831123	1.497
7	160	1093557	1.479
8	200	1350538	1.442
9	300	2043008	1.388

(Ave. RF = 1.479)
%RSD = 4.55

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.555	10.0	10.5	5.2	469568	≤ 15%

EDB (RT = 22.57 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	13225	0.634
2	10	24324	0.572
3	30	87236	0.660
4	50	151676	0.670
5	100	298931	0.660
6	120	375572	0.677
7	160	509348	0.689
8	200	632359	0.675
9	300	1008945	0.685

(Ave. RF = 0.658)
%RSD = 5.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.675	10.0	10.3	2.6	203769	≤ 15%

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HEXACHLOROBUTADIENE (RT = 29.04 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	41042	1.967
2	10	73630	1.731
3	30	216519	1.637
4	50	374774	1.654
5	100	721114	1.592
6	120	875058	1.577
7	160	1186000	1.604
8	200	1487147	1.588
9	300	2145826	1.458

(Ave. RF = 1.645)
%RSD = 8.56

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.667	10.0	10.1	1.3	503315	≤ 15%

P-ISOPROPYLTOLUENE (RT = 26.43 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	20630	1.219
3	30	61998	1.299
4	50	92419	1.125
5	100	179341	1.096
6	120	214303	1.129
7	160	284449	1.102
8	200	362722	1.155
9	300	555233	1.099

(Ave. RF = 1.153)
%RSD = 6.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.082	10.0	9.4	6.2	95693	≤ 15%

NAPHTHALENE (RT = 28.97 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	4951	0.625
2	10	9696	0.573
4	50	52939	0.644
5	100	105184	0.643
6	120	113986	0.601
7	160	149994	0.581
8	200	204653	0.652
9	300	371682	0.736

(Ave. RF = 0.632)
%RSD = 8.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.925	10.0	14.6	46	81800	≤ 15%

N-PROPYLBENZENE (RT = 25.49 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	13902	1.754
2	10	22897	1.352
3	30	69589	1.458
4	50	112108	1.365
5	100	225395	1.377
6	120	270901	1.428
7	160	339301	1.315
8	200	436639	1.390
9	300	700767	1.387

(Ave. RF = 1.425)
%RSD = 9.12

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.339	10.0	9.4	6.1	118434	≤ 15%

STYRENE (RT = 24.58 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	18829	2.376
2	10	30875	1.824
3	30	94027	1.969
4	50	151841	1.848
5	100	305581	1.867
6	120	366561	1.932
7	160	491578	1.905
8	200	651733	2.075
9	300	968376	1.917

(Ave. RF = 1.968)
%RSD = 8.63

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.755	10.0	8.9	11	155304	≤ 15%

1,2,3-TCB (RT = 29.19 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	5210	0.123
3	30	19576	0.148
4	50	40157	0.177
5	100	74052	0.163
6	120	73911	0.133

(Ave. RF = 0.149)
%RSD = 14.88

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.919	10.0	61.7	520	277414	≤ 15%

UTM 005997

1,2,4-TCB (RT = 28.71 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	17946	0.860
2	10	34438	0.810
3	30	106605	0.806
4	50	197376	0.871
5	100	390990	0.863
6	120	457810	0.825
7	160	593283	0.803
8	200	859214	0.917
9	300	1300386	0.883

(Ave. RF = 0.849)
%RSD = 4.71

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.033	10.0	12.2	22	311731	≤ 15%

1,2,4-TRIMETHYLBENZE (RT = 26.16 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	14780	1.865
2	10	26764	1.581
3	30	75632	1.584
4	50	121349	1.477
5	100	241797	1.478
6	120	289591	1.526
7	160	405340	1.571
8	200	501364	1.596
9	300	751392	1.487

(Ave. RF = 1.574)
%RSD = 7.57

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.389	10.0	8.8	12	122890	≤ 15%

1,3,5-TRIMETHYLBENZE (RT = 25.78 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	19488	2.459
2	10	32462	1.917
3	30	100515	2.105
4	50	161899	1.971
5	100	318918	1.949
6	120	381002	2.008
7	160	521322	2.020
8	200	658061	2.095
9	300	984378	1.949

(Ave. RF = 2.053)
%RSD = 8.06

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.830	10.0	8.9	11	161903	≤ 15%

UTM 005998

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-6
Lab Number: FI01980

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	**0.50**	**3.3**
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**12**
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>40**
1,1,1-Trichloroethane	**0.50**	**8.4**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**8.5**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.
Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	126%

UTM 005999

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-6
Lab Number: FI01980

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,1-Dichloroethane	**1.0**	**2.6**
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	**1.0**	**11**
cis-1,2-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Methylene chloride	10	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	**1.0**	**54**
1,1,1-Trichloroethane	**1.0**	**7.4**
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	**1.0**	**7.4**
Trichlorofluoromethane	1.0	N.D.
Vinyl chloride	2.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	104%

UTM 006000

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-2
Lab Number: FI01981

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	**0.50**	**5.4**
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**3.2**
cis-1,2-Dichloroethene	**0.50**	**5.0**
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>50**
1,1,1-Trichloroethane	**0.50**	**1.5**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**12**
Trichlorofluoromethane	**0.50**	**0.91**
Vinyl chloride	1.0	N.D.

Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.
Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	122%

UTM 006001

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates	Client Project ID: 30987-3	Sampled:	Sep 16, 1996
30 Corporate Park, Ste. 400	UTM City Of Industry	Received:	Sep 17, 1996
Irvine, CA 92714	Sample Descript: Water, MW-2	Extracted:	Sep 19, 1996
Attention: Kevin Trout	Lab Number: FI01981	Analyzed:	Sep 19, 1996
		Reported:	Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.3	N.D.
Bromoform	1.3	N.D.
Bromomethane	2.5	N.D.
Carbon tetrachloride	1.3	N.D.
Chlorobenzene	2.5	N.D.
Chloroethane	6.3	N.D.
2-Chloroethylvinyl ether	6.3	N.D.
Chloroform	1.3	N.D.
Chloromethane	2.5	N.D.
Dibromochloromethane	1.3	N.D.
1,2-Dichlorobenzene	2.5	N.D.
1,3-Dichlorobenzene	2.5	N.D.
1,4-Dichlorobenzene	2.5	N.D.
1,1-Dichloroethane	**1.3**	**4.7**
1,2-Dichloroethane	1.3	N.D.
1,1-Dichloroethene	**1.3**	**2.2**
cis-1,2-Dichloroethene	**1.3**	**4.3**
trans-1,2-Dichloroethene	1.3	N.D.
1,2-Dichloropropane	1.3	N.D.
cis-1.3-Dichloropropene	1.3	N.D.
trans-1,3-Dichloropropene	1.3	N.D.
Methylene chloride	13	N.D.
1,1,2.2-Tetrachloroethane	1.3	N.D.
Tetrachloroethene	**1.3**	**68**
1,1,1-Trichloroethane	1.3	N.D.
1,1,2-Trichloroethane	1.3	N.D.
Trichloroethene	**1.3**	**12**
Trichlorofluoromethane	1.3	N.D.
Vinyl chloride	2.5	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.5.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	112%

UTM 006002

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-3
Lab Number: FI01982

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	2.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	5.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	1.0	N.D.
1,2-Dichlorobenzene	2.0	N.D.
1,3-Dichlorobenzene	2.0	N.D.
1,4-Dichlorobenzene	2.0	N.D.
1,1-Dichloroethane	1.0	N.D.
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	**1.0**	**7.5**
cis-1,2-Dichloroethene	**1.0**	**7.3**
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Methylene chloride	10	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	**1.0**	**>100**
1,1,1-Trichloroethane	**1.0**	**11**
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	**1.0**	**36**
Trichlorofluoromethane	**1.0**	**5.3**
Vinyl chloride	2.0	N.D.

Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.
Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution.
Detection limits for this sample have been raised by a factor of 2.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	113%

UTM 006003

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-3
Lab Number: FI01982

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 20, 1996
Analyzed: Sep 20, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	2.5	N.D.
Bromoform	2.5	N.D.
Bromomethane	5.0	N.D.
Carbon tetrachloride	2.5	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	13	N.D.
2-Chloroethylvinyl ether	13	N.D.
Chloroform	2.5	N.D.
Chloromethane	5.0	N.D.
Dibromochloromethane	2.5	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
1,1-Dichloroethane	2.5	N.D.
1,2-Dichloroethane	2.5	N.D.
1,1-Dichloroethene	**2.5**	**6.6**
cis-1,2-Dichloroethene	**2.5**	**5.0**
trans-1,2-Dichloroethene	2.5	N.D.
1,2-Dichloropropane	2.5	N.D.
cis-1,3-Dichloropropene	2.5	N.D.
trans-1,3-Dichloropropene	2.5	N.D.
Methylene chloride	25	N.D.
1,1,2,2-Tetrachloroethane	2.5	N.D.
Tetrachloroethene	**2.5**	**120**
1,1,1-Trichloroethane	**2.5**	**9.3**
1,1,2-Trichloroethane	2.5	N.D.
Trichloroethene	**2.5**	**33**
Trichlorofluoromethane	**2.5**	**4.5**
Vinyl chloride	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 5.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	116%

UTM 006004

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-4
Lab Number: FI01983

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	2.5	N.D.
Bromoform	2.5	N.D.
Bromomethane	5.0	N.D.
Carbon tetrachloride	2.5	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	13	N.D.
2-Chloroethylvinyl ether	13	N.D.
Chloroform	**2.5**	**3.4**
Chloromethane	5.0	N.D.
Dibromochloromethane	2.5	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
1,1-Dichloroethane	2.5	N.D.
1,2-Dichloroethane	2.5	N.D.
1,1-Dichloroethene	**2.5**	**63**
cis-1,2-Dichloroethene	2.5	N.D.
trans-1,2-Dichloroethene	2.5	N.D.
1,2-Dichloropropane	2.5	N.D.
cis-1,3-Dichloropropene	2.5	N.D.
trans-1,3-Dichloropropene	2.5	N.D.
Methylene chloride	25	N.D.
1,1,2,2-Tetrachloroethane	2.5	N.D.
Tetrachloroethene	**2.5**	**>200**
1,1,1-Trichloroethane	2.5	N.D.
1,1,2-Trichloroethane	2.5	N.D.
Trichloroethene	**2.5**	**7.1**
Trichlorofluoromethane	2.5	N.D.
Vinyl chloride	5.0	N.D.

Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.
Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution.
Detection limits for this sample have been raised by a factor of 5.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	117%

UTM 006005

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-4
Lab Number: FI01983

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 20, 1996
Analyzed: Sep 20, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	10	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	10	N.D.
Chloroethane	25	N.D.
2-Chloroethylvinyl ether	25	N.D.
Chloroform	5.0	N.D.
Chloromethane	10	N.D.
Dibromochloromethane	5.0	N.D.
1,2-Dichlorobenzene	10	N.D.
1,3-Dichlorobenzene	10	N.D.
1,4-Dichlorobenzene	10	N.D.
1,1-Dichloroethane	5.0	N.D.
1,2-Dichloroethane	5.0	N.D.
1,1-Dichloroethene	**5.0**	**53**
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis-1,3-Dichloropropene	5.0	N.D.
trans-1,3-Dichloropropene	5.0	N.D.
Methylene chloride	50	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	**5.0**	**250**
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl chloride	10	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 10.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	114%

UTM 006006

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-7
Lab Number: FI01984

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	2.5	N.D.
Bromoform	2.5	N.D.
Bromomethane	5.0	N.D.
Carbon tetrachloride	2.5	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	13	N.D.
2-Chloroethylvinyl ether	13	N.D.
Chloroform	2.5	N.D.
Chloromethane	5.0	N.D.
Dibromochloromethane	2.5	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
1,1-Dichloroethane	2.5	N.D.
1,2-Dichloroethane	2.5	N.D.
1,1-Dichloroethene	**2.5**	**54**
cis-1,2-Dichloroethene	2.5	N.D.
trans-1,2-Dichloroethene	2.5	N.D.
1,2-Dichloropropane	2.5	N.D.
cis-1,3-Dichloropropene	2.5	N.D.
trans-1,3-Dichloropropene	2.5	N.D.
Methylene chloride	25	N.D.
1,1,2,2-Tetrachloroethane	2.5	N.D.
Tetrachloroethene	**2.5**	**>200**
1,1,1-Trichloroethane	2.5	N.D.
1,1,2-Trichloroethane	2.5	N.D.
Trichloroethene	**2.5**	**6.4**
Trichlorofluoromethane	2.5	N.D.
Vinyl chloride	5.0	N.D.

Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.
Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 5.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	114%

UTM 006007

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Harding Lawson Associates	Client Project ID: 30987-3	Sampled:	Sep 16, 1996
30 Corporate Park, Ste. 400	UTM City Of Industry	Received:	Sep 17, 1996
Irvine, CA 92714	Sample Descript: Water, MW-7	Extracted:	Sep 20, 1996
Attention: Kevin Trout	Lab Number: FI01984	Analyzed:	Sep 20, 1996
		Reported:	Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	10	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	10	N.D.
Chloroethane	25	N.D.
2-Chloroethylvinyl ether	25	N.D.
Chloroform	5.0	N.D.
Chloromethane	10	N.D.
Dibromochloromethane	5.0	N.D.
1,2-Dichlorobenzene	10	N.D.
1,3-Dichlorobenzene	10	N.D.
1,4-Dichlorobenzene	10	N.D.
1,1-Dichloroethane	5.0	N.D.
1,2-Dichloroethane	5.0	N.D.
1,1-Dichloroethene	**5.0**	**50**
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis-1,3-Dichloropropene	5.0	N.D.
trans-1,3-Dichloropropene	5.0	N.D.
Methylene chloride	50	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	**5.0**	**250**
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl chloride	10	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 10.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	112%

UTM 006008

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-8
Lab Number: FI01985

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	105%

UTM 006009

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-5
Lab Number: FI01986

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	**0.50**	**11**
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	**0.50**	**31**
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	**0.50**	**>30**
1,1,1-Trichloroethane	**0.50**	**7.3**
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	**0.50**	**4.8**
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as ">" exceeded quantitation limits. These analytes were re-analyzed at a dilution to obtain quantitative results.
Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	114%

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Client Project ID: 30987-3
UTM City Of Industry
Sample Descript: Water, MW-5
Lab Number: FI01986

Sampled: Sep 16, 1996
Received: Sep 17, 1996
Extracted: Sep 20, 1996
Analyzed: Sep 20, 1996
Reported: Sep 23, 1996

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	1.3	N.D.
Bromoform	1.3	N.D.
Bromomethane	2.5	N.D.
Carbon tetrachloride	1.3	N.D.
Chlorobenzene	2.5	N.D.
Chloroethane	6.3	N.D.
2-Chloroethylvinyl ether	6.3	N.D.
Chloroform	1.3	N.D.
Chloromethane	2.5	N.D.
Dibromochloromethane	1.3	N.D.
1,2-Dichlorobenzene	2.5	N.D.
1,3-Dichlorobenzene	2.5	N.D.
1,4-Dichlorobenzene	2.5	N.D.
1,1-Dichloroethane	**1.3**	**7.7**
1,2-Dichloroethane	1.3	N.D.
1,1-Dichloroethene	**1.3**	**27**
cis-1,2-Dichloroethene	1.3	N.D.
trans-1,2-Dichloroethene	1.3	N.D.
1,2-Dichloropropane	1.3	N.D.
cis-1,3-Dichloropropene	1.3	N.D.
trans-1,3-Dichloropropene	1.3	N.D.
Methylene chloride	13	N.D.
1,1,2,2-Tetrachloroethane	1.3	N.D.
Tetrachloroethene	**1.3**	**40**
1,1,1-Trichloroethane	**1.3**	**5.1**
1,1,2-Trichloroethane	1.3	N.D.
Trichloroethene	**1.3**	**3.6**
Trichlorofluoromethane	1.3	N.D.
Vinyl chloride	2.5	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Due to matrix effects and/or other factors, the sample required dilution. Detection limits for this sample have been raised by a factor of 2.5.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	117%

UTM 006011

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Method Blank

Extracted: Sep 19, 1996
Analyzed: Sep 19, 1996
Reported: Sep 23, 1996
Matrix: Water

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	104%

UTM 006012

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Harding Lawson Associates
30 Corporate Park, Ste. 400
Irvine, CA 92714
Attention: Kevin Trout

Method Blank

Extracted: Sep 20, 1996
Analyzed: Sep 20, 1996
Reported: Sep 23, 1996
Matrix: Water

HALOGENATED VOLATILE ORGANICS by GC (EPA 5030/8010)

Analyte	Detection Limit µg/L (ppb)	Sample Result µg/L (ppb)
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	2.5	N.D.
2-Chloroethylvinyl ether	2.5	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

DEL MAR ANALYTICAL (ELAP #1197)

Debbie Ranck
Quality Assurance Officer

Surrogate Standard Recovery:	
1-Chloro-3-fluorobenzene	109%

UTM 006013

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

MS/MSD DATA REPORT

EPA Method 601/602

Matrix: Water

Date: 09/19/96

Sample #: FI01878

Batch #: FI19111W

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %	Mean PR %	Acceptance Limits RPD	Acceptance Limits Mean PR
Benzene	0	10	9.8	9.8	98	98	0.48	98	≤10	85 - 109
Chloroform	0	10	11	12	106	115	8.4	111	≤25	78 - 116
1,1-Dichloroethane	0	10	10	10	103	104	0.41	103	≤10	74 - 120
1,2-Dichloroethane	0	10	10	11	100	107	6.1	104	≤17	76 - 118
1,1-Dichloroethene	0	10	9.9	10	99	102	3.7	100	≤10	85 - 109
Tetrachloroethene	0.29	10	9.4	9.5	91	92	1.2	91	≤10	79 - 115
Toluene	0.55	10	9.8	9.8	93	92	0.59	92	≤10	83 - 111
Trichloroethene	0	10	10	10	105	100	4.9	102	≤15	78 - 116

Definition of Terms

R1..... Result of Sample Analysis
Sp..... Spike Concentration added to sample
MS..... Matrix Spike Result
MSD..... Matrix Spike Duplicate Result
PR1..... Percent Recovery of MS; ((MS-R1)/SP) X 100
PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) X 100
RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100
Mean PR..... Mean Percent Recovery
Acceptance Limits..... Determined by in-house Control Charts

Del Mar Analytical

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CORRECTIVE ACTION REPORT

Department:	Volatiles	Method:	EPA 8010
Date:	9/20/96	Matrix:	Water

Identification and Definition of Problem:

The chloroform recovery for the matrix spike was above acceptance limits.

Determination of the Cause of the Problem:

The cause for the high recovery is undetermined. All other spiking compounds were within acceptance limits and there were no apparent matrix interferences.

Corrective Action:

The midpoint calibration check, matrix spike duplicate and laboratory control sample were within acceptance limits for chloroform. Furthermore, no chloroform was present in any of the environmental samples, so the analytical batch was validated.

QA/QC Officer Signature: Debbie Ranck Date: 9/23/96

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

MS/MSD DATA REPORT

EPA Method 601/602

Matrix: Water

Date: 09/20/96

Sample #: BLANK

Batch #: FI20111W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Mean PR	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	%	RPD	Mean PR
enzene	0	10	9.7	9.8	97	98	0.90	97	≤10	85 - 109
Chloroform	0	10	16	11	157	113	33 *	135 *	≤25	78 - 116
1-Dichloroethane	0	10	11	11	107	107	0.012	107	≤10	74 - 120
2-Dichloroethane	0	10	9.9	10	99	100	1.1	99	≤17	76 - 118
1-Dichloroethene	0	10	11	10	107	102	5.4	105	≤10	85 - 109
Tetrachloroethene	0	10	9.9	9.4	99	94	5.5	96	≤10	79 - 115
oluene	0	10	9.4	9.4	94	94	0.35	94	≤10	83 - 111
richloroethene	0	10	11	9.5	109	95	14	102	≤15	78 - 116

* QC results are not within acceptance limits
When applicable, see corrective action report

Definition of Terms

R1..... Result of Sample Analysis
Sp..... Spike Concentration added to sample
MS..... Matrix Spike Result
MSD..... Matrix Spike Duplicate Result
PR1..... Percent Recovery of MS; ((MS-R1)/SP) X 100
PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) X 100
RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100
Mean PR..... Mean Percent Recovery
Acceptance Limits..... Determined by in-house Control Charts

Del Mar Analytical

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LCS DATA REPORT

EPA Method 8010/8020

Matrix: Water

Date: 09/20/96

Sample #: BLANK

Batch #: FI20111W

Analyte	Spike Conc.	Result	% Recovery	ACP
Benzene	10	9.8	98	80 - 120 %
Chloroform	10	11	108	80 - 120 %
1,1-Dichloroethane	10	11	107	80 - 120 %
1,2-Dichloroethane	10	9.9	99	80 - 120 %
1,1-Dichloroethene	10	11	106	80 - 120 %
Tetrachloroethene	10	8.4	84	80 - 120 %
Toluene	10	9.1	91	80 - 120 %
Trichloroethene	10	9.6	96	80 - 120 %

