

April 15, 1999

Mr. Kevin Jasper
U.S. Army Corps of Engineers
ATTN: CEORL-ED-GS
600 Martin Luther King, Jr. Place
P.O. Box 59
Louisville, KY 40201-0059

**Subject: Contract No. DACA27-97-D-0025, Delivery Order No. 003: Ramsdell Quarry
Groundwater Investigation, Ravenna Army Ammunition Plant, Ravenna, Ohio**

Re: February 1999 Quarterly Monitoring Report

Dear Mr. Jasper:

This letter report is the second of three quarterly reports for the Ramsdell Quarry Groundwater Investigation at Ravenna Army Ammunition Plant (RVAAP) in Ravenna, Ohio. This report summarizes the field and analytical activities performed during the third quarter of monitoring, provides the analytical data for all groundwater and surface water samples, and includes potentiometric data collected from groundwater monitoring wells and the Ramsdell Quarry pond. First quarter monitoring information was previously presented in the *Initial Phase Report, Groundwater Investigation, Ramsdell Quarry Landfill*, dated January 1999. Data from the second quarterly sampling event and the scheduled dry season event were provided in my letter report to you entitled *October 1998 Quarterly Monitoring Report*, dated December 30, 1998.

The third quarter sampling event incorporated additional analytical parameters for consistency with OAC 3745-27-10 as directed by the U.S. Army Corps of Engineers during our site meeting on 01 December 1998 and subsequent contract modification in April 1999. The planned date for this sampling event was also changed from January 1999 to February 1999 to coincide with closure monitoring requirements. This letter report is a presentation of data only and, as such, no interpretation of the results herein is provided. The Draft Final Report for the Ramsdell Quarry Groundwater Investigation (to be submitted in October 1999) will include an analysis of trends, a statistical summary, and a site conceptual model based upon the results of six sampling events (four quarterly and two hydrogeologic events).

Four of the groundwater/surface water sampling events planned for the Groundwater Investigation have been completed. The next quarterly sampling event is scheduled for April 1999. In addition, wet weather seasonal sampling is scheduled for the fourth quarter period, which will be conducted following a substantial precipitation event, to monitor potential storm-induced contaminant flux from the landfill.

FIELD ACTIVITIES

Third quarter sampling was performed from 12 February to 14 February 1999. Groundwater samples were collected from Ramsdell Quarry Landfill (RQL) monitoring wells RQLmw-006 through RQLmw-011, and at surface water sampling location RQLsw-013 (see Attachment A). Sampling was preceded by micropurging (using dedicated equipment) each monitoring well in order to obtain representative samples. The previously installed wells MW-1 through MW-5 at Ramsdell Quarry were not sampled.

Groundwater levels were measured within a 1-hour period prior to sampling at each monitoring well using a hand-held water level indicator. Additional water level data were collected at monthly intervals in both new and previously installed wells MW-1 through MW-5, using a hand-held water level indicator. Continuous (every 2 hours) water levels were recorded at wells RQLmw-006 through -011 using automated data loggers that were downloaded monthly using a notebook computer. Visual readings of the staff gauge at the Ramsdell Quarry pond were taken on the same day as the manual well water level readings. Automated continuous water level readings from the pond were not collected during this quarter because of the pond's frozen condition during winter. Precipitation events were measured using a rain gauge located at Ramsdell Quarry Landfill and checked daily by site personnel at RVAAP.

All liquid investigation-derived waste (IDW) from micropurging was stored in a closed-top 55-gallon drum pending waste classification and appropriate disposal. These wastes will be disposed during the planned April 1999 sampling event. The contents of the drum from the second quarter events were removed from the site and disposed of as nonhazardous materials in February 1999 at the Load Line 12 Pink Wastewater Treatment Plant, with concurrence from Mark Patterson of RVAAP and Eileen Mohr of the Ohio Environmental Protection Agency (OEPA).

RESULTS

The results of the February 1999 sampling event are presented as attachments to this letter report. These attachments include the following:

- [Attachment A](#) – Potentiometric surface map for previously existing wells MW-1 through MW-5 ([Figure A-1](#)) and new wells RQLmw-006 through -011 ([Figure A-2](#)) at the time of sampling;
- [Attachment B](#) – Hydrographs of water levels for each of the new wells encompassing the period from 01 November 1998 through 28 February 1999;
- [Attachment C](#) – Automated and manual water level data in tabular format for the period from 01 November 1998 through 28 February 1999;
- [Attachment D](#) – Precipitation data in tabular format for November, December, January, and February; and

- [Attachment E](#) – Analytical results, by sampling station, in tabular format (includes QA/QC data).

The potentiometric surface maps were constructed using manual water levels recorded on 12 February 1999 prior to the sampling event. Hydrographs were constructed using all of the available automated data. Because of space limitations, the tabulated automated water level data in [Attachment C](#) present four representative readings per day, rather than every reading taken at 2-hour intervals; complete electronic data files are available upon request. All groundwater and surface water elevations are based on surveyed elevations of the top of casing at the monitoring wells and the stilling well at the staff gauge in the pond.

Review of the hydrographs from the RQL monitoring wells shows a reversal of downward-trending water table elevations resulting from the extremely dry summer and fall months of 1998. A delayed increasing response is noted following a series of snow and light rainfall events beginning on 06 January 1999 and ending on 13 January 1999. Water levels within RQL pond are also recovering.

Analytical data show low detectable concentrations of arsenic in several wells; no results exceeded the OEPA primary drinking water standard. Trace levels of mercury near the practical quantitation limit (PQL) were present in wells MW-6, MW-7, and at RQLsw-13. Iron and manganese concentrations routinely exceeded secondary OEPA drinking water standards. Low levels of 2,4-dinitrotoluene were observed in wells MW-6, MW-7, and MW-8. Trace levels of tetrachloroethene and/or toluene near the PQL were observed in wells MW-6, MW-8, MW-9, MW-11, and RQLsw-13. All semivolatile organic compounds, pesticides, and PCBs were below detection limits, with the exception of one result for bis(2-ethylhexyl) phthalate in well MW-11. Water quality parameter and anion data show no anomalous values with the exception of total dissolved solids in wells MW-6, MW-7, and MW-8, which exceeded secondary drinking water standards, and pH in MW-11 (4.7), which was lower than the expected range for the site.

PROBLEMS ENCOUNTERED

At RQL pond, the transducer was removed from the stilling well at the staff gauge for the winter to prevent damage to the electronics as a result of freezing. Visual readings of the staff gauge were made in order to obtain water level data during each monthly manual measurement event. Because of the lack of electronic water level data for the RQL pond, manual measurements were used to generate the potentiometric maps included in [Attachment A](#). Manual pond water-level measurements are provided in [Table C.2](#).

Snow cover at RQL during February made access to the pond by vehicle difficult. The sample team's vehicle became mired in mud and had to be towed out. This left ruts in the landfill cover, which the field team restored and re-seeded at the conclusion of the sampling event.

Mr. Kevin Jasper
April 15, 1999
Page 4

If you have any questions or would like to discuss these results, please call me at 423-481-8761 or Kathy Dominic at 937-431-2239.

Sincerely,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Steve Selecman
Project Manager

Attachments: A through E

cc: Kathy Dominic, SAIC
Bill Ingold, IR
Kevin Jago, SAIC
John Jent, USACE
Diane Kurlich, OEPA
Stan Levenger, R&R
Eileen Mohr, OEPA
Mark Patterson, RVAAP (2 copies)
Jarnel Singh, OEPA
Project File

ATTACHMENT A

**RAMSDELL QUARRY GROUNDWATER INVESTIGATION
FEBRUARY 1999 QUARTERLY REPORT**

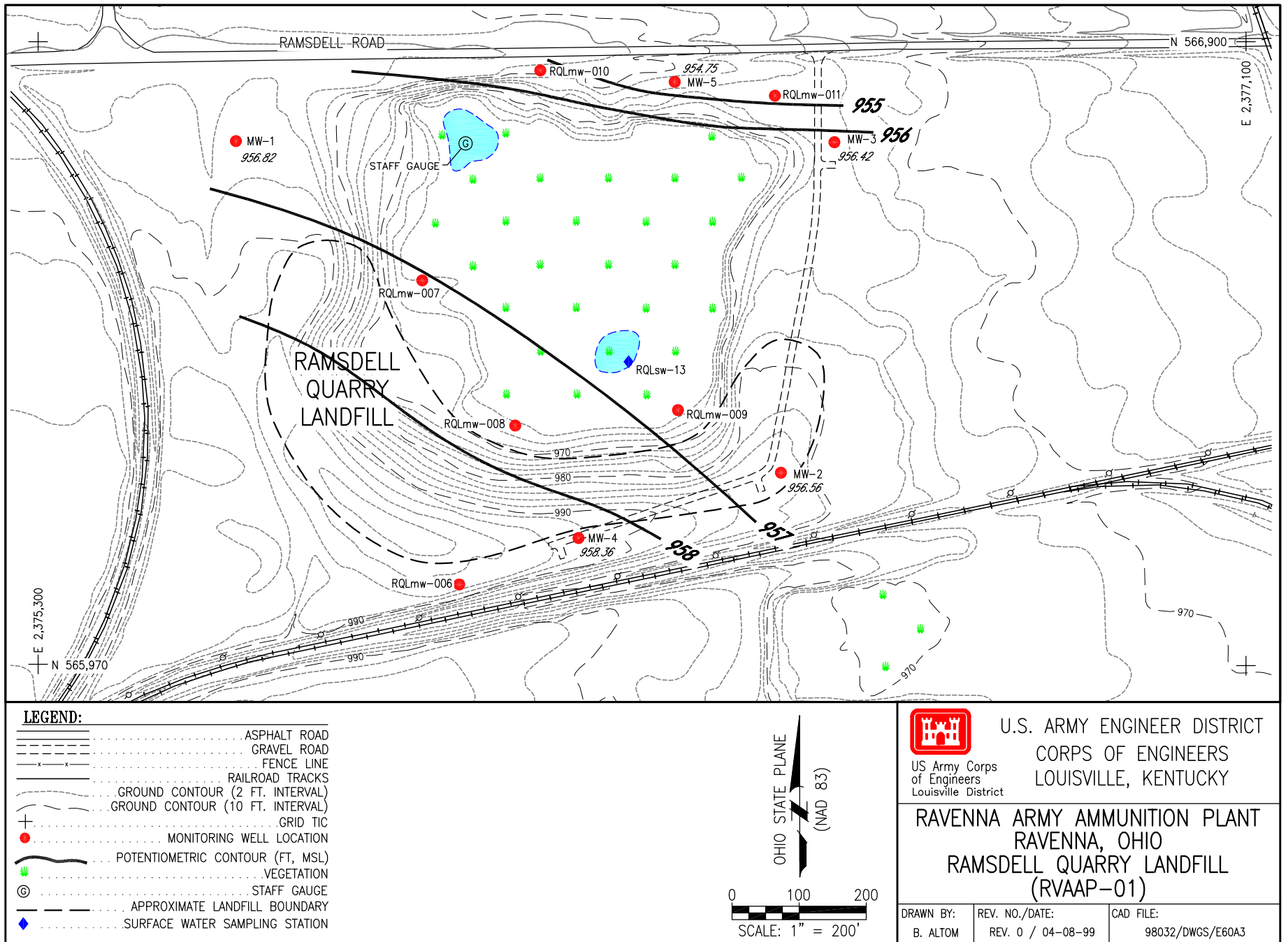


Figure A-1. RQL Groundwater Potentiometric Surface in Existing Wells During the February Quarterly Sampling Event (February 12, 1999).

