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id environmental associates, inc.

SEMIANNUAL GROUNDWATER MONITORING REPORT

THE MONADNOCK COMPANY
18301 ARENTH AVENUE
CITY OF INDUSTRY, CALIFORNIA

Prepared for:

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February 1995

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SEMIANNUAL GROUNDWATER MONITORING REPORT
THE MONADNOCK COMPANY
18301 ARENTH AVENUE
CITY OF INDUSTRY, CALIFORNIA

1.0 INTRODUCTION

TRW Inc. (TRW) contracted with ID Environmental Associates (IDEA) to monitor seven existing groundwater wells (Wells MW-1 through MW-4, MW-7, MW-8, and MW-11) at the Monadnock Company site, located at 18301 Arenth Avenue in City of Industry, California. This report summarizes the sampling procedures and analytical results for groundwater monitoring conducted in August 1994. Groundwater sampling and analysis will be conducted on a semiannual basis thereafter.

2.0 SCOPE OF WORK

The groundwater monitoring program consisted of the following elements:

- Measurement of static groundwater levels in Wells MW-1 through MW-4, MW-7, MW-8, and MW-11 at the site
- Collection of groundwater samples from these wells
- Chemical analysis of the collected groundwater samples

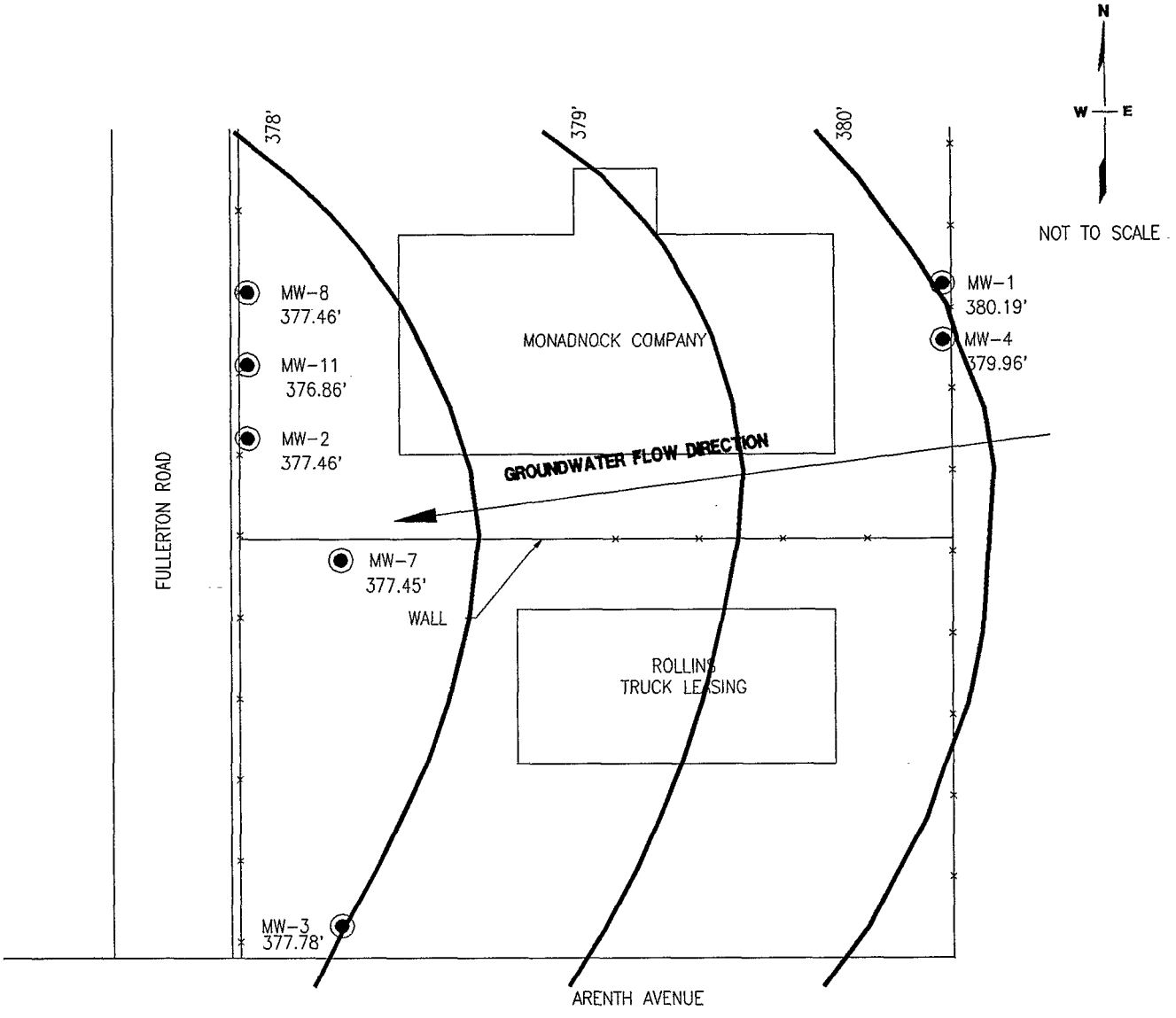
The locations of Wells MW-1 through MW-4, MW-7, MW-8, and MW-11 are shown on Figure 1. The following sections describe the groundwater monitoring program.

2.1 Measurement of Static Groundwater Levels

Static groundwater levels in Wells MW-1 through MW-4, MW-7, MW-8, and MW-11 were measured on August 16, 1994, prior to purging and sampling. An electronic sounder was used to measure the depth of water below the top of the respective well casing to the nearest 0.01 foot. Groundwater levels for each of the wells are presented in Table 1.

2.2 Groundwater Well Purging

Well purging was accomplished using a 3.5-inch diameter PVC bailer. Measurements of temperature, electrical conductivity, and pH were recorded at periodic intervals during the purging of each well. Where possible, a minimum of three well volumes of groundwater was purged from each well prior to sample collection. Purging was considered complete when the following conditions were met:



SOURCE: GROUNDWATER ELEVATION SURVEY BY ENGINEERING & SURVEYING, INC. (10-22-94)

LEGEND

379' GROUNDWATER ELEVATION CONTOUR

MW-1 MONITORING WELL LOCATION (WATER LEVEL MEASURED ON 8-16-94)

FENCE

REVISIONS				
REVISION 1	NO.	BY	DATE	DESCRIPTION
	0	SM	9/12/94	ISSUE FOR TRW REVIEW
	1	SM	2/28/95	ISSUE FOR TRW REVIEW

I D E A - id environmental associates, inc.