Definition of Terms

LCS ..... Laboratory Control Sample
Spike Conc ..... Result of Sample Analysis
Result ..... Result of Laboratory Control Sample Analysis
%Recovery ..... Percent Recovery of LCS; ((Result - Spike Conc.) / Spike Conc.) X 100
ACP ..... Acceptance Limits for Percent Recovery

Del Mar Analytical

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
(714) 260-1800

CHAIN OF CUSTODY FORM

Lab: DEL MAR

Job Number: 30987-3
Name/Location: UTM / City of Industry
Project Manager: Kevin Trout

Samplers: Melissa Pratt & Bryan Hawes
Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH
23	X							4				96	09	16	1110	MW-6	X					
															1445	MW-2						
															1555	MW-3						
															1700	MW-4						
															1705	MW-7						
															1710	MW-8						
23	X							4				96	09	16	1755	MW-5	X					

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						NORMAL TAT
						~~MUST MEET QA~~
						ANALYSIS MUST BE
						COMPLETED FOLLOWING
						RWQCB WIP
						GUIDELINES & DETECTION
						LIMITS OF 0.5-1.0 PPB
						MUST BE MET FOR
						ALL COMPOUNDS, PERFORM

UTM 006018

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
750 9/17/96		
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		9/17/96 7:50

METHOD OF SHIPMENT: 2 RUNS (1 NORMAL & 1 DILUTION) FOR EACH SAMPLE PER DEBBIE RANCK'S INSTRUCTIONS

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228
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CRWQCB - L.A. REGION
WELL INVESTIGATION PROGRAM
QA/QC REPORT

PREPARED FOR HARDING LAWSON ASSOCIATES
PROJECT: 30987-3 UTM, CITY OF INDUSTRY
SAMPLED: 9/16/96

ATTENTION: KEVIN TROUT

Harding Lawson Associates
30 Corporate Park, Suite 400
Irvine, CA 92714
(714) 260-1800

CHAIN OF CUSTODY FORM

Lab: DEL MAR

Job Number: 30987-3
Name/Location: UTM / City of Industry
Project Manager: Kevin Trout

Samplers: Melissa Pratt & Bryan Hawes
Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	SAMPLE NUMBER OR LAB NUMBER (Yr Wk Seq)	DATE (Yr Mo Dy)	TIME	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH
23	X							4		960916	1110	MW-6	X					
											1445	MW-2						
											1555	MW-3						
											1700	MW-4						
											1705	MW-7						
											1710	MW-8						
23	X							4		960916	1755	MW-5	X					

LAB NUMBER (Yr Wk Seq)	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
				NORMAL TAT
				~~MUST MEET QA~~
				ANALYSIS MUST BE
				COMPLETED FOLLOWING
				RWQCB WIP
				GUIDELINES & DETECTION
				LIMITS OF 0.5-1.0 PPB
				MUST BE MET FOR
				ALL COMPOUNDS, PERFORM
				2 RUNS (1 NORMAL & 1 DILUTION) FOR EACH SAMPLE
				PER DEBBIE RANCK'S INSTRUCTIONS

UTM 006020

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
750 9/17/96		
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 9/17/96 7:50

METHOD OF SHIPMENT

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 1)

Laboratory Name: Del Mar Analytical

Address: 2852 Alton Avenue
Irvine, CA 92714

Telephone/FAX: (714) 261-1022 / (714) 261-1228

ELAP Certification No.: 1197 Expiration Date: May 31, 1996

Authorized Signature:
Name, Title (print) Debbie Ranck, Quality Assurance Officer

Signature, Date: Debbie Ranck 10/3/96

Client Name: Harding Lawson Associates

Project No.: 30987-3 UTM, City of Industry

Date(s) Sampled: 9/16/96 To

Date(s) Received: 9/17/96 To

Date(s) Reported: 9/23/96 To

Chain of Custody received: Yes X No

Comments: The surrogate, 1-Chloro-3-fluorobenzene, was out of acceptance limits for samples MW-6 and MW-2 due to matrix interferences. The methylene chloride reported in the samples is most likely due to laboratory contamination.

(RWQCB LabForm; Ver 12/94)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 2)

Organic Analyses	# of Samples	# of Samples Subcontracted
EPA 8010	7	0

Sample Condition: Acceptable

Inorganic Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

Microbiological Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

Other Types of Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

(RWQCB LabForm; Ver 12/94)

PROJECT NO: 30987-3 (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 REPORTING UNIT: µg/L

DATE ANALYZED			9/19/96	9/19/96	9/19/96	9/19/96
DATE EXTRACTED			9/19/96	9/19/96	9/19/96	9/19/96
LAB SAMPLE ID			Method Blank	FI01980	FI01980	FI01981
CLIENT SAMPLE ID			n/a	MW-6	MW-6	MW-2
EXTRACTION SOLVENT			n/a	n/a	n/a	n/a
EXTRACTION METHOD			5030	5030	5030	5030
DILUTION FACTOR			1	1	2	1
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromomethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon tetrachloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chloromethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		0.50	< 0.50	**3.3**	**2.6**	**5.4**
1,2-Dichloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-Dichloroethene		0.50	< 0.50	**12**	**11**	**3.2**
cis-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	**5.0**
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloropropane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Methylene chloride		1.0	< 1.0	< 1.0	**2.7**	< 1.0
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethene		0.50	< 0.50	**47**	**54**	**53**
1,1,1-Trichloroethane		0.50	< 0.50	**8.4**	**7.4**	**1.5**
1,1,2-Trichloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloroethene		0.50	< 0.50	**8.5**	**7.4**	**12**
Trichlorofluoromethane		0.50	< 0.50	< 0.50	< 0.50	**0.91**
Vinyl chloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	104	126	104	122

PROJECT NO: 30987-3 (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 **REPORTING UNIT:** µg/L

		DATE ANALYZED	9/19/96	9/19/96	9/19/96	9/19/96
		DATE EXTRACTED	9/19/96	9/19/96	9/19/96	9/19/96
		LAB SAMPLE ID	FI01981	FI01982	FI01983	FI01984
		CLIENT SAMPLE ID	MW-2	MW-3	MW-4	MW-7
		EXTRACTION SOLVENT	n/a	n/a	n/a	n/a
		EXTRACTION METHOD	5030	5030	5030	5030
		DILUTION FACTOR	2.5	2	5	5
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromomethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon tetrachloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene		1.0	< 1.0	< 1.0	**4.5**	< 1.0
Chloroethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		0.50	< 0.50	< 0.50	**3.4**	< 0.50
Chloromethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		0.50	**4.7**	< 0.50	< 0.50	< 0.50
1,2-Dichloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-Dichloroethene		0.50	**2.2**	**7.5**	**53**	**54**
cis-1,2-Dichloroethene		0.50	**4.3**	**7.3**	< 0.50	< 0.50
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloropropane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Methylene chloride		1.0	**3.2**	**7.8**	**32**	**29**
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethene		0.50	**68**	**100**	**230**	**230**
1,1,1-Trichloroethane		0.50	< 0.50	**11**	**1.7**	< 0.50
1,1,2-Trichloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloroethene		0.50	**12**	**36**	**7.1**	**6.4**
Trichlorofluoromethane		0.50	< 0.50	**5.3**	< 0.50	< 0.50
Vinyl chloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	112	113	117	114

PROJECT NO: 30987-3 (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 REPORTING UNIT: µg/L

DATE ANALYZED			9/19/96	9/19/96		
DATE EXTRACTED			9/19/96	9/19/96		
LAB SAMPLE ID			FI01985	FI01986		
CLIENT SAMPLE ID			MW-8	MW-5		
EXTRACTION SOLVENT			n/a	n/a		
EXTRACTION METHOD			5030	5030		
DILUTION FACTOR			1	1		
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50	< 0.50		
Bromoform		0.50	< 0.50	< 0.50		
Bromomethane		1.0	< 1.0	< 1.0		
Carbon tetrachloride		0.50	< 0.50	< 0.50		
Chlorobenzene		1.0	< 1.0	< 1.0		
Chloroethane		1.0	< 1.0	< 1.0		
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0		
Chloroform		0.50	< 0.50	< 0.50		
Chloromethane		1.0	< 1.0	< 1.0		
Dibromochloromethane		0.50	< 0.50	< 0.50		
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0		
1,1-Dichloroethane		0.50	< 0.50	**11**		
1,2-Dichloroethane		0.50	< 0.50	< 0.50		
1,1-Dichloroethene		0.50	< 0.50	**31**		
cis-1,2-Dichloroethene		0.50	< 0.50	< 0.50		
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50		
1,2-Dichloropropane		0.50	< 0.50	< 0.50		
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50		
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50		
Methylene chloride		1.0	< 1.0	< 1.0		
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50		
Tetrachloroethene		0.50	< 0.50	**38**		
1,1,1-Trichloroethane		0.50	< 0.50	**7.3**		
1,1,2-Trichloroethane		0.50	< 0.50	< 0.50		
Trichloroethene		0.50	< 0.50	**4.8**	UTM 006025	
Trichlorofluoromethane		0.50	< 0.50	< 0.50		
Vinyl chloride		0.50	< 0.50	< 0.50		
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	105	114		

PROJECT NO: 30987-3 (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 **REPORTING UNIT:** µg/L

		DATE ANALYZED	9/20/96	9/20/96	9/20/96	9/20/96
		DATE EXTRACTED	9/20/96	9/20/96	9/20/96	9/20/96
		LAB SAMPLE ID	Method Blank	FI01982	FI01983	FI01984
		CLIENT SAMPLE ID	n/a	MW-3	MW-4	MW-7
		EXTRACTION SOLVENT	n/a	n/a	n/a	n/a
		EXTRACTION METHOD	5030	5030	5030	5030
		DILUTION FACTOR	1	5	10	10
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromomethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon tetrachloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloroethylvinyl ether		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chloromethane		1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene		1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-Dichloroethene		0.50	< 0.50	**6.6**	**53**	**50**
cis-1,2-Dichloroethene		0.50	< 0.50	**5.0**	< 0.50	< 0.50
trans-1,2-Dichloroethene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloropropane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Methylene chloride		1.0	< 1.0	**23**	**50**	**57**
1,1,2,2-Tetrachloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethene		0.50	< 0.50	**120**	**250**	**250**
1,1,1-Trichloroethane		0.50	< 0.50	**9.3**	< 0.50	< 0.50
1,1,2-Trichloroethane		0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloroethene		0.50	< 0.50	**33**	< 0.50	< 0.50
Trichlorofluoromethane		0.50	< 0.50	**4.5**	< 0.50	< 0.50
Vinyl chloride		0.50	< 0.50	< 0.50	< 0.50	< 0.50
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	109	116	114	112