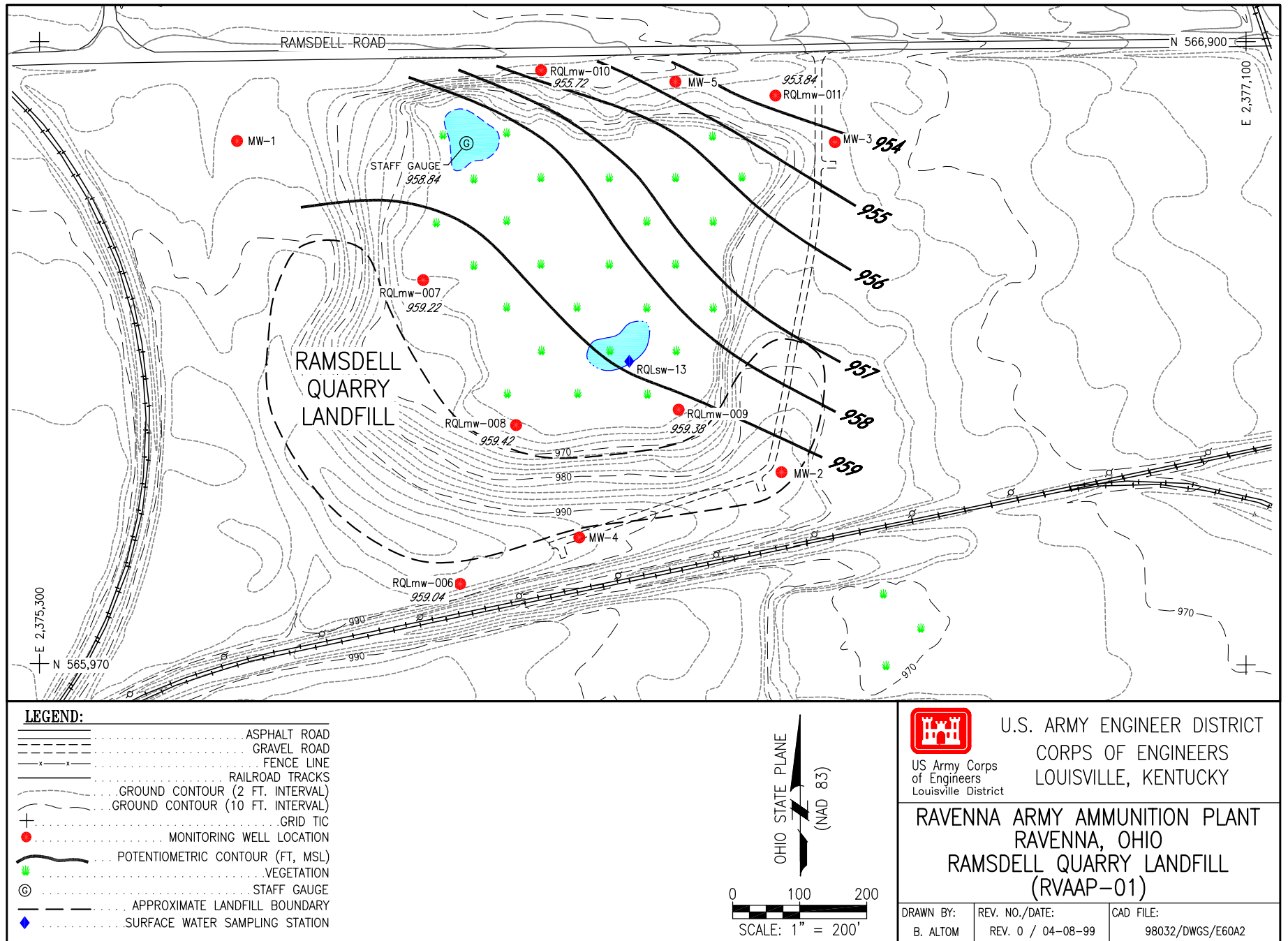
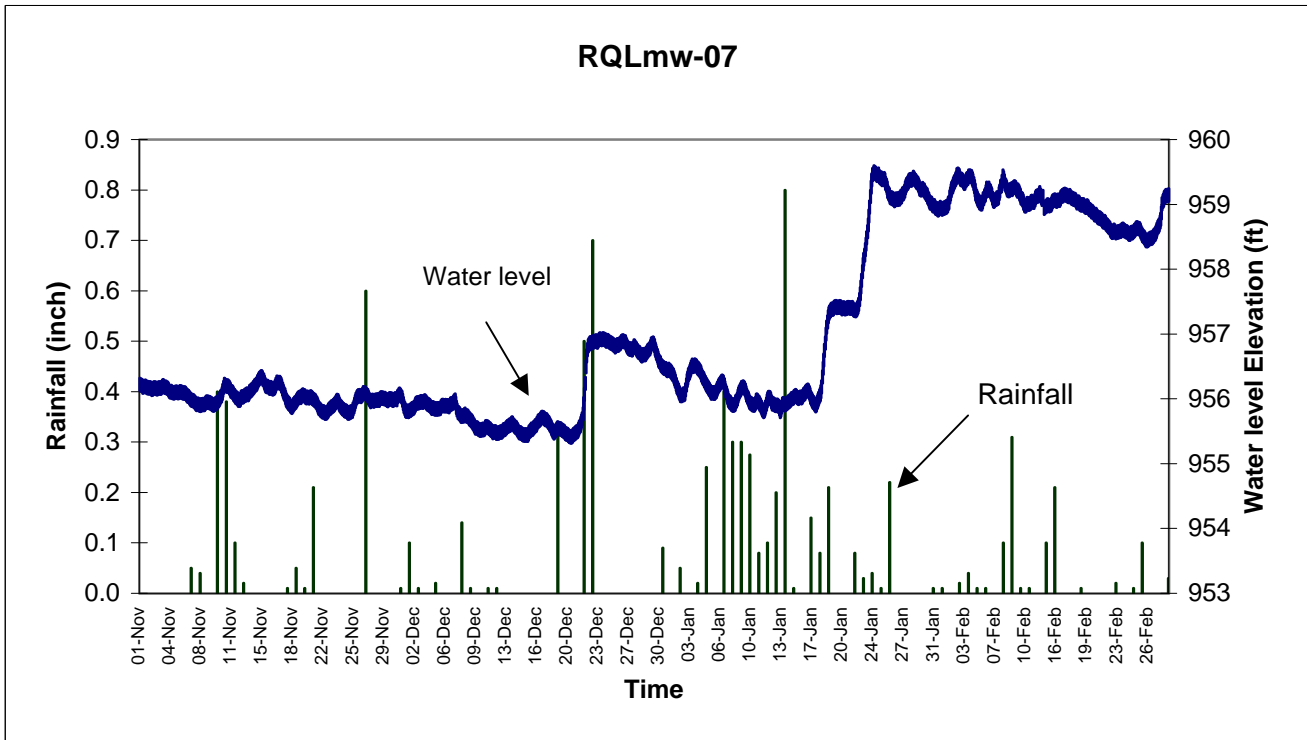
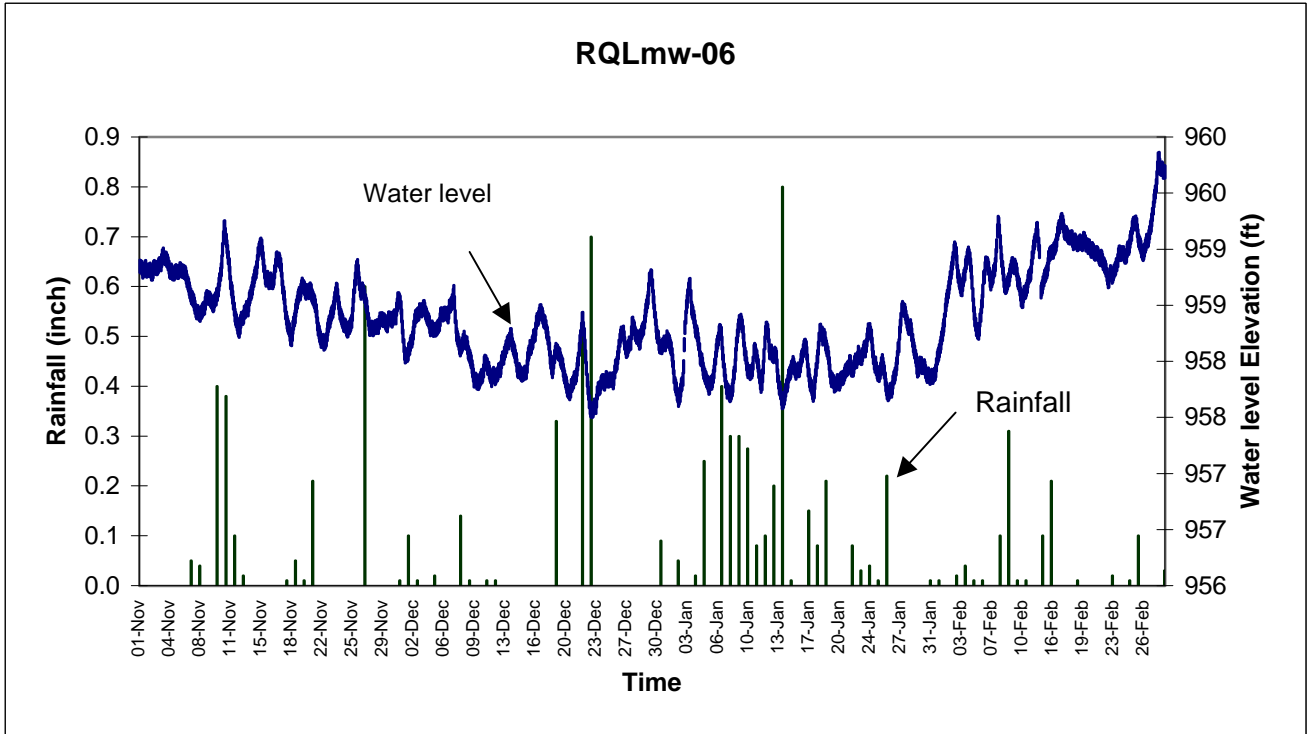


Figure A-2. RQL Groundwater Potentiometric Surface in New Wells During the February Quarterly Sampling Event (February 12, 1999).

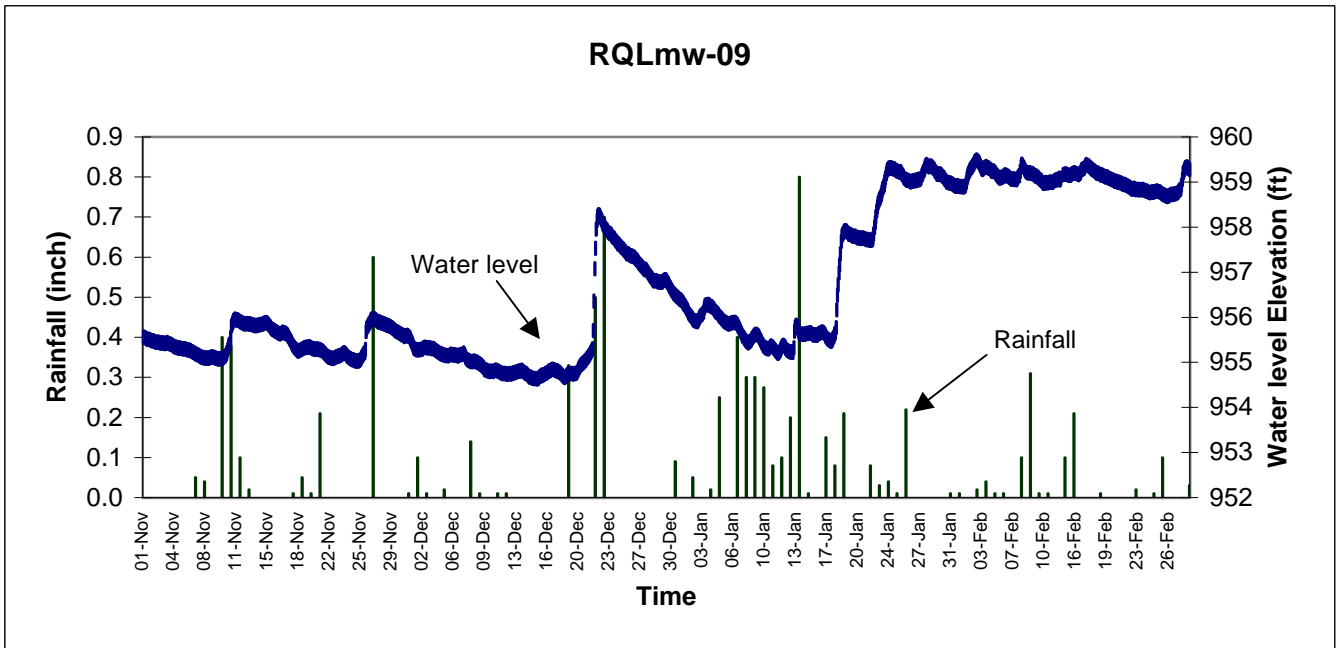
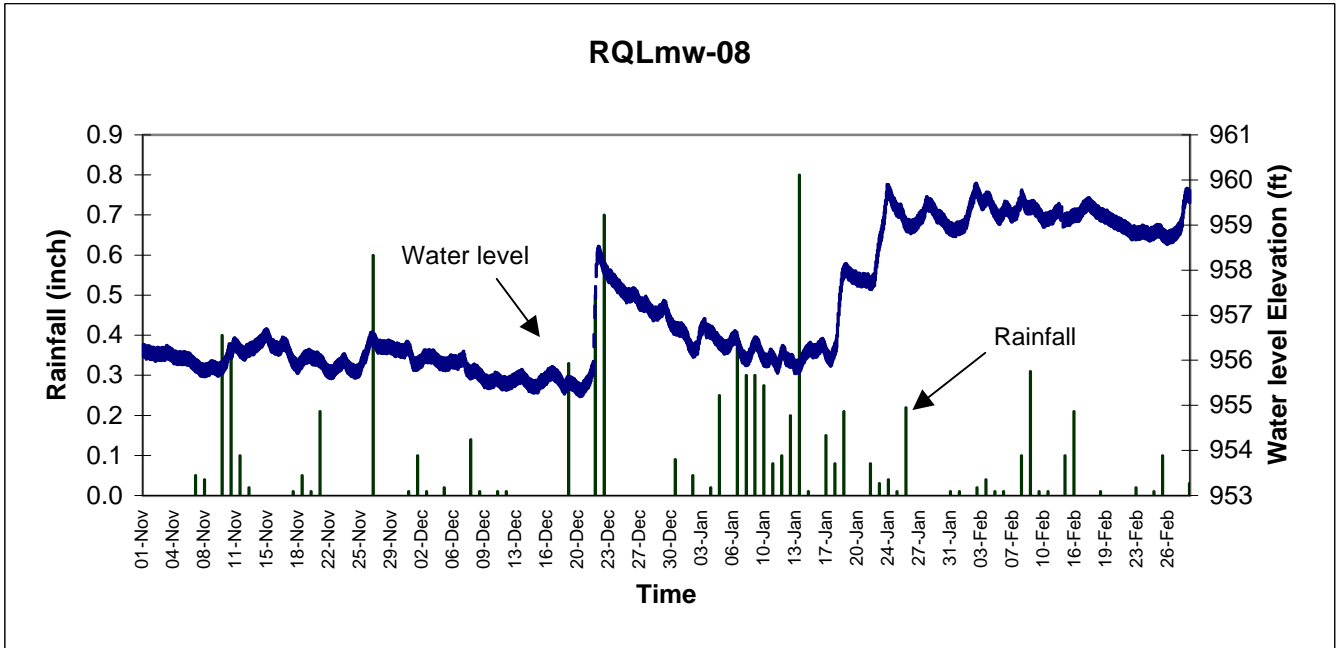
ATTACHMENT B