MONADNOCK COMPANY

WELL LOCATIONS AND GROUNDWATER ELEVATION CONTOURS

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
9104M	RC	SM	

DRAWING NO. MONADCON.DWG

FIGURE 1

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS

WELL NUMBER	WELL CASING ELEVATION (feet mean sea level)	DEPTH TO GROUNDWATER (feet below well casing)	GROUNDWATER ELEVATION (feet mean sea level)
MW-1	412.68	32.49	380.19
MW-2	408.01	30.55	377.46
MW-3	408.52	30.74	377.78
MW-4	412.95	32.99	379.96
MW-7	409.16	31.71	377.45
MW-8	409.00	31.54	377.46
MW-11	408.93	32.07	376.86

NOTE:

(1) Groundwater elevations are referenced to the top of each respective well casing - north edge (see copy of surveyor's report in Appendix D).

- A minimum of three well volumes of groundwater had been removed from the well.

- Temperature, electrical conductivity, and pH were stabilized to within 10 percent for successive measurements.

Well MW-3 was purged dry prior to removal of three well volumes of groundwater. For this well, purging was considered complete when the well was purged dry.

Water level measurement, well purging, and well sampling data were recorded for each well on water sample logs. Copies of these logs are contained in Appendix A.

Purging equipment was cleaned between the purging of each well to minimize the potential for cross-contamination. The procedures used for equipment cleaning are outlined below:

- Deionized water wash with detergent

- Rinse three times with deionized water

Purge and cleaning wastewater was collected in one or more 55-gallon drums at each well. The drummed wastewater was then stored onsite for later disposal by TRW.

2.3 Collection of Groundwater Samples

After purging, groundwater levels were again measured in each of the wells. Groundwater samples were collected from each well only after at least one of the following conditions had been met:

- The groundwater level had recovered to at least 80 percent of its level measured before purging had begun.

- A minimum of three hours had elapsed since the conclusion of well purging.

Groundwater samples were collected with a Teflon bailer, transferred to appropriately-sized and labeled bottles, and stored in an ice-cooled chest. Groundwater samples collected for analysis of purgeable halogenated organics (EPA Method 601) were transferred to 40-milliliter VOA vials; groundwater samples collected for analysis of total chromium and total cadmium were transferred to 200-milliliter plastic bottles; groundwater samples collected for analysis of cyanide were transferred to 300-milliliter plastic bottles. Each of the VOA vials was completely filled so as not to allow air bubbles to be trapped in the vial. Duplicate samples were collected from each well, though in most instances only one sample was analyzed by the laboratory (the duplicate samples were for

emergency and/or confirmation purposes). Before sample collection at each well, the Teflon bailer was decontaminated using procedures similar to those for the well purging equipment.

Groundwater samples were delivered under chain-of-custody documentation to CKY Analytical Laboratories, a California-certified hazardous waste analytical laboratory, located in Torrance, California for chemical analysis.

2.4 Chemical Analysis of Collected Samples

Groundwater samples were analyzed for purgeable halocarbons using EPA Method 601, total chromium using EPA Methods 3020/7191, total cadmium using EPA Methods 3020/7131, and cyanide using EPA Method 335.2. Results of the analyses are presented in Table 2. Copies of the chain-of-custody forms and the analytical laboratory reports are presented in Appendix B.

3.0 DISCUSSION OF RESULTS

The results of chemical analyses of the groundwater samples (see Table 2) indicate that chlorinated organic compounds, chromium, cadmium, and cyanide are present in the groundwater beneath the Monadnock site. Detected chlorinated organic compounds ranged in concentration from the low micrograms per liter of water (µg/l) to the hundreds of µg/l. Concentrations of cadmium range from non-detection (detection limit of 1 µg/l) to 4.8 µg/l. Concentrations of chromium range from 6.4 µg/l to 162 µg/l. Concentrations of cyanide range from non-detection (detection limit of 10 µg/l) to 760 µg/l.

The groundwater flow direction beneath the Monadnock Company site continues to be in a westerly-southwesterly direction. Groundwater elevation contours, based on August 1994 measurements, are presented on Figure 1.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

EPA Method 601 chlorinated compounds were not detected in the method blanks used by the analytical laboratory (see analytical laboratory reports in Appendix B); thus, cross-contamination of the samples with EPA Method 601 compounds is not indicated.

Results of quality assurance/quality control (QA/QC) measures undertaken by CKY Analytical Laboratories noted the following results:

- The surrogate recoveries for the EPA Method 601 analyses were within laboratory specifications.

TABLE 2. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (µg/l)	1,1-DCA (µg/l)	CFM (µg/l)	1,2-DCA (µg/l)	1,1,1-TCA (µg/l)	TCE (µg/l)	1,1,2-TCA (µg/l)	PCE (µg/l)	CADMIUM (µg/l)	CHROMIUM (µg/l)	CYANIDE (mg/l)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-1/											
JUL 86	N.A.	N.R.	N.R.	N.R.	<25	<25	N.R.	<25	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	ND	N.R.	ND	N.A.	N.A.	N.A.
JUN 89	ND	N.R.	N.R.	N.R.	ND	ND	N.R.	ND	N.A.	N.A.	N.A.
JAN 90	ND	N.R.	N.R.	N.R.	ND	ND	N.R.	1.3	N.A.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	N.A.	N.A.	N.A.
AUG 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	7.7	ND(.01)
MW-2/											
JUL 86	N.A.	N.R.	N.R.	N.R.	380	710	N.R.	310	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	180	560	N.R.	600	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	350	710	N.R.	770	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	77	620	N.R.	190	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	12	182	N.R.	102	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	25	102	N.R.	78	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	120	N.R.	70	N.A.	N.A.	N.A.
JUN 89	180	N.R.	N.R.	N.R.	ND	270	N.R.	320	N.A.	N.A.	N.A.
JAN 90	840	N.R.	N.R.	N.R.	7	460	N.R.	410	N.A.	N.A.	N.A.
JUN 94	120	10	2.4	3.3	ND(1)	590	21	130	N.A.	N.A.	N.A.
AUG 94	160	8.6	1.3	3.4	ND(1)	390	19	100	ND(1)	162	0.57

TABLE 2. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (µg/l)	1,1-DCA (µg/l)	CFM (µg/l)	1,2-DCA (µg/l)	1,1,1-TCA (µg/l)	TCE (µg/l)	1,1,2-TCA (µg/l)	PCE (µg/l)	CADMIUM (µg/l)	CHROMIUM (µg/l)	CYANIDE (mg/l)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-3/											
JUL 86	N.A.	N.R.	N.R.	N.R.	<5	<5	N.R.	<5	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	6	4	N.R.	100	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	2	2.6	N.R.	6.2	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	ND	N.R.	ND	N.A.	N.A.	N.A.
JUN 89	ND	N.R.	N.R.	N.R.	1	2	N.R.	6	N.A.	N.A.	N.A.
JAN 90	ND	N.R.	N.R.	N.R.	ND	2	N.R.	ND	N.A.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	N.A.	N.A.	N.A.
AUG 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	1.4	14.3	ND(.01)
MW-4/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	0.5	1.0	N.R.	1.6	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JUN 89	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 90	ND	N.R.	N.R.	N.R.	ND	ND	N.R.	1.9	N.A.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	N.A.	N.A.	N.A.
AUG 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	6.4	ND(.01)

TABLE 2. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (µg/l)	1,1-DCA (µg/l)	CFM (µg/l)	1,2-DCA (µg/l)	1,1,1-TCA (µg/l)	TCE (µg/l)	1,1,2-TCA (µg/l)	PCE (µg/l)	CADMIUM (µg/l)	CHROMIUM (µg/l)	CYANIDE (mg/l)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-7/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	48	456	N.R.	81	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	56	200	N.R.	93	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	8.2	152	N.R.	74	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	200	N.R.	150	N.A.	N.A.	N.A.
JUN 89	42	N.R.	N.R.	N.R.	50	66	N.R.	60	N.A.	N.A.	N.A.
JAN 90	440	N.R.	N.R.	N.R.	1.6	400	N.R.	160	N.A.	N.A.	N.A.
JUN 94	40	ND(1)	1.8	ND(1)	ND(1)	280	2.8	42	N.A.	N.A.	N.A.
AUG 94	140	6.2	2.4	1.7	ND(1)	310	17	60	1.3	115	0.76
MW-8/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	32	180	N.R.	110	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	3	47	N.R.	27	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	90	N.R.	80	N.A.	N.A.	N.A.
JUN 89	180	N.R.	N.R.	N.R.	30	400	N.R.	320	N.A.	N.A.	N.A.
JAN 90	100	N.R.	N.R.	N.R.	ND	160	N.R.	56	N.A.	N.A.	N.A.
JUN 94	16	ND(1)	ND(1)	ND(1)	ND(1)	34	ND(1)	6.8	N.A.	N.A.	N.A.
AUG 94	ND(1)	9.4	ND(1)	ND(1)	ND(1)	22	ND(1)	5.5	4.8	135	ND(.01)

TABLE 2. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (µg/l)	1,1-DCA (µg/l)	CFM (µg/l)	1,2-DCA (µg/l)	1,1,1-TCA (µg/l)	TCE (µg/l)	1,1,2-TCA (µg/l)	PCE (µg/l)	CADMIUM (µg/l)	CHROMIUM (µg/l)	CYANIDE (mg/l)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-11/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	ND	26	N.R.	ND	N.R.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	20	N.R.	200	N.R.	N.A.	N.A.
JUN 89	50	N.R.	N.R.	N.R.	ND	270	N.R.	10	N.R.	N.A.	N.A.
JAN 90	231	N.R.	N.R.	N.R.	ND	50	N.R.	5.5	N.R.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	1.8	ND(1)	ND(1)	86	ND(1)	7	N.A.	N.A.	N.A.
AUG 94	ND(1)	16	ND(1)	ND(1)	ND(1)	49	ND(1)	4.7	ND(1)	13.0	ND(.01)

NOTES:

(1) 1,1-DCE means 1,1-dichloroethene
1,1-DCA means 1,1-dichloroethane
CFM means chloroform
1,2-DCA means 1,2-dichloroethane
1,1,1-TCA means 1,1,1-trichloroethane
TCE means trichloroethene
1,1,2-TCA means 1,1,2-trichloroethane
PCE means tetrachloroethene

TABLE 2. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

(2) Drinking water standards are Maximum Contaminant Levels (MCLs) as established by the United States Environmental Protection Agency or Drinking Water Action Levels as established by the California Environmental Protection Agency.

(3) N.E. means that drinking water standard (MCL or Action Level) has not been established.

(4) ND( ) means not detected at the concentration shown in parentheses.

(5) N.A. means analyte was not analyzed for.

(6) N.R. means either analyte was not analyzed for or a value was not reported.

- The matrix spike and matrix spike duplicate analyses for the EPA Method 601 analyses were within laboratory specifications.

- The matrix spike analyses for chromium and cadmium were outside laboratory specifications. CKY Analytical Laboratories reported (see letter in Appendix C) that, since the laboratory control sample recoveries for both chromium and cadmium were within control limits, the low matrix spike recovery for these metals suggested matrix interference. Further testing by the laboratory supported this contention. Because the laboratory control sample recoveries for chromium and cadmium were within control limits, IDEA believes that the reported analytical results for these samples reflect actual chromium and cadmium concentrations.

- The matrix spike analysis for cyanide was within laboratory specifications.

One rinseate blank and one trip blank accompanied the groundwater samples collected in the field and sent to CKY Analytical Laboratories. Halogenated organic compounds were not detected in the rinseate or trip blanks (analyzed using EPA Method 601 - analytical laboratory reports are presented in Appendix B). Thus, cross-contamination of the groundwater samples with halogenated organic compounds as a result of sample handling is not indicated.

APPENDIX A

COPIES OF WATER SAMPLE LOGS

WATER SAMPLE LOG

Project Name: Monadnock Date: 8/16/94
Well No. MW-1 Location: Collected by: CC

Well Purging Method: 3.5" PVC BAILER
Total Depth: 47.48 Height of Water Column: 14.99
Decon. Method: 1 WASH & 3 RINSE
Casing volumes to be purged: 2" (0.16 gal./ft.) 4" (0.65 gal./ft.) 6" (1.47 gal./ft.)

3 casing vol. x .65 gal./ft. x 14.99 ft = 29.2 gal.

Time	W.L. (ft.)	Purged (gallons)	Temp °C	mΩ	pH	Notes
0840	32.49					
0849		5	75.2	1683	6.28	H_2O CLOUDY
0853		10	74.7	1649	6.60	" "
0856		15	74.3	1584	6.77	" "
0900		20	73.9	1532	6.88	" "
0905		25	73.9	1535	6.95	" "
0908		30	74.1	1556	6.98	" "

Total Purged (gallons): 30 No. of Casing Volumes: 3
Well Sampling Method: 1.5" TEFLON BAILER
Decon. Method: 1 WASH & 3 RINSE

Sample Container	Sample Number
2 - 300 ML (P)	MW-1-B
2 - 200 ML (P)	MW-1-C
2 - 40 ML	MW-1-A

Observations/Notes/Calibration record: PH METER CALIBRATED (SET TO 7 & SLOPED OUT TO 10).

WATER SAMPLE LOG

Project Name: MONADNOCK Date: 8/16/94
Well No. MW-2 Location: Collected by: CC

Well Purging Method: 3.5" PVC BAILER
Total Depth: 44.32 Height of Water Column: 13.77
Decon. Method: 1 WASH & 3 RINSE
Casing volumes to be purged: 2" (0.16 gal./ft.) 4" (0.65 gal./ft.) 6" (1.47 gal./ft.)

3 casing vol. x .65 gal./ft. x 13.77 ft = 26.85 gal.

Time	W.L. (ft.)	Purged (gallons)	Temp °	mΩ	pH	Notes
	[redacted]					
	30.55					
1217		5	78.6	1606	7.51	H_2O CLOUDY
		10	76.0	1540	7.32	" "
1223		15	75.5	1482	7.21	" "
1226		19	-	-	-	BAILED DRY
1241		20	76.7	1559	7.09	H_2O SLIGHTLY CLOUDY
1245		25	75.5	1498	7.06	H_2O CLOUDY
1249		30	74.7	1458	7.07	" "

Total Purged (gallons): 30 No. of Casing Volumes: 3+
Well Sampling Method: 1.5" TEFLON BAILER
Decon. Method: 1 WASH & 3 RINSE

Sample Container	Sample Number
2-40 ML	MW-2-A
2-300 ML (P)	MW-2-B
2-200 ML (P)	MW-2-C

Observations/Notes/Calibration record:

Cheryl 35573

WATER SAMPLE LOG

Project Name: MONADNOCK Date: 8/17/94
Well No. MW-3 Location: Collected by: CC

Well Purging Method: 3.5" PVC BAILER
Total Depth: 45.46 Height of Water Column: 14.72
Decon. Method: 1 WASH & 3 RINSE
Casing volumes to be purged: 2" (0.16 gal./ft.) 4" (0.65 gal./ft.) 6" (1.47 gal./ft.)

3 casing vol. x .65 gal./ft. x 14.72 ft = 28.7 gal.

Time	W.L. (ft.)	Purged (gallons)	Temp °	mΩ	pH	Notes
	30.74					
1215		5	75.8	1552	6.68	H_2O CLOUDY
1219		10	73.3	1525	6.70	" "
1234		15	73.1	1522	6.88	" "
1237		17	–	–	–	BAILED DRY
1253		20	73.4	1480	6.94	H_2O SLIGHTLY CLOUDY
1301		22	–	–	–	BAILED DRY
						PURGING INCOMPLETE

Total Purged (gallons): 22 No. of Casing Volumes: < 3
Well Sampling Method: 1.5" TEFLON BAILER
Decon. Method: 1 WASH & 3 RINSE

Sample Container	Sample Number
2-40 ML	MW-3-A
2-300 ML (P)	MW-3-B
2-200 ML (P)	MW-3-C

Observations/Notes/Calibration record: pH METER calibrated AT 7 & SLOPED TO 10

WATER SAMPLE LOG

Project Name: Monadnock Date: 8/16/94
Well No. MW-4 Location: Collected by: C.C

Well Purging Method: 3.5" PVC BAILER
Total Depth: 47.27 Height of Water Column: 14.28
Decon. Method: 1 WASH & 3 RINSE
Casing volumes to be purged: 2" (0.16 gal./ft.) 4" (0.65 gal./ft.) 6" (1.47 gal./ft.)

3 casing vol. x .65 gal./ft. x 14.28 ft = 27.8 gal.

Time	W.L. (ft.)	Purged (gallons)	Temp °	mΩ	pH	Notes
	32.99					
0936		5	74.2	1484	7.13	H_2O CLOUDY
0940		10	73.9	1483	7.07	" "
0955		15	73.7	1479	7.05	" "
0959		20	73.6	1485	7.05	" "
1005		25	73.3	1465	7.04	" " BAILED DRY
1015		30	73.5	1477	7.04	H_2O CLOUDY

Total Purged (gallons): 30 No. of Casing Volumes: 3+
Well Sampling Method: 1.5" TEFLON BAILER
Decon. Method: 1 WASH & 3 RINSE

Sample Container	Sample Number
2- 40 ML	MW-4-A
2- 300 ML (P)	MW-4-B
2- 200 ML (P)	MW-4-C

Observations/Notes/Calibration record:

WATER SAMPLE LOG

Project Name: MONADNOCK Date: 8/16/94
Well No. MW-7 Location: Collected by : CC

Well Purging Method: 3.5" PVC BAILER
Total Depth: 56.55 Height of Water Column: 24.84
Decon. Method: 1 WASH & 3 RINSE
Casing volumes to be purged: 2" (0.16 gal./ft.) 4" (0.65 gal./ft.) 6" (1.47 gal./ft.)

3 casing vol. x .65 gal./ft. x 24.84 ft = 48.4 gal.

Time	W.L. (ft.)	Purged (gallons)	Temp °	mΩ	pH	Notes
	31.71					
1100		20	77.8	1430	7.30	H2O CLOUDY
1104		25	75.3	1400	7.24	" "
1108		30	74.1	1298	7.23	" "
1112		35	73.8	1322	7.19	" "
		40	73.9	1325	7.18	" "
1120		45	74.3	1314	7.17	" "
1125		50	73.9	1297	7.18	" "

Total Purged (gallons): 50 No. of Casing Volumes: 3 +
Well Sampling Method: 1.5" TEFLON BAILER
Decon. Method: 1 WASH & 3 RINSE

Sample Container	Sample Number
2-40 ML	MW-7-A
2-300 ML (P)	MW-7-B
2-200 ML (P)	MW-7-C

Observations/Notes/Calibration record: I TOOK A RINSATE SAMPLE AFTER SAMPLING THIS WELL IN SEQUENCE.

WATER SAMPLE LOG

Project Name: MONADNOCK Date: 8/17/94
Well No. # MW-8 Location: Collected by : CC

Well Purging Method: 3.5" PVC BAILER
Total Depth: 52.07 Height of Water Column: 20.53
Decon. Method: 1 WASH & 3 RINSE
Casing volumes to be purged: 2" (0.16 gal./ft.) 4" (0.65 gal./ft.) 6" (1.47 gal./ft.)

3 casing vol. x .65 gal./ft. x 20.53 ft = 40.0 gal.

Time	W.L. (ft.)	Purged (gallons)	Temp °	mΩ	pH	Notes
	31.54					
1545		10	78.3	1429	7.32	H2O VERY CLOUDY
1550		20	76.4	1402	7.08	" " "
1555		25	75.6	1389	7.04	" " "
1600		30	75.1	1383	7.03	" " "
1605		35	75.1	1380	7.03	" " "
1610		40	75.0	1380	7.03	" " "

Total Purged (gallons): 40 No. of Casing Volumes: 3
Well Sampling Method: 1.5" TEFLON BAILER
Decon. Method: 1 WASH & 3 RINSE

Sample Container	Sample Number
2-40 ML	MW-8-A
2-300 ML (P)	MW-8-B
2-300 ML (P)	MW-8-C

Observations/Notes/Calibration record:

WATER SAMPLE LOG

Project Name: MONADNOCK Date: 8/17/94
Well No. MW-11 Location: Collected by : CC

Well Purging Method: 3.5" PVC BAILER
Total Depth: 97.58 Height of Water Column: 65.51
Decon. Method: 1 WASH & 3 RINSE
Casing volumes to be purged: 2" (0.16 gal./ft.) 4" (0.65 gal./ft.) 6" (1.47 gal./ft.)

3 casing vol. x .65 gal./ft. x 65.51 ft = 127.7 gal.

Time	W.L. (ft.)	Purged (gallons)	Temp °	mΩ	pH	Notes
	32.07					
1411		50	77.1	1231	6.94	H_2O CLOUDY
1439		100	76.5	1225	7.27	" "
1443		105	75.1	1211	7.20	" "
1447		110	74.4	1203	7.20	" "
1450		115	74.2	1201	7.16	" "
		120	73.8	1200	7.15	" "
1457		125	73.8	1200	7.16	" "
1500		130	73.7	1199	7.16	" "

Total Purged (gallons): 130 No. of Casing Volumes: 3+
Well Sampling Method: 1.5" TEFLON BAILER
Decon. Method: 1 WASH & 3 RINSE

Sample Container	Sample Number
2-40 ML	MW-11-A
2-300 ML (P)	MW-11-B
2-200 ML (P)	MW-11-C

Observations/Notes/Calibration record:

APPENDIX B

CHAIN-OF CUSTODY FORMS
AND
ANALYTICAL LABORATORY REPORTS

94H051

CHAIN OF CUSTODY RECORD
REQUEST FOR ANALYSIS

DATE: 8/18/94

PAGE 1 OF 2

CKY Incorporated
Analytical Laboratories
630 Maple Ave.
Torrance, Calif. 90503
Tel: 310-618-8889
Fax: 310-618-0818

K3
K6A3

CLIENT NAME: TRW
ADDRESS: ONE SPACE PARK
REDONDO BEACH
PHONE NO. 813-2723 FAX NO.
PROJECT NAME: MONADNOCK
SEND REPORT TO: DEBBIE TAKASHIMA

SAMPLER NAME/SIGNATURE: Chris Coltey

TURN AROUND TIME: NORMAL ☑ RUSH ☐

ANALYSES REQUIRED

	SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION WATER	SOIL	OTHER	418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals
1	MW-1-A	8/17/94		(2) 40 mL	X										
2	MW-1-B		NaOH	(2) 300 mL (P)											
3	MW-1-C		HNO3	(2) 200 mL (P)											
4	MW-4-A			(2) 40 mL											
5	MW-4-B		NaOH	(2) 300 mL (P)											
6	MW-4-C		HNO3	(2) 200 mL (P)											
7	MW-7-A			(2) 40 mL											
8	MW-7-B		NaOH	(2) 300 mL (P)											
9	MW-7-C		HNO3	(2) 200 mL (P)											
10	MW-2-A			(2) 40 mL											
11	MW-2-B		NaOH	(2) 300 mL (P)											
12	MW-2-C		HNO3	(2) 200 mL (P)											
13	TRIP BLANK			(1) 40 mL											
14	RINSATE	✓	✓	(2) 40 mL	✓										

COMMENTS:

CONTACT STEVE MULLIGAN FOR ANALYSES 714 839-1744

T=2°C

Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
Chris Coltey	8/18/94	[illegible]	8-18-94				
Company: TRW	Time: 1131	Company: CKY	Time: 1131	Company:	Time:	Company:	Time:

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at $10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at $10/sample.

94H051

CHAIN OF CUSTODY RECORD
REQUEST FOR ANALYSIS

DATE: 8/18/94
PAGE: 2 OF 2

CKY incorporated
Analytical Laboratories
630 Maple Ave.
Torrance, Calif. 90503
Tel: 310-618-8889
Fax: 310-618-0818

K3
R6A3

CLIENT NAME: TRW
ADDRESS: ONE SPACE PARK
REDONDO BEACH
PHONE NO. 813 2722 FAX NO.
PROJECT NAME: MONADNOCK
SEND REPORT TO: DEBBIE TAKASHIMA

SAMPLER NAME/SIGNATURE: Chris Colley

TURN AROUND TIME: NORMAL ☑ RUSH ☐

ANALYSES REQUIRED

	SAMPLE NUMBER	SAMPLING DATE/TIME	PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION WATER	SOIL	OTHER	418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals
15	MW-8-A	8/17/94		(2) 40 ml	X										
16	MW-8-B		NaOH	(2) 300 ml (P)											
17	MW-8-C		HNO3	(2) 200 ml (P)											
18	MW-11-A			(2) 40 ml											
19	MW-11-B		NaOH	(2) 300 ml (P)											
20	MW-11-C		HNO3	(2) 300 ml (P)											
21	MW-3-A			(2) 40 ml											
22	MW-3-B		NaOH	(2) 300 ml (P)											
23	MW-3-C		HNO3	(2) 200 ml (P)											

COMMENTS:

CONTACT STEVE MULLIGAN FOR ANALYSES AT 714 839-1744

T=2°C

Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
Chris Colley	8/18/94	[illegible]	8-18-94				
Company: TRW	Time: 1131 A	Company: CKY	Time: 1131	Company:	Time:	Company:	Time:

Storage/Disposal of Samples: Sample will be stored at CKY for 30 days at no charge and at $10/sample/month thereafter. Disposal of sample by the Laboratory will be charged at $10/sample.

C K Y incorporated
Analytical Laboratories

Date: 09-21-1994
CKY Batch No.: 94H051R

Attn.: Debbie Takashima R21112

TRW
One Space Park Drive
Redondo Beach, CA 90278

Subject: Revised Laboratory Report
Project: MONADNOCK

Enclosed is the revised laboratory report for samples received on 08/18/94. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. Initial analyses by GFAA on 08/22/94 indicated matrix effect. Therefore all samples were reanalyzed by MSA, results are presented here. The data reported include: method of std addition

Sample ID	Control No.	Matrix	Analysis
MW-1-C	H051-03	Water	Cadmium Chromium
MW-4-C	H051-06	Water	Cadmium Chromium
MW-7-C	H051-09	Water	Cadmium Chromium
MW-2-C	H051-12	Water	Cadmium Chromium
MW-8-C	H051-17	Water	Cadmium Chromium
MW-11-C	H051-20	Water	Cadmium Chromium
MW-3-C	H051-23	Water	Cadmium Chromium

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analyses requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the samples will be disposed after fifteen (15) days from the date of this report.

630 Maple Ave., Torrance, Calif. 90503 • Telephone 310-618-8889 • Fax: 310-618-0818

EPA METHOD 3020/7131
TOTAL CADMIUM BY GFAA

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	08/19/94
MATRIX:	WATER	DATE ANALYZED:	09/19/94

SAMPLE ID	CONTROL NO	RESULT (ug/L)	DILUTION FACTOR	MDL (ug/L)
MW-1-C	H051-03	ND	1	1
MW-4-C	H051-06	ND	1	1
MW-7-C	H051-09	1.3	1	1
MW-2-C	H051-12	ND	1	1
MW-8-C	H051-17	4.8	3	3
MW-11-C	H051-20	ND	1	1
MW-3-C	H051-23	1.4	1	1
GBLK1W	H051-B1W	ND	1	1

MDL: Method Detection Limit
All samples were analyzed by MSA with correlation coefficients greater than 0.995 except for sample 94H051-09 at 0.987 (another analysis is at 0.985).

EPA METHOD 3020/7191
TOTAL CHROMIUM BY GFAA

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	08/19/94
MATRIX:	WATER	DATE ANALYZED:	09/19/94

SAMPLE ID	CONTROL NO	RESULT (ug/L)	DILUTION FACTOR	MDL (ug/L)
MW-1-C	H051-03	7.7	1	1
MW-4-C	H051-06	6.4	1	1
MW-7-C	H051-09*	115	10	10
MW-2-C	H051-12*	162	10	10
MW-8-C	H051-17*	135	10	10
MW-11-C	H051-20	13.0	1	1
MW-3-C	H051-23	14.3	1	1

MDL: Method Detection Limit
* : Analyzed on 09/16/94
All samples were reanalyzed by MSA with correlation coefficients greater than 0.995 except for samples 94H051-03, 20, and 23 (reanalysis of MSA on these samples yield lower coefficients, thus the better of the two results were reported).

CKY QUALITY CONTROL DATA
SPIKE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7191
MATRIX: WATER

BATCH NO.: 94H051
SAMPLE ID: MW-1-C
CONTROL NO.: H051-03

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 09/19/94

ACCESSION: 94H051

PARAMETER	SAMPLE RESULT (ug/L)	SPIKE CONC. (ug/L)	SPIKE RESULT (ug/L)	SPIKE RECRY. (%)
Chromium	7.7	25.00	21.80	56+

+ Out of the control limit of 75-125% recovery. Since the lab control sample is within the QC limits and the serial dilution suggested matrix interference, serial dilution was analyzed at 5x diluted.

CKY QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7191
MATRIX: WATER

==========

BATCH NO.: 94H051
SAMPLE ID: MW-1-C
CONTROL NO.: H051-03

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 09/19/94

ACCESSION: 94H051

PARAMETER	SAMPLE (ug/L)	DUP. SAMPLE (ug/L)	RPD (%)
Chromium	7.7	9.7	23

C K Y incorporated
Analytical Laboratories

Date: 08-31-1994
CKY Batch No.: 94H051

Attn.: Debbie Takashima R21112

COPY

TRW
One Space Park Drive
Redondo Beach, CA 90278

Subject: Laboratory Report
Project: MONADNOCK

Enclosed is the Laboratory report for samples received on 08/18/94. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported include :

Sample ID	Control No.	Matrix	Analysis
MW-1-A	H051-01	Water	EPA 601
MW-1-B	H051-02	Water	Cyanide
MW-1-C	H051-03	Water	Cadmium
			Chromium
MW-4-A	H051-04	Water	EPA 601
MW-4-B	H051-05	Water	Cyanide
MW-4-C	H051-06	Water	Cadmium
			Chromium
MW-7-A	H051-07	Water	EPA 601
MW-7-B	H051-08	Water	Cyanide
MW-7-C	H051-09	Water	Cadmium
			Chromium
MW-2-A	H051-10	Water	EPA 601
MW-2-B	H051-11	Water	Cyanide
MW-2-C	H051-12	Water	Cadmium
			Chromium
TRIP BLANK	H051-13	Water	EPA 601
RINSATE	H051-14	Water	EPA 601
MW-8-A	H051-15	Water	EPA 601

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Sample ID	Control No.	Matrix	Analysis
MW-8-B	H051-16	Water	Cyanide
MW-8-C	H051-17	Water	Cadmium Chromium
MW-11-A	H051-18	Water	EPA 601
MW-11-B	H051-19	Water	Cyanide
MW-11-C	H051-20	Water	Cadmium Chromium
MW-3-A	H051-21	Water	EPA 601
MW-3-B	H051-22	Water	Cyanide
MW-3-C	H051-23	Water	Cadmium Chromium

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analyses requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the samples will be disposed after fifteen (15) days from the date of this report.

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	MW-1-A	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-01	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	99	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	MW-4-A	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-04	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	97	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	MW-7-A	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-07	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	140	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	6.2	1
Chloroform	2.4	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	1.7	1
Trichloroethene	310	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	17	1
Tetrachloroethene	60	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	92	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	MW-2-A	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-10	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	160	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	8.6	1
Chloroform	1.3	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	3.4	1
Trichloroethene	390	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	19	1
Tetrachloroethene	100	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	99	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	TRIP BLANK	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-13	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	95	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	RINSATE	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-14	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	92	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	MW-8-A	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-15	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	9.4	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	22	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	5.5	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	95	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	MW-11-A	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-18	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	16	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	49	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	4.7	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	89	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	MW-3-A	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-21	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	88	65-135

MDL: Method Detection Limit

EPA METHOD 601
HALOGENATED VOLATILE ORGANICS

CLIENT:	TRW	DATE COLLECTED:	NA
PROJECT:	MONADNOCK	DATE RECEIVED:	NA
BATCH NO.:	94H051	DATE EXTRACTED:	NA
SAMPLE ID:	HBLK1W	DATE ANALYZED:	08/26/94
CONTROL NO.:	H051-B1W	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	results (ug/L)	MDL (ug/L)
Chloroethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloromethane	ND	10
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	10
Trans-1,2-Dichloroethene	ND	1
Cis-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
Trans-1,3-Dichloropropene	ND	1
Cis-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
Bromofluorobenzene	96	65-135

MDL: Method Detection Limit

CKY QUALITY CONTROL DATA
SPIKE/SPIKE DUPLICATE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 601
MATRIX: WATER

BATCH NO.: 94H051
SAMPLE ID: HBLK1W
CONTROL NO.: H051-B1W

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 08/26/94

ACCESSION: 94H051

PARAMETER	SAMPLE CONC (ug/L)	SPIKE ADDED (ug/L)	MS CONC (ug/L)	MS % REC	SPIKE ADDED (ug/L)	MSD CONC (ug/L)	MSD % REC	% RPD
Benzene	ND	50.00	50.00	100	50.00	49.00	98	2
Toluene	ND	50.00	46.00	92	50.00	45.00	90	2
1,1-DCE	ND	50.00	42.00	84	50.00	42.00	84	0
TCE	ND	50.00	46.00	92	50.00	46.00	92	0
Chlorobenzene	ND	50.00	52.00	104	50.00	52.00	104	0

CKY QUALITY CONTROL DATA
LABORATORY CONTROL SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 601
MATRIX: WATER

==========

BATCH NO.: 94H051
SAMPLE ID: LCS01
CONTROL NO.: H051-L1W

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 08/26/94

ACCESSION: 94H051

PARAMETER	TRUE VALUE (ug/L)	FOUND VALUE (ug/L)	LCS RECOVERY (%)
Benzene	50.00	59.00	118
Toluene	50.00	57.00	114
1,1-DCE	50.00	52.00	104
TCE	50.00	55.00	110
Chlorobenzene	50.00	53.00	106

EPA METHOD 3020/7191
TOTAL CHROMIUM BY GFAA

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	08/19/94
MATRIX:	WATER	DATE ANALYZED:	08/23/94

SAMPLE ID	CONTROL NO	RESULT (ug/L)	DILUTION FACTOR	MDL (ug/L)
MW-1-C	H051-03	5.0	1	2
MW-4-C	H051-06	4.0	1	2
MW-7-C	H051-09	54.1	2	4
MW-2-C	H051-12	71.8	2	4
MW-8-C	H051-17	63.9	2	4
MW-11-C	H051-20	5.6	1	2
MW-3-C	H051-23	7.0	1	2
GBLK1W	H051-B1W	ND	1	2

MDL: Method Detection Limit

CKY QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7191
MATRIX: WATER

==========

BATCH NO.: 94H051
SAMPLE ID: MW-1-C
CONTROL NO.: H051-03

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 08/23/94

ACCESSION: 94H051

PARAMETER	SAMPLE (ug/L)	DUP. SAMPLE (ug/L)	RPD (%)
Chromium	5.00	5.50	10

CKY QUALITY CONTROL DATA
SPIKE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7191
MATRIX: WATER

BATCH NO.: 94H051
SAMPLE ID: MW-1-C
CONTROL NO.: H051-03

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 08/23/94

ACCESSION: 94H051

PARAMETER	SAMPLE RESULT (ug/L)	SPIKE CONC. (ug/L)	SPIKE RESULT (ug/L)	SPIKE RECRY. (%)
Chromium	5.00	25.00	21.80	67+

\+ Out of the control limit of 75-125% recovery. Since the lab control sample is within the QC limits, matrix interference was suspected.

CKY QUALITY CONTROL DATA
LABORATORY CONTROL SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7191
MATRIX: WATER

==========

BATCH NO.: 94H051
SAMPLE ID: LCS01
CONTROL NO.: H051-L1W

DATE RECEIVED: NA
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 08/23/94

ACCESSION: 94H051

PARAMETER	TRUE VALUE (ug/L)	FOUND VALUE (ug/L)	LCS RECOVERY (%)
Chromium	25.00	21.00	84

EPA METHOD 3020/7131
TOTAL CADMIUM BY GFAA

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	08/19/94
MATRIX:	WATER	DATE ANALYZED:	08/22/94

SAMPLE ID	CONTROL NO	RESULT (ug/L)	DILUTION FACTOR	MDL (ug/L)
MW-1-C	H051-03	ND	1	1
MW-4-C	H051-06	ND	1	1
MW-7-C	H051-09	ND	1	1
MW-2-C	H051-12	ND	1	1
MW-8-C	H051-17	2.65	1	1
MW-11-C	H051-20	ND	1	1
MW-3-C	H051-23	ND	1	1
GBLK1W	H051-B1W	ND	1	1

MDL: Method Detection Limit

CKY QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7131
MATRIX: WATER

==========

BATCH NO.: 94H051
SAMPLE ID: MW-1-C
CONTROL NO.: H051-03

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 08/22/94

ACCESSION: 94H051

PARAMETER	SAMPLE (ug/L)	DUP. SAMPLE (ug/L)	RPD (%)
Cadmium	ND	ND	0

CKY QUALITY CONTROL DATA
SPIKE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7131
MATRIX: WATER

BATCH NO.: 94H051
SAMPLE ID: MW-1-C
CONTROL NO.: H051-03

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 08/22/94

ACCESSION: 94H051

PARAMETER	SAMPLE RESULT (ug/L)	SPIKE CONC. (ug/L)	SPIKE RESULT (ug/L)	SPIKE RECRY. (%)
Cadmium	ND	25.00	16.90	68+

\+ Out of the control limit of 75-125% recovery. Since the lab control sample is within the QC limits, matrix interference was suspected.

CKY QUALITY CONTROL DATA
LABORATORY CONTROL SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 3020/7131
MATRIX: WATER

BATCH NO.: 94H051
SAMPLE ID: LCS01
CONTROL NO.: H051-L1W

DATE RECEIVED: NA
DATE EXTRACTED: 08/19/94
DATE ANALYZED: 08/22/94

ACCESSION: 94H051

PARAMETER	TRUE VALUE (ug/L)	FOUND VALUE (ug/L)	LCS RECOVERY (%)
Cadmium	25.00	26.10	104

EPA METHOD 335.2
TOTAL CYANIDE

CLIENT:	TRW	DATE COLLECTED:	08/17/94
PROJECT:	MONADNOCK	DATE RECEIVED:	08/18/94
BATCH NO.:	94H051	DATE EXTRACTED:	08/23/94
MATRIX:	WATER	DATE ANALYZED:	08/23/94

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	MDL (mg/L)
MW-1-B	H051-02	ND	1	.01
MW-4-B	H051-05	ND	1	.01
MW-7-B	H051-08	0.76	1	.01
MW-2-B	H051-11	0.57	1	.01
MW-8-B	H051-16	ND	1	.01
MW-11-B	H051-19	ND	1	.01
MW-3-B	H051-22	ND	1	.01
WBLK1W	H051-B1W	ND	1	.01

MDL : Method Detection Limit

CKY QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 335.2
MATRIX: WATER

BATCH NO.: 94H051
SAMPLE ID: MW-8-B
CONTROL NO.: H051-16

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/23/94
DATE ANALYZED: 08/23/94

ACCESSION: 94H051

PARAMETER	Sample (mg/L)	Dup. Sample (mg/L)	RPD (%)
Cyanide	ND	ND	0

CKY QUALITY CONTROL DATA
SPIKE SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 335.2
MATRIX: WATER

BATCH NO.: 94H051
SAMPLE ID: MW-8-B
CONTROL NO.: H051-16

DATE RECEIVED: 08/18/94
DATE EXTRACTED: 08/23/94
DATE ANALYZED: 08/23/94

ACCESSION: 94H051

Parameter	SAMPLE CONC (mg/L)	SPIKE ADDED (mg/L)	MS CONC (mg/L)	MS % REC
Cyanide	ND	.100	.102	102

CKY QUALITY CONTROL DATA
LABORATORY CONTROL SAMPLE ANALYSIS

CLIENT: TRW
PROJECT: MONADNOCK
METHOD: EPA 335.2
MATRIX: WATER

==========

BATCH NO.: 94H051
SAMPLE ID: LCS01
CONTROL NO.: H051-L1W

DATE RECEIVED: NA
DATE EXTRACTED: 08/23/94
DATE ANALYZED: 08/23/94

ACCESSION: 94H051

PARAMETER	TRUE VALUE (mg/L)	FOUND VALUE (mg/L)	LCS RECOVERY (%)
Cyanide	0.100	0.108	108

APPENDIX C

LETTER FROM CKY ANALYTICAL LABORATORIES DISCUSSING QUALITY CONTROL OF CHROMIUM AND CADMIUM ANALYSES

C K Y incorporated
Analytical Laboratories

September 9, 1994

TO: Debbie Takashima, TRW

FROM: Kevin Hoang, CKY Inc. kh

SUBJECT: Quality Control - CKY Control No. 94H051

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Matrix recovery for Chromium and Cadmium were out of QC limit, 75-125% recovery. Since lab control sample recovery for both Chromium and Cadmium are within control limits, the low matrix spike recovery for Chromium and Cadmium suggest matrix interference. Serial dilutions at 5 times were analyzed for Chromium and Cadmium; both of the sample results show greater than 10% difference compared to original undiluted sample. This indicates that the sample matrix does interfere with % Recovery for Chromium and Cadmium.

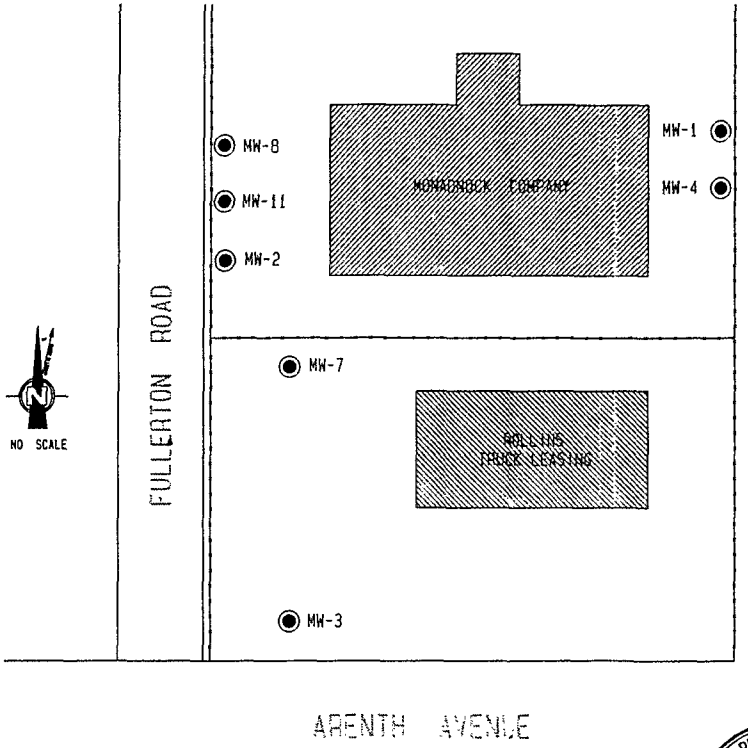
630 Maple Ave., Torrance, Calif. 90503 • Telephone 310-618-8889 • Fax: 310-618-0818

APPENDIX D

SURVEYOR'S REPORT

MONITORING WELL ELEVATION SURVEY

ENGINEERING & SURVEYING, INC.
683 SOUTH MCCADDEN PLACE
LOS ANGELES, CALIFORNIA 90005
(213) 937-8696



MONITORING WELL IDENTIFICATION	ELEVATION TOP OF CASING NORTH EDGE	ELEVATION TOP OF RIM NORTH EDGE
MW-1	412.68	413.30
MW-4	412.95	413.37
MW-2	408.01	408.70
MW-11	408.93	409.22
MW-8	409.00	409.35
MW-7	409.16	409.39
MW-3	408.52	408.75

BASIS OF ELEVATIONS:
ELEVATIONS SHOW ARE BASED UPON LOS ANGELES COUNTY BENCH MARK NO. DG 1750, BASELINE QUAD DATED 1990 AND DESCRIBED AS FOLLOWS: LEAD & BRASS NAIL IN RAILROAD SIGNAL BASE 75 FT. SOUTH OF CENTER LINE OF VALLEY BOULEVARD AND 35 FT. WEST OF CENTER LINE OF YORBITA ROAD. THIS MONUMENT IS IN DESCREPANCY WITH AN AJACENT COUNTY MONUMENT NO. DG 4755 BY 0.06 FT. THEREFOR THE ELEVATIONS SHOWN HEREON ARE WITHIN PLUS OR MINUS 0.06 FT. OF COUNTY VERTICAL CONTROL. EL= 412.479 BASIS

REGISTERED PROFESSIONAL ENGINEER
ROBERT REISS
No. 18216
Exp. 6-30-97
CIVIL
STATE OF CALIFORNIA

SITE ADDRESS: 18301 ARENTH AVENUE
CITY OF INDUSTRY

ORIGINAL DATE OF SURVEY: 8-10-1994
REVISED ELEVATIONS 10-22-1994