PROJECT NO: 30987-3 (RWQCB LabForm 10A; Ver12/94)

ANALYTICAL RESULT FOR ORGANICS

METHOD: EPA 8010 **REPORTING UNIT:** µg/L

		DATE ANALYZED	9/20/96			
		DATE EXTRACTED	9/20/96			
		LAB SAMPLE ID	FI01986			
		CLIENT SAMPLE ID	MW-5			
		EXTRACTION SOLVENT	n/a			
		EXTRACTION METHOD	5030			
		DILUTION FACTOR	2.5			
COMPOUND		CRDL				
Bromodichloromethane		0.50	< 0.50			
Bromoform		0.50	< 0.50			
Bromomethane		1.0	< 1.0			
Carbon tetrachloride		0.50	< 0.50			
Chlorobenzene		1.0	< 1.0			
Chloroethane		1.0	< 1.0			
2-Chloroethylvinyl ether		1.0	< 1.0			
Chloroform		0.50	< 0.50			
Chloromethane		1.0	< 1.0			
Dibromochloromethane		0.50	< 0.50			
1,2-Dichlorobenzene		1.0	< 1.0			
1,3-Dichlorobenzene		1.0	< 1.0			
1,4-Dichlorobenzene		1.0	< 1.0			
1,1-Dichloroethane		0.50	**7.7**			
1,2-Dichloroethane		0.50	< 0.50			
1,1-Dichloroethene		0.50	**27**			
cis-1,2-Dichloroethene		0.50	< 0.50			
trans-1,2-Dichloroethene		0.50	< 0.50			
1,2-Dichloropropane		0.50	< 0.50			
cis-1,3-Dichloropropene		0.50	< 0.50			
trans-1,3-Dichloropropene		0.50	< 0.50			
Methylene chloride		1.0	**12**			
1,1,2,2-Tetrachloroethane		0.50	< 0.50			
Tetrachloroethene		0.50	**40**			
1,1,1-Trichloroethane		0.50	**5.1**			
1,1,2-Trichloroethane		0.50	< 0.50			
Trichloroethene		0.50	**3.6**			
Trichlorofluoromethane		0.50	< 0.50		UTM 006027	
Vinyl chloride		0.50	< 0.50			
SURROGATE	SPIKE CONC	ACCEPT LIMITS %	% RECOVERY	% RECOVERY	% RECOVERY	% RECOVERY
1-Chloro-3-fluorobenzene	10	80-120	117			

Project Number: 30987-3 (RWQCB LabForm 10A; Ver12/94)

QA/QC REPORT

II. MATRIX SPIKE (MS) MATRIX SPIKE DUPLICATE (MSD)

Date Performed: 09/19/96
Batch Number: FI19111W
Lab Sample I.D.: FI01878

Analytical Method: EPA 8010
Reporting Unit: µg/L

Analyte	Sample Result	Spike Conc	MS	% MS	Spike Conc (Dup)	MSD	% MSD	RPD	MS/MSD % Limit	RPD Limit
Chloroform	0	10	11	106	10	12	115	8.4	80-120	≤ 20
1,1-Dichloroethane	0	10	10	103	10	10	104	0.41	80-120	≤ 20
1,2-Dichloroethane	0	10	10	100	10	11	107	6.1	80-120	≤ 20
1,1-Dichloroethene	0	10	9.9	99	10	10	102	3.7	80-120	≤ 20
Tetrachloroethene	0.29	10	9.4	91	10	9.5	92	1.2	80-120	≤ 20
Trichloroethene	0	10	10	105	10	10	100	4.9	80-120	≤ 20

III. LABORATORY QUALITY CONTROL CHECK SAMPLE (LCS)

Date Performed: 09/19/96
Supply Source: AccuStandard
Lot Number: 084-268
Date of Source: 3/13/96

Analytical Method: EPA 8010
Reporting Unit: µg/L
Lab LCS I.D.: LCS

Analyte	Spike Concentration	Result	% Recovery	Acceptance % Recovery Limit
Chloroform	10	14	140	80-120
1,1-Dichloroethane	10	11	110	80-120
1,2-Dichloroethane	10	10	100	80-120
1,1-Dichloroethene	10	11	110	80-120
Tetrachloroethene	10	8.7	87	80-120
Trichloroethene	10	11	110	80-120

Project Number: 30987-3

(RWQCB LabForm 10A; Ver12/94)

QA/QC REPORT

II. MATRIX SPIKE (MS) MATRIX SPIKE DUPLICATE (MSD)

Date Performed: 09/20/96
Batch Number: FI20111W
Lab Sample I.D.: BLANK

Analytical Method: EPA 8010
Reporting Unit: µg/L

Analyte	Sample Result	Spike Conc	MS	% MS	Spike Conc (Dup)	MSD	% MSD	RPD	MS/MSD % Limit	RPD Limit
Chloroform	0	10	16	157	10	11	113	33	80-120	≤ 20
1,1-Dichloroethane	0	10	11	107	10	11	107	0.01	80-120	≤ 20
1,2-Dichloroethane	0	10	9.9	99	10	10	100	1.1	80-120	≤ 20
1,1-Dichloroethene	0	10	11	107	10	10	102	5.4	80-120	≤ 20
Tetrachloroethene	0	10	9.9	99	10	9.4	94	5.5	80-120	≤ 20
Trichloroethene	0	10	11	109	10	9.5	95	14	80-120	≤ 20

III. LABORATORY QUALITY CONTROL CHECK SAMPLE (LCS)

Date Performed: 09/20/96
Supply Source: AccuStandard
Lot Number: 084-268
Date of Source: 3/13/96

Analytical Method: EPA 8010
Reporting Unit: µg/L
Lab LCS I.D.: LCS

Analyte	Spike Concentration	Result	% Recovery	Acceptance % Recovery Limit
Chloroform	10	11	110	80-120
1,1-Dichloroethane	10	11	110	80-120
1,2-Dichloroethane	10	9.9	99	80-120
1,1-Dichloroethene	10	11	110	80-120
Tetrachloroethene	10	8.4	84	80-120
Trichloroethene	10	9.6	96	80-120

Del Mar Analytical

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2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

CORRECTIVE ACTION REPORT

Department:	Volatiles	Method:	EPA 8010
Date:	9/20/96	Matrix:	Water

Identification and Definition of Problem:

The chloroform recovery for the matrix spike was above acceptance limits.

Determination of the Cause of the Problem:

The cause for the high recovery is undetermined. All other spiking compounds were within acceptance limits and there were no apparent matrix interferences.

Corrective Action:

The midpoint calibration check, matrix spike duplicate and laboratory control sample were within acceptance limits for chloroform. Furthermore, no chloroform was present in any of the environmental samples, so the analytical batch was validated.

QA/QC Officer Signature: Debbie Rauck Date: 9/23/96

Calibration data for Sequence file: h:\data\gc11a\19ip.seq

Initial Calibration Date:	09/13/96	PID Sample File:	h:\data\gc11a\p502-1j.smp	Supply Source:	Ultra Scientific
Created by:	AB/DM	ELCD Sample File:	h:\data\gc11a\e502-1j.smp	Lot Number:	J-1141
Midpoint Acquire Date:	9/19/96	PID MP File:	h:\data\gc11a\19ie001.rst	Standard Prep. Date:	9/05/96
Date Printed:	09/20/96	ELCD MP File:	h:\data\gc11a\19if001.rst		

INITIAL CALIBRATION — DAILY MIDPOINT CALIBRATION

BROMODICHLOROMETHAN (RT = 15.76 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	81557	1.734
2	10	172523	1.748
3	20	346603	1.745
4	50	823021	1.579
5	80	1355257	1.645
6	140	2379098	1.791
7	200	3131885	1.489
8	300	4477400	1.383

(Ave. RF = 1.639)
%RSD = 8.85

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.657	10.0	10.1	1.0	779301	≤ 15%

BROMOFORM (RT = 23.33 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	53576	0.543
3	20	125952	0.634
4	50	350321	0.672
5	80	574152	0.697
6	140	931090	0.701
7	200	1449327	0.689
8	300	2181609	0.674

(Ave. RF = 0.659)
%RSD = 8.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.648	10.0	9.8	1.6	304866	≤ 15%

BROMOMETHANE (RT = 3.25 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	53893	0.271
4	50	169773	0.326
5	80	286812	0.348
7	200	747589	0.356
8	300	1151056	0.355

(Ave. RF = 0.331)
%RSD = 10.75

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.314	10.0	9.5	5.1	147904	≤ 15%

CARBON TETRACHLORIDE (RT = 13.32 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	123088	2.618
2	10	251630	2.550
3	20	481735	2.426
4	50	1223993	2.348
5	80	1978903	2.402
6	140	3332398	2.509
7	200	4580078	2.178
8	300	6464669	1.996

(Ave. RF = 2.378)
%RSD = 8.61

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.357	10.0	9.9	0.89	1108922	≤ 15%

CHLOROETHANE (RT = 3.43 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	30471	0.648
2	10	64296	0.652
3	20	140624	0.708
4	50	364730	0.700
5	80	560608	0.680
6	140	982492	0.740
7	200	1375386	0.654
8	300	2023294	0.625

(Ave. RF = 0.676)
%RSD = 5.63

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.797	10.0	11.8	18	374754	≤ 15%

CHLOROFORM (RT = 9.31 Minutes) — ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	176926	1.793
3	20	324678	1.635
4	50	826056	1.585
7	200	3215026	1.529
8	300	4658734	1.439

(Ave. RF = 1.596)
%RSD = 8.27

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.702	10.0	10.7	6.6	800443	≤ 15%

CHLOROMETHANE

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	35812	0.762
2	10	73260	0.742
3	20	154330	0.777
4	50	409879	0.786
5	80	642338	0.780
6	140	1129537	0.850
7	200	1578018	0.750
8	300	2280691	0.704

(Ave. RF = 0.769)
%RSD = 5.47

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.745	10.0	9.7	3.1	350639	≤ 15%

DIBROMOCHLOROMETHAN (RT = 20.92 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	49368	1.050
2	10	98441	0.998
3	20	219522	1.105
4	50	574297	1.102
5	80	875507	1.063
6	140	1591795	1.198
7	200	2219003	1.055
8	300	3244571	1.002

(Ave. RF = 1.072)
%RSD = 6.03

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.052	10.0	9.8	1.8	495059	≤ 15%