**RAMSDELL QUARRY GROUNDWATER INVESTIGATION
FEBRUARY 1999 QUARTERLY REPORT**

Ramsdell Quarry Groundwater Monitoring Well Hydrographs

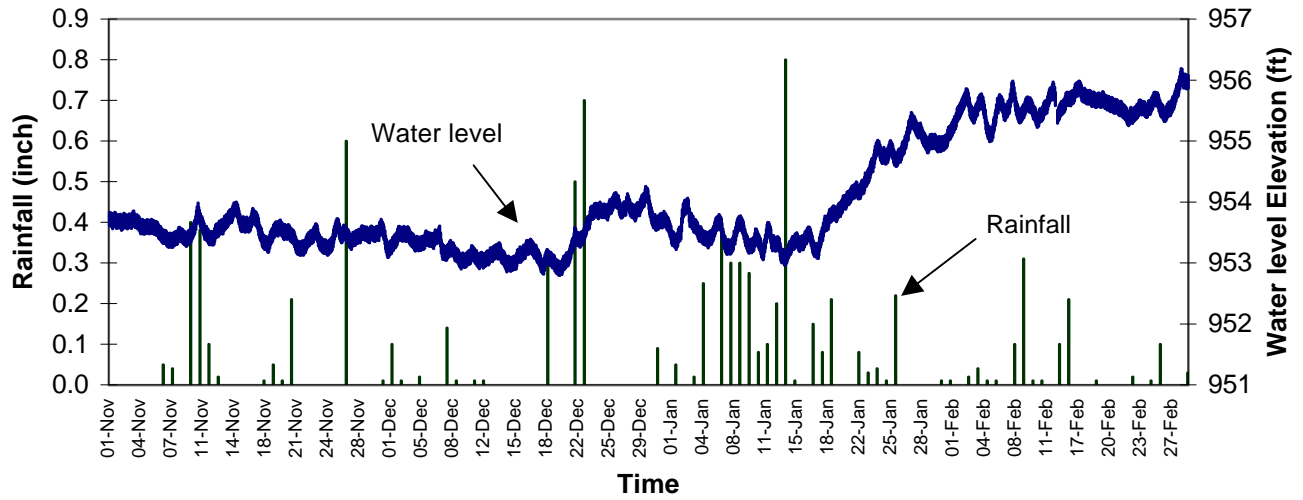


Ramsdell Quarry Groundwater Monitoring Well Hydrographs

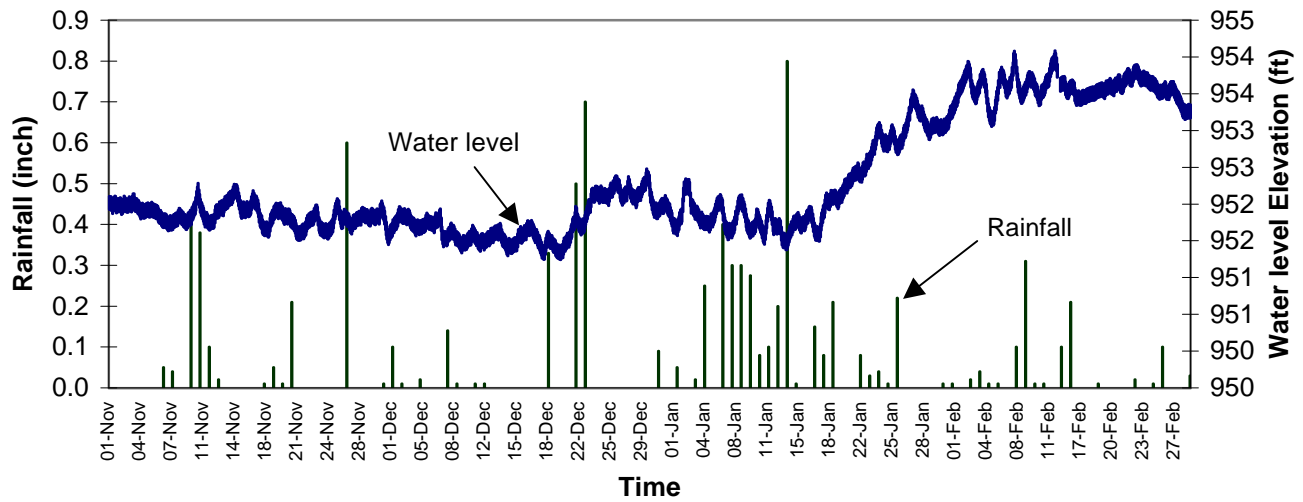


Ramsdell Quarry Groundwater Monitoring Well Hydrographs

RQLmw-10



RQLmw-11



ATTACHMENT C

**RAMSDELL QUARRY GROUNDWATER INVESTIGATION
FEBRUARY 1999 QUARTERLY REPORT**

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
11/01/98 00:00	958.85	955.70	956.21	955.56	953.73	952.02
11/01/98 06:00	958.83	955.68	956.19	955.54	953.70	952.00
11/01/98 12:00	958.82	955.67	956.18	955.51	953.70	952.00
11/01/98 18:00	958.81	955.65	956.15	955.50	953.67	951.97
11/02/98 00:00	958.81	955.65	956.15	955.48	953.68	951.98
11/02/98 06:00	958.80	955.64	956.14	955.46	953.67	951.97
11/02/98 12:00	958.80	955.63	956.13	955.44	953.67	951.98
11/02/98 18:00	958.83	955.64	956.14	955.44	953.68	951.99
11/03/98 00:00	958.83	955.63	956.13	955.43	953.67	951.97
11/03/98 06:00	958.87	955.65	956.15	955.43	953.70	952.00
11/03/98 12:00	958.90	955.66	956.16	955.42	953.71	952.02
11/03/98 18:00	958.93	955.67	956.16	955.43	953.70	952.00
11/04/98 00:00	958.92	955.66	956.15	955.41	953.68	951.98
11/04/98 06:00	958.87	955.63	956.11	955.39	953.64	951.94
11/04/98 12:00	958.79	955.59	956.06	955.34	953.59	951.90
11/04/98 18:00	958.78	955.58	956.04	955.33	953.58	951.89
11/05/98 00:00	958.79	955.58	956.05	955.32	953.59	951.92
11/05/98 06:00	958.80	955.58	956.05	955.31	953.59	951.92
11/05/98 12:00	958.80	955.58	956.05	955.30	953.59	951.92
11/05/98 18:00	958.81	955.58	956.04	955.30	953.59	951.91
11/06/98 00:00	958.80	955.57	956.03	955.28	953.58	951.90
11/06/98 06:00	958.78	955.56	956.01	955.27	953.56	951.88
11/06/98 12:00	958.70	955.52	955.96	955.24	953.49	951.82
11/06/98 18:00	958.62	955.48	955.91	955.21	953.45	951.79
11/07/98 00:00	958.57	955.46	955.87	955.18	953.43	951.78
11/07/98 06:00	958.51	955.43	955.83	955.15	953.40	951.76
11/07/98 12:00	958.43	955.40	955.79	955.12	953.36	951.73
11/07/98 18:00	958.43	955.39	955.77	955.10	953.36	951.73
11/08/98 00:00	958.43	955.39	955.78	955.10	953.39	951.77
11/08/98 06:00	958.46	955.39	955.79	955.09	953.41	951.79
11/08/98 12:00	958.52	955.41	955.82	955.10	953.45	951.82
11/08/98 18:00	958.57	955.43	955.85	955.12	953.46	951.83
11/09/98 00:00	958.56	955.42	955.84	955.11	953.44	951.80
11/09/98 06:00	958.53	955.40	955.81	955.09	953.40	951.77
11/09/98 12:00	958.51	955.39	955.79	955.07	953.39	951.76
11/09/98 18:00	958.56	955.41	955.82	955.08	953.42	951.79
11/10/98 00:00	958.64	955.45	955.88	955.10	953.49	951.86
11/10/98 06:00	958.78	955.51	955.96	955.15	953.57	951.93
11/10/98 12:00	959.00	955.61	956.10	955.29	953.75	952.09
11/10/98 18:00	959.20	955.70	956.21	955.41	953.80	952.10
11/11/98 00:00	959.02	955.68	956.22	955.85	953.66	951.94
11/11/98 02:00	958.98	955.68	956.30	955.90	953.65	951.92
11/11/98 04:00	958.92	955.67	956.35	955.93	953.62	951.89
11/11/98 06:00	958.86	955.65	956.36	955.95	953.58	951.85
11/11/98 08:00	958.79	955.63	956.35	955.96	953.54	951.82
11/11/98 10:00	958.70	955.60	956.33	955.95	953.49	951.78
11/11/98 12:00	958.65	955.59	956.32	955.94	953.49	951.78
11/11/98 14:00	958.62	955.59	956.31	955.95	953.49	951.80

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
11/11/98 20:00	958.47	955.53	956.23	955.91	953.42	951.74
11/11/98 22:00	958.41	955.51	956.20	955.90	953.40	951.73
11/12/98 00:00	958.38	955.50	956.19	955.89	953.41	951.75
11/12/98 06:00	958.30	955.47	956.15	955.87	953.40	951.76
11/12/98 12:00	958.30	955.47	956.17	955.86	953.46	951.83
11/12/98 18:00	958.38	955.51	956.22	955.86	953.53	951.90
11/13/98 00:00	958.44	955.54	956.25	955.85	953.58	951.94
11/13/98 06:00	958.48	955.56	956.27	955.84	953.60	951.96
11/13/98 12:00	958.50	955.57	956.29	955.83	953.63	951.97
11/13/98 18:00	958.61	955.62	956.34	955.82	953.68	952.03
11/14/98 00:00	958.69	955.66	956.38	955.83	953.74	952.06
11/14/98 06:00	958.78	955.69	956.42	955.84	953.77	952.09
11/14/98 12:00	958.89	955.75	956.48	955.86	953.84	952.15
11/14/98 18:00	959.01	955.80	956.55	955.88	953.88	952.17
11/15/98 00:00	959.03	955.81	956.54	955.87	953.85	952.13
11/15/98 06:00	958.85	955.74	956.40	955.80	953.69	951.96
11/15/98 12:00	958.73	955.67	956.31	955.73	953.62	951.90
11/15/98 18:00	958.72	955.65	956.29	955.71	953.62	951.92
11/16/98 00:00	958.73	955.65	956.28	955.68	953.64	951.95
11/16/98 06:00	958.70	955.63	956.25	955.64	953.61	951.92
11/16/98 12:00	958.80	955.68	956.30	955.64	953.70	952.01
11/16/98 18:00	958.92	955.73	956.37	955.67	953.76	952.06
11/17/98 00:00	958.91	955.73	956.35	955.65	953.73	952.02
11/17/98 06:00	958.81	955.68	956.27	955.60	953.63	951.91
11/17/98 12:00	958.61	955.57	956.12	955.51	953.48	951.77
11/18/98 00:00	958.32	955.41	955.93	955.33	953.33	951.66
11/18/98 06:00	958.24	955.37	955.87	955.28	953.29	951.65
11/18/98 12:00	958.24	955.37	955.88	955.25	953.35	951.72
11/18/98 18:00	958.37	955.42	955.96	955.28	953.45	951.82
11/19/98 00:00	958.49	955.47	956.03	955.31	953.53	951.89
11/19/98 06:00	958.59	955.50	956.07	955.33	953.56	951.92
11/19/98 12:00	958.63	955.52	956.09	955.34	953.58	951.92
11/19/98 18:00	958.67	955.53	956.09	955.34	953.56	951.89
11/20/98 00:00	958.62	955.50	956.05	955.31	953.50	951.83
11/20/98 06:00	958.62	955.50	956.04	955.30	953.51	951.83
11/20/98 12:00	958.64	955.51	956.04	955.30	953.52	951.85
11/20/98 18:00	958.59	955.49	956.00	955.29	953.47	951.79
11/21/98 00:00	958.54	955.46	955.97	955.27	953.43	951.75
11/21/98 06:00	958.45	955.41	955.91	955.24	953.37	951.69
11/21/98 12:00	958.29	955.34	955.81	955.18	953.26	951.60
11/21/98 18:00	958.21	955.30	955.76	955.13	953.24	951.61
11/22/98 00:00	958.18	955.28	955.74	955.11	953.24	951.63
11/22/98 06:00	958.16	955.26	955.73	955.09	953.25	951.64
11/22/98 12:00	958.24	955.28	955.78	955.09	953.32	951.72
11/22/98 18:00	958.35	955.33	955.85	955.12	953.39	951.78
11/23/98 00:00	958.42	955.36	955.89	955.14	953.42	951.80
11/23/98 06:00	958.48	955.39	955.92	955.16	953.45	951.82
11/23/98 12:00	958.61	955.44	956.00	955.20	953.53	951.90