BR2CH2 (RT = 15.29 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	127041	0.640
4	50	370597	0.711
5	80	620355	0.753
7	200	1571170	0.747
8	300	2343334	0.724

(Ave. RF = 0.715)
%RSD = 6.35

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.618	10.0	8.6	14	290712	≤ 15%

MECL2 (RT = 5.26 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	138146	1.400
3	20	276773	1.394
4	50	670441	1.286
5	80	1033835	1.255
6	140	1881757	1.417
7	200	2597867	1.235
8	300	3784545	1.169

(Ave. RF = 1.308)
%RSD = 7.36

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.445	10.0	11.1	11	679913	≤ 15%

1,1-DCA (RT = 7.10 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	52597	1.119
2	10	111209	1.127
3	20	232356	1.170
4	50	576013	1.105
5	80	895635	1.087
6	140	1599076	1.204
7	200	2244632	1.067
8	300	3324683	1.027

(Ave. RF = 1.113)
%RSD = 5.04

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.187	10.0	10.7	6.6	558440	≤ 15%

1,2-DCA (RT = 11.83 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	76887	1.635
2	10	164296	1.665
3	20	318367	1.603
4	50	801676	1.538
5	80	1281424	1.555
6	140	2230897	1.679
7	200	3122292	1.485
8	300	4564977	1.410

(Ave. RF = 1.571)
%RSD = 5.92

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.475	10.0	9.4	6.2	693721	≤ 15%

1,1-DCE (RT = 4.92 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	53271	1.133
2	10	108273	1.097
3	20	218557	1.101
4	50	550439	1.056
5	80	795798	0.966
6	140	1534592	1.155
7	200	2079326	0.989

(Ave. RF = 1.054)
%RSD = 7.76

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.088	10.0	10.3	3.2	511902	≤ 15%

8	300	3026571	0.935

T-1,2-DCE (RT = 6.53 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	52733	1.121
2	10	111303	1.128
3	20	233464	1.176
4	50	578252	1.109
5	80	879414	1.067
6	140	1622852	1.222
7	200	2270953	1.080
8	300	3264764	1.008

(Ave. RF = 1.114)
%RSD = 5.90

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.206	10.0	10.8	8.3	567529	≤ 15%

1,2-DCP (RT = 15.46 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	184559	1.870
3	20	349824	1.762
4	50	868051	1.665
5	80	1399787	1.699
6	140	2407430	1.812
7	200	3160610	1.503
8	300	4585741	1.416

(Ave. RF = 1.675)
%RSD = 9.80

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.691	10.0	10.1	0.92	795425	≤ 15%

C-1,3-DCP (RT = 18.28 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	70748	1.505
2	10	140444	1.423
3	20	289220	1.456
4	50	756106	1.451
5	80	1170062	1.420
6	140	2152823	1.621
7	200	2964001	1.410
8	300	4360959	1.347

(Ave. RF = 1.454)
%RSD = 5.57

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.433	10.0	9.9	1.5	673951	≤ 15%

T-1,3-DCP (RT = 19.82 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	63673	1.354
2	10	127591	1.293
3	20	258155	1.300
4	50	653827	1.254
5	80	1031692	1.252
6	140	1798352	1.354
7	200	2503420	1.191
8	300	3823335	1.181

(Ave. RF = 1.272)
%RSD = 5.17

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.236	10.0	9.7	2.9	581279	≤ 15%

1,1,1,2-TCA (RT = 22.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	111906	2.380
2	10	226117	2.292
3	20	414797	2.089
4	50	1004276	1.927
5	80	1657389	2.012
6	140	2738185	2.061

(Ave. RF = 2.127)
%RSD = 8.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.971	10.0	9.3	7.3	927178	≤ 15%

1,1,2,2-TCA (RT = 23.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	134114	1.359
3	20	258996	1.304
4	50	616838	1.183
5	80	1007365	1.223
6	140	1621891	1.221
7	200	2388124	1.136
8	300	3284367	1.014

(Ave. RF = 1.206)
%RSD = 9.32

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.199	10.0	9.9	0.58	563954	≤ 15%

TETRACHLOROETHENE (RT = 21.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	243508	2.468
3	20	460004	2.316
4	50	1090689	2.093

(Ave. RF = 2.220)
%RSD = 7.64

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits

5	80	1700196	2.064		2.210	10.0	10.0	0.44	1039633	≤ 15%
6	140	2866805	2.158							

1,1,1-TCA (RT = 12.10 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1	5	113317	2.410							
2	10	225585	2.286							
3	20	435177	2.191	(Ave. RF = 2.116)						
4	50	1077703	2.068	%RSD = 9.65	2.016	10.0	9.5	4.7	948595	≤ 15%
5	80	1716772	2.084							
6	140	2935860	2.210							
7	200	3977430	1.892							
8	300	5786396	1.787							

1,1,2-TCA (RT = 19.99 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2	10	185914	1.884							
3	20	358867	1.807							
4	50	902948	1.732	(Ave. RF = 1.694)						
5	80	1388730	1.686	%RSD = 8.62	1.714	10.0	10.1	1.1	806156	≤ 15%
6	140	2311013	1.740							
7	200	3268677	1.554							
8	300	4720189	1.458							

TCE (RT = 15.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2	10	227088	2.301							
3	20	434856	2.190							
4	50	1145388	2.198	(Ave. RF = 2.122)						
5	80	1851370	2.247	%RSD = 8.45	2.266	10.0	10.7	6.7	1065811	≤ 15%
6	140	2881670	2.169							
7	200	4105849	1.953							
8	300	5827947	1.800							

1,2,3-TCP (RT = 23.97 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1	5	51020	1.085							
2	10	97497	0.988							
3	20	189279	0.953	(Ave. RF = 0.927)						
4	50	445970	0.856	%RSD = 9.09	0.848	10.0	9.2	8.5	399085	≤ 15%
5	80	754313	0.916							
6	140	1232398	0.928							
7	200	1834828	0.873							
8	300	2644627	0.817							

BROMOBN (RT = 24.46 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2	10	39920	0.405							
3	20	92721	0.467							
4	50	243120	0.466	(Ave. RF = 0.480)						
5	80	416684	0.506	%RSD = 8.26	1.127	10.0	10.3	130	530272	≤ 15%
6	140	702356	0.529							
7	200	1038580	0.494							
8	300	1593195	0.492							

VINYL CHLORIDE (RT = 2.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1	5	35989	0.765							
2	10	71561	0.725							
3	20	151890	0.765	(Ave. RF = 0.756)						
4	50	399520	0.767	%RSD = 5.71	0.738	10.0	9.8	2.5	346963	≤ 15%
5	80	642077	0.779							
6	140	1103660	0.831							
7	200	1539451	0.732							
8	300	2216899	0.685							

BENZENE (RT = 13.38 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	37539	1.897
2	10	70486	1.771
3	20	138057	1.731
4	50	343213	1.727
5	80	535528	1.714
6	140	969399	1.726
7	200	1382209	1.719
8	300	2058056	1.708

(Ave. RF = 1.749)
%RSD = 3.58

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.613	10.0	9.2	7.8	348294	≤ 15%

CHLOROBNZN (RT = 22.75 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	91056	0.923
3	20	197431	0.994
4	50	458923	0.881
5	80	695605	0.844
6	140	1184199	0.892
7	200	1619766	0.770

(Ave. RF = 0.884)
%RSD = 8.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.946	10.0	10.7	7.0	444852	≤ 15%

1,2-DCB (RT = 25.93 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	113033	1.145
3	20	222534	1.121
4	50	545831	1.047
5	80	893991	1.085
6	140	1459648	1.099
7	200	2099794	0.999
8	300	3006438	0.928

(Ave. RF = 1.061)
%RSD = 7.14

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.113	10.0	10.5	5.0	523640	≤ 15%

1,3-DCB (RT = 25.59 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	54056	1.150
2	10	102776	1.042
3	20	205985	1.037
4	50	488060	0.936
5	80	808348	0.981
6	140	1344048	1.012
7	200	2013241	0.957
8	300	2947161	0.910

(Ave. RF = 1.003)
%RSD = 7.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.895	10.0	8.9	11	420970	≤ 15%

1,4-DCB (RT = 25.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	139972	1.418
3	20	250472	1.261
4	50	605526	1.162
5	80	1013771	1.230
6	140	1600809	1.205
7	200	2302816	1.095

(Ave. RF = 1.229)
%RSD = 8.91

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.386	10.0	11.3	13	652006	≤ 15%

ETHYLBENZENE (RT = 23.06 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	31160	1.575
2	10	57629	1.448
3	20	109982	1.379
4	50	268223	1.350
5	80	432072	1.383
6	140	771725	1.374
7	200	1105094	1.375
8	300	1632401	1.355

(Ave. RF = 1.405)
%RSD = 5.33

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.294	10.0	9.2	7.9	279420	≤ 15%

TOLUENE (RT = 20.45 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	36409	1.840
2	10	70192	1.763
3	20	128814	1.616
4	50	305898	1.539
5	80	513859	1.645
6	140	918676	1.635
7	200	1299280	1.616
8	300	1914624	1.589

(Ave. RF = 1.656)
%RSD = 5.92

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.603	10.0	9.7	3.2	346263	≤ 15%

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M,P-XYLENES (RT = 23.34 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	10	76610	1.936
2	20	141078	1.772
3	40	267483	1.677
4	100	649520	1.634
5	160	1047325	1.676
6	280	1840785	1.638
7	400	2609943	1.623
8	600	3548942	1.473

(Ave. RF = 1.679)
%RSD = 7.92

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.586	20.0	18.9	5.5	684895	≤ 15%

O-XYLENE (RT = 23.85 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	33554	1.696
2	10	62373	1.567
3	20	117068	1.468
4	50	287354	1.446
5	80	469290	1.502
6	140	845638	1.505
7	200	1201759	1.495
8	300	1750555	1.453

(Ave. RF = 1.517)
%RSD = 5.39

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.360	10.0	9.0	10	293689	≤ 15%

N-BUTYLBENZENE (RT = 26.13 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	27496	1.390
2	10	48080	1.208
3	20	89791	1.126
4	50	217753	1.096
5	80	369433	1.183
6	140	670298	1.193
7	200	979892	1.219
8	300	1435393	1.192

(Ave. RF = 1.201)
%RSD = 7.26

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.142	10.0	9.5	4.9	246659	≤ 15%

SEC-BUTYLB+1,3-DCB (RT = 25.61 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	30870	0.780
2	10	54620	0.686
3	20	102826	0.645
4	50	246555	0.620
5	80	404839	0.648
6	140	716619	0.638
7	200	1038031	0.646
8	300	1535859	0.637

(Ave. RF = 1.325)
%RSD = 7.70

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.263	10.0	9.5	4.7	272833	≤ 15%

T-BUTYLBENZENE (RT = 25.36 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	25098	1.268
2	10	45447	1.142
3	20	85862	1.077
4	50	208894	1.051
5	80	338076	1.082
6	140	597973	1.065
7	200	854286	1.063
8	300	1261161	1.047

(Ave. RF = 1.099)
%RSD = 6.78

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.020	10.0	9.3	7.2	220227	≤ 15%

2-CVE (RT = 17.70 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	79509	0.400
4	50	229119	0.440
5	80	379866	0.461
6	140	688318	0.518
7	200	990860	0.471
8	300	1497749	0.463

(Ave. RF = 0.459)
%RSD = 8.43

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.417	10.0	9.1	9.1	196112	≤ 15%

2-CHLOROTOLUENE (RT = 24.85 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36955	0.786
2	10	67778	0.687
3	20	130872	0.659
4	50	326359	0.626
5	80	542989	0.659

(Ave. RF = 0.661)
%RSD = 9.46

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.634	10.0	9.6	4.1	298274	≤ 15%

6	140	893056	0.672
7	200	1334823	0.635
8	300	1831865	0.566

4-CHLOROTOLUENE (RT = 24.95 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	69600	0.705
3	20	155293	0.782
4	50	341411	0.655
5	80	571048	0.693
6	140	906699	0.683
7	200	1336307	0.635
8	300	2060747	0.636

(Ave. RF = 0.684)
%RSD = 7.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.768	10.0	11.2	12	361169	≤ 15%

DICHLORODIFLUOROMETH (RT = 2.47 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18092	0.385
2	10	38743	0.393
3	20	83745	0.422
4	50	236160	0.453
5	80	385972	0.468
6	140	670997	0.505
7	200	974192	0.463
8	300	1454166	0.449

(Ave. RF = 0.442)
%RSD = 9.14

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.368	10.0	8.3	17	173261	≤ 15%

CIS-1,2-DCE (RT = 8.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	53183	1.131
2	10	113726	1.153
3	20	225717	1.137
4	50	583018	1.119
5	80	955778	1.160
6	140	1654793	1.246
7	200	2371665	1.128
8	300	3410163	1.053

(Ave. RF = 1.141)
%RSD = 4.69

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.198	10.0	10.5	5.0	563615	≤ 15%

1,3-DCP (RT = 20.54 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	162498	1.647
3	20	301399	1.518
4	50	730964	1.402
5	80	1096418	1.331
6	140	1891155	1.424
7	200	2656479	1.263

(Ave. RF = 1.431)
%RSD = 9.54

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.390	10.0	9.7	2.9	653874	≤ 15%

2,2-DCP (RT = 9.49 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	42961	1.007
2	10	100981	1.023
3	20	195705	0.985
4	50	595979	1.143
6	140	1361208	1.025
7	200	2009941	0.956
8	300	2905614	0.897

(Ave. RF = 1.005)
%RSD = 7.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.060	10.0	10.7	5.4	498713	≤ 15%

1,1-DICHLOROPROPENE (RT = 12.87 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	80791	1.718
2	10	163763	1.660
3	20	312789	1.575
4	50	791873	1.519
5	80	1294092	1.571
6	140	2195405	1.653
7	200	3093285	1.471
8	300	4380778	1.353

(Ave. RF = 1.565)
%RSD = 7.49

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.527	10.0	9.8	2.4	718189	≤ 15%

EDB (RT = 21.41 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	29447	0.626
2	10	66391	0.673
3	20	143498	0.723
4	50	369963	0.710
5	80	579691	0.704
6	140	1073973	0.809
7	200	1482021	0.705
8	300	2223699	0.687

(Ave. RF = 0.704)
%RSD = 7.32

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.694	10.0	9.9	1.5	326428	≤ 15%

HEXACHLOROBUTADIENE (RT = 28.16 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	201691	2.044
3	20	355273	1.789
4	50	849209	1.629
5	80	1402450	1.702
6	140	2358966	1.776
7	200	3381051	1.608

(Ave. RF = 1.758)
%RSD = 9.00

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.832	10.0	10.4	4.2	861595	≤ 15%

ISOPROPYLBENZENE (RT = 24.25 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	27288	1.379
2	10	48104	1.209
3	20	92405	1.159
4	50	224228	1.128
5	80	359312	1.150
6	140	639042	1.138
7	200	913997	1.137
8	300	1351196	1.122

(Ave. RF = 1.178)
%RSD = 7.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.082	10.0	9.2	8.1	233708	≤ 15%

P-ISOPROPYLTOLUENE (RT = 25.78 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	28814	1.456
2	10	51403	1.291
3	20	92409	1.159
4	50	238175	1.198
5	80	395154	1.265
6	140	694168	1.236
7	200	1001208	1.246
8	300	1454839	1.208

(Ave. RF = 1.257)
%RSD = 7.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.174	10.0	9.3	6.6	253640	≤ 15%

NAPHTHALENE (RT = 28.10 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	18615	0.941
2	10	33771	0.848
3	20	60895	0.764
4	50	170759	0.859
5	80	293164	0.939
6	140	493218	0.878
7	200	746290	0.928
8	300	1103777	0.916

(Ave. RF = 0.884)
%RSD = 6.84

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.809	10.0	9.1	8.6	174615	≤ 15%

N-PROPYLBENZENE (RT = 24.78 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
2	10	73942	1.858
3	20	147810	1.854
4	50	313481	1.577
5	80	503906	1.613
6	140	896759	1.596
7	200	1332052	1.657
8	300	2015985	1.673

(Ave. RF = 1.690)
%RSD = 6.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.838	10.0	10.9	8.8	396955	≤ 15%

STYRENE (RT = 23.77 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	37040	1.872
2	10	66829	1.679
3	20	130929	1.642
4	50	336624	1.694
5	80	509323	1.631
6	140	914659	1.628

(Ave. RF = 1.675)
%RSD = 4.98

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.575	10.0	9.4	6.0	340150	≤ 15%

7	200	1313757	1.634
8	300	1956197	1.624

1,2,3-TCB (RT = 28.31 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	66145	1.407
2	10	130386	1.321
3	20	243506	1.226
4	50	629501	1.208
5	80	1093938	1.328
6	140	1830694	1.378
7	200	2764596	1.315
8	300	3827051	1.182

(Ave. RF = 1.296)
%RSD = 6.30

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.298	10.0	10.0	0.19	610623	≤ 15%

1,2,4-TCB (RT = 27.80 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	65470	1.392
2	10	119543	1.211
3	20	222123	1.119
4	50	558685	1.072
5	80	965616	1.172
6	140	1600144	1.205
7	200	2390764	1.137
8	300	3386526	1.046

(Ave. RF = 1.169)
%RSD = 9.21

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.200	10.0	10.3	2.7	564730	≤ 15%

1,2,4-TRIMETHYLBENZE (RT = 25.49 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	32769	1.656
2	10	61142	1.536
3	20	110222	1.382
4	50	262532	1.321
5	80	430754	1.379
6	140	760394	1.354
7	200	1099676	1.368
8	300	1625924	1.350

(Ave. RF = 1.418)
%RSD = 8.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.322	10.0	9.3	6.8	285516	≤ 15%

1,3,5-TRIMETHYLBENZE (RT = 25.07 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	42425	2.144
2	10	77920	1.958
3	20	142226	1.784
4	50	361412	1.818
5	80	588532	1.884
6	140	1004212	1.788
7	200	1441275	1.793
8	300	2114357	1.755

(Ave. RF = 1.865)
%RSD = 6.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.783	10.0	9.6	4.4	385013	≤ 15%

1,2-DIBROMO-3-CHLOR (RT = 26.44 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	42461	0.214
4	50	131500	0.252
5	80	228904	0.278
6	140	408546	0.308
7	200	614408	0.292
8	300	922228	0.285

(Ave. RF = 0.271)
%RSD = 12.38

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.232	10.0	8.6	14	109247	≤ 15%

Calibration data for Sequence file: **h:\data\gc11a\20ip.seq**

Initial Calibration Date:	09/13/96	PID Sample File:	h:\data\gc11a\p502-1j.smp	Supply Source:	Ultra Scientific
Created by:	AB/DM	ELCD Sample File:	h:\data\gc11a\e502-1j.smp	Lot Number:	J-1141
Midpoint Acquire Date:	9/20/96	PID MP File:	h:\data\gc11a\20ie001.rst	Standard Prep. Date:	9/05/96
Date Printed:	09/21/96	ELCD MP File:	h:\data\gc11a\20if001.rst		

INITIAL CALIBRATION — DAILY MIDPOINT CALIBRATION

BROMODICHLOROMETHAN (RT = 15.76 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	81557	1.734
2	10	172523	1.748
3	20	346603	1.745
4	50	823021	1.579
5	80	1355257	1.645
6	140	2379098	1.791
7	200	3131885	1.489
8	300	4477400	1.383

(Ave. RF = 1.639)
%RSD = 8.85

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.710	10.0	10.4	4.3	774618	≤ 15%

BROMOFORM (RT = 23.33 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	53576	0.543
3	20	125952	0.634
4	50	350321	0.672
5	80	574152	0.697
6	140	931090	0.701
7	200	1449327	0.689
8	300	2181609	0.674

(Ave. RF = 0.659)
%RSD = 8.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.614	10.0	9.3	6.8	278050	≤ 15%

BROMOMETHANE (RT = 3.25 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	53893	0.271
4	50	169773	0.326
5	80	286812	0.348
7	200	747589	0.356
8	300	1151056	0.355

(Ave. RF = 0.331)
%RSD = 10.75

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.327	10.0	9.9	1.2	148203	≤ 15%

CARBON TETRACHLORIDE (RT = 13.32 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	123088	2.618
2	10	251630	2.550
3	20	481735	2.426
4	50	1223993	2.348
5	80	1978903	2.402
6	140	3332398	2.509
7	200	4580078	2.178
8	300	6464669	1.996

(Ave. RF = 2.378)
%RSD = 8.61

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.348	10.0	9.9	1.3	1063827	≤ 15%

CHLOROETHANE (RT = 3.43 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	30471	0.648
2	10	64296	0.652
3	20	140624	0.708
4	50	364730	0.700
5	80	560608	0.680
6	140	982492	0.740
7	200	1375386	0.654
8	300	2023294	0.625

(Ave. RF = 0.676)
%RSD = 5.63

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.844	10.0	12.5	25	382252	≤ 15%