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
11/23/98 18:00	958.59	955.43	955.97	955.19	953.45	951.80
11/24/98 00:00	958.43	955.36	955.86	955.13	953.32	951.67
11/24/98 06:00	958.37	955.32	955.81	955.09	953.29	951.65
11/24/98 12:00	958.32	955.29	955.78	955.06	953.27	951.64
11/24/98 18:00	958.28	955.28	955.75	955.05	953.24	951.62
11/25/98 00:00	958.30	955.27	955.75	955.03	953.27	951.66
11/25/98 06:00	958.33	955.29	955.77	955.03	953.30	951.69
11/25/98 12:00	958.50	955.36	955.88	955.08	953.44	951.83
11/25/98 18:00	958.73	955.47	956.02	955.17	953.58	951.95
11/26/98 00:00	958.85	955.53	956.09	955.29	953.61	951.95
11/26/98 06:00	958.69	955.52	956.27	955.80	953.47	951.78
11/26/98 12:00	958.62	955.55	956.43	955.88	953.48	951.81
11/26/98 18:00	958.60	955.57	956.49	955.97	953.49	951.82
11/27/98 00:00	958.51	955.54	956.45	955.97	953.45	951.79
11/27/98 06:00	958.37	955.48	956.35	955.93	953.36	951.70
11/27/98 12:00	958.29	955.45	956.30	955.90	953.36	951.72
11/27/98 18:00	958.29	955.45	956.29	955.88	953.39	951.75
11/28/98 00:00	958.31	955.46	956.30	955.86	953.43	951.80
11/28/98 06:00	958.32	955.47	956.30	955.84	953.45	951.82
11/28/98 12:00	958.35	955.48	956.30	955.82	953.49	951.85
11/28/98 18:00	958.38	955.49	956.30	955.80	953.49	951.85
11/29/98 00:00	958.37	955.48	956.28	955.77	953.48	951.84
11/29/98 06:00	958.34	955.47	956.24	955.72	953.45	951.81
11/29/98 12:00	958.36	955.47	956.24	955.69	953.48	951.84
11/29/98 18:00	958.38	955.48	956.23	955.66	953.48	951.83
11/30/98 00:00	958.36	955.46	956.20	955.63	953.46	951.81
11/30/98 06:00	958.40	955.48	956.21	955.60	953.49	951.84
11/30/98 12:00	958.46	955.51	956.24	955.59	953.55	951.90
11/30/98 18:00	958.56	955.55	956.28	955.60	953.58	951.92
12/01/98 00:00	958.48	955.50	956.21	955.55	953.49	951.82
12/01/98 06:00	958.23	955.37	956.02	955.43	953.28	951.61
12/01/98 12:00	958.04	955.29	955.91	955.31	953.21	951.56
12/01/98 18:00	958.05	955.29	955.91	955.28	953.25	951.64
12/02/98 00:00	958.12	955.30	955.94	955.28	953.31	951.70
12/02/98 06:00	958.18	955.33	955.97	955.29	953.36	951.74
12/02/98 12:00	958.31	955.38	956.05	955.31	953.45	951.84
12/02/98 18:00	958.40	955.42	956.09	955.33	953.48	951.85
12/03/98 00:00	958.42	955.42	956.08	955.32	953.46	951.82
12/03/98 06:00	958.46	955.44	956.09	955.32	953.48	951.83
12/03/98 12:00	958.46	955.44	956.08	955.30	953.46	951.82
12/03/98 18:00	958.46	955.43	956.07	955.29	953.44	951.79
12/04/98 00:00	958.39	955.39	956.01	955.25	953.38	951.73
12/04/98 06:00	958.35	955.37	955.97	955.22	953.35	951.70
12/04/98 12:00	958.29	955.34	955.93	955.19	953.32	951.68
12/04/98 18:00	958.28	955.32	955.91	955.17	953.31	951.67
12/05/98 00:00	958.28	955.32	955.91	955.15	953.31	951.68
12/05/98 06:00	958.31	955.33	955.92	955.15	953.33	951.70
12/05/98 12:00	958.37	955.36	955.96	955.16	953.39	951.76

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
12/05/98 18:00	958.42	955.38	955.98	955.17	953.40	951.76
12/06/98 00:00	958.43	955.38	955.97	955.16	953.38	951.74
12/06/98 06:00	958.43	955.37	955.96	955.16	953.37	951.73
12/06/98 12:00	958.44	955.38	955.97	955.15	953.40	951.76
12/06/98 18:00	958.51	955.41	956.00	955.17	953.43	951.78
12/07/98 00:00	958.59	955.45	956.05	955.20	953.48	951.83
12/07/98 06:00	958.40	955.35	955.91	955.13	953.27	951.60
12/07/98 12:00	958.21	955.26	955.79	955.06	953.19	951.54
12/07/98 18:00	958.12	955.22	955.73	955.02	953.15	951.52
12/08/98 00:00	958.14	955.22	955.74	955.02	953.20	951.59
12/08/98 06:00	958.22	955.24	955.79	955.03	953.26	951.66
12/08/98 12:00	958.16	955.22	955.76	955.01	953.23	951.62
12/08/98 18:00	958.08	955.17	955.70	954.98	953.14	951.53
12/09/98 00:00	958.02	955.14	955.66	954.95	953.12	951.52
12/09/98 06:00	957.91	955.08	955.58	954.90	953.05	951.46
12/09/98 12:00	957.83	955.03	955.53	954.83	953.04	951.46
12/09/98 18:00	957.81	955.01	955.51	954.81	953.03	951.46
12/10/98 00:00	957.81	955.00	955.51	954.80	953.05	951.49
12/10/98 06:00	957.87	955.01	955.54	954.80	953.10	951.54
12/10/98 12:00	957.92	955.02	955.56	954.81	953.13	951.58
12/10/98 18:00	957.99	955.05	955.59	954.82	953.15	951.59
12/11/98 00:00	957.94	955.02	955.56	954.80	953.09	951.52
12/11/98 06:00	957.88	954.99	955.51	954.77	953.05	951.48
12/11/98 12:00	957.86	954.97	955.49	954.76	953.05	951.49
12/11/98 18:00	957.88	954.97	955.49	954.75	953.05	951.49
12/12/98 00:00	957.88	954.96	955.49	954.74	953.05	951.50
12/12/98 06:00	957.92	954.97	955.51	954.75	953.09	951.54
12/12/98 12:00	957.94	954.98	955.52	954.75	953.10	951.54
12/12/98 18:00	958.03	955.01	955.56	954.77	953.13	951.58
12/13/98 00:00	958.09	955.04	955.59	954.79	953.16	951.60
12/13/98 06:00	958.16	955.07	955.62	954.80	953.19	951.62
12/13/98 12:00	958.20	955.09	955.64	954.81	953.21	951.63
12/13/98 18:00	958.19	955.09	955.62	954.80	953.15	951.56
12/14/98 00:00	958.10	955.05	955.57	954.76	953.09	951.50
12/14/98 06:00	958.02	955.00	955.50	954.72	953.02	951.44
12/14/98 12:00	957.91	954.96	955.45	954.68	952.99	951.42
12/14/98 18:00	957.90	954.94	955.43	954.65	952.98	951.42
12/15/98 00:00	957.88	954.92	955.41	954.64	952.99	951.44
12/15/98 06:00	957.90	954.92	955.42	954.64	953.00	951.46
12/15/98 12:00	957.95	954.94	955.45	954.65	953.05	951.51
12/15/98 18:00	958.08	954.99	955.52	954.70	953.12	951.57
12/16/98 00:00	958.13	955.02	955.54	954.72	953.13	951.57
12/16/98 06:00	958.22	955.06	955.60	954.75	953.19	951.62
12/16/98 12:00	958.29	955.10	955.64	954.78	953.23	951.65
12/16/98 18:00	958.38	955.15	955.68	954.81	953.25	951.66
12/17/98 00:00	958.45	955.19	955.73	954.84	953.29	951.69
12/17/98 06:00	958.42	955.19	955.70	954.84	953.24	951.62
12/17/98 12:00	958.35	955.16	955.66	954.81	953.19	951.57

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
12/17/98 18:00	958.27	955.12	955.60	954.79	953.12	951.49
12/18/98 00:00	958.16	955.07	955.53	954.75	953.05	951.43
12/18/98 06:00	957.99	955.00	955.43	954.70	952.95	951.35
12/18/98 12:00	957.94	954.97	955.41	954.67	952.98	951.40
12/18/98 18:00	958.08	955.02	955.50	954.73	953.10	951.52
12/19/98 00:00	958.09	955.02	955.50	954.75	953.08	951.50
12/19/98 06:00	958.06	955.01	955.49	954.75	953.07	951.48
12/19/98 12:00	957.99	954.99	955.46	954.74	953.02	951.43
12/19/98 18:00	957.88	954.95	955.40	954.76	952.95	951.37
12/20/98 00:00	957.81	954.93	955.36	954.86	952.93	951.35
12/20/98 06:00	957.73	954.90	955.34	954.94	952.91	951.35
12/20/98 12:00	957.74	954.90	955.37	954.98	952.95	951.40
12/20/98 18:00	957.80	954.94	955.44	955.03	953.01	951.47
12/21/98 00:00	957.86	954.97	955.51	955.10	953.06	951.51
12/21/98 06:00	957.93	955.01	955.59	955.18	953.12	951.57
12/21/98 12:00	958.11	955.10	955.75	955.27	953.26	951.71
12/21/98 18:00	958.29	955.25	956.43	956.36	953.38	951.80
12/22/98 00:00	958.29	955.72	957.99	957.96	953.40	951.78
12/22/98 06:00	958.04	956.24	958.39	958.28	953.39	951.71
12/22/98 12:00	957.76	956.33	958.28	958.20	953.38	951.68
12/22/98 18:00	957.59	956.35	958.12	958.07	953.42	951.72
12/23/98 00:00	957.56	956.36	958.01	957.99	953.54	951.85
12/23/98 06:00	957.61	956.37	957.93	957.92	953.66	951.97
12/23/98 12:00	957.65	956.38	957.87	957.86	953.74	952.05
12/23/98 18:00	957.76	956.40	957.82	957.80	953.82	952.12
12/24/98 00:00	957.80	956.41	957.77	957.76	953.87	952.15
12/24/98 06:00	957.83	956.39	957.69	957.68	953.86	952.13
12/24/98 12:00	957.82	956.38	957.64	957.63	953.87	952.14
12/24/98 18:00	957.83	956.36	957.58	957.57	953.85	952.11
12/25/98 00:00	957.84	956.34	957.53	957.52	953.86	952.12
12/25/98 06:00	957.83	956.31	957.46	957.46	953.84	952.10
12/25/98 12:00	957.84	956.29	957.43	957.41	953.86	952.12
12/25/98 18:00	957.96	956.31	957.43	957.38	953.91	952.18
12/26/98 00:00	958.08	956.33	957.45	957.36	953.98	952.24
12/26/98 06:00	958.22	956.37	957.47	957.34	954.04	952.29
12/26/98 12:00	958.25	956.36	957.42	957.28	954.00	952.25
12/26/98 18:00	958.16	956.31	957.31	957.22	953.89	952.12
12/27/98 00:00	958.10	956.26	957.25	957.16	953.86	952.10
12/27/98 06:00	958.16	956.25	957.24	957.10	953.90	952.15
12/27/98 12:00	958.25	956.27	957.26	957.06	953.97	952.22
12/27/98 18:00	958.31	956.27	957.21	957.01	953.94	952.19
12/28/98 00:00	958.24	956.22	957.13	956.94	953.87	952.11
12/28/98 06:00	958.22	956.19	957.08	956.87	953.85	952.09
12/28/98 12:00	958.17	956.14	957.02	956.80	953.82	952.07
12/28/98 18:00	958.28	956.16	957.04	956.81	953.88	952.14
12/29/98 00:00	958.35	956.18	957.05	956.79	953.94	952.19
12/29/98 06:00	958.49	956.23	957.10	956.78	954.01	952.26
12/29/98 12:00	958.64	956.29	957.15	956.79	954.10	952.34