CHLOROFORM (RT = 9.31 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	176926	1.793
3	20	324678	1.635
4	50	826056	1.585
7	200	3215026	1.529
8	300	4658734	1.439

(Ave. RF = 1.596)
%RSD = 8.27

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.727	10.0	10.8	8.2	782146	≤ 15%

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CHLOROMETHANE ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	35812	0.762
2	10	73260	0.742
3	20	154330	0.777
4	50	409879	0.786
5	80	642338	0.780
6	140	1129537	0.850
7	200	1578018	0.750
8	300	2280691	0.704

(Ave. RF = 0.769)
%RSD = 5.47

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.757	10.0	9.8	1.5	343047	≤ 15%

DIBROMOCHLOROMETHAN (RT = 20.92 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	49368	1.050
2	10	98441	0.998
3	20	219522	1.105
4	50	574297	1.102
5	80	875507	1.063
6	140	1591795	1.198
7	200	2219003	1.055
8	300	3244571	1.002

(Ave. RF = 1.072)
%RSD = 6.03

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.006	10.0	9.4	6.1	455640	≤ 15%

BR2CH2 (RT = 15.29 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	127041	0.640
4	50	370597	0.711
5	80	620355	0.753
7	200	1571170	0.747
8	300	2343334	0.724

(Ave. RF = 0.715)
%RSD = 6.35

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.572	10.0	8.0	20	258997	≤ 15%

MECL2 (RT = 5.26 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	138146	1.400
3	20	276773	1.394
4	50	670441	1.286
5	80	1033835	1.255
6	140	1881757	1.417
7	200	2597867	1.235
8	300	3784545	1.169

(Ave. RF = 1.308)
%RSD = 7.36

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.519	10.0	11.6	16	688298	≤ 15%

1,1-DCA (RT = 7.10 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	52597	1.119
2	10	111209	1.127
3	20	232356	1.170
4	50	576013	1.105
5	80	895635	1.087
6	140	1599076	1.204
7	200	2244632	1.067
8	300	3324683	1.027

(Ave. RF = 1.113)
%RSD = 5.04

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.187	10.0	10.7	6.6	537612	≤ 15%

1,2-DCA (RT = 11.83 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	76887	1.635
2	10	164296	1.665
3	20	318367	1.603
4	50	801676	1.538
5	80	1281424	1.555
6	140	2230897	1.679
7	200	3122292	1.485
8	300	4564977	1.410

(Ave. RF = 1.571)
%RSD = 5.92

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.478	10.0	9.4	5.9	669777	≤ 15%

1,1-DCE (RT = 4.92 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	53271	1.133
2	10	108273	1.097
3	20	218557	1.101
4	50	550439	1.056
5	80	795798	0.966
6	140	1534592	1.155
7	200	2079326	0.989

(Ave. RF = 1.054)
%RSD = 7.76

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.119	10.0	10.6	6.1	506729	≤ 15%

8	300	3026571	0.935

T-1,2-DCE (RT = 6.53 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	52733	1.121
2	10	111303	1.128
3	20	233464	1.176
4	50	578252	1.109
5	80	879414	1.067
6	140	1622852	1.222
7	200	2270953	1.080
8	300	3264764	1.008

(Ave. RF = 1.114)
%RSD = 5.90

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.175	10.0	10.5	5.5	532239	≤ 15%

1,2-DCP (RT = 15.46 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	184559	1.870
3	20	349824	1.762
4	50	868051	1.665
5	80	1399787	1.699
6	140	2407430	1.812
7	200	3160610	1.503
8	300	4585741	1.416

(Ave. RF = 1.675)
%RSD = 9.80

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.664	10.0	9.9	0.66	753989	≤ 15%

C-1,3-DCP (RT = 18.28 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	70748	1.505
2	10	140444	1.423
3	20	289220	1.456
4	50	756106	1.451
5	80	1170062	1.420
6	140	2152823	1.621
7	200	2964001	1.410
8	300	4360959	1.347

(Ave. RF = 1.454)
%RSD = 5.57

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.436	10.0	9.9	1.2	650650	≤ 15%

T-1,3-DCP (RT = 19.82 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	63673	1.354
2	10	127591	1.293
3	20	258155	1.300
4	50	653827	1.254
5	80	1031692	1.252
6	140	1798352	1.354
7	200	2503420	1.191
8	300	3823335	1.181

(Ave. RF = 1.272)
%RSD = 5.17

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.198	10.0	9.4	5.8	542744	≤ 15%

1,1,1,2-TCA (RT = 22.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	111906	2.380
2	10	226117	2.292
3	20	414797	2.089
4	50	1004276	1.927
5	80	1657389	2.012
6	140	2738185	2.061

(Ave. RF = 2.127)
%RSD = 8.15

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2.031	10.0	9.6	4.5	920091	≤ 15%

1,1,2,2-TCA (RT = 23.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	134114	1.359
3	20	258996	1.304
4	50	616838	1.183
5	80	1007365	1.223
6	140	1621891	1.221
7	200	2388124	1.136
8	300	3284367	1.014

(Ave. RF = 1.206)
%RSD = 9.32

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.182	10.0	9.8	2.0	535568	≤ 15%

TETRACHLOROETHENE (RT = 21.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	243508	2.468
3	20	460004	2.316
4	50	1090689	2.093

(Ave. RF = 2.220)
%RSD = 7.64

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits

5	80	1700196	2.064	2.205	10.0	9.9	0.65	998982	≤ 15%
6	140	2866805	2.158						

1,1,1-TCA (RT = 12.10 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1	5	113317	2.410							
2	10	225585	2.286							
3	20	435177	2.191	(Ave. RF = 2.116)						
4	50	1077703	2.068	%RSD = 9.65	2.114	10.0	10.0	0.078	957793	≤ 15%
5	80	1716772	2.084							
6	140	2935860	2.210							
7	200	3977430	1.892							
8	300	5786396	1.787							

1,1,2-TCA (RT = 19.99 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2	10	185914	1.884							
3	20	358867	1.807							
4	50	902948	1.732	(Ave. RF = 1.694)						
5	80	1388730	1.686	%RSD = 8.62	1.665	10.0	9.8	1.7	754230	≤ 15%
6	140	2311013	1.740							
7	200	3268677	1.554							
8	300	4720189	1.458							

TCE (RT = 15.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2	10	227088	2.301							
3	20	434856	2.190							
4	50	1145388	2.198	(Ave. RF = 2.122)						
5	80	1851370	2.247	%RSD = 8.45	2.017	10.0	9.5	5.0	913921	≤ 15%
6	140	2881670	2.169							
7	200	4105849	1.953							
8	300	5827947	1.800							

1,2,3-TCP (RT = 23.97 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1	5	51020	1.085							
2	10	97497	0.988							
3	20	189279	0.953	(Ave. RF = 0.927)						
4	50	445970	0.856	%RSD = 9.09	0.853	10.0	9.2	8.0	386210	≤ 15%
5	80	754313	0.916							
6	140	1232398	0.928							
7	200	1834828	0.873							
8	300	2644627	0.817							

BROMOBN (RT = 24.46 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
2	10	39920	0.405							
3	20	92721	0.467							
4	50	243120	0.466	(Ave. RF = 0.480)						
5	80	416684	0.506	%RSD = 8.26	1.135	10.0	10.4	140	514327	≤ 15%
6	140	702356	0.529							
7	200	1038580	0.494							
8	300	1593195	0.492							

VINYL CHLORIDE (RT = 2.81 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response		Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1	5	35989	0.765							
2	10	71561	0.725							
3	20	151890	0.765	(Ave. RF = 0.756)						
4	50	399520	0.767	%RSD = 5.71	0.779	10.0	10.3	3.0	352878	≤ 15%
5	80	642077	0.779							
6	140	1103660	0.831							
7	200	1539451	0.732							
8	300	2216899	0.685							

BENZENE (RT = 13.38 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	37539	1.897
2	10	70486	1.771
3	20	138057	1.731
4	50	343213	1.727
5	80	535528	1.714
6	140	969399	1.726
7	200	1382209	1.719
8	300	2058056	1.708

(Ave. RF = 1.749)
%RSD = 3.58

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.623	10.0	9.3	7.2	344614	≤ 15%

CHLOROBNZN (RT = 22.75 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	91056	0.923
3	20	197431	0.994
4	50	458923	0.881
5	80	695605	0.844
6	140	1184199	0.892
7	200	1619766	0.770

(Ave. RF = 0.884)
%RSD = 8.50

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.939	10.0	10.6	6.3	425603	≤ 15%

1,2-DCB (RT = 25.93 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	113033	1.145
3	20	222534	1.121
4	50	545831	1.047
5	80	893991	1.085
6	140	1459648	1.099
7	200	2099794	0.999
8	300	3006438	0.928

(Ave. RF = 1.061)
%RSD = 7.14

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.199	10.0	11.3	13	543291	≤ 15%

1,3-DCB (RT = 25.59 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	54056	1.150
2	10	102776	1.042
3	20	205985	1.037
4	50	488060	0.936
5	80	808348	0.981
6	140	1344048	1.012
7	200	2013241	0.957
8	300	2947161	0.910

(Ave. RF = 1.003)
%RSD = 7.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.890	10.0	8.9	11	403337	≤ 15%

1,4-DCB (RT = 25.66 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	139972	1.418
3	20	250472	1.261
4	50	605526	1.162
5	80	1013771	1.230
6	140	1600809	1.205
7	200	2302816	1.095

(Ave. RF = 1.229)
%RSD = 8.91

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.455	10.0	11.8	18	659346	≤ 15%

ETHYLBENZENE (RT = 23.06 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	31160	1.575
2	10	57629	1.448
3	20	109982	1.379
4	50	268223	1.350
5	80	432072	1.383
6	140	771725	1.374
7	200	1105094	1.375
8	300	1632401	1.355

(Ave. RF = 1.405)
%RSD = 5.33

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.309	10.0	9.3	6.8	277941	≤ 15%

TOLUENE (RT = 20.45 Minutes) PID

Calibration Levels

Level	Amount	Area	Response
1	5	36409	1.840
2	10	70192	1.763
3	20	128814	1.616
4	50	305898	1.539
5	80	513859	1.645
6	140	918676	1.635
7	200	1299280	1.616
8	300	1914624	1.589

(Ave. RF = 1.656)
%RSD = 5.92

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.498	10.0	9.1	9.5	318165	≤ 15%

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M,P-XYLENES (RT = 23.34 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	10	76610	1.936
2	20	141078	1.772
3	40	267483	1.677
4	100	649520	1.634
5	160	1047325	1.676
6	280	1840785	1.638
7	400	2609943	1.623
8	600	3548942	1.473