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
12/29/98 18:00	958.76	956.34	957.18	956.83	954.12	952.35
12/30/98 00:00	958.58	956.25	957.02	956.78	953.91	952.11
12/30/98 06:00	958.38	956.15	956.88	956.68	953.76	951.97
12/30/98 12:00	958.22	956.06	956.79	956.60	953.68	951.91
12/30/98 18:00	958.13	955.99	956.72	956.52	953.64	951.89
12/31/98 00:00	958.12	955.95	956.70	956.47	953.66	951.93
12/31/98 06:00	958.17	955.95	956.70	956.43	953.71	951.99
12/31/98 12:00	958.18	955.93	956.69	956.38	953.71	952.00
12/31/98 18:00	958.19	955.91	956.66	956.33	953.70	951.98
01/01/99 00:00	958.13	955.86	956.59	956.26	953.64	951.92
01/01/99 06:00	958.01	955.79	956.49	956.17	953.54	951.82
01/01/99 12:00	957.80	955.66	956.33	956.06	953.39	951.69
01/01/99 18:00	957.71	955.58	956.25	956.00	953.36	951.68
01/02/99 00:00	957.67	955.53	956.21	955.93	953.37	951.71
01/02/99 06:00	957.79	955.56	956.27	955.92	953.48	951.83
01/02/99 12:00	957.95	955.62	956.38	955.93	953.62	951.98
01/02/99 18:00	958.40	955.80	956.63	956.03	953.88	952.22
01/03/99 00:00	958.58	955.91	956.73	956.09	953.92	952.23
01/03/99 06:00	958.69	956.00	956.78	956.26	953.92	952.21
01/03/99 12:00	958.45	956.00	956.66	956.28	953.72	951.97
01/03/99 18:00	958.36	955.99	956.64	956.27	953.66	951.92
01/04/99 00:00	958.26	955.94	956.62	956.24	953.61	951.89
01/04/99 06:00	958.16	955.89	956.56	956.18	953.55	951.83
01/04/99 12:00	958.02	955.80	956.48	956.12	953.47	951.78
01/04/99 18:00	957.93	955.74	956.42	956.06	953.43	951.76
01/05/99 00:00	957.86	955.67	956.37	956.00	953.40	951.74
01/05/99 06:00	957.81	955.62	956.33	955.94	953.39	951.74
01/05/99 12:00	957.77	955.57	956.28	955.89	953.38	951.74
01/05/99 18:00	957.81	955.56	956.29	955.87	953.41	951.78
01/06/99 00:00	957.91	955.59	956.34	955.86	953.49	951.86
01/06/99 06:00	958.10	955.68	956.45	955.88	953.62	951.99
01/06/99 12:00	958.20	955.72	956.50	955.88	953.66	952.02
01/06/99 18:00	958.27	955.75	956.50	955.87	953.65	951.99
01/07/99 00:00	958.07	955.65	956.34	955.79	953.45	951.78
01/07/99 06:00	957.88	955.53	956.19	955.69	953.32	951.67
01/07/99 12:00	957.73	955.44	956.07	955.58	953.25	951.61
01/07/99 18:00	957.71	955.40	956.04	955.51	953.25	951.64
01/08/99 00:00	957.72	955.38	956.03	955.45	953.29	951.68
01/08/99 06:00	957.86	955.44	956.11	955.46	953.41	951.82
01/08/99 12:00	958.06	955.52	956.23	955.51	953.55	951.95
01/08/99 18:00	958.28	955.61	956.35	955.60	953.65	952.03
01/09/99 00:00	958.35	955.66	956.37	955.62	953.64	952.00
01/09/99 06:00	958.32	955.64	956.32	955.59	953.56	951.91
01/09/99 12:00	958.11	955.54	956.17	955.49	953.39	951.73
01/09/99 18:00	957.98	955.46	956.06	955.39	953.29	951.65
01/10/99 00:00	957.91	955.41	956.00	955.33	953.28	951.65
01/10/99 06:00	957.91	955.39	956.00	955.31	953.30	951.68
01/10/99 12:00	957.98	955.41	956.05	955.32	953.38	951.77

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
01/10/99 18:00	958.09	955.45	956.09	955.36	953.41	951.80
01/11/99 00:00	958.00	955.40	956.02	955.31	953.32	951.70
01/11/99 06:00	957.86	955.33	955.90	955.24	953.20	951.58
01/11/99 12:00	957.80	955.30	955.88	955.20	953.21	951.61
01/11/99 18:00	958.05	955.40	956.06	955.27	953.44	951.85
01/12/99 00:00	958.29	955.50	956.19	955.37	953.56	951.96
01/12/99 06:00	958.23	955.48	956.13	955.35	953.44	951.81
01/12/99 12:00	958.08	955.40	956.02	955.26	953.33	951.70
01/12/99 18:00	958.05	955.38	955.99	955.24	953.30	951.68
01/13/99 00:00	958.07	955.38	956.00	955.23	953.33	951.71
01/13/99 06:00	957.96	955.32	955.90	955.32	953.22	951.60
01/13/99 12:00	957.76	955.35	955.84	955.83	953.10	951.49
01/13/99 18:00	957.67	955.40	955.84	955.70	953.07	951.47
01/14/99 00:00	957.65	955.40	955.91	955.63	953.11	951.53
01/14/99 06:00	957.74	955.43	956.03	955.62	953.21	951.64
01/14/99 12:00	957.82	955.46	956.12	955.62	953.28	951.71
01/14/99 18:00	957.90	955.49	956.19	955.64	953.33	951.74
01/15/99 00:00	957.96	955.52	956.24	955.65	953.37	951.78
01/15/99 06:00	957.94	955.51	956.23	955.64	953.33	951.73
01/15/99 12:00	957.91	955.50	956.21	955.61	953.32	951.73
01/15/99 18:00	957.92	955.50	956.20	955.60	953.32	951.73
01/16/99 00:00	958.01	955.55	956.27	955.63	953.41	951.82
01/16/99 06:00	958.10	955.59	956.33	955.66	953.46	951.87
01/16/99 12:00	958.14	955.62	956.35	955.67	953.48	951.87
01/16/99 18:00	958.00	955.55	956.23	955.62	953.34	951.71
01/17/99 00:00	957.83	955.45	956.10	955.53	953.22	951.60
01/17/99 06:00	957.75	955.41	956.04	955.49	953.20	951.59
01/17/99 12:00	957.73	955.39	956.03	955.47	953.23	951.64
01/17/99 18:00	957.93	955.49	956.18	955.57	953.41	951.84
01/18/99 00:00	958.12	955.59	956.33	955.77	953.55	951.97
01/18/99 02:00	958.20	955.66	956.42	956.17	953.62	952.03
01/18/99 12:00	958.20	956.34	957.49	957.41	953.66	952.01
01/18/99 18:00	958.21	956.67	957.89	957.84	953.78	952.09
01/19/99 00:00	958.10	956.82	958.00	957.92	953.81	952.09
01/19/99 06:00	957.98	956.87	957.98	957.89	953.82	952.07
01/19/99 12:00	957.83	956.89	957.92	957.84	953.81	952.05
01/19/99 18:00	957.82	956.90	957.88	957.82	953.88	952.12
01/20/99 00:00	957.79	956.90	957.84	957.80	953.92	952.17
01/20/99 06:00	957.83	956.90	957.83	957.79	954.00	952.25
01/20/99 12:00	957.82	956.88	957.79	957.77	954.02	952.28
01/20/99 18:00	957.85	956.87	957.77	957.75	954.06	952.31
01/21/99 00:00	957.89	956.88	957.78	957.75	954.12	952.37
01/21/99 06:00	957.93	956.89	957.78	957.74	954.16	952.41
01/21/99 12:00	957.95	956.88	957.77	957.72	954.19	952.43
01/21/99 18:00	957.94	956.85	957.72	957.71	954.17	952.40
01/22/99 00:00	957.92	956.84	957.70	957.71	954.16	952.39
01/22/99 06:00	958.01	956.90	957.78	957.85	954.25	952.49
01/22/99 12:00	958.03	957.10	958.06	958.23	954.30	952.53

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
01/22/99 18:00	958.04	957.44	958.45	958.54	954.37	952.57
01/23/99 00:00	958.03	957.70	958.71	958.66	954.45	952.63
01/23/99 06:00	958.12	957.97	958.97	958.85	954.60	952.77
01/23/99 12:00	958.14	958.30	959.29	959.01	954.68	952.83
01/23/99 18:00	958.28	958.74	959.77	959.25	954.85	952.99
01/24/99 00:00	958.25	958.96	959.70	959.30	954.89	952.99
01/24/99 06:00	958.09	958.96	959.58	959.31	954.79	952.87
01/24/99 12:00	957.96	958.93	959.46	959.29	954.74	952.81
01/24/99 18:00	957.90	958.90	959.37	959.26	954.73	952.80
01/25/99 00:00	957.87	958.86	959.31	959.23	954.75	952.83
01/25/99 06:00	957.98	958.88	959.33	959.23	954.89	952.97
01/25/99 12:00	957.94	958.78	959.21	959.15	954.85	952.93
01/25/99 18:00	957.79	958.65	959.06	959.07	954.72	952.79
01/26/99 00:00	957.70	958.58	958.99	959.04	954.69	952.76
01/26/99 06:00	957.75	958.57	958.98	959.03	954.76	952.84
01/26/99 12:00	957.76	958.55	958.96	959.01	954.80	952.89
01/26/99 18:00	957.86	958.56	958.98	959.03	954.89	952.99
01/27/99 00:00	957.98	958.57	959.01	959.03	954.99	953.10
01/27/99 06:00	958.14	958.60	959.07	959.04	955.12	953.23
01/27/99 12:00	958.37	958.66	959.15	959.06	955.30	953.41
01/27/99 18:00	958.47	958.76	959.19	959.18	955.31	953.41
01/28/99 00:00	958.43	958.83	959.33	959.31	955.27	953.35
01/28/99 06:00	958.34	958.86	959.49	959.39	955.18	953.25
01/28/99 12:00	958.30	958.87	959.44	959.34	955.17	953.23
01/28/99 18:00	958.24	958.86	959.43	959.35	955.11	953.17
01/29/99 00:00	958.11	958.82	959.35	959.30	955.02	953.07
01/29/99 06:00	958.01	958.75	959.25	959.22	954.96	953.01
01/29/99 12:00	957.93	958.71	959.18	959.17	954.93	952.99
01/29/99 18:00	957.96	958.70	959.16	959.17	954.98	953.05
01/30/99 00:00	957.95	958.65	959.12	959.12	954.98	953.06
01/30/99 06:00	957.94	958.59	959.06	959.06	954.98	953.07
01/30/99 12:00	957.87	958.50	958.96	958.99	954.93	953.02
01/30/99 18:00	957.86	958.47	958.92	958.98	954.94	953.03
01/31/99 00:00	957.87	958.46	958.92	958.97	954.97	953.07
01/31/99 06:00	957.87	958.42	958.89	958.93	954.98	953.09
01/31/99 12:00	957.91	958.40	958.89	958.91	955.02	953.13
01/31/99 18:00	958.05	958.42	958.92	958.91	955.13	953.25
02/01/99 00:00	958.13	958.42	958.94	958.90	955.18	953.30
02/01/99 06:00	958.24	958.43	958.96	958.89	955.25	953.37
02/01/99 12:00	958.37	958.46	959.01	958.91	955.35	953.47
02/01/99 18:00	958.55	958.60	959.12	959.09	955.46	953.58
02/02/99 00:00	958.66	958.73	959.33	959.24	955.53	953.64
02/02/99 06:00	958.79	958.81	959.50	959.32	955.62	953.73
02/02/99 12:00	958.92	958.89	959.63	959.39	955.70	953.80
02/02/99 18:00	959.00	958.94	959.79	959.48	955.72	953.81
02/03/99 00:00	958.80	958.87	959.69	959.45	955.52	953.59
02/03/99 06:00	958.70	958.85	959.58	959.37	955.44	953.50
02/03/99 12:00	958.64	958.81	959.47	959.28	955.41	953.46

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
02/03/99 18:00	958.76	958.88	959.54	959.33	955.52	953.58
02/04/99 00:00	958.88	958.91	959.59	959.33	955.61	953.68
02/04/99 06:00	958.97	958.91	959.58	959.30	955.67	953.74
02/04/99 12:00	958.86	958.80	959.45	959.24	955.55	953.61
02/04/99 18:00	958.59	958.64	959.34	959.24	955.30	953.35
02/05/99 00:00	958.37	958.55	959.25	959.18	955.15	953.19
02/05/99 06:00	958.28	958.51	959.19	959.13	955.12	953.17
02/05/99 12:00	958.28	958.52	959.17	959.09	955.16	953.23
02/05/99 18:00	958.49	958.61	959.26	959.12	955.36	953.45
02/06/99 00:00	958.75	958.73	959.39	959.16	955.59	953.70
02/06/99 06:00	958.88	958.73	959.38	959.15	955.66	953.77
02/06/99 12:00	958.86	958.65	959.31	959.11	955.60	953.70
02/06/99 18:00	958.72	958.54	959.21	959.06	955.46	953.55
02/07/99 00:00	958.74	958.56	959.24	959.07	955.49	953.58
02/07/99 06:00	958.82	958.57	959.26	959.06	955.55	953.64
02/07/99 12:00	959.03	958.69	959.37	959.10	955.74	953.84
02/07/99 18:00	959.23	958.84	959.48	959.24	955.84	953.95
02/08/99 00:00	958.97	958.84	959.60	959.38	955.60	953.68
02/08/99 06:00	958.78	958.75	959.48	959.28	955.46	953.52
02/08/99 12:00	958.66	958.69	959.39	959.21	955.40	953.46
02/08/99 18:00	958.70	958.71	959.39	959.21	955.46	953.53
02/09/99 00:00	958.77	958.73	959.40	959.19	955.54	953.61
02/09/99 06:00	958.87	958.75	959.40	959.17	955.62	953.71
02/09/99 12:00	958.84	958.69	959.33	959.12	955.58	953.68
02/09/99 18:00	958.82	958.65	959.29	959.10	955.55	953.65
02/10/99 00:00	958.70	958.57	959.21	959.05	955.46	953.55
02/10/99 06:00	958.60	958.49	959.13	959.00	955.37	953.46
02/10/99 12:00	958.54	958.46	959.09	958.97	955.35	953.44
02/10/99 18:00	958.61	958.48	959.12	958.99	955.43	953.53
02/11/99 00:00	958.67	958.50	959.14	958.99	955.48	953.60
02/11/99 06:00	958.76	958.52	959.16	959.00	955.55	953.67
02/11/99 12:00	958.85	958.55	959.20	959.01	955.63	953.76
02/11/99 18:00	959.02	958.61	959.28	959.05	955.76	953.89
02/12/99 00:00	959.12	958.63	959.32	959.06	955.82	953.95
02/12/99 06:00	959.12	958.59	959.28	959.05	955.77	953.90
02/12/99 10:00	958.98	958.60	959.27			
02/13/99 22:00						
02/14/99 16:00	958.62	958.42	959.09	959.16	955.40	
02/14/99 18:00	958.65	958.44	959.10	959.17	955.44	953.62
02/15/99 00:00	958.73	958.47	959.13	959.18	955.52	953.64
02/15/99 06:00	958.78	958.46	959.13	959.15	955.56	953.63
02/15/99 12:00	958.87	958.49	959.16	959.15	955.63	953.53
02/15/99 18:00	958.96	958.54	959.20	959.19	955.69	953.57
02/16/99 00:00	958.98	958.54	959.22	959.20	955.69	953.60
02/16/99 06:00	959.01	958.54	959.22	959.18	955.71	953.57
02/16/99 12:00	959.08	958.56	959.24	959.18	955.77	953.43
02/16/99 18:00	959.20	958.62	959.32	959.27	955.85	953.45
02/17/99 00:00	959.26	958.64	959.39	959.30	955.88	953.43

**Table C-1. Automated Water Level Readings from New Wells at
Ramsdell Quarry Landfill, RVAAP (continued)**

Time	MW-06 Elev. ft	MW-07 Elev. ft	MW-08 Elev. ft	MW-09 Elev. ft	MW-10 Elev. ft	MW-11 Elev. ft
02/17/99 06:00	959.21	958.62	959.44	959.39	955.81	953.46
02/17/99 12:00	959.14	958.60	959.46	959.36	955.75	953.45
02/17/99 18:00	959.12	958.59	959.43	959.32	955.73	953.48
02/18/99 00:00	959.10	958.56	959.38	959.27	955.71	953.49
02/18/99 06:00	959.11	958.55	959.34	959.23	955.72	953.51
02/18/99 12:00	959.06	958.51	959.29	959.20	955.68	953.51
02/18/99 18:00	959.06	958.49	959.25	959.17	955.67	953.53
02/19/99 00:00	959.05	958.47	959.23	959.15	955.67	953.55
02/19/99 06:00	959.06	958.46	959.21	959.13	955.67	953.56
02/19/99 12:00	959.06	958.44	959.18	959.11	955.67	953.54
02/19/99 18:00	959.07	958.42	959.16	959.09	955.66	953.59
02/20/99 00:00	959.04	958.39	959.12	959.07	955.64	953.60
02/20/99 06:00	959.03	958.36	959.10	959.05	955.63	953.61
02/20/99 12:00	958.98	958.32	959.06	959.02	955.59	953.57
02/20/99 18:00	958.97	958.29	959.03	959.00	955.57	953.63
02/21/99 00:00	958.97	958.27	959.02	958.99	955.58	953.64
02/21/99 06:00	958.95	958.25	958.99	958.97	955.55	953.66
02/21/99 12:00	958.91	958.21	958.96	958.95	955.52	953.59
02/21/99 18:00	958.90	958.18	958.93	958.93	955.51	953.68
02/22/99 00:00	958.85	958.14	958.90	958.90	955.47	953.73
02/22/99 06:00	958.77	958.08	958.84	958.87	955.40	953.74
02/22/99 12:00	958.72	958.05	958.82	958.84	955.37	953.69
02/22/99 18:00	958.79	958.07	958.83	958.85	955.43	953.78
02/23/99 00:00	958.78	958.05	958.82	958.84	955.43	953.80
02/23/99 06:00	958.83	958.06	958.82	958.83	955.47	953.78
02/23/99 12:00	958.90	958.08	958.84	958.83	955.52	953.69
02/23/99 18:00	958.97	958.09	958.85	958.82	955.56	953.70
02/24/99 00:00	958.96	958.06	958.83	958.80	955.53	953.70
02/24/99 06:00	958.94	958.04	958.80	958.78	955.51	953.69
02/24/99 12:00	958.94	958.02	958.79	958.77	955.50	953.65
02/24/99 18:00	959.01	958.04	958.80	958.77	955.54	953.65
02/25/99 00:00	959.10	958.08	958.84	958.79	955.62	953.62
02/25/99 06:00	959.22	958.12	958.88	958.80	955.69	953.58
02/25/99 12:00	959.23	958.11	958.87	958.78	955.68	953.52
02/25/99 18:00	959.16	958.05	958.82	958.75	955.60	953.52
02/26/99 00:00	959.06	957.99	958.77	958.72	955.51	953.54
02/26/99 06:00	958.98	957.94	958.72	958.69	955.44	953.56
02/26/99 12:00	958.97	957.92	958.72	958.69	955.44	953.51
02/26/99 18:00	959.05	957.95	958.74	958.72	955.51	953.57
02/27/99 00:00	959.08	957.96	958.75	958.72	955.53	953.58
02/27/99 06:00	959.19	958.01	958.80	958.74	955.62	953.53
02/27/99 12:00	959.31	958.06	958.85	958.76	955.71	953.45
02/27/99 18:00	959.47	958.14	958.92	958.82	955.83	953.40
02/28/99 00:00	959.64	958.25	959.03	958.93	955.96	953.31
02/28/99 06:00	959.81	958.53	959.41	959.23	956.07	953.27
02/28/99 12:00	959.71	958.60	959.66	959.33	955.98	953.25
02/28/99 18:00	959.69	958.61	959.66	959.30	955.96	953.27
02/28/99 22:00	959.69	958.63	959.63	959.28	955.97	953.26

**Table C-2. Manual Water Level Readings at Ramsdell Quarry, February 1999
Quarterly Reporting Period**

Station	Date	Time	Reference Elevation ^a	Depth to Water (feet)	Water Level Elevation ^b
RQLMW-001	11/13/1998	1410	986.13	30.50	955.63
RQLMW-002	11/13/1998	1357	981.90	29.71	952.19
RQLMW-003	11/13/1998	1350	975.54	22.34	953.20
RQLMW-004	11/13/1998	1359	991.80	34.63	957.17
RQLMW-005	11/13/1998	1343	977.38	24.59	952.79
RQLMW-006	11/13/1998	1406	995.39	36.85	958.54
RQLMW-007	11/13/1998	1414	965.91	9.82	956.09
RQLMW-008	11/13/1998	1402	966.08	9.78	956.30
RQLMW-009	11/13/1998	1353	964.58	8.14	956.44
RQLMW-010	11/13/1998	1338	982.14	28.47	953.67
RQLMW-011	11/13/1998	1347	976.57	24.57	952.00
Staff Gauge	11/13/1998	1420	955.69/961.66 ^c	0.025 (AGS) ^d	955.72
RQLMW-001	12/11/1998	1233	986.13	31.09	955.04
RQLMW-002	12/11/1998	1204	981.90	27.31	954.59
RQLMW-003	12/11/1998	1200	975.54	22.82	952.72
RQLMW-004	12/11/1998	1216	991.80	35.27	956.53
RQLMW-005	12/11/1998	1153	977.38	25.12	952.26
RQLMW-006	12/11/1998	1219	995.39	37.52	957.87
RQLMW-007	12/11/1998	1224	965.91	10.37	955.54
RQLMW-008	12/11/1998	1211	966.08	10.54	955.54
RQLMW-009	12/11/1998	1206	964.58	9.75	954.83
RQLMW-010	12/11/1998	1147	982.14	29.07	953.07
RQLMW-011	12/11/1998	1155	976.57	25.07	951.50
Staff Gauge	12/11/1998	1227	955.69/961.66 ^c	dry (0.00) ^d	N/A
RQLMW-001	1/1/1999	0	986.13	30.51	955.62
RQLMW-002	1/1/1999	0	981.90	26.71	955.19
RQLMW-003	1/1/1999	0	975.54	21.86	953.68
RQLMW-004	1/1/1999	0	991.80	34.75	957.05
RQLMW-005	1/1/1999	0	977.38	24.00	953.38
RQLMW-006	1/1/1999	0	995.39	37.40	957.99
RQLMW-007	1/1/1999	0	965.91	8.37	957.54
RQLMW-008	1/1/1999	0	966.08	8.17	957.91
RQLMW-009	1/1/1999	0	964.58	6.39	958.19
RQLMW-010	1/1/1999	0	982.14	27.87	954.27
RQLMW-011	1/1/1999	0	976.57	24.09	952.48
Staff Gauge	1/1/1999	0	955.69/961.66 ^c	(0.5 ft snow) ^d	N/A
RQLMW-001	2/12/1999	0	986.13	29.31	956.82
RQLMW-002	2/12/1999	0	981.90	25.34	956.56
RQLMW-003	2/12/1999	0	975.54	19.12	956.42
RQLMW-004	2/12/1999	0	991.80	33.44	958.36
RQLMW-005	2/12/1999	0	977.38	22.63	954.75
RQLMW-006	2/12/1999	0	995.39	36.35	959.04
RQLMW-007	2/12/1999	0	965.91	6.69	959.22
RQLMW-008	2/12/1999	0	966.08	6.66	959.42
RQLMW-009	2/12/1999	0	964.58	5.2	959.38
RQLMW-011	2/12/1999	0	976.57	22.73	953.84
Staff Gauge	2/12/1999	0	955.69/961.66 ^c	3.15(AGS) ^d	958.84

^aReference elevations at top of casing (feet above mean sea level).

^bElevation in feet above mean sea level.

^cReference elevations for the quarry pond staff gauge are 955.69 for ground surface and 961.66 for the top of the transducer stilling well. Ground surface elevation is a calculated value relative to the surveyed elevation of the top of the stilling well.

^dVisual reading of staff gauge in feet above ground surface.

N/A = Not applicable.

ATTACHMENT D

**RAMSDELL QUARRY GROUNDWATER INVESTIGATION
FEBRUARY 1999 QUARTERLY REPORT**

**Table D-1. Precipitation Data from Ramsdell Quarry, February 1999
Quarterly Reporting Period**

Day	November	December	January	February
1	0.00	0.10	0.05	TR
2	0.00	0.01	TR	0.02
3	0.00	TR	0.02	0.04
4	0.00	0.02	0.25	0.01
5	0.00	0.00	0.00	0.01
6	0.05	0.00	0.4*	0.00
7	0.04	0.14	0.3*	0.10
8	0.00	0.01	0.3*	0.31
9	0.40	0.00	0.275*	0.01
10	0.38	0.01	0.08	0.01
11	0.10	0.01	0.10	TR
12	0.02	TR	0.20	TR
13	0.00	TR	0.8*	0.00
14	0.00	TR	0.01	0.10
15	0.00	TR	TR	0.21
16	TR	0.00	0.15	0.00
17	0.01	0.00	0.08	TR
18	0.05	0.33	0.21	0.01
19	0.01	TR	TR	TR
20	0.21	TR	0.00	0.00
21	0.00	0.50	0.08	0.00
22	0.00	0.70	0.03	0.02
23	0.00	TR	0.04	0.00
24	0.00	0.00	0.01	0.01
25	0.00	0.00	0.22	0.10
26	0.60	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00
28	0.00	TR	0.00	0.03
29	0.00	0.00	0.00	
30	0.01	0.09	0.01	
31		0.00	0.01	
Total	1.88	1.92	1.55	0.99

*Equivalent value calculated from snowfall measurement (0.1 inch liquid precipitation = 1 inch snowfall).

ATTACHMENT E

**RAMSDELL QUARRY GROUNDWATER INVESTIGATION
FEBRUARY 1999 QUARTERLY REPORT**

Table E-1. February Quarterly Monitoring Report for Famsdell Quarry Groundwater Investigation, Groundwater Analytical Results-Total and Filtered Metals and Cyanide

Media Station Sample ID Customer ID Date Filtered	Units	Groundwater RQLmw-006 RQ0103 RQLmw-006-0103-GW 02/13/99 Dissolved	Groundwater RQLmw-006 RQ0103 RQLmw-006-0103-GW 02/13/99 Total	Groundwater RQLmw-007 RQ0104 RQLmw-007-0104-GW 02/14/99 Dissolved	Groundwater RQLmw-007 RQ0104 RQLmw-007-0104-GW 02/14/99 Total	Groundwater RQLmw-008 RQ0105 RQLmw-008-0105-GW 02/14/99 Dissolved	Groundwater RQLmw-008 RQ0105 RQLmw-008-0105-GW 02/14/99 Total	Groundwater RQLmw-009 RQ0106 RQLmw-009-0106-GW 02/14/99 Dissolved
Cyanide	MG/L		0.01 U		0.01 U		0.01 U	
Aluminum	µg/L	200 UJ	200 UJ	200 UJ	543 J	200 UJ	200 UJ	144 J
Antimony	µg/L	5 U	5 U	5 U	3.5 U	5 U	5 U	5 U
Arsenic	µg/L	35.5 =	30.1 =	8.9 =	13.6 =	5.9 =	10 =	5 U
Barium	µg/L	25.7 J	24.1 J	23.8 J	30.9 J	24.5 J	30.6 J	20.2 J
Beryllium	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Cadmium	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Calcium	µg/L	105000 =	95400 =	81600 =	97200 =	34200 =	44500 =	18200 =
Chromium	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cobalt	µg/L	69.9 =	62.2 =	50 U	50 U	50 U	50 U	50 U
Copper	µg/L	21.4 J	25 U	3.4 U	10.2 U	25 U	25 U	10.2 U
Iron	µg/L	7480 =	7150 =	5950 =	8110 =	35400 =	53600 =	278 U
Lead	µg/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Magnesium	µg/L	40800 =	36600 =	103000 =	116000 =	69000 =	82200 =	9890 =
Manganese	µg/L	4180 =	3750 =	1330 =	1500 =	674 =	861 =	53.9 =
Mercury	µg/L	0.2 U	0.08 J	0.2 U	0.078 J	0.2 U	0.091 J	0.2 U
Nickel	µg/L	348 =	311 =	18.9 J	18.4 J	40 U	40 U	40 U
Potassium	µg/L	2200 J	2400 J	5900 =	6650 =	4000 J	5040 =	2400 J
Selenium	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Silver	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Sodium	µg/L	1570 J	1370 J	7870 =	8630 =	4680 J	6000 =	2620 J
Thallium	µg/L	2 U	2 U	1.3 J	2 U	2 U	2 U	2 U
Vanadium	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Zinc	µg/L	40.2 U	27.9 U	48 U	87.9 U	19.1 U	16.2 U	33.2 U

Table E-1 (continued)

Media Station Sample ID Customer ID Date Filtered	Units	Groundwater RQLmw-009 RQ0106 RQLmw-009-0106-GW 02/14/99 Total	Groundwater RQLmw-010 RQ0107 RQLmw-010-0107-GW 02/14/99 Dissolved	Groundwater RQLmw-010 RQ0107 RQLmw-010-0107-GW 02/14/99 Total	Groundwater RQLmw-011 RQ0108 RQLmw-011-0108-GW 02/13/99 Dissolved	Groundwater RQLmw-011 RQ0108 RQLmw-011-0108-GW 02/13/99 Total	Surface Water RQLsw-013 RQ0109 RQLsw-013(p)-0109-SW 02/12/99 Dissolved	Surface Water RQLsw-013 RQ0109 RQLsw-013(p)-0109-SW 02/12/99 Total
Cyanide	MG/L	0.01 U		0.01 U		0.01 U		0.01 U
Aluminum	µg/L	448 J	200 UJ	200 UJ	306 J	15200 J	200 UJ	136 J
Antimony	µg/L	5 U	5 U	5 U	5 U	24.3 =	5 U	5 U
Arsenic	µg/L	5 U	5 U	5 U	5 U	74.7 =	5 U	5 U
Barium	µg/L	19.6 J	3.4 U	4 U	33.6 J	42.5 J	32.9 J	33.6 J
Beryllium	µg/L	4 U	4 U	4 U	1.9 U	14 =	4 U	4 U
Cadmium	µg/L	5 U	5 U	5 U	5 U	5 U	0.82 U	0.8 U
Calcium	µg/L	18100 =	60400 =	60900 =	14800 =	13100 =	46300 =	45100 =
Chromium	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cobalt	µg/L	50 U	50 U	50 U	41.7 J	39 J	50 U	50 U
Copper	µg/L	7.2 U	25 U	25 U	5.7 U	3.8 U	6.6 U	12.8 J
Iron	µg/L	464 =	100 U	100 U	2450 =	156000 =	192 U	660 =
Lead	µg/L	3 U	3 U	3 U	3 U	43.5 =	3 U	3 U
Magnesium	µg/L	10300 =	25400 =	25500 =	9480 =	8560 =	25600 =	25000 =
Manganese	µg/L	67.7 =	822 =	897 =	1750 =	1540 =	767 =	744 =
Mercury	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.094 J	0.073 J
Nickel	µg/L	40 U	40 U	40 U	124 =	131 =	20.7 J	40 U
Potassium	µg/L	2470 J	2920 J	2950 J	4380 J	4560 J	3160 J	3190 J
Selenium	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Silver	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Sodium	µg/L	2340 J	5050 =	5320 =	2090 J	2200 J	2110 J	2040 J
Thallium	µg/L	2 U	2 U	2 U	2 U	1.6 J	2 U	2 U
Vanadium	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Zinc	µg/L	19.5 U	22.9 U	27.4 U	165 J	168 J	329 J	323 J

Table E-3. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-Volatile Organic Compounds

Analyte	Media Station Sample ID Customer ID Date Filtered	Units	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Surface Water
			RQLmw-006 RQ0103 RQLmw-006-0103-GW 02/13/99 Total	RQLmw-007 RQ0104 RQLmw-007-0104-GW 02/14/99 Total	RQLmw-008 RQ0105 RQLmw-008-0105-GW 02/14/99 Total	RQLmw-009 RQ0106 RQLmw-009-0106-GW 02/14/99 Total	RQLmw-010 RQ0107 RQLmw-010-0107-GW 02/14/99 Total	RQLmw-011 RQ0108 RQLmw-011-0108-GW 02/13/99 Total	RQLsw-013 RQ0109 RQLsw-013(p)-0109-SW 02/12/99 Total
1,1,1-Trichloroethane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,3-Trichloropropane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-cis-Dichloropropene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-trans-Dichloropropene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloroethylvinylether		µg/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Hexanone		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acrolein		µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Acrylonitrile		µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Benzene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethyl methacrylate		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene Chloride		µg/L	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
Styrene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene		µg/L	0.66 J	5 U	0.66 J	0.65 J	5 U	5 U	0.6 J
Toluene		µg/L	0.48 J	5 U	0.54 J	5 U	5 U	0.46 J	5 U
Trichloroethene		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichlorofluoromethane		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Acetate		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes, Total		µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table E-5. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-Pesticides and PCBs

Analyte	Media Station Sample ID Customer ID Date Filtered	Units	Groundwater RQLmw-006 RQ0103 RQLmw-006-0103-GW 02/13/99 Total	Groundwater RQLmw-007 RQ0104 RQLmw-007-0104-GW 02/14/99 Total	Groundwater RQLmw-008 RQ0105 RQLmw-008-0105-GW 02/14/99 Total	Groundwater RQLmw-009 RQ0106 RQLmw-009-0106-GW 02/14/99 Total	Groundwater RQLmw-010 RQ0107 RQLmw-010-0107-GW 02/14/99 Total	Groundwater RQLmw-011 RQ0108 RQLmw-011-0108-GW 02/13/99 Total	Surface Water RQLsw-013 RQ0109 RQLsw-013(p)-0109-SW 02/12/99 Total
4,4'-DDD		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
4,4'-DDE		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha Chlordane		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-BHC		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
Beta-BHC		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
Dieldrin		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan Sulfate		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
Endrin Aldehyde		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin Ketone		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma Chlordane		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC (Lindane)		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
Heptachlor		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
Heptachlor Epoxide		µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor		µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Toxaphene		µg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1016 TCLP		µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221 TCLP		µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1232 TCLP		µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242 TCLP		µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248 TCLP		µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254 TCLP		µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1260 TCLP		µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table E-6. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigations, Groundwater Analytical Results-Water Quality Parameters and Anions

Analyte	Media Station Sample ID Customer ID Date Filtered	Units	Groundwater RQLmw-006 RQ0103 RQLmw-006-0103-GW 02/13/99 Total	Groundwater RQLmw-007 RQ0104 RQLmw-007-0104-GW 02/14/99 Total	Groundwater RQLmw-008 RQ0105 RQLmw-008-0105-GW 02/14/99 Total	Groundwater RQLmw-009 RQ0106 RQLmw-009-0106-GW 02/14/99 Total
Alkalinity, Total		mg/L	240 =	710 =	430 =	75 =
Nitrate/Nitrite (NO ₃ /NO ₂ -N)		mg/L	0.1 U	0.1 U	0.1 U	0.1 U
Chloride		mg/L	2.1 =	3.4 =	2.2 =	1.3 =
Sulfate		mg/L	152 =	118 =	103 =	29.9 =
Conductivity		µmhos/cm	760 =	1100 =	790 =	210 =
Total Dissolved Solids		mg/L	510 =	800 =	520 =	140 =
Chemical Oxygen Demand (COD)		mg/L	10 U	31 =	26 =	11 =
Nitrogen, as Ammonia		mg/L	1 U	1 U	1 U	1 U
pH		Std Units	6.2 J	6.7 J	6.5 J	6.1 J
Phenols, Total		mg/L	0.02 U	0.02 U	0.02 U	0.02 U
Total Organic Carbon		mg/L	3 =	6 =	5 =	3 =

Table E-6 (continued)

Analyte	Media Station Sample ID Customer ID Date Filtered	Units	Groundwater RQLmw-010 RQ0107 RQLmw-010-0107-GW 02/14/99 Total	Groundwater RQLmw-011 RQ0108 RQLmw-011-0108-GW 02/13/99 Total	Surface Water RQLsw-013 RQ0109 RQLsw-013(p)-0109-SW 02/12/99 Total
Alkalinity, Total		mg/L	150 =	14 =	55 =
Nitrate/Nitrite (NO ₃ /NO ₂ -N)		mg/L	0.3 =	0.1 U	0.4 =
Chloride		mg/L	8.8 =	2.4 =	1.7 =
Sulfate		mg/L	151 =	78.3 =	196 =
Conductivity		µmhos/cm	340 =	210 =	430 =
Total Dissolved Solids		mg/L	380 =	160 =	370 =
Chemical Oxygen Demand (COD)		mg/L	26 =	10 U	26 =
Nitrogen, as Ammonia		mg/L	1 U	1 U	1 U
pH		Std Units	6.5 J	4.7 J	6.5 J
Phenols, Total		mg/L	0.02 U	0.02 U	0.02 U
Total Organic Carbon		mg/L	2 =	1 U	6 =

Table E-7. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-QA/QC Sample Analytical Results

Analyte Media Station Sample ID Customer ID Date Filtered Field Type		Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Dissolved Equipment Rinsate	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Total Equipment Rinsate	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Dissolved Source Water Blank	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Total Source Water Blank	Quality Control QC-2 RQ0087 RQLmw- -0087-TB 02/12/99 Total Trip Blank
Units						
<i>Explosives</i>						
1,3,5-Trinitrobenzene	µg/L		0.2 U		0.2 U	
1,3-Dinitrobenzene	µg/L		0.2 U		0.2 U	
2,4,6-Trinitrotoluene	µg/L		0.2 U		0.2 U	
2,4-Dinitrotoluene	µg/L		0.37 =		0.32 =	
2,6-Dinitrotoluene	µg/L		0.13 U		0.13 U	
2-Nitrotoluene	µg/L		0.81 U		0.75 U	
3-Nitrotoluene	µg/L		1.3 U		0.2 U	
4-Nitrotoluene	µg/L		0.2 U		0.2 U	
HMX	µg/L		0.19 J		0.13 J	
Nitrobenzene	µg/L		0.2 U		0.2 U	
Nitrocellulose as N	µg/L		0.2 U		0.2 U	
Nitroglycerin	µg/L		2.5 U		2.5 U	
Nitroguanidine	µg/L		20 U		20 U	
RDX	µg/L		0.5 U		0.5 U	
Tetryl	µg/L		0.2 U		0.2 U	
<i>Metals</i>						
Aluminum	µg/L	200 UJ	200 UJ	200 UJ	200 UJ	
Antimony	µg/L	5 U	5 U	5 U	5 U	
Arsenic	µg/L	5 U	5 U	5 U	5 U	
Barium	µg/L	200 U	200 U	200 U	200 U	
Beryllium	µg/L	4 U	4 U	4 U	4 U	
Cadmium	µg/L	5 U	5 U	5 U	5 U	
Calcium	µg/L	287 U	348 U	374 U	434 U	
Chromium	µg/L	10 U	10 U	10 U	10 U	
Cobalt	µg/L	50 U	50 U	50 U	50 U	
Copper	µg/L	25 U	25 U	25 U	3.9 U	
Iron	µg/L	55.1 U	100 U	100 U	100 U	
Lead	µg/L	2.2 J	3 U	3 U	3 U	
Magnesium	µg/L	5000 U	5000 U	5000 U	5000 U	
Manganese	µg/L	15 U	15 U	15 U	15 U	

Table E-7. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-QA/QC Sample Analytical Results (continued)

Analyte Media Station Sample ID Customer ID Date Filtered Field Type	Units	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Dissolved Equipment Rinsate	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Total Equipment Rinsate	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Dissolved Source Water Blank	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Total Source Water Blank	Quality Control QC-2 RQ0087 RQLmw- -0087-TB 02/12/99 Total Trip Blank
Mercury	µg/L	0.2 U	0.077 J	0.11 J	0.2 U	
Nickel	µg/L	40 U	40 U	40 U	40 U	
Potassium	µg/L	5000 U	5000 U	5000 U	5000 U	
Selenium	µg/L	5 U	5 U	5 U	5 U	
Silver	µg/L	10 U	10 U	10 U	10 U	
Sodium	µg/L	5000 U	5000 U	5000 U	5000 U	
Thallium	µg/L	2 U	2 U	2 U	2 U	
Vanadium	µg/L	50 U	50 U	50 U	50 U	
Zinc	µg/L	20 U	18.9 U	16.9 U	25.4 U	
<i>Inorganics, Water Quality Compounds, and Anions</i>						
Alkalinity, Total	MG/L		5 U		5 U	
Cyanide	MG/L		0.01 U		0.01 U	
Nitrate/Nitrite (NO3/N	MG/L		0.1 U		0.1 U	
Chloride	MG/L		1 U		1 U	
Sulfate	MG/L		1 U		1 U	
Conductivity	µmhos/CM		6 =		6 =	
Total Dissolved Solids	MG/L		10 U		10 U	
Chemical Oxygen Der	MG/L				16 =	
Nitrogen, as Ammonia	MG/L		1 U		1 U	
pH	STD UN		4 J		4.9 J	
Phenols, Total	MG/L		0.02 U		0.02 U	
Total Organic Carbon	MG/L		1 U		1 U	
<i>Semivolatile Organic Compounds</i>						
1,2,4-Trichlorobenzene	µg/L		10 U		10 U	
1,2-Dichlorobenzene	µg/L		10 U		10 U	
1,3-Dichlorobenzene	µg/L		10 U		10 U	
1,4-Dichlorobenzene	µg/L		10 U		10 U	
2,2'-oxybis (1-chlorop	µg/L		10 U		10 U	
2,4,5-Trichlorophenol	µg/L		25 U		25 U	
2,4,6-Trichlorophenol	µg/L		10 U		10 U	
2,4-Dichlorophenol	µg/L		10 U		10 U	

Table E-7. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-QA/QC Sample Analytical Results (continued)

Analyte Media Station Sample ID Customer ID Date Filtered Field Type	Units	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Dissolved Equipment Rinsate	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Total Equipment Rinsate	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Dissolved Source Water Blank	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Total Source Water Blank	Quality Control QC-2 RQ0087 RQLmw- -0087-TB 02/12/99 Total Trip Blank
2,4-Dimethylphenol	µg/L		10 U		10 U	
2,4-Dinitrophenol	µg/L		25 U		25 U	
2,4-Dinitrotoluene	µg/L		10 U		10 U	
2,6-Dinitrotoluene	µg/L		10 U		10 U	
2-Chloronaphthalene	µg/L		10 U		10 U	
2-Chlorophenol	µg/L		10 U		10 U	
2-Methylnaphthalene	µg/L		10 U		10 U	
2-Methylphenol	µg/L		10 U		10 U	
2-Nitroaniline	µg/L		25 U		25 U	
2-Nitrophenol	µg/L		10 U		10 U	
3,3'-Dichlorobenzidine	µg/L		10 U		10 U	
3-Nitroaniline	µg/L		25 U		25 U	
4,6-Dinitro-o-Cresol	µg/L		25 U		25 U	
4-Bromophenyl-phenyl	µg/L		10 U		10 U	
4-Chloroaniline	µg/L		10 U		10 U	
4-Chlorophenyl-phenyl	µg/L		10 U		10 U	
4-Methylphenol	µg/L		10 U		10 U	
4-Nitroaniline	µg/L		25 U		25 U	
4-Nitrophenol	µg/L		25 U		25 U	
4-chloro-3-methylphenol	µg/L		10 U		10 U	
Acenaphthene	µg/L		10 U		10 U	
Acenaphthylene	µg/L		10 U		10 U	
Anthracene	µg/L		10 U		10 U	
Benzo(a)anthracene	µg/L		10 U		10 U	
Benzo(a)pyrene	µg/L		10 U		10 U	
Benzo(b)fluoranthene	µg/L		10 U		10 U	
Benzo(g,h,i)perylene	µg/L		10 U		10 U	
Benzo(k)fluoranthene	µg/L		10 U		10 U	
Bis(2-chloroethoxy)methane	µg/L		10 U		10 U	
Bis(2-chloroethyl)ether	µg/L		10 U		10 U	
Bis(2-ethylhexyl)phthalate	µg/L		10 U		10 U	

Table E-7. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-QA/QC Sample Analytical Results (continued)

Analyte Media Station Sample ID Customer ID Date Filtered Field Type	Units	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Dissolved Equipment Rinsate	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Total Equipment Rinsate	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Dissolved Source Water Blank	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Total Source Water Blank	Quality Control QC-2 RQ0087 RQLmw- -0087-TB 02/12/99 Total Trip Blank
Butyl Benzyl Phthalate	µg/L		10 U		10 U	
Carbazole	µg/L		10 U		10 U	
Chrysene	µg/L		10 U		10 U	
Di-n-butyl Phthalate	µg/L		10 U		10 U	
Di-n-octyl Phthalate	µg/L		10 U		10 U	
Dibenzo(a,h)anthracene	µg/L		10 U		10 U	
Dibenzofuran	µg/L		10 U		10 U	
Diethyl Phthalate	µg/L		10 U		10 U	
Dimethyl Phthalate	µg/L		10 U		10 U	
Fluoranthene	µg/L		10 U		10 U	
Fluorene	µg/L		10 U		10 U	
Hexachlorobenzene	µg/L		10 U		10 U	
Hexachlorobutadiene	µg/L		10 U		10 U	
Hexachlorocyclopentadiene	µg/L		10 U		10 U	
Hexachloroethane	µg/L		10 U		10 U	
Indeno(1,2,3-cd)pyrene	µg/L		10 U		10 U	
Isophorone	µg/L		10 U		10 U	
N-Nitroso-di-n-propylamine	µg/L		10 U		10 U	
N-Nitrosodiphenylamine	µg/L		10 U		10 U	
Naphthalene	µg/L		10 U		10 U	
Nitrobenzene	µg/L		10 U		10 U	
Pentachlorophenol	µg/L		25 U		25 U	
Phenanthrene	µg/L		10 U		10 U	
Phenol	µg/L		10 U		10 U	
Pyrene	µg/L		10 U		10 U	
<i>Volatile Organic Compounds</i>						
1,1,1-Trichloroethane	µg/L		5 U		5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L		5 U		5 U	5 U
1,1,2-Trichloroethane	µg/L		5 U		5 U	5 U
1,1-Dichloroethane	µg/L		5 U		5 U	5 U
1,1-Dichloroethene	µg/L		5 U		5 U	5 U

Table E-7. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-QA/QC Sample Analytical Results (continued)

Analyte Media Station Sample ID Customer ID Date Filtered Field Type	Units	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Dissolved Equipment Rinsate	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Total Equipment Rinsate	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Dissolved Source Water Blank	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Total Source Water Blank	Quality Control QC-2 RQ0087 RQLmw- -0087-TB 02/12/99 Total Trip Blank
1,2,3-Trichloropropan	µg/L		5 U		5 U	5 U
1,2-Dichloroethane	µg/L		5 U		5 U	5 U
1,2-Dichloroethene	µg/L		5 U		5 U	5 U
1,2-Dichloropropane	µg/L		5 U		5 U	5 U
1,3-cis-Dichloroprope	µg/L		5 U		5 U	5 U
1,3-trans-Dichloropro	µg/L		5 U		5 U	5 U
2-Butanone	µg/L		10 U		10 U	10 U
2-Chloroethylvinyleth	µg/L		10 UJ		10 UJ	10 UJ
2-Hexanone	µg/L		10 U		10 U	10 U
4-Methyl-2-pentanone	µg/L		10 U		10 U	10 U
Acetone	µg/L		10 U		10 U	10 U
Acrolein	µg/L		100 U		100 U	100 U
Acrylonitrile	µg/L		100 U		100 U	100 U
Benzene	µg/L		5 U		5 U	5 U
Bromodichloromethan	µg/L		5 U		5 U	5 U
Bromoform	µg/L		5 U		5 U	5 U
Bromomethane	µg/L		10 U		10 U	10 U
Carbon Disulfide	µg/L		5 U		5 U	5 U
Carbon Tetrachloride	µg/L		5 U		5 U	5 U
Chlorobenzene	µg/L		5 U		5 U	5 U
Chloroethane	µg/L		10 U		10 U	10 U
Chloroform	µg/L		5 U		5 U	5 U
Chloromethane	µg/L		10 U		10 U	10 U
Dibromochloromethar	µg/L		5 U		5 U	5 U
Dichlorodifluorometh	µg/L		10 U		10 U	10 U
Ethyl methacrylate	µg/L		5 U		5 U	5 U
Ethylbenzene	µg/L		5 U		5 U	5 U
Methylene Chloride	µg/L		5 U		5 U	5 U
Styrene	µg/L		5 U		5 U	5 U
Tetrachloroethene	µg/L		0.52 J		5 U	0.56 J
Toluene	µg/L		0.5 J		0.55 J	5 U

Table E-7. February Quarterly Monitoring Report for Ramsdell Quarry Groundwater Investigation, Groundwater Analytical Results-QA/QC Sample Analytical Results (continued)

Analyte Media Station Sample ID Customer ID Date Filtered Field Type	Units	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Dissolved Equipment Rinsate	Quality Control QC-2 RQ0080 RQLmw- -0080-ER 02/12/99 Total Equipment Rinsate	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Dissolved Source Water Blank	Quality Control QC-2 RQ0083 RQLmw- -0083-SB 02/12/99 Total Source Water Blank	Quality Control QC-2 RQ0087 RQLmw- -0087-TB 02/12/99 Total Trip Blank
Trichloroethene	µg/L		5 U		5 U	5 U
Trichlorofluoromethar	µg/L		10 U		10 U	10 U
Vinyl Acetate	µg/L		10 U		10 U	10 U
Vinyl Chloride	µg/L		10 U		10 U	10 U
Xylenes, Total	µg/L		5 U		5 U	5 U