(Ave. RF = 1.679)
%RSD = 7.92

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.598	20.0	19.0	4.8	678757	≤ 15%

O-XYLENE (RT = 23.85 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	33554	1.696
2	10	62373	1.567
3	20	117068	1.468
4	50	287354	1.446
5	80	469290	1.502
6	140	845638	1.505
7	200	1201759	1.495
8	300	1750555	1.453

(Ave. RF = 1.517)
%RSD = 5.39

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.351	10.0	8.9	11	286817	≤ 15%

N-BUTYLBENZENE (RT = 26.13 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	27496	1.390
2	10	48080	1.208
3	20	89791	1.126
4	50	217753	1.096
5	80	369433	1.183
6	140	670298	1.193
7	200	979892	1.219
8	300	1435393	1.192

(Ave. RF = 1.201)
%RSD = 7.26

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.137	10.0	9.5	5.3	241337	≤ 15%

SEC-BUTYLB+1,3-DCB (RT = 25.61 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	30870	0.780
2	10	54620	0.686
3	20	102826	0.645
4	50	246555	0.620
5	80	404839	0.648
6	140	716619	0.638
7	200	1038031	0.646
8	300	1535859	0.637

(Ave. RF = 1.325)
%RSD = 7.70

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.276	10.0	9.6	3.7	270908	≤ 15%

T-BUTYLBENZENE (RT = 25.36 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	25098	1.268
2	10	45447	1.142
3	20	85862	1.077
4	50	208894	1.051
5	80	338076	1.082
6	140	597973	1.065
7	200	854286	1.063
8	300	1261161	1.047

(Ave. RF = 1.099)
%RSD = 6.78

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.030	10.0	9.4	6.3	218773	≤ 15%

2-CVE (RT = 17.70 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	79509	0.400
4	50	229119	0.440
5	80	379866	0.461
6	140	688318	0.518
7	200	990860	0.471
8	300	1497749	0.463

(Ave. RF = 0.459)
%RSD = 8.43

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.405	10.0	8.8	12	183498	≤ 15%

2-CHLOROTOLUENE (RT = 24.85 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	36955	0.786
2	10	67778	0.687
3	20	130872	0.659
4	50	326359	0.626
5	80	542989	0.659

(Ave. RF = 0.661)
%RSD = 9.46

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.662	10.0	10.0	0.18	300075	≤ 15%

6	140	893056	0.672
7	200	1334823	0.635
8	300	1831865	0.566

4-CHLOROTOLUENE (RT = 24.95 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	69600	0.705
3	20	155293	0.782
4	50	341411	0.655
5	80	571048	0.693
6	140	906699	0.683
7	200	1336307	0.635
8	300	2060747	0.636

(Ave. RF = 0.684)
%RSD = 7.45

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.779	10.0	11.4	14	352829	≤ 15%

DICHLORODIFLUOROMETH (RT = 2.47 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	18092	0.385
2	10	38743	0.393
3	20	83745	0.422
4	50	236160	0.453
5	80	385972	0.468
6	140	670997	0.505
7	200	974192	0.463
8	300	1454166	0.449

(Ave. RF = 0.442)
%RSD = 9.14

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.356	10.0	8.0	20	161218	≤ 15%

CIS-1,2-DCE (RT = 8.64 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	53183	1.131
2	10	113726	1.153
3	20	225717	1.137
4	50	583018	1.119
5	80	955778	1.160
6	140	1654793	1.246
7	200	2371665	1.128
8	300	3410163	1.053

(Ave. RF = 1.141)
%RSD = 4.69

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.197	10.0	10.5	4.9	542276	≤ 15%

1,3-DCP (RT = 20.54 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	162498	1.647
3	20	301399	1.518
4	50	730964	1.402
5	80	1096418	1.331
6	140	1891155	1.424
7	200	2656479	1.263

(Ave. RF = 1.431)
%RSD = 9.54

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.363	10.0	9.5	4.8	617262	≤ 15%

2,2-DCP (RT = 9.49 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	42961	1.007
2	10	100981	1.023
3	20	195705	0.985
4	50	595979	1.143
6	140	1361208	1.025
7	200	2009941	0.956
8	300	2905614	0.897

(Ave. RF = 1.005)
%RSD = 7.52

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.040	10.0	10.5	3.5	471228	≤ 15%

1,1-DICHLOROPROPENE (RT = 12.87 Minutes) ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	80791	1.718
2	10	163763	1.660
3	20	312789	1.575
4	50	791873	1.519
5	80	1294092	1.571
6	140	2195405	1.653
7	200	3093285	1.471
8	300	4380778	1.353

(Ave. RF = 1.565)
%RSD = 7.49

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.513	10.0	9.7	3.3	685384	≤ 15%

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EDB (RT = 21.41 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	29447	0.626
2	10	66391	0.673
3	20	143498	0.723
4	50	369963	0.710
5	80	579691	0.704
6	140	1073973	0.809
7	200	1482021	0.705
8	300	2223699	0.687

(Ave. RF = 0.704)
%RSD = 7.32

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.685	10.0	9.7	2.8	310159	≤ 15%

HEXACHLOROBUTADIENE (RT = 28.16 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
2	10	201691	2.044
3	20	355273	1.789
4	50	849209	1.629
5	80	1402450	1.702
6	140	2358966	1.776
7	200	3381051	1.608

(Ave. RF = 1.758)
%RSD = 9.00

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.802	10.0	10.3	2.5	816487	≤ 15%

ISOPROPYLBENZENE (RT = 24.25 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	27288	1.379
2	10	48104	1.209
3	20	92405	1.159
4	50	224228	1.128
5	80	359312	1.150
6	140	639042	1.138
7	200	913997	1.137
8	300	1351196	1.122

(Ave. RF = 1.178)
%RSD = 7.28

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.092	10.0	9.3	7.3	231865	≤ 15%

P-ISOPROPYLTOLUENE (RT = 25.78 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	28814	1.456
2	10	51403	1.291
3	20	92409	1.159
4	50	238175	1.198
5	80	395154	1.265
6	140	694168	1.236
7	200	1001208	1.246
8	300	1454839	1.208

(Ave. RF = 1.257)
%RSD = 7.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.176	10.0	9.4	6.5	249752	≤ 15%

NAPHTHALENE (RT = 28.10 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	18615	0.941
2	10	33771	0.848
3	20	60895	0.764
4	50	170759	0.859
5	80	293164	0.939
6	140	493218	0.878
7	200	746290	0.928
8	300	1103777	0.916

(Ave. RF = 0.884)
%RSD = 6.84

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.752	10.0	8.5	15	159586	≤ 15%

N-PROPYLBENZENE (RT = 24.78 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
2	10	73942	1.858
3	20	147810	1.854
4	50	313481	1.577
5	80	503906	1.613
6	140	896759	1.596
7	200	1332052	1.657
8	300	2015985	1.673

(Ave. RF = 1.690)
%RSD = 6.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.922	10.0	11.4	14	408191	≤ 15%

STYRENE (RT = 23.77 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	37040	1.872
2	10	66829	1.679
3	20	130929	1.642
4	50	336624	1.694
5	80	509323	1.631
6	140	914659	1.628

(Ave. RF = 1.675)
%RSD = 4.98

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.606	10.0	9.6	4.1	341103	≤ 15%

7	200	1313757	1.634
8	300	1956197	1.624

1,2,3-TCB (RT = 28.31 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	66145	1.407
2	10	130386	1.321
3	20	243506	1.226
4	50	629501	1.208
5	80	1093938	1.328
6	140	1830694	1.378
7	200	2764596	1.315
8	300	3827051	1.182

(Ave. RF = 1.296)
%RSD = 6.30

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.250	10.0	9.6	3.5	566315	≤ 15%

1,2,4-TCB (RT = 27.80 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
1	5	65470	1.392
2	10	119543	1.211
3	20	222123	1.119
4	50	558685	1.072
5	80	965616	1.172
6	140	1600144	1.205
7	200	2390764	1.137
8	300	3386526	1.046

(Ave. RF = 1.169)
%RSD = 9.21

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.159	10.0	9.9	0.88	525012	≤ 15%

1,2,4-TRIMETHYLBENZE (RT = 25.49 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	32769	1.656
2	10	61142	1.536
3	20	110222	1.382
4	50	262532	1.321
5	80	430754	1.379
6	140	760394	1.354
7	200	1099676	1.368
8	300	1625924	1.350

(Ave. RF = 1.418)
%RSD = 8.18

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.336	10.0	9.4	5.8	283668	≤ 15%

1,3,5-TRIMETHYLBENZE (RT = 25.07 Minutes)

PID

Calibration Levels

Level	Amount	Area	Response
1	5	42425	2.144
2	10	77920	1.958
3	20	142226	1.784
4	50	361412	1.818
5	80	588532	1.884
6	140	1004212	1.788
7	200	1441275	1.793
8	300	2114357	1.755

(Ave. RF = 1.865)
%RSD = 6.99

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
1.799	10.0	9.6	3.6	382050	≤ 15%

1,2-DIBROMO-3-CHLOR (RT = 26.44 Minutes)

ELCD

Calibration Levels

Level	Amount	Area	Response
3	20	42461	0.214
4	50	131500	0.252
5	80	228904	0.278
6	140	408546	0.308
7	200	614408	0.292
8	300	922228	0.285

(Ave. RF = 0.271)
%RSD = 12.38

Daily RF	Amount	Result	% diff	Area	% diff Accep. limits
0.219	10.0	8.1	19	99361	≤ 15%

UTM 006048

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Groundwater Monitoring - 1996
Utility Trailer Manufacturing Company
17300 East Chestnut Street
City of Industry, California

January 29, 1997

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Ted A. Koelsch, Ph.D., R.G.
Consulting Principal

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Harding Lawson Associates

TELEPHONE CONVERSATION RECORD

File: Job No.: 35343 Date: 2/4/97

Pers (alling): JULIO LARA Time: 16:40

Rep: A RUNQUIST City:

Sub: UCPIVE QA/QC DATA Tel. No.: 213 266 7541

Item

WITH JULIO CONCERNING SOIL STOCKPILE AT
HE SAID THAT HE HAD RECEIVED THE QA/QC
PACKAGE THAT WE SENT HIM. HE SAID THAT
IT COMPLETE AND THAT WE HAVE RUNQUIS FINAL
A FOR THE REUSE OF THE STOCKPILE SOIL AND
CO PROCEED.

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To BOB GRIFFIS	From KEVIN TROUT	
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Phone #	Phone #	
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Signature: