First Addendum to the First Five-Year Review Report

Lowry Landfill Superfund Site
Arapahoe County, Colorado

September 30, 2002

PREPARED BY:

Region 8
United States Environmental Protection Agency
Denver, Colorado

Approved by: Date:

Original signed by Max H. Dodson **September 30, 2002**

Max H. Dodson, Assistant Regional Administrator
Office of Ecosystems Protection and Remediation
U. S. EPA Region 8

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Tables

Attachments

List of Acronyms

µg/L	micrograms per liter
1,2-DCA	1,2-dichloroethane
Addendum	First Addendum to the First Five-Year Review Report
ARARs	Applicable or Relevant and Appropriate Requirements
CBD	Cannot Be Determined
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act[1]
CWM	Chemical Waste Management, Inc.
Denver	City and County of Denver, Colorado
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
E/S/W	East/South/West
FTPA	Former Tire Pile Area
Guidance	EPA's June 2001 Comprehensive Five-Year Review Guidance (EPA 540-R-01-007)
kg	kilograms
L	liter
LFG	Landfill Gas
Lowry Site	Lowry Landfill Superfund Site
MNA	Monitored Natural Attenuation
MPE	Multi-Phase Extraction
NBBW	North Boundary Barrier Wall
NTES	North Toe Extraction System
O&M	Operation & Maintenance
OICs	Outstanding Issues of Concern
Order	Administrative Order for Remedial Design/ Remedial Action, EPA Docket No. CERCLA VIII-95-05
OSWER	Office of Solid Waste and Emergency Response
PCE	tetrachloroethene
pCi/L	PicoCuries per liter
PCMP	Performance and Compliance Monitoring Plan, Shallow Groundwater Containment, Collection, and Diversion System
POC	Point of Compliance
PQLs	Practical Quantitation Limits
RAC 6	Response Action Contract, EPA Region 6
RAOs	Remedial Action Objectives
Respondents	Denver, WMC, and CWM
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act of 1986
Site	Lowry Landfill Superfund Site
Superfund	Comprehensive Environmental Response, Compensation and Liability Act[2]
SVE	Soil Vapor Extraction
SWRA	Surface Water Removal Action
TCE	trichloroethene
VOCs	Volatile Organic Compounds
WD	Weathered Dawson Formation
WMC	Waste Management of Colorado, Inc.
WTP	Water Treatment Plant

1 As reauthorized and amended by SARA.

2 As reauthorized and amended by SARA.

Executive Summary

The United States Environmental Protection Agency – Region 8 (EPA) conducted the First Five-Year Review of the Lowry Landfill Superfund Site (Lowry Site or Site) located in Arapahoe County, Colorado. The review was conducted from September 2000 through August 2001. The final report was issued on September 30, 2001. This is the first Addendum to the First Five-Year Review of the Lowry Site. The purpose of this Addendum is to determine protectiveness of human health and the environment for those areas where additional information was needed at the time of the issuance of the *First Five-Year Review Report*.

Findings of the First Five-Year Review

The determination of the effectiveness of each remedy component was made by answering these questions specified in EPA's June 2001 *Comprehensive Five-Year Review Guidance* (the Guidance):

- Is the remedy functioning as intended by the decision documents?
- Are the exposure assumptions, toxicity data, cleanup levels, and Remedial Action Objectives (RAOs) used at the time of the remedy selection still valid?
- Has any new information come to light that could call into question the protectiveness of the remedy?

Using these questions, the majority of the remedy elements and components were found to be protective of human health and the environment in the First Five-Year Review.

The First Five-Year Review found the following completed remedy components or elements to be protective of human health and the environment:

- Well Plugging Program
- Wetlands Mitigation
- Landfill Gas (LFG) Collection and Treatment System
- North Face Landfill Cover
- Surface Water Removal Action

The First Five-Year Review determined that the protectiveness of two of the completed components and elements of the sitewide remedy could not be determined until further information is obtained. Table 9-1 of the *First Five-Year Review Report* recommended follow-up actions in each of these areas to investigate the nature and extent of contamination.

East/South/West (E/S/W) Groundwater Barrier Wall

The First Five-Year Review found that potential contaminant migration in excess of groundwater Performance Standards (Performance Standards) in the Lowry Site Record of Decision (ROD) and subsequent EPA remedial decision documents had been observed beyond the Point of Compliance (POC) at the following locations along the East/South/West Groundwater Barrier Wall: MW39-WD, MW43-WD, MW51-WD, and the PM-15 area. At each of these locations, the Respondents to Administrative Order for Remedial Design/Remedial Action, EPA Docket No. CERCLA VIII-95-05 (the Order) were required to perform additional investigations of the nature and extent of the potential contamination.

North Boundary Barrier Wall (NBBW) System

The First Five-Year Review found that contaminant concentrations as high as 22 times Performance Standards had been observed at MW37-WD, an NBBW compliance monitoring well. Exceedances of a lesser magnitude were also observed at three other NBBW monitoring wells:

GW-114A, MW-1000, and U701-WD. EPA required the Respondents to perform a reevaluation of the capture effectiveness of the NBBW System, including construction and sampling of additional monitoring wells, taking water-level measurements, and additional sampling of existing groundwater monitoring wells in this area.

Additional Remedy Components

Additional remedy components are not components of the sitewide remedy but are necessary to monitor and implement the remedy. Table 9-2 of the First Five-Year Review Report recommended follow-up actions for the following additional remedy components and elements:

- **Landfill Cover Maintenance**. Depressions were found to be present on the landfill cover in the northwestern and north center of the Site. The Respondents have completed a survey, drainage plan, and design to improve drainage. Repairs to the landfill cover are under way and are expected to be completed by the end of 2002.

- **Lateral Spacing of Monitoring Wells in the Weathered Dawson Formation**. The First Five-Year Review identified that well spacing was inadequate to detect possible exceedances beyond the POC. The Respondents have performed geophysical investigations and are in the process of developing an updated monitoring network to identify potential pathways of contaminant migration. The plan describing how to determine an adequate number of monitoring wells and adequate spacing of the wells for the weathered Dawson Formation was submitted to EPA on September 9, 2002. The plan will be implemented in the field by June 30, 2003.

- **Lignite Layer Monitoring**. The First Five-Year Review found that there are too few monitoring wells to verify containment. The Respondents are evaluating appropriate well locations to monitor the lignite layer and are developing a revised lignite monitoring network. The plan describing how to determine an adequate number of monitoring wells and appropriate locations of the wells for the lignite layer was submitted to EPA on September 9, 2002. The plan will be implemented in the field by June 30, 2003.

- **Unweathered Dawson Formation and Denver Formation Monitoring**. The First Five-Year Review identified that there are too few wells to verify containment. The Respondents are performing investigations to identify potential pathways for contaminant migration, drilling additional wells, and developing a proposed monitoring network. The plan describing how to determine an adequate number of monitoring wells and adequate spacing of the wells for the unweathered Dawson Formation and the Denver Formation was submitted to EPA on September 9, 2002. The plan will be implemented in the field by June 30, 2003.

- **Unlocked Well Caps**. The First Five-Year Review found that some monitoring wells were unlocked. The Respondents have locked these wells and re-instituted a program to ensure that the wells remain locked.

- **MW38-WD Area**. MW38-WD is a compliance well located along the northern portion of the western site boundary. High concentrations of Volatile Organic Compounds (VOCs) have been detected in this well. The Respondents have drilled additional, more closely spaced wells near MW38-WD, and have identified a subsurface sand channel in this area. Investigations in this area are ongoing to determine the source, nature and extent, and fate and transport of the contamination. Additional wells and sampling as well as a pumping test and soil vapor investigation are being performed in this area.

- **Incorrect Signage**. The First Five-Year Review identified some incorrect or illegible signs on the fence around the Site. The Respondents have replaced or repaired these signs.

- **Institutional Controls**. The First Five-Year Review identified the need for the Respondents to submit a final Institutional Controls Plan. On September 26, 2002, EPA, in consultation with the State of Colorado, approved the Respondents' September 19, 2002 submittal of the Institutional Controls Plan, as supplemented on September 25, 2002.

Incomplete Remedy Components

Table 9-3 of the *First Five-Year Review Report* identified the following recommendation and follow-up actions for the incomplete remedy components:

- **Former Tire Pile Area (FTPA) Waste Pits**. Remediation of the North and South Waste Pits is ongoing. The Respondents are continuing to implement EPA-approved Work Plans and are performing a pilot study in the South Waste Pit.

- **North Toe Extraction System (NTES)**. Construction of the NTES is complete, but it has not yet been placed into service since the Water Treatment Plant (WTP), as currently configured, cannot treat the water from the NTES at the flow rate required to meet ROD requirements. Therefore, the NTES cannot be operated until the WTP is capable of treating the full suite, concentrations, and required flow of contaminants in the ground water within the NTES trench, including 1,4-dioxane. The Respondents are performing pilot tests on additional treatment technologies to upgrade the WTP. Low flow pumping began in August 2002 to support a biological treatment pilot test and to monitor the groundwater quality and hydraulic response at the NTES.

- **Water Treatment Plant**. The onsite WTP is continuing to effectively treat water from all required Site sources, except that it is not able to treat 1,4-dioxane to permit levels when NTES ground water is introduced into the plant at the flow rate required by the ROD. The Respondents are performing pilot tests of Advanced Oxidation Processes, ion-exchange systems to treat bromide interference, and biological treatment systems to treat 1,4-dioxane.

- **Overflowing Water from the FTPA Drum Staging Area**. During the First Five-Year Review Site inspection, precipitation was observed to be accumulated in the drum staging area and overflowing the berm. The Respondents submitted a plan detailing the frequency of inspections, pumping, and contingency plans to prevent a recurrence of this condition (Parsons ES, 2001).

Conclusions of this Addendum

Although there does not appear to be an immediate threat to existing receptors (because no one is currently drinking the Site ground water), this Addendum concludes that the remedy may not be effectively containing the Site-related chemicals, as required by the ROD and subsequent EPA remedial decision documents.

Based on the additional investigations performed by the Respondents pursuant to the recommendations in the First Five-Year Review, the following determinations are made:

- The East/South/West Barrier Wall is now judged to be effective because of actions taken by the Respondents, including implementation of the preplanned corrective actions (groundwater extraction, treatment and monitoring) required by the *Performance and Compliance Monitoring Plan* (PCMP; Parsons ES, 1998) and other actions proposed by the Respondents such as Soil Vapor Extraction (SVE) that were contemplated by the ROD.

- Capture of contaminants at the NBBW cannot be determined with the information collected since the First Five-Year Review. The effectiveness of the NBBW cannot be determined until further information is obtained.

- The effectiveness of one additional remedy element, the Groundwater Monitoring Wells and Compliance Program, still cannot be determined. The monitoring is, at present, inadequate to demonstrate containment.

- There is no containment feature to control the migration of contaminants beyond the POC in the northwestern portion of the Site (i.e., near MW38- WD), which poses an unacceptable risk to human health (i.e., contaminants are above the Performance Standards).

Overall Protectiveness Statement

The Office of Solid Waste and Emergency Response (OSWER) document 9255.7-03B-P, *Comprehensive Five-Year Review Guidance* (the Guidance) suggests that a protectiveness statement cannot be made for the sitewide remedy until all the remedy components are completed. However, the completed remedy components' contribution to the containment remedy are independent of the performance of the remaining incomplete remedy components (WTP, FTPA Waste Pits, and operation of the NTES). Therefore, protectiveness statements can be made in this Addendum for the NBBW, East/South/West Groundwater Barrier Wall, and the Groundwater Monitoring and Compliance Program:

- The protectiveness of the NBBW cannot be determined at this time.

- The East/South/West Groundwater Barrier wall is judged to be protective.

- Except in the vicinity of MW38- WD, the protectiveness of the remainder of the Groundwater Monitoring Wells and Compliance Program cannot be determined at this time.

- There is no containment feature to address uncontrolled migration of contaminants in the MW38-WD area, which poses an unacceptable risk to human health. If this portion of the remedy is not addressed, the sitewide remedy would be not protective, notwithstanding the successful completion of the WTP, NTES operation, and FTPA Waste Pits.

Five-Year Review Summary Form **Amended to reflect First Addendum dated September 30, 2002.**

SITE IDENTIFICATION

Site Name *(from WasteLAN)*: Lowry Landfill

EPA ID *(from WasteLAN)*: COD 980499248 Site 0800186

Region: 8	State: **CO**	City/County: **Arapahoe County**

SITE STATUS

NPL Status: ☒ Final ☐ Deleted ☐ Other (specify) ____________

Remediation Status (choose all that apply): ☒ Under Construction ☐ Operating ☐ Complete

Multiple OUs? ☒ Yes ☐ No	**Construction Completion Date:** Not Applicable

Has site been put into reuse? ☐ Yes ☒ No

REVIEW STATUS

Reviewing Agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency ____________

Author Name: **Gwen Hooten, EPA Region 8, with support from RAC6 contractor CH2M HILL**

Author Title: **Remedial Project Manager**	Author Affiliation: **EPA Region 8**

Review Period: **September 2000 through September 2001**

Date(s) of site inspection: March 30, 2001

Type of review: ☒ **Statutory**
☐ **Policy** (☐ **Post-SARA** ☐ **Pre-SARA** ☐ **NPL-Removal Only**
☐ **Non-NPL Remedial Action Site** ☐ **NPL State/Tribe-lead**
☐ **Regional Discretion)**

Review number: ☐ **1 (first)** ☐ **2 (second)** ☐ **3 (third)** ☒ **Other (specify)** **Addendum to first**

Triggering action:
☐ **Actual RA Onsite Construction at OU#__** ☐ **Actual RA Start at OU#__**
☐ **Construction Completion** ☐ **Previous Five-Year Review Report**

☒ **Other (specify)** **Initiation of well plugging program (part of the Landfill Gas Collection and Treatment Remedy Component)**

Triggering action date (~~from WasteLAN~~): **August 7, 1996 from Site Monthly Progress Report No. 20**

Due date *(five years after triggering action date)*: **August 7, 2001**

Five-Year Review Summary Form

Issues:
The following issues of concern were identified in this Five-Year Review Addendum as requiring additional information before protectiveness can be determined:

- Lateral spacing between individual monitoring wells is too large in some areas to detect possible exceedances beyond the Point of Compliance.
- Unweathered Dawson and Denver Formations have too few monitoring wells to verify containment.
- Lignite Layer has too few monitoring wells to verify containment.
- VOC exceedances occur at current compliance monitoring wells near the North Boundary Barrier Wall.

The following issue of concern does not warrant a finding that the relevant remedy components are not protective in the long-term as long as actions are taken in the immediate future:

- Low-level inorganic exceedances at MW43-WD

The following issue of concern does warrant a finding that the relevant remedy component is not protective in the long-term as long as corrective actions are not taken in the immediate future:

- VOC exceedances in the vicinity of MW38-WD

Recommendations and Follow-Up Actions:
The addendum makes several recommendations for additional work at the Site. In general, this work includes activities to define the nature and extent of contamination at several locations beyond the Point of Compliance, as well as work to demonstrate containment of source area contaminants.

Protectiveness Statement(s):
The Guidance suggests that a protectiveness statement cannot be made for the sitewide remedy until all the remedy components are completed. However, the completed remedy components' contribution to the containment remedy are independent of the performance of the remaining incomplete remedy components (WTP, FTPA Waste Pits, and operation of the NTES). Therefore, protectiveness statements can be made for the NBBW, East/South/West Groundwater Barrier Wall, and the Groundwater Monitoring and Compliance Program:

- The protectiveness of the NBBW cannot be determined at this time.
- The East/South/West Groundwater Barrier wall is judged to be protective.
- Except in the vicinity of MW38- WD, the protectiveness of the remainder of the Groundwater Monitoring Wells and Compliance Program cannot be determined at this time.
- There is no containment feature to address uncontrolled migration of contaminants in the MW38-WD area, which poses an unacceptable risk to human health. If this portion of the remedy is not addressed, the sitewide remedy would be not protective, notwithstanding the successful completion of the WTP, NTES operation, and FTPA Waste Pits.

Long-Term Protectiveness:
There is no containment feature to address the uncontrolled migration of contaminants in the MW38-WD area, which poses an unacceptable risk to human health. If this portion of the remedy is not addressed, long-term protectiveness of the sitewide remedy cannot be achieved, notwithstanding successful completion of the WTP upgrade, NTES operation, and FTPA Waste Pits.

Other Comments:
Completion of the pilot study for the FTPA Waste Pits is expected in 2003. The WTP upgrade is scheduled to be completed by July 1, 2004, at which time operation of the NTES will be initiated.

Lowry Landfill Superfund Site
First Addendum to the First Five-Year Review Report

Section 1 Introduction

1.1 Purpose and Scope of Addendum

The United States Environmental Protection Agency – Region 8 (EPA) conducted the First Five-Year Review (EPA, 2001) of the Lowry Landfill Superfund Site (Lowry Site or Site) located in Arapahoe County, Colorado. The review was conducted from September 2000 through August 2001. The final Report was issued on September 30, 2001. The purpose of this First Addendum (Addendum) to the First Five-Year Review is to determine protectiveness of human health and the environment for areas where additional information was needed at the issuance of the First Five-Year Review. This Addendum documents the results of additional Site investigations conducted since the review. Both the First Five-Year Review and the review documented in this Addendum were performed in accordance with the Office of Solid Waste and Emergency Response (OSWER) document 9255.7-03B-P, *Comprehensive Five-Year Review Guidance* (the Guidance).

CH2M HILL, EPA's oversight contractor under Response Action Contract, EPA Region 6 (RAC 6) Contract No. 68-W6-0036, Work Assignment No. 102-FRFE-0808, provided support for preparation of this First Addendum to the *First Five-Year Review Report*.

The First Five-Year Review concluded that the protectiveness of several of the remedy components and elements could not be determined at that time and stated that EPA would prepare an addendum to the First Five-Year Review Report by September 30, 2002. The purpose of this Addendum is to review the issues of concern that were identified in the First Five-Year Review as requiring further data and to determine the protectiveness of these individual components of the remedy. This Addendum is not intended to reconsider decisions made during the selection of the remedy or conclusions reached in the First Five-Year Review.

1.2 Authority and Guidance

Please refer to the *First Five-Year Review Report*.

1.3 Work Required by Administrative Order

Please refer to the *First Five-Year Review Report.*

1.4 Remedy Components and Additional Remedy Elements

Please refer to the *First Five-Year Review Report*.

1.5 Addendum Team

EPA is the lead agency and is responsible for preparing this First Addendum to the First Five-Year Review. EPA conducted this work in cooperation with the Colorado Department of Health and Environment (CDPHE). Gwen Hooten and Janice Pearson, EPA's Remedial Project Managers, led the Addendum team. The Addendum team included:

- Helen Dawson – EPA’s Hydrogeologist
- Jessie Goldfarb – EPA’s Enforcement Attorney
- David Kreutzer – Colorado Attorney General’s Office
- Nancy Mueller – EPA’s Community Involvement Coordinator
- Lee Pivonka – CDPHE’s Lowry Project Officer
- Marion Galant – CDPHE’s Community Relations Manager
- CH2M HILL – EPA’s oversight contractor at the Lowry Site and its subcontractor

In addition, other technical experts such as chemists, hydrogeologists, statisticians, chemical engineers, and solid waste specialists participated as needed.

Section 2 Site Chronology

Please refer to the *First Five-Year Review Report*.

Section 3 Background

Please refer to the *First Five-Year Review Report*.

Section 4 Remedial Actions

Please refer to the *First Five-Year Review Report*.

Section 5 Progress Since the First Five-Year Review

This section summarizes the progress since the First Five-Year Review was completed in September 2001. Discussed below are the actions that have been performed by the Respondents to address the areas of concern outlined in Tables 9-1, 9-2, and 9-3 of the First Five-Year Review Report.

Completed Remedy Components

5.1 East/South/West Barrier Wall

Components of the East/South/West Barrier Wall under review are discussed in the following sections:

5.1.1 MW39-WD Area

Work Planning

The Respondents submitted a Work Plan to EPA on December 31, 2001, to perform an investigation of conditions at MW39-WD, to identify the nature and extent of tetrachloroethene (PCE) contamination and to identify required response activities (EMSI, 2001a).

EPA approved the Work Plan on January 18, 2002.

Actions Taken since the First Five-Year Review

The Respondents submitted a draft summary of the investigation outlined in the Work Plan to EPA on April 26, 2002. The investigation included installing four new weathered Dawson Formation wells (MW-39I-WD, MW36-WDR, MW67-WD and MW68-WD) and one unweathered Dawson Formation monitoring well (MW39-UD) to further assess the local hydraulic gradients and the nature, magnitude, extent, movement, and fate of PCE in the area of well MW39-WD. The data collected during this investigation were also used to assess the effectiveness of the East/South/West Groundwater Barrier Wall in this area (Parsons ES, 2002a).

Findings and Conclusions

EPA concludes that the Respondents demonstrated a reasonable level of effort during the investigation of this area[1]. The investigation of the nature and extent of the contamination outlined in the Work Plan is complete. The data collected during the investigation indicate that the PCE contamination outside the barrier wall is residual (existed prior to construction of the barrier wall) and that the barrier wall is effective at containing aqueous- phase Volatile Organic Compounds (VOCs) inside the wall. The groundwater hydraulic gradient at MW39-WD is generally inward to the Lowry Site. The Respondents have proposed to perform soil vapor extraction (SVE) to attempt to reduce VOC concentrations to below Performance Standards in this area.

EPA concurs that performing SVE in this area may allow reduction of PCE concentrations to a level below the Performance Standards for the Lowry Site. If SVE is not successful in this area, other response actions will be required.

1 In each place in this Addendum where the term “reasonable level of effort” is used, it refers to the effort connected with additional Site investigations conducted since the completion of the *First Five-Year Review Report*.

5.1.2 MW43-WD Area

Work Planning

The Respondents submitted a Work Plan to EPA on June 26, 2002, to complete an investigation of background conditions at the Lowry Site (EMSI, 2002d). EPA has met with the Respondents several times to discuss the requirements for background determination. In reviewing the Work Plan, it has been found that the concentrations of iron vary widely over time. This may indicate that the iron concentrations at MW43-WD are not solely due to background conditions.

5.1.3 MW51-WD Area

Work Planning

The Respondents submitted a Work Plan to EPA on December 31, 2002, to investigate conditions at MW51-WD, to identify the nature and extent of contamination, and to identify required response activities (EMSI, 2001b).

EPA approved the Work Plan on January 18, 2002, with minor comments. The Respondents provided responses to EPA's comments on March 7, 2002.

Actions Taken since the First Five-Year Review

The Respondents submitted a draft summary of the investigation outlined in the Work Plan to EPA on April 19, 2002. As part of the investigation, three new weathered Dawson Formation monitoring wells were installed (MW51I-WD, MW51-10S and MW66-WD) and sampled (Parsons ES, 2002b).

Findings and Conclusions

EPA concludes that the Respondents have demonstrated a reasonable level of effort during the investigation of this area. The hydraulic gradient in this area is outward from MW51-WD, with a head differential of approximately four feet. The data collected to date indicate that PCE concentrations in ground water both inside and outside of the East/South/West Groundwater Barrier Wall are above Performance Standards.

EPA has also concluded that evaluation of SVE technology to reduce PCE concentrations in ground water and soil gas outside the wall may be a remedial option. SVE pilot testing has begun. If SVE cannot reduce the concentrations of PCE in ground water to below Performance Standards outside of the wall, then other response actions as described in the PCMP (Parsons ES, 1998) will be required outside the barrier wall in this area. At present, the Respondents are implementing the preplanned response action in the PCMP (groundwater extraction, treatment, and monitoring) inside the barrier wall.

5.1.4 PM-4 Area

Work Planning

The Respondents submitted a Work Plan to EPA on December 31, 2001, to investigate the sand layer beneath East/South/West Barrier Wall in the PM-4 Area, and to determine if it is a potential pathway for offsite migration of contamination conditions (EMSI, 2001c).

EPA approved the Work Plan on January 18, 2002.

Actions Taken since the First Five-Year Review

The Respondents submitted a draft summary of the investigation outlined in the Work Plan to EPA on April 10, 2002. The investigation included installation and sampling of a new unweathered Dawson Formation performance monitoring well (BM-4X-40S), sampling of the six existing wells (PM-4X, BM-4X-100N, BM-4X-50N, BM-4X-10S, BM-4X-50S, and BM-4X-100S), and sampling of the new early warning monitoring wells (PM-4EW1 and PM-4EW2). Please refer to Parsons ES (2002c).

Findings and Conclusions

EPA concludes that the Respondents have demonstrated a reasonable level of effort during the investigation of this area. Based on a review of the data from these and previous investigations, although the regional groundwater hydraulic gradient is inward, a flat hydraulic gradient across the barrier wall was consistently observed at this location from essentially the beginning of monitoring at the PM-4 well pair. At first, Performance Standards were not exceeded at the interior well. Later, Performance Standards were exceeded at the interior well. This triggered the preplanned PCMP corrective action, which has been implemented. An inward hydraulic gradient has been established in the PM-4 area. (VOCs have not been detected outside of the East/South/West Barrier Wall or in unweathered bedrock, but 1,2-dichloroethane [1,2-DCA] is present inside the wall at levels slightly above the Performance Standards.) No further response action is necessary except continued extraction and treatment of the ground water collected at the East/South/West Barrier Wall, and groundwater monitoring.

5.1.5 PM-15 Area

Work Planning

The Respondents submitted a Work Plan to EPA on February 4, 2002, to investigate conditions at the PM-15 area to identify the nature and extent of contamination, and to identify required response activities (EMSI, 2002a).

EPA approved the Work Plan on March 6, 2002.

Actions Taken since the First Five-Year Review

The Respondents submitted a draft summary of the investigation outlined in the Work Plan to EPA on June 21, 2002. As part of the investigation, seven weathered Dawson Formation monitoring wells (BM-15E2, BM-15E3, BM-15E4, BM-15E5, BM-15E6, BM-15I-37.5S, and BM-15X-37.5S) and one unweathered Dawson Formation monitoring well (PM-15I-UD) were installed and sampled. In addition, three 36-inch-diameter extraction wells (BM-15I-25S, BM-15I-15N, and BM-15N6) were installed and sampled. Together, these 11 wells generated additional data on the nature and extent of VOC occurrences in the PM-15 area (Parsons ES, 2002d). Also, the three large-diameter extraction wells were pumped, together with six existing extraction wells, as part of an Enhanced Groundwater Extraction pilot test to attempt to achieve gradient control across and north of the barrier wall. Finally, a multi-phase extraction (MPE) pilot test was performed by adding vapor extraction to the three large-diameter wells so that both vapor and liquids were extracted at the three large-diameter wells.

Findings and Conclusions

EPA concludes that the Respondents have demonstrated a reasonable level of effort during the investigation of this area. The nature and extent of contamination assessment outlined in the Work Plan is complete. The enhanced groundwater extraction system and multi-phase extraction have apparently achieved inward gradients across the barrier wall in the PM-15 area where contaminant concentrations inside the wall exceed Performance Standards. An MNA evaluation must be completed to determine the rate of VOC attenuation, but it appears that the VOC plume in the PM-15 area is gradually shrinking in response to the ongoing extraction. The long-term effectiveness of improving groundwater quality and preventing future exceedances of Performance Standards beyond the Point of Compliance (POC) in the PM-15 area by the enhanced groundwater extraction system and/ or MPE is still being evaluated.

5.2 North Boundary Barrier Wall (NBBW)

Work Planning

The Respondents submitted a Work Plan to EPA on February 17, 2002, to address the following two issues identified in the First Five-Year Review relative to groundwater capture and monitoring at the North Boundary Barrier Wall at the Lowry Site (EMSI, 2002b):

- The NBBW may not be completely effective in containing or capturing all contaminated ground water (i.e., ground water that exceeds Performance Standards).

- There is not an ongoing groundwater monitoring system to demonstrate ongoing containment or capture at the NBBW.

EPA approved the Work Plan on March 11, 2002.

Actions Taken since the First Five-Year Review

The Respondents submitted a draft investigation report to EPA on July 1, 2002. The investigation included installation of 18 additional monitoring wells (11 in the weathered Dawson Formation and seven in the unweathered Dawson Formation) that were incorporated into the water-level and/or water quality monitoring network near the NBBW (Parsons ES, 2002e).

Findings and Conclusions

EPA concludes that the Respondents have demonstrated a reasonable level of effort during the investigation of this area. The investigation at the NBBW, as outlined in the Work Plan, is partially complete. Over the next year, the investigations will evaluate the following: the boundary at which containment or capture is being achieved; the presence or absence of contamination in the unweathered bedrock; the extent to which any contamination in the weathered bedrock can be contained or captured using the NBBW; and water levels to assess seasonal variability.

5.3 Practical Quantitation Limits

The laboratory Practical Quantitation Limits (PQLs) were updated on December 31, 2001, and a program is now in place to update them annually.

Additional Remedy Elements

5.4 Groundwater Monitoring Programs at the Site

Work Planning

The Respondents submitted a Work Plan (EMSI, 2002c) to EPA on March 14, 2002, to address the following three areas relative to groundwater monitoring identified in the First Five-Year Review:

- Lateral spacing of monitoring wells in the weathered Dawson Formation
- Lateral spacing of monitoring wells in the unweathered Dawson and Denver Formations
- Lateral spacing of monitoring wells in the lignite layer

The Work Plan focused on developing the basis to select appropriate monitoring strategies for each of the above areas. The following text summarizes the status of each of these issues:

Lateral Spacing of Monitoring Wells in the Weathered Dawson Formation

The First Five-Year Review concluded that the lateral spacing between individual monitoring wells is too large in some areas (generally the portion of the Site north of the East/South/West Barrier Wall) to detect possible exceedances of the Performance Standards at the POC.

Progress to date includes geophysical investigations north of the barrier wall and developing an updated groundwater monitoring network for the weathered bedrock with emphasis on potential preferential pathways. Work regarding this issue is ongoing.

Lateral Spacing of Monitoring Wells in the Unweathered Dawson and Denver Formations

The First Five-Year Review concluded that there is insufficient monitoring of the unweathered Dawson and Denver Formations to demonstrate containment.

The Respondents have performed geophysical evaluations to identify potential preferential pathways within the unweathered Dawson and Denver Formations along the POC. To verify these results, additional wells will be installed. After this investigation is complete, revised unweathered Dawson Formation and Denver Formation monitoring networks will be proposed with emphasis on potential preferential pathways. Work regarding this issue is ongoing.

Lateral Spacing of Monitoring Wells in the Lignite Layer

The First Five-Year Review concluded that the lignite layer has too few and possibly improperly positioned monitoring wells to demonstrate containment.

Progress to date includes evaluating the orientation of potential components of vertical groundwater flow to define optimum well locations and spacings. Work regarding this issue is ongoing.

Interim Groundwater Monitoring Network

The Respondents submitted a report to EPA on September 9, 2002, proposing an interim groundwater monitoring network for the Site and the basis for the proposed monitoring network. The interim groundwater monitoring network will address issues regarding the location and number of monitoring wells in the weathered and unweathered Dawson Formation, the Denver Formation, and the lignite layer. After the network has been developed, an updated groundwater monitoring program addressing the interim monitoring network, monitoring methodology, and analyte lists will be prepared.

5.5 Landfill Cover

The Respondents prepared a drainage plan and a subsequent design to correct the landfill cover drainage, specifically the depressions in the southwestern and north-central portions of the cover. The corrections will include filling low areas and sloping the landfill cover surface for positive drainage. The design was submitted to EPA on December 28, 2001.

EPA approved the proposed plan and design on July 26, 2002, after several rounds of comments, responses, and discussions. The survey of the area is completed. The Respondents implemented the design in the summer of 2002. Construction is under way and is expected to be completed by the end of 2002.

5.6 Monitoring Well Caps

Monitoring wells that were observed to be unlocked as part of the Five-Year Review have been locked, and a program has been re- instituted to ensure that the monitoring wells remain locked.

5.7 MW38-WD Area

Work Planning

The Respondents submitted a Draft Work Plan (Parsons ES, 2002f) to EPA on March 1, 2002, to investigate conditions at MW38-WD, to identify the nature and extent of contamination, and to identify required response activities. EPA approved the Work Plan on March 27, 2002.

Actions Taken since the First Five-Year Review

The Respondents submitted a draft summary of the investigation outlined in the Work Plan to EPA on June 28, 2002 (Parsons, 2002g). The investigation included a summary of field work that has been performed by the Respondents since June 2001, including the installation and sampling of 54 weathered Dawson Formation monitoring wells and four unweathered Dawson Formation Monitoring wells.

Findings and Conclusions

EPA concludes that to date, the Respondents have demonstrated a “reasonable level of effort” in this area, as defined in EPA's December 20, 2001 letter to the Respondents regarding the Five-Year Review Work Plans under the *Administrative Order for Remedial Design/Remedial Action, EPA Docket No. CERCLA VIII-95-05 (the Order)*. Additional investigations in this area are required to determine the following:

- Source of contamination
- Fate and transport between source and MW38-WD
- Western extent of VOCs
- Northern extent and fate of VOCs
- Extent, if any, of hydraulic connection between MW38 channel sands and C-sand

Less detailed investigations will be required if a robust remedy for the exceedances of Performance Standards in this area is implemented. Additional investigations are being performed including groundwater monitoring wells, a groundwater pumping test, and soil vapor surveying.

5.8 Signage

The Respondents have corrected the incorrect and illegible signage documented in the **First Five-Year Review Report.**

5.9 Institutional Controls Plan

The First Five-Year Review identified the need for the Respondents to submit a final *Institutional Controls Plan.* On September 26, 2002, EPA, in consultation with the State of Colorado, approved the Respondents' September 19, 2002 submittal of the *Institutional Controls Plan*, as supplemented on September 25, 2002.

Incomplete Remedy Components

5.10 North Toe Extraction System (NTES)

Please refer to the *First Five-Year Review Report*. The NTES is still not operating because the Water Treatment Plant in its current configuration is not capable of treating the full suite, concentrations, and required flow of contaminants in the ground water within the NTES trench, including 1,4-dioxane. The Respondents are in the process of performing pilot tests of treatment methods to upgrade the WTP. EPA approved low- flow pumping of the NTES to begin in August 2002 to support the biological pilot test and to monitor the groundwater quality and hydraulic response. The current approved schedule requires that the WTP be able to treat 1,4-dioxane in water from the NTES at the flow rate required by the ROD no later than July 1, 2004.

5.11 Water Treatment Plant (WTP)

Please refer to the *First Five-Year Review Report*. The WTP is still not able to treat 1,4-dioxane in water from the NTES at the flow rate required by the ROD. The Respondents are continuing to perform a variety of laboratory and pilot studies to identify the root cause of treatment difficulties and identify practicable treatment technologies. The current approved schedule requires that the WTP be able to treat 1,4-dioxane in water from the NTES, at the flow rate required by the ROD, no later than July 1, 2004.

5.12 Former Tire Pile Area (FTPA)

5.12.1 FTPA North and South Waste Pits

Please refer to the *First Five-Year Review Report*. Remediation of the North and South Waste Pits is ongoing but not yet completed. The Respondents are continuing to implement EPAapproved work plans and are performing a pilot study of in-situ thermal Electrical Resistance Heating (an innovative technology) in the South Waste Pit. Remediation in the South Waste Pit is anticipated to be completed in 2002, and remediation in the North Waste Pit is anticipated to be completed in 2003 (presuming successful completion at the South Waste Pit).

5.12.2 Drum Staging Area

The overflowing water from the FTPA Drum Staging Area, as identified in the *First Five-Year Review Report*, has been removed, and an operation plan is in place to inspect the drum staging area after precipitation, and remove and manage water as necessary.

5.13 Applicable or Relevant and Appropriate Requirements (ARARs)

A minor modification to the ROD is being prepared to address the ARARs and Performance Standards presented in Section 6 of the *First Five-Year Review Report*.

Section 6 Five-Year Review Process

Please refer to the First Five-Year Review Report.

Section 7 Technical Assessment

This section updates the assessment of the effectiveness of the remedy. The purpose of this assessment is to determine whether or not the remedy is, or is expected to be, protective of human health and the environment. This determination is intended to examine whether or not the remedy is achieving, or is expected to achieve, the Remedial Action Objectives (RAOs) stated in the ROD.

7.1 Basis for Determination of Effectiveness

The determination of effectiveness is made by answering three key questions specified in EPA's *Comprehensive Five-Year Review Guidance* (EPA 540-R-01-007, June 2001):

- **Question A** – Is the remedy functioning as intended by the decision documents?
- **Question B** – Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?
- **Question C** – Has any other information come to light that could call into question the protectiveness of the remedy?

The text in this section is structured around these three questions, and focuses on the outstanding Issues of Concern (OICs) identified in the First Five-Year Review (that is, those issues listed in Tables 8-1, 8-2, and 8-3 of the *First Five-Year Review Report*). The answers to the questions for the entire remedy, as summarized in the *First Five-Year Review Report*, supported a determination that most of the Lowry Landfill Site remedy components were effective (that is, they were judged to be protective of human health and the environment). However, the First Five-Year Review determined the following:

- There was one component (the East/South/West Barrier Wall) and an associated additional remedy element (the Groundwater Monitoring Wells and Compliance Program) that were judged to be not currently effective.
- The effectiveness of the NBBW could not be determined.
- It was expected that implementation of revised and/or additional remedial measures would be required to achieve overall remedy effectiveness.

This Addendum revisits the questions for the OICs, and refers to the First *Five-Year Review Report* for all other remedy components and additional remedy elements. This Addendum concludes that most of the Lowry Landfill Site remedy components are effective (that is, they are protective of human health and the environment). Based on the additional investigations performed by the Respondents pursuant to the recommendations in the First Five-Year Review, the following determinations are made:

- The East/South/West Barrier Wall is judged to be effective with the implementation of the Performance and Compliance Monitoring Plan and other actions proposed by the Respondents and contemplated by the ROD.
- Capture of contaminants at the NBBW cannot be determined with the information collected since the First Five-Year Review. The effectiveness of the NBBW cannot be determined until further information is obtained.
- The effectiveness of one additional remedy element, the Groundwater Monitoring Wells and Compliance Program, still cannot be determined. The monitoring is, at present, inadequate to demonstrate containment.

- There is no containment feature to control the migration of contaminants beyond the POC in the northwestern portion of the Site (i.e., near MW38-WD). This poses an unacceptable risk to human health (i.e., contaminants are above the Performance Standards).

It is expected that implementation of revised and/or additional remedial measures will be required to achieve overall remedy effectiveness.

7.2 Question A – Is the remedy functioning as intended by the decision documents?

Most of the remedy components and additional remedy elements are functioning as intended by the decision documents. However, the groundwater containment component of the remedy is not functioning as intended. Specifically, the Groundwater Monitoring Wells and Compliance Program additional remedy element is not functioning as intended. In addition, there are insufficient data at this time to make a clear determination as to whether or not the NBBW remedy component is functioning as intended. This is described in more detail later in this section.

The text in this subsection describes how the determination of effectiveness was made for each remedy component and additional remedy element.

The Lowry Site remedy is complex and has a number of components and additional remedy elements. Although most of the remedy components are complete, some of them are still under construction. For components under construction, the *Comprehensive Five-Year Review Guidance* indicates that the focus should be on whether or not immediate threats have been addressed. This is done by considering the following:

- Health and Safety Plan(s) and/ or Contingency Plan(s)
- Implementation of Institutional Controls and Other Measures

For remedy components that are complete, the above two items are considered, as well as the following additional items:

- Remedial Action Performance
- System Operations/O&M
- Cost of System Operations/O&M
- Opportunities for Optimization
- Early Indicators of Potential Remedy Failure
- Implementation of Institutional Controls and Other Measures

Because the Lowry Site has both complete and incomplete components, as well as additional remedy elements, all of the above factors are discussed in the following text, with most of the emphasis on the completed components. No additional remedy components have been completed since completion of the First Five-Year Review.

7.2.1 Health and Safety Plan/Contingency Plan

There have been no changes in these items since the First Five-Year Review. Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy <u>is</u> functioning as intended.

7.2.2 Implementation of Institutional Controls and Other Measures

Access Controls

There have been no changes in this item since the First Five-Year Review. Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy <u>is</u> functioning as intended by the decision documents.

Signage

The First Five-Year Review concluded that some signage was obsolete; some was incorrect; and some signs were damaged, faded, or otherwise had reduced legibility. Since the Five-Year Review, the Respondents have corrected these conditions. With these corrections, this component of the remedy is functioning as intended by the decision documents.

Institutional Control Plan and Covenants

The First Five-Year Review identified the need for the Respondents to submit a final Institutional Controls Plan. On September 26, 2002, EPA, in consultation with the State of Colorado, approved the Respondents' September 19, 2002 submittal of the *Institutional Controls Plan*, as supplemented on September 25, 2002.

In the *Institutional Controls Plan*, Respondent Denver has agreed to include language in the water decrees relative to the Lower Dawson, Denver, Upper and Lower Arapahoe, and Laramie-Fox Hills aquifers underlying on- and off-site properties stating that (1) nothing in the Water Court's ruling or decree shall be construed to override or modify any of the restrictions imposed on the use of ground water underlying the Site, and (2) in constructing and maintaining wells which penetrate more than one aquifer, Denver shall encase the wells with an impervious lining in accordance with applicable rules and regulations governing the construction of water wells to prevent potential cross-contamination between aquifers or withdrawal of groundwater from other aquifers. The *Institutional Controls Plan* also states that EPA and the Respondents will develop a plan, to be included in the sitewide monitoring plans, to provide for, among other things, a regular survey of wells constructed within ½ mile of the Site. Once the agreed-upon language is included in the water decrees, and wells constructed within ½ mile of the Site are regularly surveyed according to the plan to be included in the sitewide monitoring plans, this component of the remedy is expected to function as intended by the decision documents.

7.2.3 Remedial Action Performance

This subsection discusses the performance of each component of the sitewide remedy, including completed remedy components, additional remedy elements, and incomplete components.

Table D-1 in Attachment D presents a summary of the monitoring data collected through September 17, 2002, that exceed Performance Standards for the OICs.

Completed Remedy Components

Well Plugging and Abandonment Program

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

Wetlands Mitigation

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

Landfill Gas Collection and Treatment System

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

East/South/West Groundwater Barrier Wall (East/South/West Barrier Wall)

The East/South/West Barrier Wall construction is complete. This component consists of the in-place soil/bentonite cutoff wall, coupled with a groundwater monitoring program that is integrated with the “Groundwater Monitoring Wells and Compliance Program” discussed below. The monitoring program is intended to verify hydraulic containment, which is defined as maintaining an inward hydraulic gradient at the engineering feature (the barrier wall) in any areas where contaminants have been detected above Performance Standards inside of the barrier wall. At any location where contaminants have been detected above Performance Standards inside of the barrier wall and there is an outward hydraulic gradient, response actions to correct the gradient (that is, pumping to cause the gradient to be inward) must be initiated. The POC is located at the wall, so any exceedances observed beyond the wall that are not pre-existing contamination represent a containment failure. The Respondents are operating and maintaining this remedy component.

The East/South/West Groundwater Barrier Wall has been mostly effective in isolating waste and contaminants. However, as discussed in the *First Five-Year Review Report*, there are three locations at which some compounds were found to occur beyond the East/South/West Groundwater Barrier Wall at levels above the Performance Standards: MW39-WD, MW43-WD, and MW51-WD. Table 6-9 in the *First Five-Year Review Report* summarizes these exceedances. In addition, at the PM-15 area, exceedances were observed beyond the POC immediately north of the north end of the east wall. Finally, at the PM-4 area, exceedances were found inside the barrier wall, coupled with a slight outward gradient and an apparent hydraulic connection across the wall. As discussed in Section 5 of this Addendum, the Respondents have investigated the nature and extent of each of these exceedances, and have implemented the requirements of the PCMP at the PM-4 and PM-15 areas. The following text summarizes EPA’s findings for each of these areas:

- **VOC exceedances at MW39-WD**. Investigations by the Respondents are complete in this area. The investigations have satisfactorily defined the nature and extent of the contamination in this area. Exceedances found to date beyond (west of) the East/South/West Barrier Wall are above Performance Standards by a factor of up to approximately 4. For example, PCE has been detected at concentrations of 8.5 to 19 micorgrams per liter (µg/L) versus a Performance Standard of 5 µg/L. See Table D-1. The level of the exceedances continues to be consistent with those observed prior to the First Five-Year Review. The additional investigations also indicated that the area of contamination appears to be of very limited extent. See Figure A-1 (Parsons ES, 2002a) **1.** The investigations also indicate that the most likely source of the PCE is migration to this area prior to construction of the East/South/West Barrier Wall in this area. The transport mechanism may have been advective flow, landfill gas flow with subsequent solution into ground water, or some combination of these processes. Regardless of the transport mechanism, it is believed that the East/South/West Barrier Wall has cut off the pathway, so the remaining contamination is residual. The Respondents are proposing to perform SVE in this area. If SVE is not successful in reducing groundwater concentrations to below the Performance Standards, other response actions will be required in this area. The East/South/West Groundwater Barrier Wall in the MW39-WD area is functioning as intended by the decision documents.

1 All figures cited in this manner (“Figure A-1” and so on) appear in Attachment A, and other than Figure A-2 are reproduced from the reports cited. Figure A- 2 was prepared for this addendum. The number (for example, “A-1”) refers to the page number in Attachment A, not to the original figure number shown in the title blocks of the figures.

- **Low-level inorganic exceedances at MW43-WD**. Exceedances of Performance Standards for iron and manganese, two common inorganic soil constituents that are naturally occurring but are also commonly associated with landfill leachate, have been observed in this area. See Table D-1. Exceedances found to date beyond (south of) the East/South/West Barrier Wall are above Performance Standards by a factor of up to approximately 9. Iron has been detected at concentrations of 100 to 19,700 µg/L versus a Performance Standard of 2060 µg/L. Manganese has been detected at concentrations of 6.5 to 8560 µg/L versus a Performance Standard of 1620 µg/L. Figure A-2 shows recent data trends for iron and manganese. The First Five-Year Review recommended studies to better define the naturally occurring background concentrations of inorganic constituents near the Site, but these studies are currently incomplete. These studies must consider what mechanisms could be responsible for the variable iron concentrations observed. Attachment C is a memorandum summarizing possible mechanisms for these variable iron concentrations. There are no current organic chemical exceedances at MW43-WD, so the previously detected exceedances are judged to have been residual contamination. Verified (i.e., repeated) inorganic exceedances are for iron and manganese only and appear to be trending downward such that they may soon meet Performance Standards. The Respondents are currently developing the background studies Work Plan. For these reasons, it is judged that the East/ South/ West Groundwater Barrier Wall in the MW43-WD area is functioning as intended by the decision documents.

- **VOC exceedances at MW51-WD**. This area is near Murphy Creek on the east side of the Site. Investigations of the nature and extent of contamination in this area have been completed by the Respondents. The investigations have satisfactorily defined the nature and extent of the contamination in this area. Exceedances found to date beyond (east of) the East/South/West Barrier Wall are above Performance Standards by a factor of up to approximately 3½. For example, PCE has been detected at concentrations of 2.6 to 17 µg/L, versus a Performance Standard of 5 µg/L. The additional investigations indicated that the area of contamination appears to be of limited extent. See Figure A-3 (Parsons ES, 2002b). The investigations suggest that the likely source of the PCE is migration to this area from the landfill mass, probably prior to construction of the East/South/ West Barrier Wall in this area. The transport mechanism may have been advective flow, landfill gas flow with subsequent solution into ground water, or some combination of these processes. Regardless of the transport mechanism, there are at present insufficient data to determine whether or not the East/South/West Barrier Wall has cut off the pathway. The groundwater gradient is currently outward. See Figure A-4 (Parsons ES, 2002b). The Respondents have performed SVE pilot tests both inside (west) of and outside (east) of the barrier wall in this area. SVE was successful in reducing groundwater contaminant concentrations in MW51-WD (outside the barrier wall) to levels below the Performance Standards. SVE was not successful in reducing groundwater contaminant concentrations inside the barrier wall to levels below the Performance Standards. The Respondents are expanding the SVE system outside the barrier wall, and are implementing the PCMP preplanned response activities (groundwater extraction, treatment, and monitoring) inside the wall. If SVE is unsuccessful in reducing groundwater concentrations at all locations where exceedances exist outside the wall to levels below Performance Standards, then EPA will require the Respondents to implement other measures as contemplated by the PCMP to maintain groundwater concentrations outside the wall to levels below Performance Standards. The East/South/ West Groundwater Barrier Wall in the MW51-WD area is functioning as intended by the decision documents.

- **VOC exceedances in the interior well, an outward gradient, and a saturated sand layer below the East/South/West Barrier Wall at the PM-4 area**. The *First Five-Year Review Report* noted that past water-level data for PM-4I and PM-4X revealed very little difference in water levels between these two wells, one located 10 feet inside and one 10 feet outside of the East/South/West Barrier Wall. This was thought to be a possible indicator of a direct hydraulic connection either through or, more likely, beneath the wall. Also, a saturated sand layer approximately 2 feet thick beneath the East/South/ West Barrier Wall in this area was thought to be a possible pathway for contaminants to migrate beyond the POC. Investigations have been performed by the Respondents and are complete in this area. Sampling of ground water from this sand layer has not detected any Site-related compounds at levels in excess of Performance Standards. See Table D-1. Exceedances were only found at wells inside (east of) the barrier wall. The Respondents have implemented the PCMP preplanned response activities (groundwater extraction, treatment, and monitoring). The results from the monitoring wells indicate that the gradient is now inward in the PM-4 area due to the pumping. See Figure A-5 (Parsons ES, 2002c). The East/South/West Groundwater Barrier Wall in the PM-4 area is functioning as intended by the decision documents.

- **VOC exceedances beyond the POC at the PM-15 Area**. The Respondents have completed investigations in this area. Exceedances of Performance Standards have been found to date beyond (north and east of) the East/South/West Barrier Wall. See Figures A-6 to A-11, inclusive (Parsons ES, 2002d) and Table D-1. Murphy Creek is located to the east. Before pumping was started in this area, tetrachloroethylene (PCE) concentrations from 95 to 140 µg/L were found in PM-15I, versus a Performance Standard of 5 µg/L. Inward gradients were achieved in this area by installing additional pumping wells, including multiphase (water and soil vapor) wells. Analytical results and groundwater elevation data indicate that for the portion of the PM-15 area where the barrier wall is present (from PM-15I to the south), although an inward gradient exists, Performance Standards are exceeded beyond the POC. Exceedances have also been observed north of the north end of the barrier wall (north of PM-15I). Site-related contaminants beyond the POC have been detected at levels up to about 22 times the Performance Standards. For example, PCE concentrations from 5.7 to 110 µg/L were found in wells beyond the POC, versus a Performance Standard of 5 µg/L. Figure A- 6 shows PCE exceedances in this area. Figures A-7 through A-11 provide similar data summaries for TCE; 1,1-DCE; 1,2-DCA; vinyl chloride; and methylene chloride. Table D-1 lists all exceedances in the PM- 15 area. The data collected by the Respondents indicate that migration of Site-related contaminants in the PM-15 area appears to be controlled by the existing pumping strategy, both where the wall is present, as well as from the north end of the east wall north to BM-15N4. The area north of BM-15N4 is considered to be part of the Groundwater Monitoring Wells and Compliance Program. Although the contamination in the area north of the barrier wall was initially found to be beyond the existing POC, ground water being extracted from pumping wells in this area now meets Performance Standards. It is recommended that wells BM15-N1, BM15-N3, and BM15 N5 be designated as compliance wells, and that the POC be relocated to a line passing through these wells. The Respondents should develop a Performance and Compliance Monitoring Plan for this area (the area north of the barrier wall up to BM-15N4). If continuing sampling from these wells verifies that Performance Standards are being met, then this area of the remedy would be effectively containing the Site contaminants. Because of the ongoing pumping, the low rate of groundwater extraction, the low hydraulic conductivity in this area, and that fact that the Respondents have demonstrated that pumping can contain Site-related contaminants in this area, it is expected that containment (with pumping) can be maintained here in the future. Therefore, the East/South/West Groundwater Barrier Wall in the PM-15 area is functioning as intended by the decision documents.

The work performed by the Respondents since the First Five-Year Review has provided a better understanding of the migration pathways and mechanisms in each of the above areas. Based on that work, the East/South/West Groundwater Barrier Wall is functioning as intended by the decision documents.

North Boundary Barrier Wall System (NBBW)

Please refer to the *First Five-Year Review Report*. The First Five-Year Review concluded that monitoring data from compliance well U-701-WD indicated the possibility of contaminant flow around and/or beneath the NBBW. Also, the ROD requires ongoing monitoring of the NBBW to ensure its continued protectiveness (ROD, page 11-6). As a result, EPA directed the Respondents to develop a continuous monitoring system that can demonstrate capture at the NBBW.

The Respondents have performed extensive investigations in the vicinity of the NBBW. Please refer to Figures A-12 through A-15 (Parsons ES, 2002e). A few exceedances of Performance Standards have been observed north (downgradient) of the NBBW. See Table D-1.

Clear determination of capture is difficult in this area because of several factors:

- The geologic materials vary laterally and vertically.
- The groundwater gradients are very low in the area north of the NBBW.
- The water injected via the injection trench affects groundwater flow patterns north of the NBBW.
- Some compounds (most notably, 1,4-dioxane) could not be treated in any of the WTPs that have been in place at the Site. Residual concentrations of these compounds from historical injection of WTP effluent may remain in the area north of the NBBW and make it difficult to segregate residual from potentially ongoing contamination.

The Respondents are continuing investigations in this area in accordance with Work Plans approved by the EPA. Because these investigations are not yet complete, whether or not the NBBW is functioning as intended by the decision documents cannot be determined at this time.

North Face Landfill Cover

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

Additional Remedy Elements

Landfill Cover Maintenance

Please refer to the *First Five-Year Review Report*. The closed depressions in the cover of the landfill, as discussed in the *First Five-Year Review Report*, are currently being repaired. The repairs are expected to be completed by the end of 2002. Upon completion of this work (and with continued maintenance in the future), this component of the remedy is expected to function as intended by the decision documents.

Surface Water Removal Action (SWRA)

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

Groundwater Monitoring Wells and Compliance Program

Please refer to the *First Five-Year Review Report*, which concluded that, for the most part, the Groundwater Monitoring Wells and Compliance Program has been effective in verifying performance of the remedy components. However, there were several identified areas of concern:

- Monitoring Well Spacing in the Northern Portion of the Site
- Lignite Layer Monitoring Wells
- Monitoring Wells in the Unweathered Dawson Formation
- Exceedances at the MW38-WD Area

The *First Five-Year Review Report* recommended development of several Work Plans to determine the necessary monitoring programs required for the first three items (as well as for the Denver Formation). The Respondents have submitted an integrated Work Plan outlining work that should be accomplished to define the necessary groundwater monitoring wells and compliance program for the areas listed above plus the Denver Formation. This work is not yet complete. The last item, the MW38-WD area, is discussed in Section 7.2.7, *Early Indicators of Potential Remedy Failure*. At present, this part of the remedy is not functioning as intended by the decision documents because there is no containment feature to control the migration of contaminants beyond the POC both to the north and to the west in this area. This poses an unacceptable risk to human health (i.e., contaminants beyond the POC are above the Performance Standards).

Landfill Gas Monitoring Probes and Compliance Program

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

Surface Water Monitoring

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

Incomplete Remedy Components

North Toe Groundwater Extraction System (NTES)

Please refer to the *First Five-Year Review Report*. The construction of the NTES is complete, but it has not yet been placed into service since the WTP, as currently configured, cannot treat the water from the NTES at the flow rate required to meet the ROD requirements. Therefore, the *First Five-Year Review Report* concluded that this component of the remedy is not functioning as intended by the decision documents.

New Onsite Water Treatment Plant (WTP)

Please refer to the *First Five-Year Review Report*. There has been no change in the status of the WTP itself, which continues to effectively treat water from all required Site sources except the NTES. The Respondents have completed some additional treatability studies to identify methods that will allow the new WTP to treat all of the required Site water, including the NTES water at a rate consistent with groundwater capture in a reasonable time frame. The outcome of the treatability studies has not yet identified a clear path forward, and further treatability studies are in progress at this time. Preliminary results from some of the treatment options being studied appear to be favorable. Based on this, it is possible that practical modifications can be identified. However, as concluded in the First Five- Year Review Report, because the treatment process modifications have not yet been proven to be practical, whether or not this component of the remedy will ultimately function as intended by the decision documents cannot be determined at this time.

Former Tire Pile Area

FTPA Middle Waste Pit Excavation

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is functioning as intended by the decision documents.

FTPA Treatment Cell

Please refer to the *First Five-Year Review Report*, which concluded that this component of the remedy is expected to function as intended by the decision documents.

FTPA North and South Waste Pits

Please refer to the *First Five-Year Review Report*. The soils from the FTPA North and South Waste Pits have not been excavated as required by the ROD due to conditions dangerous to onsite workers. As reported in the *First Five-Year Review Report*, the Respondents are performing ongoing studies and pilot testing to assess the potential for using in-place thermal treatment for these materials. Therefore, as stated in the *First Five-Year Review Report*, whether or not this component of the remedy will function as intended by the decision documents cannot be determined at this time.

FTPA Drum Staging Area

Water was observed overflowing from the temporary FTPA drum staging area during the Site inspection performed for the First Five-Year Review. The Respondents were notified of this condition, and responded by implementing a monitoring and operations plan for the temporary drum staging area. This plan has been consistently implemented since the First Five-Year Review. Therefore, this facility is functioning as intended by the Work Plan for the FTPA North and South Waste Pits and related design documents.

7.2.4 System Operations/O&M

Please refer to the *First Five-Year Review Report*. System operations procedures are generally consistent with requirements. Difficulties that have occurred to date have been handled properly. However, two issues were noted during the First Five-Year Review, as listed below. Each is followed by a summary of the current status of those items.

- **More attention to landfill cap repair and maintenance is necessary**. As noted above, repairs to the closed depressions on the landfill cover are expected to be completed by the end of 2002.

- **Some monitoring wells were found to be unlocked during the Site inspection**. The wells were locked, and the Respondents have instituted a program to ensure that wells remain locked in the future.

In addition, the First Five-Year Review concluded that several years of experience in using the existing PCMP for the East/South/West Groundwater Barrier Wall suggest that the PCMP could be improved. Please refer to the *First Five-Year Review Report*.

Overall, the O&M activities for the completed systems are functioning as intended by the decision documents.

7.2.5 Cost of System Operations/O&M

There have been no changes in these items since the First Five-Year Review. Please refer to the *First Five-Year Review Report*.

7.2.6 Opportunities for Optimization

There have been no changes in these items since the First Five-Year Review. Please refer to the *First Five-Year Review Report*.

7.2.7 Early Indicators of Potential Remedy Failure

A potential remedy failure exists when there are conditions that would require a major remedy modification to be implemented in order to meet Performance Standards (*Comprehensive Five-Year Review Guidance*, page 4-10). Such conditions are termed “early indicators of potential remedy failure.” Five possible early indicators of potential remedy failure were noted during the First Five-Year Review. Additional investigations have been performed at each area. Based on these additional investigations, four of the five areas are no longer judged to be possible early indicators of potential remedy failure:

- **Exceedances of Performance Standards at MW39-WD**. As discussed previously in this section, the exceedances of Performance Standards in the MW39- WD area are believed to represent residual contamination. Therefore, this area is no longer judged to be a possible early indicator of potential remedy failure.

- **Exceedances of Performance Standards at MW51-WD**. As discussed previously in this section, the exceedances of Performance Standards in the MW51- WD area may represent residual contamination, and are believed to be controllable with implementation of SVE and PCMP preplanned responses. Therefore, this area is no longer judged to be a possible early indicator of potential remedy failure.

- **Exceedances of Performance Standards at the PM-4 Area**. As discussed previously in this section, the PCMP preplanned response actions (groundwater extraction, treatment, and monitoring) have been implemented in the area, and exceedances of Performance Standards have not been found beyond the POC. Therefore, this area is no longer judged to be a possible early indicator of potential remedy failure.

- **Exceedances of Performance Standards at the PM-15 Area**. As discussed previously in this section, the PCMP preplanned response actions (groundwater extraction, treatment, and monitoring) have been implemented in the portion of this area where the barrier wall exists. Exceedances of Performance Standards have not been found beyond the POC where the barrier wall exists. North of the barrier wall, multiphase pumping has reduced the concentrations of Site-related compounds in pumped wells to levels below Performance Standards. Because the geologic and hydrologic conditions appear to greatly limit the potential for groundwater and contaminant migration in this area, it is recommended that three wells (PM15-N1, PM-15N3, and PM15-N5) be converted to compliance wells, with the POC relocated to pass through these wells. Therefore, this area is no longer judged to be a possible early indicator of potential remedy failure.

The First Five-Year Review concluded that the existence of the above four possible early indicators of potential remedy failure indicated that the East/South/West Groundwater Barrier Wall was not functioning as intended by the decision documents. However, as discussed previously in this section, additional data collected by the Respondents since the First Five-Year Review now indicate that the East/South/West Barrier Wall component of the remedy is functioning as intended by the decision documents.

One of the five areas identified in the First Five-Year Review as a possible early indicator of remedy failure has now been shown to be evidence of a remedy failure in that containment is not being achieved at all locations along the POC:

- **Exceedances of Performance Standards at MW38-WD**. This compliance well is located at the POC. Exceedances more than three orders of magnitude greater than the Performance Standard for 1,2-DCA were observed at this well, as well as lesser exceedances for other constituents. See Table D-1. No engineering controls exist or were contemplated in this area by the decision documents. The ROD (page 11-8) provides for generalized contingency measures such as additional engineering controls, but such measures would be in addition to the basic remedy described in the ROD. Investigations performed by the Respondents have disclosed that MW38-WD was completed in a sand channel that trends in a generally north-northeast direction. See Figure A-16 (Parsons ES, 2002g). Groundwater flow in this channel appears to be generally to the north-northeast. Several Site-related compounds have been detected at concentrations above Performance Standards at each location (north and west) where the sand channel crosses the POC:

    - At the location where the sand channel crosses the western fence line along Gun Club Road (near MW38- 275S-195W), the compound 1,2-DCA has been detected at concentrations up to 13,000 µg/L versus a Performance Standard of 1 µg/L. See Figure A-17 (Parsons ES, 2002g) and Table D-1. The groundwater flow in this area is thought to be northeasterly, or toward the POC. Monitoring wells constructed west of Gun Club Road have not indicated any exceedances of Performance Standards. Although the origin and pathway of the contamination has not been fully defined, the investigations completed to date suggest that the most likely source of the contamination is waste pits in the northwestern portion of the landfill mass. The pathway is thought to be generally from the area near GPOA-1, northwesterly beneath (or through) the asbestos disposal cell to a point near MW38- 325S-180W (near the western fence line), thence north-northeasterly in the sand channel. However, this pathway is not fully established. In particular, the western extent of the pathway has not yet been fully defined.

- At the location where the sand channel crosses the north section line of Section 6, near MW38- 995N- 300E, trichloroethene (TCE) has been detected at a concentration of 28 µg/L versus a Performance Standard of 5 µg/L. The groundwater flow in this area is northerly, passing the POC and onto Section 31. The fate of this ground water has not yet been determined. The Respondents are continuing explorations in this area to investigate the fate of this ground water. Although the fate of the contamination has not been fully defined, the investigations completed to date suggest that the most likely fate of at least some portion of the contamination is flow beneath the Section 31 landfill. Robust response actions such as extraction wells, possibly coupled with a barrier wall, will likely be needed in this area to achieve containment. EPA will issue a ROD amendment to define the response action required.

The information from the MW38-WD area indicates that containment is not being achieved at either location where the MW-38 sand crosses the POC (west and north). The ROD did not contemplate active engineering control features in either of these portions of the Site. Based on what was known at the time of the ROD, it was thought that natural groundwater flow conditions in the portion of the Site north of the landfill mass would provide containment as defined in Section 4.2 of the First Five-Year Review Report. Since it is now known that containment is not being achieved in this area, this additional remedy element (Groundwater Monitoring Wells and Compliance Program) <u>is not</u> functioning as intended by the decision documents.

7.3 Question B – Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?

To answer this question, the *First Five-Year Review Report* discussed the following:

- Changes in Standards and To Be Considereds
- Changes in Exposure Pathways
- Changes in Toxicity and Other Contaminant Characteristics
- Changes in Risk Assessment Methodologies
- Review of Existing Remedial Action Objectives

Please refer to the *First Five-Year Review Report* for a detailed discussion of these items – they have not been reviewed again for this Addendum. The *First Five-Year Review Report* made a number of specific recommendations for revisions in Site Performance Standards. The revisions are being incorporated into the Site Performance Standards by means of a Minor Modification to the ROD, as discussed in Section 5 of this Addendum.

7.4 Question C – Has any other information come to light that could call into question the protectiveness of the remedy?

Since completion of the First Five-Year Review, the following additional information has been identified that could call into question the protectiveness of the remedy.

7.4.1 Changes in Understanding of Groundwater Flow

As discussed in the *First Five-Year Review Report*, it was previously thought that most of the Site groundwater flow would converge toward the NBBW based on the assumption that most groundwater flow would be orthogonal[2] to the generalized groundwater elevation contours. However, the presence of geologic features such as sand channels, joints, and fractures can provide preferential flow paths for ground water. Investigations in the MW38-WD area have verified that a sand channel up to 20 or more feet thick and approximately 200 feet wide enters the Site from the west and leaves the Site to the north. Compliance monitoring at MW38-WD has detected VOCs above Performance Standards for 1,2-DCA (maximum observed value of 4,100 µg/L versus a Performance Standard of 1 µg/L). The groundwater flow contours alone would suggest that flow to the MW38-WD area from the landfill mass should not occur, but the observed concentration data suggest that flow from the landfill mass is occurring.

Efforts are continuing in the MW38-WD area to investigate this contamination. As of September 9, 2002, the Respondents have performed over 17,000 linear feet of geophysical surveys; drilled 24 soil borings; installed approximately 87 monitoring wells to delineate the sand; and collected water quality data to determine source, nature, and extent of migration of contaminants.

7.5 Summary of Technical Assessment

Table 7-1 summarizes the technical assessment as amended by this Addendum. Table 7-2 summarizes the path forward for those areas of concern identified in the *First Five-Year Review Report* along the East/South/West Barrier Wall. This Addendum concludes that the East/South/West Barrier Wall is effective with the implementation of the PCMP and other actions proposed by the Respondents and contemplated by the ROD. Therefore, these areas will not be the subject of a further Addendum to the *First Five-Year Review Report.*

2 "Orthogonal" refers to lines or groups of lines that are perpendicular to each other at every point where they intersect, even if they are curved.

Table 7-1
Summary of Technical Assessment

Component/Element	Question A – Is the remedy functioning as intended by the decision document? (Preferred answer: Yes)	Question B – Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy selection still valid? (Preferred answer: Yes)	Question C – Has any other information come to light that could call into question the protectiveness of the remedy? (Preferred answer: No)
COMPLETED REMEDY COMPONENTS			
Well Plugging and Abandonment Program	Yes	Yes	No
Wetlands Mitigation	Yes	Yes	No
LFG Collection & Treatment System	Yes	Yes	No
E/S/W Groundwater Barrier Wall	Yes	Yes	No
North Boundary Barrier Wall	Cannot be determined at present	Yes	Yes
North Face Cover	Yes	Yes	No
ADDITIONAL REMEDY ELEMENTS			
Landfill Cover Maintenance	Expected to perform as intended in the future	Yes	No
Surface Water Removal Action	Yes	Yes	No
Groundwater Monitoring Wells and Compliance Program	No	Yes	Yes
Landfill Gas Monitoring Probes and Compliance Program	Yes	Yes	No
Surface Water Monitoring	Yes	Yes	No
INCOMPLETE REMEDY COMPONENTS			
North Toe Extraction System	No	Yes	
New Onsite Water Treatment Plant	No	Yes	
FTPA Middle Waste Pit Excavation	Yes	Yes	No
FTPA Treatment Cell	Operations: Yes Closure: Expected to perform as intended in the future	Yes	No
FTPA North & South Waste Pits	Cannot be determined at present	Yes	Yes
FTPA Drum Staging Area	Yes	Yes	No

Table 7-2
Summary of Path Forward for Areas that will not be the Subject of a Further Addendum to the First Five-Year Review Report

Area	**Activities to be Performed**	**Estimated Time Frame**	**Remarks**
MW39-WD	Implement SVE for 6-month period	Startup by 10/31/03	In accordance with Respondents' September 19, 2002 letter
	Assess initial operations and select path forward	Per approved schedule	In accordance with Respondents' September 19, 2002 letter
MW43-WD	Submit background definition work plan	By 11/30/02	
	Implement approved background definition plan	By 3/31/03	
MW51-WD	Implement expanded SVE outside barrier wall	Startup by 10/31/ 03	In accordance with Respondents' September 19, 2002 letter
	Assess initial operations and select path forward	Per approved schedule	In accordance with Respondents' September 19, 2002 letter
PM-4	Continue operations and monitoring	Ongoing	
PM-15	Continue groundwater extraction	Ongoing	Vapor extraction may be stopped if containment can be maintained without it.
	Convert BM-15N1, BM-15N3, and BM-15N5 to compliance wells monitoring wells	By 12/31/03	Respondents may propose additional extraction wells if needed to achieve containment.

Section 8 Issues of Concern

Some issues of concern were found during the First Five-Year Review, and are discussed in the *First Five-Year Review Report*. This section discusses the status of each of the issues of concern identified in the First Five-Year Review that is still not resolved.

8.1 Issues of Concern – Completed Remedy Components

Table 8-1 summarizes remaining issues of concern relating to completed remedy components and indicates how each issue affects remedy protectiveness. For some components, existing information is not sufficient to determine the effect. Protectiveness is defined in Section 10.1, *Basis for Determination or Protectiveness*, and is further discussed in Section 10.2, *Protectiveness Statements for Completed Remedy Components and Key Additional Remedy Elements*.

The following text discusses each remaining issue of concern.

- **The NBBW may not be completely effective in restricting offsite migration of contaminated ground water**. Investigations by the Respondents are ongoing in this area. Exceedances found to date beyond (north of) the NBBW are above Performance Standards by a factor of up to approximately 22. For example, PCE has been detected at concentrations of 5.1 to 56 μg/L versus a Performance Standard of 5 μg/L in a number of wells in this area. Because the NBBW is at the north (downgradient) end of the Site and collects most of the ground water that is treated at the Site, and because releases in this area would most likely be into the very permeable alluvium of the unnamed creek, the NBBW performance is considered to be a critical component of the containment remedy. Until further information is obtained and it is clear that the NBBW is functioning as intended, protectiveness of the NBBW cannot be determined.

- **There is not an ongoing, periodic groundwater monitoring system at the NBBW to demonstrate containment**. Investigations by the Respondents are ongoing in this area (see above item). Until there is an ongoing, periodic groundwater monitoring system that demonstrates that the NBBW is functioning as intended, protectiveness cannot be determined.

8.2 Issues of Concern – Additional Remedy Elements

Table 8-2 summarizes remaining issues of concern relating to additional remedy elements that, while not components of the remedy, are necessary to monitor and implement the remedy. The table also indicates if the issues are judged to affect remedy protectiveness. Protectiveness is defined in Section 10.1, *Basis for Determination of Protectiveness*, and is further discussed in Section 10.2, *Protectiveness Statements for Completed Remedy Components and Key Additional Remedy Elements*.

If issues of concern that do not affect current protectiveness are allowed to continue without correction, they could lead to a condition that is not protective in the future.

The following text discusses each remaining issue of concern.

- **The lateral spacing between individual monitoring wells is too large in some areas (generally the portions of the Site north of the East/South/West Barrier Wall) to detect possible exceedances of Performance Standards beyond the POC**. This issue came to light as a result of a better understanding of the Site conditions since the issuance of the ROD. This better understanding is summarized in Section 7.4.1 of the *First Five-Year Review Report, Changes in Understanding of Groundwater Flow*, as well as in Section 7.4.1 of this Addendum. The improved understanding of the Site has resulted from review of much of the subsurface information and monitoring data developed by the Respondents during implementation of the remedy, and from investigations related to areas of concern such as MW38-WD and PM-15. Studies are currently under way to better define the well spacing needed to properly monitor these areas. Until these studies are complete and the monitoring system is in place, current protectiveness cannot be determined.

- **The lignite layer monitoring network has too few and possibly improperly positioned monitoring wells to demonstrate containment**. As discussed in the *First Five-Year Review Report*, additional lignite wells are needed to reliably monitor and demonstrate containment. Until these wells are in place, current protectiveness cannot be determined.

- *There is insufficient monitoring of the unweathered Dawson and Denver Formations to demonstrate containment*. As discussed in the *First Five-Year Review Report*, additional unweathered Dawson Formation and Denver Formation wells are needed to reliably monitor and demonstrate containment. Until these wells are in place, current protectiveness cannot be determined.

- **Significant VOC exceedances are occurring in the MW38-WD Area**. Investigations by the Respondents are ongoing in this area. Concentrations of 1,2-DCA in the range of 3,100 to 4,100 µg/L have been consistently observed in this well, which is at the POC (this location is approximately 300 feet inside the property boundary). This is more than three orders of magnitude above the 1,2-DCA Performance Standard of 1 µg/L. Concentrations of 1,2-DCA up to 13,000 µg/L have been observed in other wells in the same channel sand beyond (west of) the POC and near the fence along Gun Club Road. TCE has been detected at a concentration of 28 µg/L versus a Performance Standard of 5 µg/L at the location where the sand channel crosses the north section line of Section 6. Other VOCs are also present in the MW38-WD area at levels well above their Performance Standards. The presence of such high concentrations at a location at least 2,000 feet away from the nearest known waste pits, and in a location formerly thought not to be directly downgradient of the waste pits, was not expected and is a serious concern. Investigations are continuing in this area to define the nature and extent of the contamination. However, the exceedances are so much greater than the Performance Standards that this affects protectiveness.

8.3 Issues of Concern – Incomplete Remedy Components

Table 8-3 summarizes remaining issues of concern relating to remedy components that are not yet complete. These issues are being addressed, and these remedy components are expected to be protective when complete. They have been included in this Addendum to provide a fully integrated summary of the current Site conditions.

8.4 Unresolved Concerns or Items Raised by Support Agencies and the Community

Please refer to the *First Five-Year Review Report*.

TABLE 8-1

Remaining Issues of Concern – Completed Remedy Components

Issues of Concern	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
North Boundary Barrier Wall		
• May not be completely effective in restricting offsite migration of contaminated ground water	CBD	Y
• There is not an ongoing groundwater monitoring system to demonstrate ongoing containment	CBD	Y

Legend
Y = Yes
CBD = The current effectiveness cannot be determined, so the current protectiveness of this remedy component cannot be determined.

TABLE 8-2

Remaining Issues of Concern – Additional Remedy Elements

Issues of Concern	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Groundwater Monitoring Wells and Compliance Program		
• Lateral spacing between individual monitoring wells is too large in some areas to demonstrate containment.	CBD	Y
• Lignite layer has too few and possibly improperly positioned monitoring wells to demonstrate containment.	CBD	Y
• Unweathered Dawson and Denver Formations have too few monitoring wells to demonstrate containment.	CBD	Y
• MW38-WD has VOC exceedances over 1,000 times the Performance Standards.	Y	Y

Legend
Y = Yes
CBD = The current effectiveness cannot be determined, so the current protectiveness of this remedy component cannot be determined.

TABLE 8-3

Remaining Issues of Concern – Incomplete Remedy Components

Issues of Concern
North Toe Extraction System
• Not operating
Water Treatment Plant
• Not yet able to treat 1,4-dioxane to extent required to treat NTES water

Section 9 Recommendations and Follow-up Actions

This section summarizes recommendations and required follow-up actions identified as a result of this Addendum.

9.1 Completed Remedy Components

Table 9-1 summarizes recommendations and required follow-up actions for completed remedy components based on the findings of this Addendum. The left column lists each issue identified in Table 8-1. The next column identifies the recommendations or required follow-up actions. All of the recommended designs, investigations, response actions, and other items will require EPA approval prior to implementation. For each recommendation, the Respondents are expected to perform the recommended designs, investigations, response actions, and other items, and EPA will provide oversight.

Section 11.2.1.2 of the ROD requires implementation of appropriate contingency measures as necessary to prevent and remediate contaminant migration beyond the POC. Therefore, ESDs or ROD amendments are not required to implement these contingency measures contemplated by the ROD.

The third column provides a milestone date for completion of the specific recommendations or follow-up actions. Some of these dates are approximate, because in many cases phased investigations will be necessary to identify the nature and extent of the issue and the required response. These milestone dates are provided as a general expectation of the schedule to be maintained in responding to this First Five-Year Review. The last two columns identify whether or not implementation of the recommendations or follow-up actions is anticipated to affect the protectiveness of the remedy.

Each Work Plan identified in Table 9-1 shall define the appropriate objectives, scope, and schedule. Each Work Plan shall include work elements ranging from completion of characterization of the nature and extent of contamination, through remedial action implementation (if necessary). With respect to the feasibility study element of the Work Plan, it shall include a range of possible response actions, from no further action to active response approaches. Each Work Plan shall identify the activities needed for investigations and feasibility studies, and shall identify a tentative scope and schedule for remedial design and remedial action implementation. Identifying active response approaches will help identify data needs beyond those needed solely for characterization and guide the investigations and subsequent work. Each Work Plan shall also provide for preparation of data summary reports and progress reports. Each Work Plan shall include a schedule for all of the work including remedial action implementation. As the work progresses, revisions may be required as the remedial actions (if any) become more defined. EPA approval will be required for each Work Plan prior to implementation. Prior to the development of any of these Work Plans, the Respondents shall meet with EPA and CDPHE to discuss and agree upon the Work Plan objectives. Continued meetings among EPA, CDPHE, and the Respondents shall be held throughout Work Plan development and implementation to expedite the work.

During the First Five-Year Review process, numerous meetings were held with the Respondents to discuss the progress and preliminary findings of the First Five-Year Review. As a result of these meetings, the Respondents have undertaken a number of actions to address several of the issues identified during the First Five-Year Review:

- The Respondents are repairing depressions in the landfill cover by providing additional fill and reconstructing the cap with steeper slopes. Repairs are expected to be completed by the end of 2002.

- The Respondents have removed, repaired, or replaced incorrect and illegible signage.

- The Respondents have locked all monitoring well caps and re-instituted procedures to keep them locked except when in use.

- Investigations are continuing at the following areas: MW38-WD, MW51-WD, PM-15, and the NBBW.

In performing the above work, the Respondents have prepared seven comprehensive Work Plans and seven detailed investigation reports; constructed approximately 24 soil borings and 164 monitoring wells; analyzed over 725 groundwater samples; and attended numerous technical meetings with EPA and CDPHE.

9.2 Additional Remedy Elements

Table 9-2 summarizes recommendations and required follow-up actions for completed remedy components based on the findings of the First Five-Year Review. The left column lists each issue identified in Table 8-2. The format of the table is similar to that of Table 9-1. The Respondents (under the oversight of EPA) are expected to carry out the recommendations in Table 9-2, including Work Plans, as discussed for Table 9-1.

9.3 Incomplete Remedy Components

Table 9-3 summarizes recommendations and required follow-up actions for incomplete portions of the remedy based on the findings of the First Five-Year Review. The left column lists each issue identified in Table 8-3. The format of the table is similar to that of Table 9-1. The Respondents (under the oversight of EPA) are expected to carry out the recommendations in Table 9-3, including Work Plans, as discussed for Table 9-1.

9.4 Other Recommendations

The Respondents, in conjunction with EPA and CDPHE, should continue their Community Involvement program to keep residents in Elbert and Arapahoe counties informed about the progress of Site activities, and to address continuing concerns about land application of biosolids.

TABLE 9-1
Recommendations and Follow-up Actions – Completed Remedy Components

Issues1	Recommendations/ Follow-up Actions2	Milestone Date	Affects Protectiveness (Y/N)	
			Current	Future
NBBW may not be completely effective in containing or capturing all target ground water, and there is not an ongoing groundwater monitoring system to demonstrate ongoing containment at the NBBW.	Define zone of containment or capture at NBBW	6/30/03	CBD	Y
	Prepare and submit compliance monitoring plan for NBBW	8/31/03		

Legend
Y = Yes
CBD = The current <u>effectiveness</u> cannot be determined, so the current <u>protectiveness</u> of this remedy component cannot be determined.
Notes
1 These issues impact the ability to effectively assess the protectiveness of the remedy.
2 Work to be performed by Respondents unless otherwise noted.

TABLE 9-2
Recommendations and Follow-up Actions – Additional Remedy Elements

Issues1	Recommendations/ Follow-up Actions2	Milestone Date	Affects Protectiveness (Y/N)	
			Current	Future
Lateral spacing between individual monitoring wells is too large in some areas to detect possible exceedances beyond the POC.	Perform and document3 investigations defined by Work Plan	9/9/02	CBD	Y
	Perform and document necessary response actions	6/30/03		
Lignite layer has too few monitoring wells to verify containment.	Perform and document investigations defined by Work Plan	9/9/02	CBD	Y
	Perform and document necessary response actions	6/30/03		
Unweathered Dawson and Denver Formations have too few monitoring wells to verify containment.	Perform and document investigations defined by Work Plan	9/9/02	CBD	Y
	Perform and document necessary response actions	6/30/03		
Performance Standards exceedances at MW38-WD Area	Complete ongoing investigations of nature and extent of contamination	9/30/03	Y	Y
	Perform Focused Feasibility Study	12/31/03		
	EPA issue proposed plan	3/31/04		
	EPA issue ROD amendment	6/30/04		
	Perform and document necessary response actions	TBD		

Legend
Y = Yes
CBD = The current effectiveness cannot be determined, so the current protectiveness of this remedy component cannot be determined.
Notes
1 These issues impact the ability to effectively assess the protectiveness of the remedy.
2 Work to be performed by Respondents unless otherwise noted.
3 As used in this table, the term " document" means to prepare and submit a report that describes and summarizes of the work, and details the results of the work.

TABLE 9-3
Recommendations and Follow-up Actions – Incomplete Remedy Components

Issues1	Recommendations/ Follow-up Actions2	Milestone Date	Affects Protectiveness (Y/N)	
			Current	Future
North Toe Extraction System is not operating.	Complete WTP upgrade, then operate NTES as required by ROD	7/1/04	Y	Y
Water Treatment Plant is not yet able to treat 1,4-dioxane in water from NTES.	Complete approved work, select required treatment plant modifications, implement by modifying WTP as necessary	7/1/04	Y	Y
	Operate WTP as required by ROD	7/1/04 on		
FTPA North and South Waste Pits: Work is ongoing but incomplete.	Continue work	Per approved work plan & schedule	Y	Y

Legend
Y = Yes
Notes
1 These issues impact the ability to effectively assess the protectiveness of the remedy.
2 Work to be performed by Respondents unless otherwise noted.

Section 10 Protectiveness Statements

The protection of human health and the environment by the remedial actions at the Site is discussed below. The protectiveness is considered individually for each completed remedy component and several key additional remedy elements.

For clarity, this Addendum includes all protectiveness statements for all parts of the remedy.

10.1 Basis for Determination of Protectiveness

In accordance with the Guidance, the determination of whether or not the remedy is protective of human health and the environment is generally reached by evaluating whether the remedy is achieving or will achieve the remedial action objectives stated in the ROD. To make this determination, Questions A, B, and C are answered (Section 7, Technical Assessment). If the answers to these three questions are yes, yes, and no respectively, then the remedy normally is considered to be protective. If the answers to the questions are other than yes, yes, and no, then the remedy may be placed into any one of the following five categories, depending on the findings of the Five-Year Review:

- Protective
- Will be protective once the remedy is complete
- Protective in the short-term; however, in order for the remedy to be protective in the longterm, follow- up actions need to be taken
- Not protective, unless specified action(s) are taken to ensure protectiveness
- Protectiveness cannot be determined until further information is obtained[1]

Even if there is a need to conduct further actions, the remedy may be protective. Normally, the remedy is considered to be not protective only if one or more of the following conditions occur:

- An immediate threat is present (for example, exposure pathways that could result in unacceptable risk are not being controlled).
- Migration of contaminants is uncontrolled and poses an unacceptable risk to human health or the environment.
- Potential or actual exposure is clearly present or there is evidence of exposure (for example, institutional controls are not in place or not enforced and exposure is occurring).
- The remedy cannot meet a new cleanup level and the previous cleanup level is outside of the risk range.

As discussed below, immediate threats at the Lowry Site have been addressed by completion of some remedy components. However, at several locations (please refer to Section 7.2.7, *Early Indicators of Potential Remedy Failure*), there are possible indications of containment failure.

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1 In this case, a time frame is to be provided indicating when a protectiveness determination will be made. This is done through an addendum to the *Five-Year Review Report.*

10.2 Protectiveness Statements for Completed Remedy Components and Key Additional Remedy Elements

Although there does not appear to be an immediate threat to existing receptors (because no one is currently drinking the ground water), this Addendum concludes that the remedy may not be effectively containing the Site-related chemicals as required by the ROD and subsequent EPA remedial decision documents.

The following text discusses the protectiveness of each of the completed remedy components and three key additional remedy elements in detail.

10.2.1 Well Plugging Program

The First Five-Year Review concluded that the Well Plugging Program component of the sitewide remedy is <u>protective</u> of human health and the environment.

10.2.2 Wetlands Mitigation

The First Five-Year Review concluded that the Wetlands Mitigation component of the sitewide remedy is <u>protective</u> of human health and the environment.

10.2.3 Landfill Gas (LFG) Collection and Treatment System

The First Five-Year Review concluded that the LFG Collection and Treatment System component of the sitewide remedy is <u>protective</u> of human health and the environment.

10.2.4 East/South/West Groundwater Barrier Wall

This Addendum concludes that the East/South/West Groundwater Barrier Wall component of the sitewide remedy is <u>protective</u> of human health and the environment.

Potential contaminant migration in excess of Performance Standards and beyond the POC has been observed at the following locations: MW39-WD, MW51-WD, and the PM-15 area. The Respondents have investigated the nature and extent of the potential contamination at each of these areas:

- **MW39-WD.** EPA concludes that contamination beyond the POC at MW39-WD is likely residual. The Respondents are proposing to perform SVE in this area.

- **MW51-WD**. EPA concludes that this contamination may be residual. Respondents have performed a pilot SVE study in this area, are preparing to perform additional SVE outside the barrier wall, and are implementing the PCMP preplanned response action (groundwater extraction, treatment, and monitoring) inside the barrier wall.

- **PM-15.** EPA proposes to adjust the location of the POC. The Respondents will monitor at the adjusted POC, continue extraction as necessary to provide containment, and provide additional extraction wells if necessary.

Other areas identified as areas of concern along the barrier wall were:

- **PM-4.** An outward gradient was observed in the PM-4 area prior to the First Five-Year Review, and a sand unit below the bottom of the barrier wall was observed in this area. EPA concludes that the implementation of the preplanned response action in the PCMP has been effective in this area. The Respondents will continue to implement this response and monitor in accordance with the PMCP in this area.

- **MW43-WD**. Exceedances of Performance Standards for iron and manganese persist at MW43-WD, although they are declining. This may be due to background conditions or to other conditions. The Respondents will perform background studies to determine the applicable background concentrations of inorganic analytes at the Site.

10.2.5 North Boundary Barrier Wall System (NBBW)

The First Five-Year Review concluded that protectiveness of the NBBW component of the sitewide remedy could not be determined until further information is obtained.

As stated in the *First Five-Year Review Report*, contaminants were observed at four NBBW compliance monitoring wells: GW-114A, MW37-WD, MW-1000, and U701-WD. The Respondents are performing a reevaluation of the containment/capture effectiveness of the NBBW, including construction and sampling of additional monitoring wells, measuring water levels, and additional sampling of existing groundwater monitoring wells in this area. A few additional exceedances of Performance Standards have been observed in monitoring wells north (downgradient) of the NBBW. There does not appear to be an immediate apparent threat to existing receptors because there is no one currently drinking the ground water. However, because this work remains incomplete, it cannot be determined if the current monitoring system is adequate to verify that the NBBW is effectively containing the Site-related chemicals as required by the ROD. Therefore, this Addendum concludes that protectiveness of the NBBW component of the sitewide remedy cannot be determined until further information is obtained.

10.2.6 North Face Landfill Cover

The First Five-Year Review concluded that the North Face Landfill Cover component of the sitewide remedy is protective of human health and the environment.

10.2.7 Landfill Cover Maintenance

The First Five-Year Review concluded that the Landfill Cover Maintenance element of the sitewide remedy was protective in the short- term, but that for the remedy to be protective in the long- term, follow-up actions need to be taken. When the repairs to landfill cover are completed (expected by the end of 2002), this element of the sitewide remedy is expected to be protective of human health and the environment.

10.2.8 Surface Water Removal Action

The SWRA element of the sitewide remedy is protective of human health and the environment.

10.2.9 Groundwater Monitoring Wells and Compliance Program

The protectiveness of the Groundwater Monitoring Wells and Compliance Program element for the sitewide remedy cannot be determined until further information is obtained.

Investigations are under way to assess the required lateral spacing between individual monitoring wells in the unweathered and weathered Dawson Formation, in the Denver Formation, and in the lignite layer.

The MW38-WD area has been investigated more thoroughly since the First Five-Year Review. These investigations show that there is no containment feature to control the migration of contaminants beyond the POC in the MW38- WD area. This poses an unacceptable risk to human health (i.e., contaminants are above the Performance Standards).

If this portion of the remedy is not addressed, this portion of the sitewide remedy would be not protective of human health and the environment.

10.2.10 Schedule for Addenda

The protectiveness of two of the remedy elements cannot be determined at this time:

- North Boundary Barrier Wall
- Groundwater Monitoring Wells and Compliance Program

In accordance with the Guidance, a schedule must be provided indicating when the protectiveness determination will be made by addendum to a Five-Year Review. At the time of the First Five-Year Review, it was judged that all of the work necessary to allow determination of remedy protectiveness could be made by September 30, 2002. However, despite a reasonable level of effort demonstrated by the Respondents, there are still insufficient data to make a determination of remedy protectiveness. Consequently, this Addendum concludes that the protectiveness determination should be made and documented in one or more addenda to be prepared and issued no later than September 30, 2003.

10.3 Protectiveness Statement for the Sitewide Remedy

The Guidance suggests that a protectiveness statement cannot be made for the sitewide remedy until all the remedy components are completed. However, the completed remedy components' contribution to the containment remedy are independent of the performance of the remaining incomplete remedy components (WTP, FTPA Waste Pits, and operation of the NTES).

There is no containment feature to address uncontrolled migration of contaminants in the MW38- WD area, which poses an unacceptable risk to human health. If this portion of the remedy is not addressed, the sitewide remedy would be <u>not protective</u>, notwithstanding the successful completion of the WTP, FTPA Waste Pits, and operation of the NTES.

Section 11 Next Review

The Lowry Site requires ongoing Five-Year Reviews because, upon completion of the remedial action, hazardous substances, pollutants, or contaminants will remain above levels that provide for unlimited and unrestricted exposure. The next review is to be conducted within five years of the completion of the *First Five-Year Review Report*. The *First Five-Year Review Report* was completed on September 30, 2001. Therefore, the next Five-Year Review must be completed on or before September 30, 2006.

As discussed in Section 10.2.10, *Schedule for Addenda*, one or more further addenda to the First Five-Year Review are required no later than September 30, 2003, to determine the protectiveness of two elements of the remedy. However, this does not delay the required completion date for the next Five-Year Review.

Section 12 Other Comments

The Lowry Site remedy is not yet complete. Implementation of the following components is ongoing:

- **FTPA North and South Waste Pits**. Please refer to the *First Five-Year Review Report*. The Respondents are currently performing pilot studies applying in-place electrical thermal treatment for these waste pits. It is currently anticipated that remediation will not be complete before mid-2003, assuming that the technology proves to be feasible.

- **WTP**. Please refer to the *First Five-Year Review Report*. The Respondents are continuing studies and pilot tests to evaluate further plant modifications to permit effective treatment of the waters to be treated. It is currently anticipated that if one of these technologies proves feasible, the WTP could be modified to begin accepting NTES water by July 1, 2004.

- **NTES**. Please refer to the *First Five-Year Review Report*. The construction of the NTES has been completed, but since the WTP cannot treat the NTES water at the design flow, the NTES is not being operated. As soon as the WTP modifications described above are complete, the NTES will be placed in service.

In addition, the Respondents are continuing investigations at areas where the performance of the existing remedy is uncertain, or where the nature and extent of contamination requires definition. These areas are summarized in Section 8, Issues of Concern.

As discussed in Section 7, *Technical Assessment*, and Section 9, *Recommendations and Follow-Up Actions*, additional work is required. See Tables 7-2, 9-1, 9-2, and 9-3.

In accordance with the OSWER Directive 9355.7-03B-P (July 17, 2001), this *First Addendum to the First Five-Year Review Report* was completed using EPA's *Comprehensive Five-Year Review Guidance* (July 2001, EPA 540-R-01-007). EPA provided the draft version of this *First Addendum to the First Five-Year Review Report* to the Lowry Landfill Technical Advisory Group on August 19, 2002.

Attachment A
Figures

All figures appear in this Attachment, and other than Figure A-2 are reproduced from the reports cited in the body of the text. Figure A-2 was prepared for this addendum. The figure number given in the text (or example, “A-1” in “Figure A-1”) refers to the page number in this Attachment, not to the original figure number shown in the title blocks of the figures.

Attachment B

References

References

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Attachment C
Geochemical Data Evaluation for MW43-WD

Geochemical Data Evaluation for MW43-WD; Lowry Landfill

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DATE: September 4, 2002

The purpose of this memorandum is to present a brief geochemical overview of analytical groundwater results collected from MW43-WD. Data included in this review represent a total of 12 samples collected at quarterly intervals from September 1998 through November 2001.

Evaluation Methods and Process

The first step in any data evaluation is to assess the quality of the data available. We assessed data quality for MW43-WD in terms of:

1. Accuracy and consistency of reporting limits,
2. Accuracy and consistency of reported units,
3. Consistency of analytical suites over time,
4. Major ion mass balance (when possible), and
5. Inclusion of other data (e.g., field parameters).

Significant data quality issues have been identified that we had to address before further geochemical or statistical evaluations could be attempted. These issues, outlined below, may also be representative of site- wide data quality issues.

After necessary corrections were made, data were evaluated geochemically to ascertain what impacts, if any, the landfill may have had on groundwater at MW43-WD over the three year span covered by these 12 sampling events. Geochemical evaluation methods included:

1. Analysis of total and relative concentrations for major ions over time,
2. Construction of Piper trilinear diagrams and comparison to signatures of known impacted and unimpacted areas,
3. Analysis of concentration changes over time for important inorganic constituents, and
4. Correlation of these temporal observations with the presence of landfill related organic constituents.

A summary of our geochemical observations and conclusions is presented below.

DATA QUALITY

The data quality evaluation consisted of review for consistency and accuracy in reporting limits, reported units, analytical suites, mass balance of major ions, and inclusion of important field data.

Reporting Limits

Obvious errors include the calcium, magnesium and perhaps iron concentrations reported for the August 20, 1999 sampling event. Rather than being in micrograms per liter (µ/L), as are all the other data values, their concentrations are reported as milligrams per liter (mg/L).

Reported Units

There is a problem with the mercury concentration (0.002 µg/L) reported for the January 19, 1999 sampling period. The mercury detection limit appears to vary between 2 and 0.2 µg/L for the mercury data from the other sampling events. The concentration reported on January 19, 1999 is 2 orders of magnitude less than the lowest reporting limits for other events. Is this datum estimated? Are the units incorrect? Either way, the datum should be corrected or properly qualified.

Parameter notation needs to be more explicit. For example, the bicarbonate and carbonate reported values are not in units of µg/L bicarbonate and carbonate ions (as shown) but rather in units of calcium carbonate. They should be labeled appropriately and corrected to true bicarbonate and carbonate concentrations prior to mass balance determinations. It would be more useful to leave the parameter notations as they are, but make the correction so that the total alkalinity is the only value reported in units of calcium carbonate (the normal reporting method for alkalinity).

Analytical Suites over Time

There appears to be considerable variability in the constituents included in the analytical schedule for individual sampling events. This variability results in gaps that make meaningful data evaluation difficult. One of the most significant difficulties is not being able to plot time series graphs to understand temporal variability. For example, the full suite of major ions were collected for only 3 of the 12 sampling events. Groundwater mass balance and fingerprinting based on major ions will be possible for only 25% of the data points (i.e., 3 of 12 events) so ultimately comparisons to other wells will be less robust. In addition, there are apparently only one nitrate plus nitrite concentration, two total Kjeldahl nitrogen (TKN) and three ammonia concentrations. These three analytes should be analyzed together to understand the nitrogen speciation and, in addition, give an indication of both the oxidation- reduction potential and relative level of microbial activity.

Major Ion Mass Balance

As stated, only 3 of the 12 sampling events for MW-43 WD provide sufficient data to determine a major ion mass balance. One of these 3 events also happens to be the August 20, 1999 event where both the calcium and magnesium concentration were reported with incorrect units. Correcting for the units problem, the three groundwater samples indicate exceptional quality with errors of only -0.9, –1.8 and -2.28 percent. While this is encouraging, the data would be most useful if major ions were measured during all sampling events.

Field Parameters

Field parameters temperature, specific conductance, pH, oxidation-reduction potential (closed cell) and dissolved oxygen should be included in the database. Specific conductance should be determined in the laboratory as well as the field so that changes in total dissolved solids that have occurred by precipitation of constituents (calcium carbonate precipitation is common), dissolution of material present in a sampling bottle (dirty bottles do happen) or sampling error (e.g., wrong location on the sample bottle) can be documented. The laboratory specific conductance is preferable to the field conductance to check the analytical accuracy of the major ion chemistry. The temperature and field pH are necessary to correct the bicarbonate and carbonate concentrations from laboratory conditions to native groundwater conditions. This is particularly important to be able to determine areas potentially impacted by landfills because of the variability of the carbon dioxide vapor phase in the groundwater environment.

GROUNDWATER CHEMISTRY

Geochemical evaluations included analysis of total and relative concentrations of major ions over time, Piper trilinear diagrams, analysis of concentration changes over time for other important inorganics, and analysis of the presence of organic constituents over time. The objective of these evaluations was to identify changes in groundwater chemistry over time and relate these changes to known site conditions or events.

Major Ions

The four major cations (calcium, magnesium, sodium and potassium) are available for all 12 sampling events. Calcium and sodium concentrations have undergone both concentration and percentage changes that essentially correspond to increasing iron concentration. The calcium concentration begins at 280 mg/l (30 percent of the major cations) on the September 24, 1998 sampling event while the sodium concentration was 695 mg/L (64 percent of the major cations). Both increase to their highest concentrations of 451 and 734 mg/L on the February 10, 2000 sampling event with calcium increasing to 38, and sodium decreasing to 54, percent of the major cations. This sampling event also showed the highest iron concentration. Both calcium and sodium concentrations subsequently (and somewhat erratically in the same fashion as the iron concentrations) decrease in concentration, with the calcium percentage decreasing approximately proportional to sodium increases. The percentages may be approaching their respective earliest values. These relationships indicate that an event beginning between the January and April, 1999 sampling events significantly changed the groundwater chemistry at the MW-43 WD location, crested on or about the February, 2000 sampling event and has since been decreasing in significance.

Trilinear Diagrams

Given the available data, major ions of three of the 12 sampling events can be plotted on a trilinear diagram: November 1, 2001, May 2, 2001 and April 6, 1999. Data from MW43-WD were plotted on the existing Figure 21 from the MW39-WD area report (*Draft Investigation of the Nature and Extent of PCE in the MW39-WD Area, Lowry Landfill Superfund Site, Parsons ES, April 26, 2002*). This existing figure was selected because it shows major ion signatures for both groundwater from known waste pits and groundwater from areas of the site that are believed to be unimpacted by the landfill.

The three data points in the anion triangle are the most telling. The data points indicate a sulfate-dominant groundwater chemistry. Sulfate percentages increase and decrease inversely to the bicarbonate percentages while the chloride concentration remains essentially constant. Since the waste pit waters are chloride-dominant and these three sample points move only between sulfate and bicarbonate, the major impact is almost certainly vapor phase rather than leachate phase. The earliest groundwater has the highest bicarbonate percentage (35 percent) decreasing to 25 and 27 percent in the last two sampling events. This suggests a decreasing impact from vapor phase between the essentially two sampling periods (1999 and two years later in 2001). In effect, this suggests that the vapor phase impact significantly decreased between 1999 and 2001 at the MW-43 WD well location.

Other Inorganics

Barium concentrations and, to a more erratic degree, manganese concentrations decreased in the 12 sampling periods between September 24, 1999 and November 1, 2001. Decreasing barium would be expected with an increasing sulfate concentration and percentage. The increase in sulfate and decrease in manganese concentration typically indicates an increasing oxidation condition at the well location.

Iron concentrations (assumed to be dissolved) were considerably different, starting out relatively low (0.31 mg/L) in September 24, 1999 through less than detection (0.1 mg/L) to 0.11 mg/L in the next two sampling event results but then jumping an order of magnitude to 1.01 mg/L at the April 6, 1999 sampling event. Iron concentrations increased another order of magnitude to 19.7 mg/L for the February 10, 2001 sampling event – its high for the 12 sampling events. Iron concentrations has since that time erratically decreased to 6.4 mg/L on the November 1, 2001 sampling event.

Arsenic, typically adsorbed by iron oxyhydroxides on aquifer particles under oxidizing conditions, would have been expected to also increase in concentration somewhat proportional to the iron concentration in the groundwater. However, arsenic concentrations, initially at 45 g/L, actually decreased to less than 10 g/L by the October 26, 1999 sampling event and remained at less than 10 g/L through the remaining sampling events. This suggests that the elevated iron concentration during the latter sampling events is not being derived from dissolution of iron oxyhydroxide and thereby supports the above supposition of a groundwater under oxidizing conditions during the latter part of the sampling events.

Organics

Relatively low VOC concentrations occur in three sampling events beginning in the April 6, 1999 sampling event through the February 10, 2001 sampling event. Toluene, TCE and 1,2 DCA are consistently reported from these three sampling events. The earliest total organic carbon value was an elevated 43.5 mg/L reported for the medial October 26, 1999 sampling event. There were no detectable VOC concentrations for the latter five sampling events and TOC apparently decreases to 19.7 mg/L in the November 1, 2001 sampling event. These data also suggest an increasingly oxidized condition for the groundwater during the latter six sampling events with the elevated iron concentrations.

Summary

These relationships appear to indicate that landfill gas migration resulted in preserving or, more likely, creating sufficiently reducing conditions that iron sulfide was present. By the April sampling event, the landfill gas had significantly decreased and the corresponding increasingly oxidized conditions lead to increased oxidation of the iron sulfide cresting on or about the February, 2000 sampling event. The sulfuric acid generated by the oxidation of the iron sulfide would be variably neutralized by dissolution of aquifer minerals adjacent to the oxidizing iron sulfide. Although unrecorded, the field pH should have decreased between the 1999 and February, 2000 sampling events in order to retain the elevated iron concentrations in the groundwater because under oxidizing conditions and near-neutral pH, these iron concentrations would not be possible. If the oxidation-reduction potential had been properly measured, then it would probably have indicated increasingly oxidized conditions from about the November, 2000 to November, 2001 sampling events.

It is likely that radium has not changed much in activity since sulfate is becoming more dominant with time (radium-sulfate is almost insoluble as long as the groundwater remains oxidized). Uranium, on the other hand, has the potential to have increased somewhat proportional to the iron concentration during the 2001 sampling events since it is essentially immobile under reducing conditions (again, in the part of the aquifer containing iron sulfide) but quite mobile under oxidizing conditions. However, uranium may have dispersed by the current time to a baseline concentration.

Conclusions

If this database is representative of the remainder of the Lowry water chemistry database, then the entire database needs careful review prior to any additional statistical or other interpretative work. Without corrections to the database, these errors will, at the least, cause uncorrected data to represent outliers which may be excluded from interpretative work. In the worst case, uncorrected data could be used in a statistical summary resulting in erroneous means and standard deviations. These data quality issues must be addressed in order to preserve the integrity of future conclusions.

The most likely scenario for the geochemical observations at MW43-WD is a historically significant but decreasing impact of landfill gas to groundwater in the well. Gases present inside the landfill appear to have migrated through the surrounding soil and displaced soil gas in the vicinity of MW43-WD. The corresponding increasing gaseous concentrations of methane, carbon dioxide, VOCs, and other landfill-related compounds have significantly altered the chemistry of groundwater near the well. However, recent groundwater trends indicate that impacts from the landfill gas are decreasing.

If this scenario is true, and if we also assume that the landfill gas source or migration pathways have been permanently removed, then groundwater in the MW43-WD area should eventually revert back to pre-landfill conditions. Concentrations of VOCs and arsenic should remain below detection. Iron, manganese, barium and major ion concentrations in groundwater should continue to decrease and will eventually become asymptotic to some baseline concentration. Absent other site related impacts to soil gas (e.g., air sparging, SVE, etc) these baseline groundwater concentrations are likely to represent ambient background levels. In other words, MW43-WD does not currently represent ambient background concentrations for many of the inorganic constituents, but may in the future.

Additionally, similar impacts are likely to have occurred to varying degrees in groundwater along the entire perimeter of the landfill.

Attachment D
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
MW38	B-222	WD	Interior	1st Qtr 1982	14-Jan-1982	Lead	55	=	µg/L	x	50
MW38	B-222	WD	Interior	3rd Qtr 1986	15-Jul-1986	Methylene Chloride	8.35	=	µg/L	x	5
MW38	GS-MW38-350N-175E	WD	Interior	3rd Qtr 2002	10-Aug-2002	1,2-Dichloroethane	1.9	J	µg/L		1
MW38	GS-MW38-350N-175E	WD	Interior	3rd Qtr 2002	10-Aug-2002	Chloroform	70	=	µg/L		6
MW38	GS-MW38-350N-175E	WD	Interior	3rd Qtr 2002	10-Aug-2002	Trichloroethene	27	=	µg/L		5
MW38	GW-106	UNWD/WD	Interior	3rd Qtr 2001	10-Jul-2001	Nitrogen, Nitrate	35900	=	µg/L	x	29100
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	1,1,1-Trichloroethane	940	J	µg/L	x	200
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	1,1,1-Trichloroethane	770	=	µg/L		200
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	1,1-Dichloroethene	300	J	µg/L	x	7
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	1,1-Dichloroethene	390	J	µg/L		7
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	1,2-Dichloroethane	18000	J	µg/L	x	1
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	1,2-Dichloroethane	28000	=	µg/L		1
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	Chloroform	1100	J	µg/L	x	6
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	Chloroform	1000	=	µg/L		6
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	cis-1,2-Dichloroethene	610	J	µg/L	x	70
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	cis-1,2-Dichloroethene	760	=	µg/L		70
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	Iron	6080	=	µg/L	x	2060
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	Iron	4120	=	µg/L	x	2060
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	Manganese	9970	=	µg/L	x	1620
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	Manganese	11100	=	µg/L	x	1620
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	Methylene Chloride	280	J	µg/L	x	5
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	Tetrachloroethene	120	J	µg/L	x	5
MW38	GW-POA-1N	WD	Interior	4th Qtr 1999	11-Nov-1999	Trichloroethene	400	J	µg/L	x	5
MW38	GW-POA-1N	WD	Interior	2nd Qtr 2002	30-Apr-2002	Trichloroethene	350	J	µg/L		5
MW38	GW-POA-1NE	WD	Interior	4th Qtr 1999	01-Dec-1999	1,2-Dichloroethane	5.1	=	µg/L	x	1
MW38	GW-POA-1NE	WD	Interior	4th Qtr 1999	01-Dec-1999	Carbon Tetrachloride	1.5	=	µg/L	x	1
MW38	GW-POA-1NE	WD	Interior	2nd Qtr 2002	02-May-2002	Carbon Tetrachloride	6.5	=	µg/L		1
MW38	GW-POA-1NE	WD	Interior	2nd Qtr 2002	02-May-2002	Chloroform	12	=	µg/L		6
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	1,1-Dichloroethene	64	J	µg/L	x	7
MW38	GW-POA1	WD	Interior	1st Qtr 2000	16-Feb-2000	1,1-Dichloroethene	15	J	µg/L	x	7
MW38	GW-POA1	WD	Interior	1st Qtr 2001	08-Feb-2001	1,1-Dichloroethene	27	J	µg/L	x	7
MW38	GW-POA1	WD	Interior	4th Qtr 1998	08-Sep-1998	1,2-Dichloroethane	14000	=	µg/L	x	1
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	1,2-Dichloroethane	16000	=	µg/L	x	1
MW38	GW-POA1	WD	Interior	1st Qtr 1999	11-Jan-1999	1,2-Dichloroethane	17000	=	µg/L	x	1
MW38	GW-POA1	WD	Interior	4th Qtr 1999	12-Nov-1999	1,2-Dichloroethane	5800	=	µg/L	x	1
MW38	GW-POA1	WD	Interior	1st Qtr 2000	16-Feb-2000	1,2-Dichloroethane	3700	=	µg/L	x	1
MW38	GW-POA1	WD	Interior	1st Qtr 2001	08-Feb-2001	1,2-Dichloroethane	7900	=	µg/L	x	1
MW38	GW-POA1	WD	Interior	1st Qtr 2002	22-Jan-2002	1,2-Dichloroethane	7600	=	µg/L	x	1
MW38	GW-POA1	WD	Interior	2nd Qtr 2002	30-Apr-2002	1,2-Dichloroethane	9300	=	µg/L		1
MW38	GW-POA1	WD	Interior	1st Qtr 1999	11-Jan-1999	Acetone	1700	J	µg/L	x	1600
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	Benzene	34	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	1st Qtr 2001	08-Feb-2001	Benzene	11	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	Chloroform	29	J	µg/L	x	6
MW38	GW-POA1	WD	Interior	1st Qtr 2001	08-Feb-2001	Chloroform	14	J	µg/L	x	6
MW38	GW-POA1	WD	Interior	1st Qtr 1999	11-Jan-1999	cis-1,2-Dichloroethene	79	J	µg/L	x	70
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	Methylene Chloride	22	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	4th Qtr 1999	12-Nov-1999	Methylene Chloride	67	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	1st Qtr 2000	16-Feb-2000	Methylene Chloride	22	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	Tetrachloroethene	32	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	4th Qtr 1998	08-Sep-1998	Trichloroethene	300	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	Trichloroethene	320	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	4th Qtr 1998	22-Dec-1998	Trichloroethene	350	=	µg/L	x	5
MW38	GW-POA1	WD	Interior	1st Qtr 1999	11-Jan-1999	Trichloroethene	380	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	4th Qtr 1999	12-Nov-1999	Trichloroethene	140	J	µg/L	x	5
MW38	GW-POA1	WD	Interior	1st Qtr 2000	16-Feb-2000	Trichloroethene	120	=	µg/L	x	5
MW38	GW-POA1	WD	Interior	1st Qtr 2001	08-Feb-2001	Trichloroethene	150	=	µg/L	x	5
MW38	GW-POA1	WD	Interior	1st Qtr 2002	22-Jan-2002	Trichloroethene	170	=	µg/L	x	5
MW38	GW-POA1	WD	Interior	2nd Qtr 2002	30-Apr-2002	Trichloroethene	150	J	µg/L		5
MW38	GW-POA2	WD	Interior	1st Qtr 2000	21-Feb-2000	1,2-Dichloroethane	2.8	=	µg/L	x	1
MW38	MW10-AB	UNWD	Exterior	3rd Qtr 1990	17-Jul-1990	Iron	2680	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	2nd Qtr 1991	15-Mar-1991	Americium-241	0.49	J	pCi/L	x	0.2
MW38	MW11-BB	UNWD	Exterior	4th Qtr 1989	26-Dec-1989	Iron	2430	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	1st Qtr 1990	21-Feb-1990	Iron	2500	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	2nd Qtr 1990	19-Apr-1990	Iron	2340	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	3rd Qtr 1990	16-Jul-1990	Iron	2740	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	4th Qtr 1990	11-Oct-1990	Iron	2640	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	1st Qtr 1991	24-Jan-1991	Iron	4535.248	J	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	2nd Qtr 1991	15-Mar-1991	Iron	3460	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	2nd Qtr 1991	17-Apr-1991	Iron	2750	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	3rd Qtr 1991	12-Jul-1991	Iron	2580	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	2nd Qtr 1992	23-Apr-1992	Iron	2930	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	1st Qtr 1993	15-Jan-1993	Iron	2930	=	µg/L	x	2060
MW38	MW11-BB	UNWD	Exterior	2nd Qtr 1993	21-Apr-1993	Iron	2820	=	µg/L	x	2060
MW38	MW38-0N-140W	WD	Exterior	3rd Qtr 2001	06-Aug-2001	1,2-Dichloroethane	1.1	=	µg/L	x	1
MW38	MW38-100N-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	1,2-Dichloroethane	130	=	µg/L		1
MW38	MW38-100N-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	Chloroform	81	=	µg/L		6
MW38	MW38-100N-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	Trichloroethene	36	=	µg/L		5
MW38	MW38-100S-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	1,1-Dichloroethene	36	J	µg/L		7
MW38	MW38-100S-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	1,2-Dichloroethane	3000	=	µg/L		1
MW38	MW38-100S-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	Chloroform	190	=	µg/L		6
MW38	MW38-100S-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	cis-1,2-Dichloroethene	71	=	µg/L		70
MW38	MW38-100S-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	Methylene Chloride	46	J	µg/L		5
MW38	MW38-100S-200E	WD	Interior	3rd Qtr 2002	15-Jul-2002	Trichloroethene	100	=	µg/L		5
MW38	MW38-100S-53W	WD	Interior	2nd Qtr 2002	08-May-2002	1,1-Dichloroethene	36	J	µg/L	x	7
MW38	MW38-100S-53W	WD	Interior	3rd Qtr 2001	07-Aug-2001	1,2-Dichloroethane	4600	=	µg/L	x	1
MW38	MW38-100S-53W	WD	Interior	2nd Qtr 2002	08-May-2002	1,2-Dichloroethane	6500	=	µg/L	x	1
MW38	MW38-100S-53W	WD	Interior	3rd Qtr 2001	07-Aug-2001	1,4-Dioxane	14000	J	µg/L	x	200
MW38	MW38-100S-53W	WD	Interior	3rd Qtr 2001	07-Aug-2001	Chloroform	120	J	µg/L	x	6

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
MW38	MW38-100S-53W	WD	Interior	2nd Qtr 2002	08-May-2002	Chloroform	120	=	µg/L	x	6
MW38	MW38-100S-53W	WD	Interior	3rd Qtr 2001	07-Aug-2001	cis-1,2-Dichloroethene	160	J	µg/L	x	70
MW38	MW38-100S-53W	WD	Interior	2nd Qtr 2002	08-May-2002	cis-1,2-Dichloroethene	180	=	µg/L	x	70
MW38	MW38-100S-53W	WD	Interior	2nd Qtr 2002	08-May-2002	Tetrachloroethene	34	J	µg/L	x	5
MW38	MW38-100S-53W	WD	Interior	3rd Qtr 2001	07-Aug-2001	Trichloroethene	110	J	µg/L	x	5
MW38	MW38-100S-53W	WD	Interior	2nd Qtr 2002	08-May-2002	Trichloroethene	110	=	µg/L	x	5
MW38	MW38-1095N-226E	WD	Interior	4th Qtr 2001	25-Oct-2001	Chloroform	21	=	µg/L	x	6
MW38	MW38-1095N-226E	WD	Interior	2nd Qtr 2002	13-May-2002	Chloroform	27	=	µg/L		6
MW38	MW38-1095N-226E	WD	Interior	4th Qtr 2001	25-Oct-2001	Methylene chloride	5.6	=	µg/L	x	5
MW38	MW38-1095N-226E	WD	Interior	4th Qtr 2001	25-Oct-2001	Trichloroethene	13	=	µg/L	x	5
MW38	MW38-1095N-226E	WD	Interior	2nd Qtr 2002	13-May-2002	Trichloroethene	17	=	µg/L		5
MW38	MW38-1175N-300E	WD	Interior	3rd Qtr 2002	16-Jul-2002	Chloroform	49	=	µg/L		6
MW38	MW38-1175N-300E	WD	Interior	3rd Qtr 2002	16-Jul-2002	Methylene Chloride	6	=	µg/L		5
MW38	MW38-1175N-300E	WD	Interior	3rd Qtr 2002	16-Jul-2002	Trichloroethene	29	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	08-Aug-2002	1,1-Dichloroethene	43	J	µg/L		7
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	09-Aug-2002	1,1-Dichloroethene	48	J	µg/L		7
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	14-Aug-2002	1,1-Dichloroethene	12	J	µg/L		7
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	19-Jul-2002	1,2-Dichloroethane	250	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	06-Aug-2002	1,2-Dichloroethane	300	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	07-Aug-2002	1,2-Dichloroethane	4300	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	08-Aug-2002	1,2-Dichloroethane	6000	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	09-Aug-2002	1,2-Dichloroethane	6800	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	10-Aug-2002	1,2-Dichloroethane	130	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	11-Aug-2002	1,2-Dichloroethane	1100	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	12-Aug-2002	1,2-Dichloroethane	1100	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	13-Aug-2002	1,2-Dichloroethane	1300	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	14-Aug-2002	1,2-Dichloroethane	2300	=	µg/L		1
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	19-Jul-2002	Chloroform	24	=	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	06-Aug-2002	Chloroform	17	=	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	07-Aug-2002	Chloroform	81	J	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	08-Aug-2002	Chloroform	86	J	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	09-Aug-2002	Chloroform	110	J	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	10-Aug-2002	Chloroform	9	=	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	11-Aug-2002	Chloroform	24	=	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	12-Aug-2002	Chloroform	22	J	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	13-Aug-2002	Chloroform	27	=	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	14-Aug-2002	Chloroform	45	=	µg/L		6
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	07-Aug-2002	cis-1,2-Dichloroethene	150	=	µg/L		70
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	08-Aug-2002	cis-1,2-Dichloroethene	160	=	µg/L		70
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	09-Aug-2002	cis-1,2-Dichloroethene	200	=	µg/L		70
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	06-Aug-2002	Methylene Chloride	6.2	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	19-Jul-2002	Tetrachloroethene	8.6	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	06-Aug-2002	Tetrachloroethene	7.9	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	09-Aug-2002	Tetrachloroethene	36	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	11-Aug-2002	Tetrachloroethene	6.5	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	13-Aug-2002	Tetrachloroethene	8.1	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	14-Aug-2002	Tetrachloroethene	16	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	19-Jul-2002	Trichloroethene	27	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	06-Aug-2002	Trichloroethene	28	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	07-Aug-2002	Trichloroethene	84	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	08-Aug-2002	Trichloroethene	90	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	09-Aug-2002	Trichloroethene	100	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	10-Aug-2002	Trichloroethene	10	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	11-Aug-2002	Trichloroethene	20	=	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	12-Aug-2002	Trichloroethene	20	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	13-Aug-2002	Trichloroethene	23	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	14-Aug-2002	Trichloroethene	39	J	µg/L		5
MW38	MW38-170S-140W	WD	Exterior	3rd Qtr 2002	11-Aug-2002	Vinyl Chloride	3.6	J	µg/L		2
MW38	MW38-190S-140W	WD	Exterior	3rd Qtr 2002	02-Aug-2002	1,2-Dichloroethane	890	=	µg/L		1
MW38	MW38-190S-140W	WD	Exterior	3rd Qtr 2002	02-Aug-2002	Chloroform	27	=	µg/L		6
MW38	MW38-190S-140W	WD	Exterior	3rd Qtr 2002	02-Aug-2002	Trichloroethene	27	=	µg/L		5
MW38	MW38-200N-60E	WD	Interior	2nd Qtr 2002	24-Apr-2002	Chloroform	23	=	µg/L	x	6
MW38	MW38-200N-60E	WD	Interior	3rd Qtr 2002	24-Jul-2002	Chloroform	20	=	µg/L		6
MW38	MW38-200N-60E	WD	Interior	2nd Qtr 2002	24-Apr-2002	Tetrachloroethene	7.3	=	µg/L	x	5
MW38	MW38-200N-60E	WD	Interior	2nd Qtr 2002	24-Apr-2002	Trichloroethene	24	=	µg/L	x	5
MW38	MW38-200N-60E	WD	Interior	3rd Qtr 2002	24-Jul-2002	Trichloroethene	17	=	µg/L		5
MW38	MW38-200S-140W	WD	Exterior	3rd Qtr 2001	29-Aug-2001	1,2-Dichloroethane	6800	=	µg/L	x	1
MW38	MW38-200S-140W	WD	Exterior	2nd Qtr 2002	06-May-2002	1,2-Dichloroethane	6100	=	µg/L	x	1
MW38	MW38-200S-140W	WD	Exterior	3rd Qtr 2001	29-Aug-2001	Chloroform	100	J	µg/L	x	6
MW38	MW38-200S-140W	WD	Exterior	2nd Qtr 2002	06-May-2002	Chloroform	85	J	µg/L	x	6
MW38	MW38-200S-140W	WD	Exterior	3rd Qtr 2001	29-Aug-2001	cis-1,2-Dichloroethene	160	J	µg/L	x	70
MW38	MW38-200S-140W	WD	Exterior	2nd Qtr 2002	06-May-2002	cis-1,2-Dichloroethene	180	J	µg/L	x	70
MW38	MW38-200S-140W	WD	Exterior	3rd Qtr 2001	29-Aug-2001	Trichloroethene	83	J	µg/L	x	5
MW38	MW38-200S-140W	WD	Exterior	2nd Qtr 2002	06-May-2002	Trichloroethene	98	J	µg/L	x	5
MW38	MW38-200S-180W	WD	Exterior	3rd Qtr 2001	29-Aug-2001	Chloroform	12	=	µg/L	x	6
MW38	MW38-200S-180W	WD	Exterior	2nd Qtr 2002	17-May-2002	Chloroform	9.8	=	µg/L		6
MW38	MW38-200S-180W	WD	Exterior	3rd Qtr 2001	29-Aug-2001	Trichloroethene	11	=	µg/L	x	5
MW38	MW38-200S-180W	WD	Exterior	2nd Qtr 2002	17-May-2002	Trichloroethene	13	=	µg/L		5
MW38	MW38-250S-160W	WD	Exterior	4th Qtr 2001	18-Dec-2001	1,1-Dichloroethene	11	J	µg/L	x	7
MW38	MW38-250S-160W	WD	Exterior	4th Qtr 2001	18-Dec-2001	1,2-Dichloroethane	750	=	µg/L	x	1
MW38	MW38-250S-160W	WD	Exterior	3rd Qtr 2002	22-Jul-2002	1,2-Dichloroethane	190	=	µg/L		1
MW38	MW38-250S-160W	WD	Exterior	3rd Qtr 2002	22-Jul-2002	1,4-Dioxane	370	J	µg/L		200
MW38	MW38-250S-160W	WD	Exterior	4th Qtr 2001	18-Dec-2001	Chloroform	120	=	µg/L	x	6
MW38	MW38-250S-160W	WD	Exterior	3rd Qtr 2002	22-Jul-2002	Chloroform	84	=	µg/L		6
MW38	MW38-250S-160W	WD	Exterior	4th Qtr 2001	18-Dec-2001	cis-1,2-Dichloroethene	140	=	µg/L	x	70
MW38	MW38-250S-160W	WD	Exterior	3rd Qtr 2002	22-Jul-2002	cis-1,2-Dichloroethene	97	=	µg/L		70
MW38	MW38-250S-160W	WD	Exterior	3rd Qtr 2002	22-Jul-2002	Methylene Chloride	17	=	µg/L		5
MW38	MW38-250S-160W	WD	Exterior	4th Qtr 2001	18-Dec-2001	Tetrachloroethene	32	=	µg/L	x	5

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
MW38	MW38-250S-160W	WD	Exterior	3rd Qtr 2002	22-Jul-2002	Tetrachloroethene	21	=	µg/L		5
MW38	MW38-250S-160W	WD	Exterior	4th Qtr 2001	18-Dec-2001	Trichloroethene	100	=	µg/L	x	5
MW38	MW38-250S-160W	WD	Exterior	3rd Qtr 2002	22-Jul-2002	Trichloroethene	67	=	µg/L		5
MW38	MW38-275S-195W	WD	Exterior	3rd Qtr 2002	19-Jun-2002	1,1-Dichloroethene	66	J	µg/L		7
MW38	MW38-275S-195W	WD	Exterior	3rd Qtr 2002	19-Jun-2002	1,2-Dichloroethane	7200	=	µg/L		1
MW38	MW38-275S-195W	WD	Exterior	3rd Qtr 2002	19-Jun-2002	Chloroform	94	J	µg/L		6
MW38	MW38-275S-195W	WD	Exterior	3rd Qtr 2002	19-Jun-2002	cis-1,2-Dichloroethene	200	=	µg/L		70
MW38	MW38-275S-195W	WD	Exterior	3rd Qtr 2002	19-Jun-2002	Trichloroethene	97	J	µg/L		5
MW38	MW38-300S-180W	WD	Exterior	1st Qtr 2002	21-Feb-2002	1,2-Dichloroethane	9.7	=	µg/L	x	1
MW38	MW38-300S-180W	WD	Exterior	3rd Qtr 2002	19-Jul-2002	1,2-Dichloroethane	2.7	=	µg/L		1
MW38	MW38-300S-180W	WD	Exterior	1st Qtr 2002	21-Feb-2002	Chloroform	42	=	µg/L	x	6
MW38	MW38-300S-180W	WD	Exterior	3rd Qtr 2002	19-Jul-2002	Chloroform	6.7	=	µg/L		6
MW38	MW38-300S-180W	WD	Exterior	1st Qtr 2002	21-Feb-2002	Tetrachloroethene	6	=	µg/L	x	5
MW38	MW38-300S-180W	WD	Exterior	1st Qtr 2002	21-Feb-2002	Trichloroethene	26	=	µg/L	x	5
MW38	MW38-300S-315W	WD	Exterior	4th Qtr 2001	24-Oct-2001	Acetone	23000	=	µg/L	x	1600
MW38	MW38-300S-315W	WD	Exterior	4th Qtr 2001	04-Dec-2001	Manganese	1730	=	µg/L	x	1620
MW38	MW38-325S-195W	WD	Exterior	3rd Qtr 2002	24-Jun-2002	1,2-Dichloroethane	13000	=	µg/L		1
MW38	MW38-325S-195W	WD	Exterior	3rd Qtr 2002	24-Jun-2002	Chloroform	130	J	µg/L		6
MW38	MW38-325S-195W	WD	Exterior	3rd Qtr 2002	24-Jun-2002	cis-1,2-Dichloroethene	230	J	µg/L		70
MW38	MW38-325S-195W	WD	Exterior	3rd Qtr 2002	24-Jun-2002	Methylene Chloride	280	=	µg/L		5
MW38	MW38-325S-195W	WD	Exterior	3rd Qtr 2002	24-Jun-2002	Trichloroethene	110	J	µg/L		5
MW38	MW38-330S-350E	WD	Interior	3rd Qtr 2002	18-Jul-2002	1,1-Dichloroethene	14	=	µg/L		7
MW38	MW38-330S-350E	WD	Interior	3rd Qtr 2002	18-Jul-2002	1,2-Dichloroethane	2.8	J	µg/L		1
MW38	MW38-330S-350E	WD	Interior	3rd Qtr 2002	18-Jul-2002	Chloroform	170	=	µg/L		6
MW38	MW38-330S-350E	WD	Interior	3rd Qtr 2002	18-Jul-2002	Tetrachloroethene	11	=	µg/L		5
MW38	MW38-330S-350E	WD	Interior	3rd Qtr 2002	18-Jul-2002	Trichloroethene	98	=	µg/L		5
MW38	MW38-350S-200E	WD	Interior	3rd Qtr 2002	04-Jun-2002	1,1-Dichloroethane	1100	=	µg/L		990
MW38	MW38-350S-200E	WD	Interior	3rd Qtr 2002	04-Jun-2002	1,2-Dichloroethane	18000	=	µg/L		1
MW38	MW38-350S-200E	WD	Interior	3rd Qtr 2002	04-Jun-2002	cis-1,2-Dichloroethene	430	J	µg/L		70
MW38	MW38-350S-320W	WD	Exterior	2nd Qtr 2002	30-Apr-2002	Iron	2400	=	µg/L	x	2060
MW38	MW38-350S-50W	WD	Exterior	3rd Qtr 2002	13-Jul-2002	1,2-Dichloroethane	20000	=	µg/L		1
MW38	MW38-350S-50W	WD	Exterior	3rd Qtr 2002	13-Jul-2002	cis-1,2-Dichloroethene	310	J	µg/L		70
MW38	MW38-350S-60E	WD	Interior	2nd Qtr 2002	07-May-2002	1,2-Dichloroethane	14000	=	µg/L	x	1
MW38	MW38-350S-60E	WD	Interior	2nd Qtr 2002	07-May-2002	cis-1,2-Dichloroethene	260	J	µg/L	x	70
MW38	MW38-390S-60E	WD	Interior	2nd Qtr 2002	31-May-2002	1,2-Dichloroethane	14000	=	µg/L		1
MW38	MW38-390S-60E	WD	Interior	2nd Qtr 2002	31-May-2002	cis-1,2-Dichloroethene	220	J	µg/L		70
MW38	MW38-390S-60E	WD	Interior	2nd Qtr 2002	31-May-2002	Trichloroethene	110	J	µg/L		5
MW38	MW38-400N-100E	WD	Interior	3rd Qtr 2001	06-Aug-2001	Chloroform	56	=	µg/L	x	6
MW38	MW38-400N-100E	WD	Interior	3rd Qtr 2001	06-Aug-2001	Tetrachloroethene	8.6	J	µg/L	x	5
MW38	MW38-400N-100E	WD	Interior	3rd Qtr 2001	06-Aug-2001	Trichloroethene	45	=	µg/L	x	5
MW38	MW38-400N-240E	WD	Interior	2nd Qtr 2002	07-May-2002	1,2-Dichloroethane	2.5	=	µg/L	x	1
MW38	MW38-400N-240E	WD	Interior	2nd Qtr 2002	07-May-2002	Chloroform	64	=	µg/L	x	6
MW38	MW38-400N-240E	WD	Interior	2nd Qtr 2002	07-May-2002	Trichloroethene	32	=	µg/L	x	5
MW38	MW38-400N-300E	UNWD	Interior	3rd Qtr 2001	29-Aug-2001	Iron	4840	=	µg/L	x	2060
MW38	MW38-400N-300E	UNWD	Interior	3rd Qtr 2001	29-Aug-2001	Manganese	2030	=	µg/L	x	1620
MW38	MW38-400S-0W	WD	Interior	1st Qtr 2002	20-Feb-2002	Trichloroethene	14	=	µg/L	x	5
MW38	MW38-400S-320W	WD	Exterior	4th Qtr 2001	27-Sep-2001	Iron	2650	=	µg/L	x	2060
MW38	MW38-450S-200E	WD	Interior	1st Qtr 2002	20-Feb-2002	1,2-Dichloroethane	540	=	µg/L	x	1
MW38	MW38-500S-320W	WD	Exterior	4th Qtr 2001	19-Oct-2001	Acetone	2100	=	µg/L	x	1600
MW38	MW38-500S-320W	WD	Exterior	4th Qtr 2001	19-Oct-2001	Methylene chloride	37	=	µg/L	x	5
MW38	MW38-550S-200E	WD	Interior	2nd Qtr 2002	29-May-2002	1,2-Dichloroethane	1700	=	µg/L		1
MW38	MW38-550S-200E	WD	Interior	2nd Qtr 2002	29-May-2002	Trichloroethene	49	=	µg/L		5
MW38	MW38-600N-250E	WD	Interior	2nd Qtr 2002	25-Apr-2002	Chloroform	75	=	µg/L	x	6
MW38	MW38-600N-250E	WD	Interior	2nd Qtr 2002	25-Apr-2002	Tetrachloroethene	11	J	µg/L	x	5
MW38	MW38-600N-250E	WD	Interior	2nd Qtr 2002	25-Apr-2002	Trichloroethene	59	=	µg/L	x	5
MW38	MW38-650S-400E	WD	Interior	2nd Qtr 2002	02-May-2002	1,1-Dichloroethane	1200	=	µg/L		990
MW38	MW38-650S-400E	WD	Interior	2nd Qtr 2002	02-May-2002	1,1-Dichloroethene	190	J	µg/L		7
MW38	MW38-650S-400E	WD	Interior	2nd Qtr 2002	02-May-2002	1,2-Dichloroethane	19000	=	µg/L		1
MW38	MW38-650S-400E	WD	Interior	2nd Qtr 2002	02-May-2002	cis-1,2-Dichloroethene	450	=	µg/L		70
MW38	MW38-650S-400E	WD	Interior	2nd Qtr 2002	02-May-2002	Manganese	24500	=	µg/L	x	1620
MW38	MW38-650S-400E	WD	Interior	2nd Qtr 2002	02-May-2002	Vinyl Chloride	240	J	µg/L		2
MW38	MW38-700S-400E	WD	Interior	2nd Qtr 2002	03-May-2002	1,2-Dichloroethane	21000	=	µg/L		1
MW38	MW38-700S-400E	WD	Interior	2nd Qtr 2002	03-May-2002	cis-1,2-Dichloroethene	210	J	µg/L		70
MW38	MW38-700S-400E	WD	Interior	2nd Qtr 2002	03-May-2002	Manganese	12000	=	µg/L	x	1620
MW38	MW38-700S-400E	WD	Interior	2nd Qtr 2002	03-May-2002	Trichloroethene	190	J	µg/L		5
MW38	MW38-750S-400E	WD	Interior	2nd Qtr 2002	06-May-2002	1,2-Dichloroethane	2200	=	µg/L	x	1
MW38	MW38-750S-400E	WD	Interior	2nd Qtr 2002	06-May-2002	Trichloroethene	57	=	µg/L	x	5
MW38	MW38-758N-277E	WD	Interior	4th Qtr 2001	27-Sep-2001	Chloroform	41	=	µg/L	x	6
MW38	MW38-758N-277E	WD	Interior	3rd Qtr 2002	07-Aug-2002	Chloroform	52	=	µg/L		6
MW38	MW38-758N-277E	WD	Interior	4th Qtr 2001	27-Sep-2001	Trichloroethene	26	=	µg/L	x	5
MW38	MW38-758N-277E	WD	Interior	3rd Qtr 2002	07-Aug-2002	Trichloroethene	39	=	µg/L		5
MW38	MW38-995N-228E	WD	Interior	4th Qtr 2001	25-Oct-2001	Chloroform	66	=	µg/L	x	6
MW38	MW38-995N-228E	WD	Interior	3rd Qtr 2002	29-Jul-2002	Chloroform	60	=	µg/L		6
MW38	MW38-995N-228E	WD	Interior	4th Qtr 2001	25-Oct-2001	Trichloroethene	38	=	µg/L	x	5
MW38	MW38-995N-228E	WD	Interior	3rd Qtr 2002	29-Jul-2002	Trichloroethene	35	=	µg/L		5
MW38	MW38-995N-300E	WD	Interior	3rd Qtr 2002	07-Jun-2002	Chloroform	43	=	µg/L		6
MW38	MW38-995N-300E	WD	Interior	3rd Qtr 2002	07-Jun-2002	Trichloroethene	28	=	µg/L		5
MW38	MW38-995N-475E	WD	Interior	3rd Qtr 2002	07-Jun-2002	Nitrogen, Nitrate	40300	=	µg/L		29100
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	1,1-Dichloroethene	27	J	µg/L	x	7
MW38	MW38-WD	WD	Interior	4th Qtr 1998	20-Nov-1998	1,1-Dichloroethene	27	J	µg/L	x	7
MW38	MW38-WD	WD	Interior	4th Qtr 1999	27-Oct-1999	1,1-Dichloroethene	26	J	µg/L	x	7
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	1,1-Dichloroethene	30	J	µg/L	x	7
MW38	MW38-WD	WD	Interior	2nd Qtr 2000	17-Apr-2000	1,1-Dichloroethene	30	J	µg/L	x	7
MW38	MW38-WD	WD	Interior	2nd Qtr 2001	08-May-2001	1,1-Dichloroethene	35	J	µg/L	x	7
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	1,2-Dichloroethane	4100	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	4th Qtr 1998	20-Nov-1998	1,2-Dichloroethane	3700	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	1st Qtr 1999	15-Jan-1999	1,2-Dichloroethane	3900	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	2nd Qtr 1999	06-Apr-1999	1,2-Dichloroethane	4000	=	µg/L	x	1

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
MW38	MW38-WD	WD	Interior	3rd Qtr 1999	03-Aug-1999	1,2-Dichloroethane	3100	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	4th Qtr 1999	27-Oct-1999	1,2-Dichloroethane	3300	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	1,2-Dichloroethane	3600	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	2nd Qtr 2000	17-Apr-2000	1,2-Dichloroethane	3800	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	2nd Qtr 2001	08-May-2001	1,2-Dichloroethane	4100	=	µg/L	x	1
MW38	MW38-WD	WD	Interior	2nd Qtr 2002	01-May-2002	1,2-Dichloroethane	3600	=	µg/L		1
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	Benzene	10	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	Chloroform	210	=	µg/L	x	6
MW38	MW38-WD	WD	Interior	4th Qtr 1998	20-Nov-1998	Chloroform	180	=	µg/L	x	6
MW38	MW38-WD	WD	Interior	1st Qtr 1999	15-Jan-1999	Chloroform	200	J	µg/L	x	6
MW38	MW38-WD	WD	Interior	2nd Qtr 1999	06-Apr-1999	Chloroform	190	=	µg/L	x	6
MW38	MW38-WD	WD	Interior	3rd Qtr 1999	03-Aug-1999	Chloroform	150	J	µg/L	x	6
MW38	MW38-WD	WD	Interior	4th Qtr 1999	27-Oct-1999	Chloroform	170	=	µg/L	x	6
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	Chloroform	150	=	µg/L	x	6
MW38	MW38-WD	WD	Interior	2nd Qtr 2000	17-Apr-2000	Chloroform	170	=	µg/L	x	6
MW38	MW38-WD	WD	Interior	2nd Qtr 2001	08-May-2001	Chloroform	140	=	µg/L	x	6
MW38	MW38-WD	WD	Interior	2nd Qtr 2002	01-May-2002	Chloroform	86	J	µg/L		6
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	cis-1,2-Dichloroethene	150	=	µg/L	x	70
MW38	MW38-WD	WD	Interior	4th Qtr 1998	20-Nov-1998	cis-1,2-Dichloroethene	120	=	µg/L	x	70
MW38	MW38-WD	WD	Interior	1st Qtr 1999	15-Jan-1999	cis-1,2-Dichloroethene	140	=	µg/L	x	70
MW38	MW38-WD	WD	Interior	2nd Qtr 1999	06-Apr-1999	cis-1,2-Dichloroethene	130	=	µg/L	x	70
MW38	MW38-WD	WD	Interior	3rd Qtr 1999	03-Aug-1999	cis-1,2-Dichloroethene	120	J	µg/L	x	70
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	cis-1,2-Dichloroethene	130	=	µg/L	x	70
MW38	MW38-WD	WD	Interior	2nd Qtr 2000	17-Apr-2000	cis-1,2-Dichloroethene	140	=	µg/L	x	70
MW38	MW38-WD	WD	Interior	2nd Qtr 2001	08-May-2001	cis-1,2-Dichloroethene	160	=	µg/L	x	70
MW38	MW38-WD	WD	Interior	2nd Qtr 2002	01-May-2002	cis-1,2-Dichloroethene	120	J	µg/L		70
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	Iron	3100	=	µg/L	x	2060
MW38	MW38-WD	WD	Interior	4th Qtr 1998	20-Nov-1998	Iron	2300	J	µg/L	x	2060
MW38	MW38-WD	WD	Interior	1st Qtr 1999	15-Jan-1999	Iron	2120	=	µg/L	x	2060
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	Methylene Chloride	20	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	Methylene Chloride	23	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	1st Qtr 1999	15-Jan-1999	Potassium-40	220	=	pCi/L	x	4.3
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	Tetrachloroethene	26	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	4th Qtr 1998	20-Nov-1998	Tetrachloroethene	26	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	2nd Qtr 1999	06-Apr-1999	Tetrachloroethene	28	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	3rd Qtr 1999	03-Aug-1999	Tetrachloroethene	28	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	4th Qtr 1999	27-Oct-1999	Tetrachloroethene	35	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	Tetrachloroethene	29	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	2nd Qtr 2000	17-Apr-2000	Tetrachloroethene	33	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	Trichloroethene	150	=	µg/L	x	5
MW38	MW38-WD	WD	Interior	4th Qtr 1998	20-Nov-1998	Trichloroethene	140	=	µg/L	x	5
MW38	MW38-WD	WD	Interior	1st Qtr 1999	15-Jan-1999	Trichloroethene	150	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	2nd Qtr 1999	06-Apr-1999	Trichloroethene	140	=	µg/L	x	5
MW38	MW38-WD	WD	Interior	3rd Qtr 1999	03-Aug-1999	Trichloroethene	110	J	µg/L	x	5
MW38	MW38-WD	WD	Interior	4th Qtr 1999	27-Oct-1999	Trichloroethene	140	=	µg/L	x	5
MW38	MW38-WD	WD	Interior	1st Qtr 2000	16-Feb-2000	Trichloroethene	130	=	µg/L	x	5
MW38	MW38-WD	WD	Interior	2nd Qtr 2000	17-Apr-2000	Trichloroethene	140	=	µg/L	x	5
MW38	MW38-WD	WD	Interior	2nd Qtr 2001	08-May-2001	Trichloroethene	120	=	µg/L	x	5
MW38	MW38-WD	WD	Interior	2nd Qtr 2002	01-May-2002	Trichloroethene	86	J	µg/L		5
MW38	MW38-WD	WD	Interior	4th Qtr 1998	24-Sep-1998	Uranium-238	9.1	=	pCi/L	x	1.7
MW39	B-216	UNWD	Exterior	3rd Qtr 1982	20-Jul-1982	1,1-Dichloroethene	10	=	µg/L	x	7
MW39	B-216	UNWD	Exterior	2nd Qtr 1982	30-Apr-1982	1,2-Dichloropropane	2	=	µg/L	x	1
MW39	B-216	UNWD	Exterior	3rd Qtr 1982	20-Jul-1982	1,2-Dichloropropane	2	=	µg/L	x	1
MW39	B-216	UNWD	Exterior	2nd Qtr 1981	01-Apr-1981	bis(2-Ethylhexyl)phthalate	28	=	µg/L	x	10
MW39	B-216	UNWD	Exterior	1st Qtr 1982	18-Jan-1982	Cadmium	7	=	µg/L	x	5.48
MW39	B-216	UNWD	Exterior	2nd Qtr 1981	01-Apr-1981	Copper	357	=	µg/L	x	200
MW39	B-216	UNWD	Exterior	1st Qtr 1982	18-Jan-1982	Lead	73	=	µg/L	x	50
MW39	B-216	UNWD	Exterior	4th Qtr 1981	01-Sep-1981	Methylene Chloride	36.3	=	µg/L	x	5
MW39	B-216	UNWD	Exterior	2nd Qtr 1982	30-Apr-1982	Phenol	3850	=	µg/L	x	300
MW39	B-216	UNWD	Exterior	3rd Qtr 1982	20-Jul-1982	Tetrachloroethene	11	=	µg/L	x	5
MW39	B-216	UNWD	Exterior	3rd Qtr 1982	20-Jul-1982	Trichloroethene	7	=	µg/L	x	5
MW39	B-216A	UNWD	Exterior	3rd Qtr 1985	10-Jul-1985	Cadmium	17	=	µg/L	x	5.48
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	1,1,1-Trichloroethane	1300	J	µg/L	x	200
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	1,1,1-Trichloroethane	1400	J	µg/L	x	200
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	1,1,1-Trichloroethane	1700	J	µg/L	x	200
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	1,1,1-Trichloroethane	1800	J	µg/L	x	200
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	1,1,1-Trichloroethane	1300	=	µg/L	x	200
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	1,1,2,2-Tetrachloroethane	66	J	µg/L	x	0.089
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	1,1-Dichloroethane	3700	N	µg/L	x	990
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	1,1-Dichloroethane	3000	J	µg/L	x	990
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	1,1-Dichloroethane	4700	=	µg/L	x	990
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	1,1-Dichloroethane	4000	J	µg/L	x	990
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	1,1-Dichloroethane	3000	=	µg/L	x	990
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	1,1-Dichloroethene	1600	=	µg/L	x	7
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	1,1-Dichloroethene	1200	J	µg/L	x	7
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	1,1-Dichloroethene	2400	J	µg/L	x	7
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	1,1-Dichloroethene	3100	J	µg/L	x	7
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	1,1-Dichloroethene	18	=	µg/L	x	7
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	1,1-Dichloroethene	1200	=	µg/L	x	7
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	1,2-Dichloroethane	8500	=	µg/L	x	1
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	1,2-Dichloroethane	9500	=	µg/L	x	1
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	1,2-Dichloroethane	6400	=	µg/L	x	1
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	1,2-Dichloroethane	10000	J	µg/L	x	1
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	1,2-Dichloroethane	140	=	µg/L	x	1
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	1,2-Dichloroethane	17000	=	µg/L	x	1
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	2,4-Dinitrophenol	500	J	µg/L	x	50
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	2-Butanone (MEK)	3400	=	µg/L	x	780
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	2-Butanone (MEK)	13000	J	µg/L	x	780

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Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	2-Butanone (MEK)	18000	J	µg/L	x	780
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	2-Butanone (MEK)	1800	J	µg/L	x	780
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	4-Methyl-2-pentanone (MIBK)	1300	=	µg/L	x	780
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	4-Methyl-2-pentanone (MIBK)	1900	J	µg/L	x	780
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	4-Methyl-2-pentanone (MIBK)	1000	J	µg/L	x	780
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	4-Methyl-2-pentanone (MIBK)	1200	J	µg/L	x	780
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Acetone	16000	=	µg/L	x	1600
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Acetone	75000	=	µg/L	x	1600
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Acetone	7400	J	µg/L	x	1600
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Acetone	12000	=	µg/L	x	1600
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Benzene	110	=	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Cadmium	31	J	µg/L	x	5.48
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	Cadmium	33	=	µg/L	x	5.48
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Cadmium	25	=	µg/L	x	5.48
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Cadmium	14.2	=	µg/L	x	5.48
MW39	B-704	UNWD	Interior	3rd Qtr 1989	19-Jul-1989	Cadmium	15.8	=	µg/L	x	5.48
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Carbon Tetrachloride	30	J	µg/L	x	1
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Chloride	1430000	=	µg/L	x	1000000
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Chloride	1500000	=	µg/L	x	1000000
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Chloride	1400000	=	µg/L	x	1000000
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Chloroform	670	=	µg/L	x	6
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Chloroform	1100	J	µg/L	x	6
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Iron	118000	J	µg/L	x	2060
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	Iron	108000	=	µg/L	x	2060
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Iron	105000	J	µg/L	x	2060
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Iron	106000	=	µg/L	x	2060
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Iron	111000	J	µg/L	x	2060
MW39	B-704	UNWD	Interior	3rd Qtr 1989	19-Jul-1989	Iron	112000	=	µg/L	x	2060
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Iron	107000	=	µg/L	x	2060
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Manganese	16600	J	µg/L	x	1620
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	Manganese	14100	=	µg/L	x	1620
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Manganese	12100	J	µg/L	x	1620
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Manganese	8960	=	µg/L	x	1620
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Manganese	8780	J	µg/L	x	1620
MW39	B-704	UNWD	Interior	3rd Qtr 1989	19-Jul-1989	Manganese	8490	=	µg/L	x	1620
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Manganese	7590	=	µg/L	x	1620
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Mercury	2.5	=	µg/L	x	2
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Methylene Chloride	9500	=	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	Methylene Chloride	9800	J	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Methylene Chloride	17000	=	µg/L	x	5
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Methylene Chloride	4700	J	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Methylene Chloride	73	=	µg/L	x	5
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Methylene Chloride	570	J	µg/L	x	5
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Phenol	550	=	µg/L	x	300
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Phenol	580	=	µg/L	x	300
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Tetrachloroethene	6200	=	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	Tetrachloroethene	3600	J	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Tetrachloroethene	6900	=	µg/L	x	5
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Tetrachloroethene	2900	J	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Tetrachloroethene	18	=	µg/L	x	5
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Tetrachloroethene	1400	=	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Toluene	2800	=	µg/L	x	1000
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Toluene	3900	=	µg/L	x	1000
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Toluene	2600	J	µg/L	x	1000
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Toluene	3900	=	µg/L	x	1000
MW39	B-704	UNWD	Interior	2nd Qtr 1988	04-Apr-1988	Trichloroethene	2900	=	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	19-Apr-1988	Trichloroethene	1900	J	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1988	03-May-1988	Trichloroethene	3500	=	µg/L	x	5
MW39	B-704	UNWD	Interior	3rd Qtr 1988	30-Aug-1988	Trichloroethene	1500	J	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Trichloroethene	11	=	µg/L	x	5
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Trichloroethene	710	=	µg/L	x	5
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Uranium-238	20	=	pCi/L	x	1.7
MW39	B-704	UNWD	Interior	2nd Qtr 1989	07-Apr-1989	Vinyl Chloride	11	=	µg/L	x	2
MW39	B-704	UNWD	Interior	4th Qtr 1989	27-Sep-1989	Vinyl Chloride	1200	J	µg/L	x	2
MW39	GW-104	UNWD	Interior	1st Qtr 1991	26-Feb-1991	Americium-241	0.26	=	pCi/L	x	0.2
MW39	GW-104	UNWD	Interior	1st Qtr 1991	26-Feb-1991	Uranium-234	3.8	=	pCi/L	x	3
MW39	MW-1	UNWD	Exterior	3rd Qtr 1983	01-Jul-1983	Iron	4200	=	µg/L	x	2060
MW39	MW-1	UNWD	Exterior	2nd Qtr 1991	08-Mar-1991	Iron	9140	=	µg/L	x	2060
MW39	MW35-UD	UNWD	Exterior	4th Qtr 1994	24-Oct-1994	Chromium, Hexavalent	500	J	µg/L	x	83.47
MW39	MW35-WD	WD	Exterior	4th Qtr 1994	18-Oct-1994	Nitrogen, Nitrate plus Nitrite	97000	J	µg/L	x	34000
MW39	MW35-WD	WD	Exterior	3rd Qtr 1996	01-Aug-1996	Thallium	15	=	µg/L	x	10
MW39	MW36-UD	UNWD	Exterior	2nd Qtr 1994	16-May-1994	Sulfate	8500000	=	µg/L	x	2400000
MW39	MW39-WD	WD	Exterior	1st Qtr 1999	19-Jan-1999	Potassium-40	76	=	pCi/L	x	4.3
MW39	MW39-WD	WD	Exterior	4th Qtr 1998	25-Sep-1998	Tetrachloroethene	8.5	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	4th Qtr 1998	24-Nov-1998	Tetrachloroethene	9.6	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	1st Qtr 1999	19-Jan-1999	Tetrachloroethene	13	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	2nd Qtr 1999	06-Apr-1999	Tetrachloroethene	13	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	3rd Qtr 1999	20-Aug-1999	Tetrachloroethene	16	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	4th Qtr 1999	27-Oct-1999	Tetrachloroethene	14	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	1st Qtr 2000	10-Feb-2000	Tetrachloroethene	19	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	2nd Qtr 2000	12-Apr-2000	Tetrachloroethene	15	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	4th Qtr 2000	08-Nov-2000	Tetrachloroethene	19	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	2nd Qtr 2001	04-May-2001	Tetrachloroethene	15	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	4th Qtr 2001	05-Oct-2001	Tetrachloroethene	16	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	4th Qtr 2001	05-Oct-2001	Tetrachloroethene	13	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	4th Qtr 2001	31-Oct-2001	Tetrachloroethene	13	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	4th Qtr 2001	14-Dec-2001	Tetrachloroethene	15	=	µg/L	x	5
MW39	MW39-WD	WD	Exterior	3rd Qtr 2002	11-Jun-2002	Tetrachloroethene	19	=	µg/L		5

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
MW39	MW39-WD	WD	Exterior	2nd Qtr 1999	06-Apr-1999	Thallium	12	=	µg/L	x	10
MW39	MW39-WD	WD	Exterior	4th Qtr 1998	25-Sep-1998	Uranium-235	4.3	=	pCi/L	x	3
MW39	MW39-WD	WD	Exterior	4th Qtr 1998	25-Sep-1998	Uranium-238	20	=	pCi/L	x	1.7
MW39	PM-2I	WD	Interior	4th Qtr 1998	29-Sep-1998	1,2-Dichloropropane	1.1	=	µg/L	x	1
MW39	PM-2I	WD	Interior	4th Qtr 1998	21-Dec-1998	1,2-Dichloropropane	1.3	J	µg/L	x	1
MW39	PM-2I	WD	Interior	2nd Qtr 1999	09-Apr-1999	1,2-Dichloropropane	1.1	=	µg/L	x	1
MW39	PM-2I	WD	Interior	4th Qtr 1998	29-Sep-1998	Tetrachloroethene	11	=	µg/L	x	5
MW39	PM-2I	WD	Interior	4th Qtr 1998	21-Dec-1998	Tetrachloroethene	10	=	µg/L	x	5
MW39	PM-2I	WD	Interior	2nd Qtr 1999	09-Apr-1999	Tetrachloroethene	7.9	=	µg/L	x	5
MW39	PM-2I	WD	Interior	3rd Qtr 2000	28-Jul-2000	Tetrachloroethene	9.8	=	µg/L	x	5
MW39	PM-2I	WD	Interior	3rd Qtr 2002	29-Aug-2002	Tetrachloroethene	9.9	=	µg/L		5
MW43	MW43-WD	WD	Exterior	2nd Qtr 1999	06-Apr-1999	1,2-Dichloroethane	5	J	µg/L	x	1
MW43	MW43-WD	WD	Exterior	3rd Qtr 1999	20-Aug-1999	1,2-Dichloroethane	2.1	=	µg/L	x	1
MW43	MW43-WD	WD	Exterior	4th Qtr 1999	26-Oct-1999	Iron	3060	=	µg/L	x	2060
MW43	MW43-WD	WD	Exterior	1st Qtr 2000	10-Feb-2000	Iron	19700	=	µg/L	x	2060
MW43	MW43-WD	WD	Exterior	2nd Qtr 2000	14-Apr-2000	Iron	14900	=	µg/L	x	2060
MW43	MW43-WD	WD	Exterior	3rd Qtr 2000	25-Jul-2000	Iron	17700	=	µg/L	x	2060
MW43	MW43-WD	WD	Exterior	4th Qtr 2000	08-Nov-2000	Iron	19400	=	µg/L	x	2060
MW43	MW43-WD	WD	Exterior	2nd Qtr 2001	02-May-2001	Iron	12000	=	µg/L	x	2060
MW43	MW43-WD	WD	Exterior	4th Qtr 2001	01-Nov-2001	Iron	6420	=	µg/L	x	2060
MW43	MW43-WD	WD	Exterior	3rd Qtr 2002	11-Jun-2002	Iron	3670	=	µg/L		2060
MW43	MW43-WD	WD	Exterior	4th Qtr 1998	24-Sep-1998	Manganese	8300	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	4th Qtr 1998	24-Nov-1998	Manganese	6970	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	1st Qtr 1999	19-Jan-1999	Manganese	7230	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	2nd Qtr 1999	06-Apr-1999	Manganese	8560	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	4th Qtr 1999	26-Oct-1999	Manganese	6370	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	1st Qtr 2000	10-Feb-2000	Manganese	6050	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	2nd Qtr 2000	14-Apr-2000	Manganese	5490	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	3rd Qtr 2000	25-Jul-2000	Manganese	4890	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	4th Qtr 2000	08-Nov-2000	Manganese	5160	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	2nd Qtr 2001	02-May-2001	Manganese	5180	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	4th Qtr 2001	01-Nov-2001	Manganese	4540	=	µg/L	x	1620
MW43	MW43-WD	WD	Exterior	3rd Qtr 2002	11-Jun-2002	Manganese	4170	=	µg/L		1620
MW43	MW43-WD	WD	Exterior	4th Qtr 1998	24-Sep-1998	Methylene Chloride	7.3	=	µg/L	x	5
MW43	MW43-WD	WD	Exterior	1st Qtr 1999	19-Jan-1999	Methylene Chloride	12	J	µg/L	x	5
MW43	MW43-WD	WD	Exterior	1st Qtr 1999	19-Jan-1999	Potassium-40	12	=	pCi/L	x	4.3
MW43	MW43-WD	WD	Exterior	4th Qtr 1998	24-Sep-1998	Uranium-238	3.8	=	pCi/L	x	1.7
MW51	B-518	UNWD	Exterior	1st Qtr 1986	15-Jan-1986	Methylene Chloride	7	J	µg/L	x	5
MW51	MW50-WD	WD	Exterior	4th Qtr 1998	22-Sep-1998	Lead-210	1.6	=	pCi/L	x	0.072
MW51	MW50-WD	WD	Exterior	1st Qtr 1999	20-Jan-1999	Potassium-40	150	=	pCi/L	x	4.3
MW51	MW50-WD	WD	Exterior	2nd Qtr 1999	08-Apr-1999	Thallium	24.2	J	µg/L	x	10
MW51	MW50-WD	WD	Exterior	4th Qtr 1998	22-Sep-1998	Uranium-238	5.9	=	pCi/L	x	1.7
MW51	MW51-WD	WD	Exterior	4th Qtr 1998	23-Sep-1998	Methylene Chloride	17	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	4th Qtr 1998	23-Sep-1998	Tetrachloroethene	11	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	4th Qtr 1998	24-Nov-1998	Tetrachloroethene	7.6	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	1st Qtr 1999	20-Jan-1999	Tetrachloroethene	7.7	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	2nd Qtr 1999	08-Apr-1999	Tetrachloroethene	9.4	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	3rd Qtr 1999	19-Aug-1999	Tetrachloroethene	7.6	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	4th Qtr 1999	27-Oct-1999	Tetrachloroethene	13	J	µg/L	x	5
MW51	MW51-WD	WD	Exterior	1st Qtr 2000	11-Feb-2000	Tetrachloroethene	13	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	2nd Qtr 2000	14-Apr-2000	Tetrachloroethene	9.3	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	4th Qtr 2000	08-Nov-2000	Tetrachloroethene	9.2	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	2nd Qtr 2001	02-May-2001	Tetrachloroethene	10	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	4th Qtr 2001	08-Oct-2001	Tetrachloroethene	5.1	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	4th Qtr 2001	09-Oct-2001	Tetrachloroethene	17	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	4th Qtr 2001	06-Nov-2001	Tetrachloroethene	10	=	µg/L	x	5
MW51	MW51-WD	WD	Exterior	2nd Qtr 2002	09-May-2002	Tetrachloroethene	6.9	=	µg/L		5
MW51	MW51I-WD	WD	Interior	1st Qtr 2002	08-Jan-2002	Benzene	5.4	=	µg/L	x	5
MW51	MW51I-WD	WD	Interior	2nd Qtr 2002	13-May-2002	Benzene	5.4	J	µg/L		5
MW51	MW51I-WD	WD	Interior	2nd Qtr 2002	29-May-2002	Benzene	6.3	J	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	15-Jun-2002	Benzene	5.7	J	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	02-Jul-2002	Benzene	6	J	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	09-Aug-2002	Benzene	5.3	J	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	20-Aug-2002	Benzene	5.7	=	µg/L		5
MW51	MW51I-WD	WD	Interior	1st Qtr 2002	08-Jan-2002	Methylene chloride	7.5	=	µg/L	x	5
MW51	MW51I-WD	WD	Interior	2nd Qtr 2002	13-May-2002	Methylene Chloride	17	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	15-Jun-2002	Methylene Chloride	15	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	02-Jul-2002	Methylene Chloride	12	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	20-Aug-2002	Methylene Chloride	10	=	µg/L		5
MW51	MW51I-WD	WD	Interior	1st Qtr 2002	08-Jan-2002	Tetrachloroethene	42	=	µg/L	x	5
MW51	MW51I-WD	WD	Interior	2nd Qtr 2002	13-May-2002	Tetrachloroethene	29	=	µg/L		5
MW51	MW51I-WD	WD	Interior	2nd Qtr 2002	29-May-2002	Tetrachloroethene	30	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	15-Jun-2002	Tetrachloroethene	34	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	02-Jul-2002	Tetrachloroethene	36	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	09-Aug-2002	Tetrachloroethene	35	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	20-Aug-2002	Tetrachloroethene	34	=	µg/L		5
MW51	MW51I-WD	WD	Interior	1st Qtr 2002	08-Jan-2002	Trichloroethene	7.2	=	µg/L	x	5
MW51	MW51I-WD	WD	Interior	2nd Qtr 2002	13-May-2002	Trichloroethene	6.3	J	µg/L		5
MW51	MW51I-WD	WD	Interior	2nd Qtr 2002	29-May-2002	Trichloroethene	7.2	J	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	15-Jun-2002	Trichloroethene	7.2	J	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	02-Jul-2002	Trichloroethene	7.5	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	09-Aug-2002	Trichloroethene	7.8	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	20-Aug-2002	Trichloroethene	7.9	=	µg/L		5
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	02-Jul-2002	Vinyl Chloride	3.1	J	µg/L		2
MW51	MW51I-WD	WD	Interior	3rd Qtr 2002	20-Aug-2002	Vinyl Chloride	2.1	J	µg/L		2
MW51	MW51I-WD-10S	WD	Interior	3rd Qtr 2002	17-Jul-2002	Benzene	5.6	J	µg/L		5
MW51	MW51I-WD-10S	WD	Interior	3rd Qtr 2002	17-Jul-2002	Tetrachloroethene	45	=	µg/L		5
MW51	MW51I-WD-10S	WD	Interior	3rd Qtr 2002	17-Jul-2002	Trichloroethene	7.5	=	µg/L		5

See legend and notes on last page

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
MW51	MW51X-WD-100S	WD	Exterior	3rd Qtr 2002	19-Jul-2002	Methylene Chloride	7.9	=	µg/L		5
MW51	MW51X-WD-90S	WD	Exterior	3rd Qtr 2002	29-Jul-2002	Manganese	1750	=	µg/L		1620
MW51	MW51X-WD-90S	WD	Exterior	3rd Qtr 2002	29-Jul-2002	Methylene Chloride	9.6	=	µg/L		5
MW51	MW52-WD	WD	Exterior	4th Qtr 1998	24-Nov-1998	Iron	3760	=	µg/L	x	2060
MW51	MW52-WD	WD	Exterior	1st Qtr 1999	20-Jan-1999	Iron	4680	=	µg/L	x	2060
MW51	MW52-WD	WD	Exterior	4th Qtr 1998	22-Sep-1998	Lead-210	0.9	=	pCi/L	x	0.072
MW51	MW52-WD	WD	Exterior	1st Qtr 1999	20-Jan-1999	Potassium-40	290	=	pCi/L	x	4.3
MW51	MW52-WD	WD	Exterior	4th Qtr 1998	22-Sep-1998	Uranium-238	3.8	=	pCi/L	x	1.7
MW51	MW60-WD	WD	Exterior	2nd Qtr 2000	17-Apr-2000	1,2-Dichloroethane	3.3	=	µg/L	x	1
MW51	MW60-WD	WD	Exterior	2nd Qtr 2002	10-May-2002	Iron	2620	=	µg/L	x	2060
MW51	MW70-WD	WD	Exterior	2nd Qtr 2002	12-Mar-2002	Tetrachloroethene	7.7	=	µg/L	x	5
MW51	MW70-WD	WD	Exterior	3rd Qtr 2002	06-Aug-2002	Tetrachloroethene	8.4	=	µg/L		5
MW51	PM-13I	WD	Interior	4th Qtr 1998	30-Sep-1998	1,2-Dichloroethane	4.5	J	µg/L	x	1
MW51	PM-13I	WD	Interior	2nd Qtr 1999	16-Mar-1999	1,2-Dichloroethane	1.5	J	µg/L	x	1
MW51	PM-13I	WD	Interior	3rd Qtr 2000	25-Jul-2000	1,2-Dichloroethane	1.9	=	µg/L	x	1
MW51	PM-13I	WD	Interior	4th Qtr 1998	30-Sep-1998	Methylene Chloride	160	=	µg/L	x	5
MW51	PM-13I	WD	Interior	2nd Qtr 1999	16-Mar-1999	Methylene Chloride	41	=	µg/L	x	5
MW51	PM-13I	WD	Interior	2nd Qtr 1999	09-Apr-1999	Methylene Chloride	21	=	µg/L	x	5
MW51	PM-13I	WD	Interior	3rd Qtr 2000	25-Jul-2000	Methylene Chloride	26	=	µg/L	x	5
MW51	PM-13I	WD	Interior	2nd Qtr 1999	09-Apr-1999	Tetrachloroethene	12	=	µg/L	x	5
MW51	PM-13I	WD	Interior	3rd Qtr 2000	25-Jul-2000	Tetrachloroethene	6.9	=	µg/L	x	5
MW51	PM-13I	WD	Interior	4th Qtr 1998	30-Sep-1998	Trichloroethene	11	=	µg/L	x	5
MW51	PM-13I	WD	Interior	2nd Qtr 1999	16-Mar-1999	Trichloroethene	8.3	=	µg/L	x	5
MW51	PM-13I	WD	Interior	2nd Qtr 1999	09-Apr-1999	Trichloroethene	17	J	µg/L	x	5
MW51	PM-13I	WD	Interior	3rd Qtr 2000	25-Jul-2000	Trichloroethene	12	=	µg/L	x	5
MW51	U-518	WD	Exterior	1st Qtr 1986	14-Jan-1986	Methylene Chloride	14	J	µg/L	x	5
MW51	U-518	WD	Exterior	3rd Qtr 1990	28-Aug-1990	Uranium-238	1.8	=	pCi/L	x	1.7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1981	01-Apr-1981	1,1,1-Trichloroethane	351	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1981	07-Jul-1981	1,1,1-Trichloroethane	540	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	1,1,1-Trichloroethane	3540	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	1,1,1-Trichloroethane	640	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1982	20-Jul-1982	1,1,1-Trichloroethane	720	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	1,1,1-Trichloroethane	1700	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	1,1,1-Trichloroethane	399	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	1,1,1-Trichloroethane	4800	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	1,1,1-Trichloroethane	340	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1984	18-May-1984	1,1,1-Trichloroethane	1100	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1984	30-Jul-1984	1,1,1-Trichloroethane	420	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	1,1,1-Trichloroethane	630	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	06-Mar-1985	1,1,1-Trichloroethane	670	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	1,1,1-Trichloroethane	1700	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	1,1,1-Trichloroethane	2600	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	1,1,1-Trichloroethane	3000	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	1,1,1-Trichloroethane	920	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	1,1,1-Trichloroethane	1500	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	1,1,1-Trichloroethane	2000	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	1,1,1-Trichloroethane	1600	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	1,1,1-Trichloroethane	2200	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	1,1,1-Trichloroethane	1800	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	1,1,1-Trichloroethane	2000	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	1,1,1-Trichloroethane	1600	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	1,1,1-Trichloroethane	1500	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1988	22-Jul-1988	1,1,1-Trichloroethane	1300	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	1,1,1-Trichloroethane	1400	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	1,1,1-Trichloroethane	640	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	1,1,1-Trichloroethane	740	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	1,1,1-Trichloroethane	840	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	1,1,1-Trichloroethane	770	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	1,1,1-Trichloroethane	940	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	1,1,1-Trichloroethane	490	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	1,1,1-Trichloroethane	560	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	1,1,1-Trichloroethane	580	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	22-May-1991	1,1,1-Trichloroethane	690	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	1,1,1-Trichloroethane	890	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	1,1,1-Trichloroethane	710	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	1,1,1-Trichloroethane	520	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	1,1,1-Trichloroethane	1100	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	1,1,1-Trichloroethane	610	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	1,1,1-Trichloroethane	480	=	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	1,1,2,2-Tetrachloroethane	110	=	µg/L	x	0.089
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	1,1,2-Trichloroethane	6	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1982	20-Jul-1982	1,1,2-Trichloroethane	8	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	1,1,2-Trichloroethane	9	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	1,1,2-Trichloroethane	5	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	1,1,2-Trichloroethane	7	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	1,1,2-Trichloroethane	7	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	1,1,2-Trichloroethane	7	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	1,1,2-Trichloroethane	230	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	1,1,2-Trichloroethane	4	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	1,1,2-Trichloroethane	5	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	1,1,2-Trichloroethane	6	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	1,1,2-Trichloroethane	5	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	1,1,2-Trichloroethane	4	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	1,1,2-Trichloroethane	4	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	1,1,2-Trichloroethane	6	=	µg/L	x	3
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	1,1-Dichloroethane	1400	=	µg/L	x	990
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	1,1-Dichloroethane	1100	=	µg/L	x	990
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1981	07-Jul-1981	1,1-Dichloroethene	64	=	µg/L	x	7

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	1,1-Dichloroethene	1230	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	1,1-Dichloroethene	150	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1982	20-Jul-1982	1,1-Dichloroethene	140	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	1,1-Dichloroethene	420	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	1,1-Dichloroethene	43	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	1,1-Dichloroethene	1000	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	27-Oct-1983	1,1-Dichloroethene	36	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	1,1-Dichloroethene	78	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1984	18-May-1984	1,1-Dichloroethene	190	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1984	30-Jul-1984	1,1-Dichloroethene	60	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	1,1-Dichloroethene	130	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	06-Mar-1985	1,1-Dichloroethene	82	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	1,1-Dichloroethene	120	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	1,1-Dichloroethene	260	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	1,1-Dichloroethene	170	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	1,1-Dichloroethene	180	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	1,1-Dichloroethene	250	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	1,1-Dichloroethene	610	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	1,1-Dichloroethene	340	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	1,1-Dichloroethene	760	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	1,1-Dichloroethene	320	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	1,1-Dichloroethene	350	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	1,1-Dichloroethene	350	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1988	22-Jul-1988	1,1-Dichloroethene	320	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	1,1-Dichloroethene	340	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	1,1-Dichloroethene	24	J	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	1,1-Dichloroethene	64	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	1,1-Dichloroethene	200	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	1,1-Dichloroethene	210	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	1,1-Dichloroethene	190	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	1,1-Dichloroethene	280	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	1,1-Dichloroethene	160	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	22-May-1991	1,1-Dichloroethene	230	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	1,1-Dichloroethene	270	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	1,1-Dichloroethene	210	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	1,1-Dichloroethene	160	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	1,1-Dichloroethene	480	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	1,1-Dichloroethene	240	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	1,1-Dichloroethene	350	=	µg/L	x	7
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1981	07-Jul-1981	1,2-Dichloroethane	3	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	1,2-Dichloroethane	7	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1982	20-Jul-1982	1,2-Dichloroethane	9	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	1,2-Dichloroethane	16	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	1,2-Dichloroethane	93.8	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	27-Oct-1983	1,2-Dichloroethane	18	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	1,2-Dichloroethane	27	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1984	30-Jul-1984	1,2-Dichloroethane	18	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	1,2-Dichloroethane	24	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	06-Mar-1985	1,2-Dichloroethane	22	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	1,2-Dichloroethane	33	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	1,2-Dichloroethane	77	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	1,2-Dichloroethane	65	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	1,2-Dichloroethane	41	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	1,2-Dichloroethane	56	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	1,2-Dichloroethane	65	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	1,2-Dichloroethane	57	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	1,2-Dichloroethane	53	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	1,2-Dichloroethane	47	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	1,2-Dichloroethane	39	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	1,2-Dichloroethane	50	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	1,2-Dichloroethane	45	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1988	22-Jul-1988	1,2-Dichloroethane	32	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	1,2-Dichloroethane	50	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	1,2-Dichloroethane	31	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	1,2-Dichloroethane	32	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	1,2-Dichloroethane	37	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	1,2-Dichloroethane	32	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	1,2-Dichloroethane	35	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	1,2-Dichloroethane	29	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	1,2-Dichloroethane	22	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	1,2-Dichloroethane	24	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	22-May-1991	1,2-Dichloroethane	22	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	1,2-Dichloroethane	26	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	1,2-Dichloroethane	28	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	1,2-Dichloroethane	12	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	1,2-Dichloroethane	34	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	1,2-Dichloroethane	16	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	1,2-Dichloroethane	71	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1981	07-Jul-1981	1,2-Dichloropropane	4	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	1,2-Dichloropropane	10	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1982	20-Jul-1982	1,2-Dichloropropane	12	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	1,2-Dichloropropane	19	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	1,2-Dichloropropane	73	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	1,2-Dichloropropane	8	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1984	30-Jul-1984	1,2-Dichloropropane	12	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	1,2-Dichloropropane	13	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	06-Mar-1985	1,2-Dichloropropane	10	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	1,2-Dichloropropane	13	=	µg/L	x	1

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	1,2-Dichloropropane	21	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	1,2-Dichloropropane	17	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	1,2-Dichloropropane	17	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	1,2-Dichloropropane	10	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	1,2-Dichloropropane	17	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	1,2-Dichloropropane	17	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	1,2-Dichloropropane	21	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	1,2-Dichloropropane	30	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	1,2-Dichloropropane	19	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	1,2-Dichloropropane	19	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	1,2-Dichloropropane	20	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	1,2-Dichloropropane	13	J	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	1,2-Dichloropropane	16	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	1,2-Dichloropropane	17	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	1,2-Dichloropropane	17	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	1,2-Dichloropropane	17	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	1,2-Dichloropropane	15	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	1,2-Dichloropropane	11	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	1,2-Dichloropropane	13	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	1,2-Dichloropropane	19	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	1,2-Dichloropropane	14	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	1,2-Dichloropropane	10	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	1,2-Dichloropropane	26	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	1,2-Dichloropropane	14	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	1,2-Dichloropropane	20	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	1,4-Dioxane	7100	J	µg/L	x	200
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	Alpha, Gross	75	=	pCi/L	x	55.4
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	Aluminum	6350	=	µg/L	x	5000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	Benzene	12.8	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Benzene	36	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Benzene	21	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Benzene	15	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	Benzene	10	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	Benzene	15	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	Benzene	15	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Benzene	12	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	Benzene	15	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	Benzene	11	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Benzene	10	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	Benzene	11	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	Benzene	10	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	Benzene	10	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	Benzene	10	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	Benzene	12	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	Benzene	11	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	Benzene	8	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	Benzene	7	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	Benzene	7	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	Benzene	6	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	Benzene	9	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	Benzene	10	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	Benzene	5.7	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	Cadmium	28	=	µg/L	x	5.48
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Cadmium	24	=	µg/L	x	5.48
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	Cadmium	20	=	µg/L	x	5.48
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	Cadmium	37	=	µg/L	x	5.48
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Cadmium	10	=	µg/L	x	5.48
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Carbon Tetrachloride	310	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	Carbon Tetrachloride	300	=	µg/L	x	1
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	Chloride	1004000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1983	30-Jun-1983	Chloride	2900000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Chloride	1040000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	27-Oct-1983	Chloride	1300000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	Chloride	1060000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	Chloride	1100000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	Chloride	1490000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	Chloride	1460000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Chloride	1400000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1988	22-Jul-1988	Chloride	1500000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	Chloride	1600000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	Chloride	1100000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	Chloride	1290000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	Chloride	1380000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	Chloride	1410000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	Chloride	1050000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	Chloride	1280000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	Chloride	1250000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	22-May-1991	Chloride	1200000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	Chloride	1350000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	Chloride	1260000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	Chloride	1400000	=	µg/L	x	1000000

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	Chloride	1720000	=	µg/L	x	1000000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	Chloroform	7	=	µg/L	x	6
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	Chloroform	15	=	µg/L	x	6
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Chloroform	7	=	µg/L	x	6
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	Chloroform	7	=	µg/L	x	6
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	Chloroform	10	J	µg/L	x	6
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	cis-1,2-Dichloroethene	640	=	µg/L	x	70
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	cis-1,2-Dichloroethene	640	=	µg/L	x	70
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	cis-1,2-Dichloroethene	4700	=	µg/L	x	70
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1983	01-Jul-1983	Iron	2600	=	µg/L	x	2060
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Iron	5800	=	µg/L	x	2060
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	Manganese	13330	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1983	30-Jun-1983	Manganese	12000	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1983	01-Jul-1983	Manganese	14000	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Manganese	12000	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	27-Oct-1983	Manganese	7500	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	Manganese	6600	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1984	18-May-1984	Manganese	6400	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1984	30-Jul-1984	Manganese	4500	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	Manganese	1800	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	Manganese	5800	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Manganese	6150	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Manganese	6900	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	Manganese	6000	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	Manganese	6600	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	Manganese	7700	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	Manganese	6100	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Manganese	5700	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	Manganese	7770	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	Manganese	7000	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Manganese	7400	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	Manganese	6230	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	Manganese	5490	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	Manganese	6290	=	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	Manganese	1840	J	µg/L	x	1620
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	Methylene Chloride	14.4	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	Methylene Chloride	17	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	Methylene Chloride	107	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1983	01-Jul-1983	Methylene Chloride	37	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Methylene Chloride	110	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Methylene Chloride	27	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	Methylene Chloride	10	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	Nickel	160	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1983	01-Jul-1983	Nickel	170	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	Nickel	103	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Nickel	120	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	Nitrogen, Nitrite	2000	=	µg/L	x	1000
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	Phenol	437	=	µg/L	x	300
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1983	30-Jun-1983	Phenol	3200	=	µg/L	x	300
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Phenol	920	=	µg/L	x	300
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1981	01-Apr-1981	Tetrachloroethene	30	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1981	07-Jul-1981	Tetrachloroethene	63	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	Tetrachloroethene	110	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	Tetrachloroethene	95	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1982	20-Jul-1982	Tetrachloroethene	69	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	Tetrachloroethene	80	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	Tetrachloroethene	43.3	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Tetrachloroethene	870	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	27-Oct-1983	Tetrachloroethene	12	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	Tetrachloroethene	36	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1984	18-May-1984	Tetrachloroethene	100	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1984	30-Jul-1984	Tetrachloroethene	48	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	Tetrachloroethene	87	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	06-Mar-1985	Tetrachloroethene	76	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	Tetrachloroethene	90	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Tetrachloroethene	130	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Tetrachloroethene	110	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	Tetrachloroethene	170	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	Tetrachloroethene	210	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Tetrachloroethene	320	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	Tetrachloroethene	420	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	Tetrachloroethene	220	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Tetrachloroethene	170	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1988	22-Jul-1988	Tetrachloroethene	180	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	Tetrachloroethene	210	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	Tetrachloroethene	210	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	Tetrachloroethene	142	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	Tetrachloroethene	140	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	Tetrachloroethene	117	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	Tetrachloroethene	120	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	Tetrachloroethene	94	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	Tetrachloroethene	71	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	Tetrachloroethene	81	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	22-May-1991	Tetrachloroethene	62	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	Tetrachloroethene	57	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	Tetrachloroethene	60	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	Tetrachloroethene	34	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	Tetrachloroethene	110	=	µg/L	x	5

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	Tetrachloroethene	45	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	Tetrachloroethene	46	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Thallium	50	J	µg/L	x	10
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	Trans-1,2-Dichloroethene	123	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Trans-1,2-Dichloroethene	660	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	Trans-1,2-Dichloroethene	180	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Trans-1,2-Dichloroethene	410	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Trans-1,2-Dichloroethene	390	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	Trans-1,2-Dichloroethene	200	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	Trans-1,2-Dichloroethene	300	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	Trans-1,2-Dichloroethene	540	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	Trans-1,2-Dichloroethene	520	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Trans-1,2-Dichloroethene	280	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	Trans-1,2-Dichloroethene	260	=	µg/L	x	100
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1981	07-Jul-1981	Trichloroethene	9	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1981	01-Sep-1981	Trichloroethene	38.5	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1982	30-Apr-1982	Trichloroethene	21	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1982	20-Jul-1982	Trichloroethene	19	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1983	01-Jan-1983	Trichloroethene	23	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1983	01-Apr-1983	Trichloroethene	26.2	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	30-Sep-1983	Trichloroethene	370	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1983	27-Oct-1983	Trichloroethene	24	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1984	31-Jan-1984	Trichloroethene	38	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1984	30-Jul-1984	Trichloroethene	22	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1984	09-Nov-1984	Trichloroethene	51	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	06-Mar-1985	Trichloroethene	42	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	Trichloroethene	80	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Trichloroethene	200	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Trichloroethene	210	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1986	07-Feb-1986	Trichloroethene	110	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1986	16-May-1986	Trichloroethene	1500	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	Trichloroethene	160	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	Trichloroethene	220	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	Trichloroethene	160	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Trichloroethene	170	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1988	08-Apr-1988	Trichloroethene	170	J	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1988	22-Jul-1988	Trichloroethene	140	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	Trichloroethene	150	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1989	24-Feb-1989	Trichloroethene	100	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	Trichloroethene	100	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	Trichloroethene	110	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	Trichloroethene	94	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	Trichloroethene	90	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	Trichloroethene	66	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	Trichloroethene	58	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	22-May-1991	Trichloroethene	10	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	Trichloroethene	44	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	Trichloroethene	44	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	Trichloroethene	23	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	Trichloroethene	63	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	Trichloroethene	28	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	Trichloroethene	46	=	µg/L	x	5
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1985	09-May-1985	Vinyl Chloride	14	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1985	07-Aug-1985	Vinyl Chloride	20	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1985	21-Nov-1985	Vinyl Chloride	33	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	01-Oct-1986	Vinyl Chloride	33	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1986	11-Dec-1986	Vinyl Chloride	33	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1987	29-Jul-1987	Vinyl Chloride	18	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	21-Oct-1987	Vinyl Chloride	38	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1987	11-Dec-1987	Vinyl Chloride	51	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 1988	17-Feb-1988	Vinyl Chloride	36	J	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1988	22-Jul-1988	Vinyl Chloride	40	J	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1988	10-Nov-1988	Vinyl Chloride	30	J	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1989	28-Apr-1989	Vinyl Chloride	32	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1989	22-Aug-1989	Vinyl Chloride	20	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1989	20-Oct-1989	Vinyl Chloride	47	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1990	23-Mar-1990	Vinyl Chloride	54	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1990	21-Jun-1990	Vinyl Chloride	67	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1990	17-Oct-1990	Vinyl Chloride	42	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	01-Mar-1991	Vinyl Chloride	39	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1991	22-May-1991	Vinyl Chloride	68	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	17-Oct-1991	Vinyl Chloride	98	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1991	11-Dec-1991	Vinyl Chloride	77	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	2nd Qtr 1992	18-Mar-1992	Vinyl Chloride	38	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	3rd Qtr 1992	09-Jun-1992	Vinyl Chloride	150	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	4th Qtr 1992	09-Sep-1992	Vinyl Chloride	68	=	µg/L	x	2
NBBW	A-115	ALLUVIUM/WD	Interior	1st Qtr 2002	28-Jan-2002	Vinyl Chloride	30	=	µg/L	x	2
NBBW	B-304	WD	Exterior	2nd Qtr 1985	06-Mar-1985	Cadmium	6	=	µg/L	x	5.48
NBBW	B-304	WD	Exterior	2nd Qtr 1985	09-May-1985	Cadmium	8	=	µg/L	x	5.48
NBBW	B-304	WD	Exterior	4th Qtr 1985	21-Nov-1985	Cadmium	8	=	µg/L	x	5.48
NBBW	B-304	WD	Exterior	4th Qtr 1986	02-Oct-1986	Cadmium	8	=	µg/L	x	5.48
NBBW	B-304	WD	Exterior	2nd Qtr 1988	08-Apr-1988	Chloride	1500000	=	µg/L	x	1000000
NBBW	B-304	WD	Exterior	4th Qtr 1986	10-Dec-1986	Methylene Chloride	14	=	µg/L	x	5
NBBW	B-305	UNWD	Exterior	2nd Qtr 1985	06-Mar-1985	Cadmium	7	=	µg/L	x	5.48
NBBW	B-305	UNWD	Exterior	4th Qtr 1985	21-Nov-1985	Cadmium	6	=	µg/L	x	5.48
NBBW	B-305	UNWD	Exterior	1st Qtr 1986	07-Feb-1986	Cadmium	6	=	µg/L	x	5.48
NBBW	B-305	UNWD	Exterior	1st Qtr 1988	18-Feb-1988	Cyanide	20000	=	µg/L	x	200
NBBW	B-305	UNWD	Exterior	4th Qtr 1987	10-Dec-1987	Mercury	300	=	µg/L	x	2

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	B-305	UNWD	Exterior	1st Qtr 1986	07-Feb-1986	Methylene Chloride	10	J	µg/L	x	5
NBBW	B-305	UNWD	Exterior	2nd Qtr 1986	16-May-1986	Methylene Chloride	640	=	µg/L	x	5
NBBW	B-306	UNWD	Exterior	4th Qtr 1985	21-Nov-1985	Cadmium	13	=	µg/L	x	5.48
NBBW	B-306	UNWD	Exterior	4th Qtr 1987	10-Dec-1987	Cadmium	130	=	µg/L	x	5.48
NBBW	B-306	UNWD	Exterior	4th Qtr 1987	10-Dec-1987	Mercury	30	=	µg/L	x	2
NBBW	B-306	UNWD	Exterior	4th Qtr 1998	10-Sep-1998	Thallium	12	=	µg/L	x	10
NBBW	B-307	WD	Exterior	1st Qtr 1986	06-Feb-1986	1,1-Dichloroethene	18	=	µg/L	x	7
NBBW	B-307	WD	Exterior	2nd Qtr 1986	16-May-1986	1,1-Dichloroethene	16	=	µg/L	x	7
NBBW	B-307	WD	Exterior	4th Qtr 1986	01-Oct-1986	1,1-Dichloroethene	21	=	µg/L	x	7
NBBW	B-307	WD	Exterior	2nd Qtr 1983	06-May-1983	1,2-Dichloroethane	15	=	µg/L	x	1
NBBW	B-307	WD	Exterior	2nd Qtr 1986	16-May-1986	1,2-Dichloropropane	2.1	J	µg/L	x	1
NBBW	B-307	WD	Exterior	4th Qtr 1986	01-Oct-1986	Cadmium	11	=	µg/L	x	5.48
NBBW	B-307	WD	Exterior	2nd Qtr 1983	06-May-1983	Chloride	2300000	=	µg/L	x	1000000
NBBW	B-307	WD	Exterior	4th Qtr 1987	11-Dec-1987	Methylene Chloride	24	=	µg/L	x	5
NBBW	B-307	WD	Exterior	4th Qtr 1992	09-Sep-1992	Nitrogen, Nitrite	1010	=	µg/L	x	1000
NBBW	B-307	WD	Exterior	1st Qtr 1986	06-Feb-1986	Tetrachloroethene	9	=	µg/L	x	5
NBBW	B-307	WD	Exterior	2nd Qtr 1986	16-May-1986	Tetrachloroethene	9.4	=	µg/L	x	5
NBBW	B-307	WD	Exterior	2nd Qtr 1986	16-May-1986	Trichloroethene	5.1	=	µg/L	x	5
NBBW	B-307	WD	Exterior	4th Qtr 1987	21-Oct-1987	Trichloroethene	9	=	µg/L	x	5
NBBW	B-309	WD	Exterior	3rd Qtr 2001	21-Jun-2001	1,1-Dichloroethene	8.5	=	µg/L	x	7
NBBW	B-309	WD	Exterior	4th Qtr 2001	14-Nov-2001	1,1-Dichloroethene	11	J	µg/L	x	7
NBBW	B-309	WD	Exterior	1st Qtr 2002	24-Jan-2002	1,1-Dichloroethene	10	J	µg/L	x	7
NBBW	B-309	WD	Exterior	4th Qtr 2001	14-Nov-2001	1,2-Dichloropropane	1.2	=	µg/L	x	1
NBBW	B-309	WD	Exterior	1st Qtr 2002	24-Jan-2002	1,2-Dichloropropane	1.4	=	µg/L	x	1
NBBW	B-309	WD	Exterior	4th Qtr 2001	14-Nov-2001	1,4-Dioxane	230	=	µg/L	x	200
NBBW	B-309	WD	Exterior	1st Qtr 2002	24-Jan-2002	1,4-Dioxane	240	J	µg/L	x	200
NBBW	B-310	WD	Exterior	3rd Qtr 2001	22-Jun-2001	1,1-Dichloroethene	7.2	=	µg/L	x	7
NBBW	B-310	WD	Exterior	4th Qtr 2001	14-Nov-2001	Nitrogen, Nitrite	1700	=	µg/L	x	1000
NBBW	B-312	WD	Exterior	2nd Qtr 2002	08-Apr-2002	1,4-Dioxane	760	J	µg/L	x	200
NBBW	B-313	WD	Exterior	2nd Qtr 2002	15-May-2002	1,4-Dioxane	420	=	µg/L		200
NBBW	B-313	WD	Exterior	2nd Qtr 2002	15-May-2002	Bromodichloromethane	1.7	=	µg/L		1
NBBW	B-316	WD	Interior	2nd Qtr 2002	14-May-2002	1,1,1-Trichloroethane	3000	=	µg/L		200
NBBW	B-316	WD	Interior	2nd Qtr 2002	14-May-2002	1,1-Dichloroethane	1800	=	µg/L		990
NBBW	B-316	WD	Interior	2nd Qtr 2002	14-May-2002	1,1-Dichloroethene	1000	=	µg/L		7
NBBW	B-316	WD	Interior	2nd Qtr 2002	14-May-2002	cis-1,2-Dichloroethene	5300	=	µg/L		70
NBBW	B-316	WD	Interior	2nd Qtr 2002	14-May-2002	Nitrogen, Nitrate	113000	=	µg/L	x	29100
NBBW	B-316	WD	Interior	2nd Qtr 2002	14-May-2002	Tetrachloroethene	170	J	µg/L		5
NBBW	B-317	WD	Interior	3rd Qtr 2002	28-Jun-2002	1,1-Dichloroethene	11	=	µg/L		7
NBBW	B-317	WD	Interior	3rd Qtr 2002	28-Jun-2002	1,2-Dichloroethane	1.7	=	µg/L		1
NBBW	B-317	WD	Interior	3rd Qtr 2002	28-Jun-2002	1,2-Dichloropropane	1.1	=	µg/L		1
NBBW	B-317	WD	Interior	3rd Qtr 2002	28-Jun-2002	1,4-Dioxane	650	=	µg/L		200
NBBW	B-319	WD	Exterior	3rd Qtr 2002	30-Jun-2002	Manganese	1670	=	µg/L		1620
NBBW	B-319	WD	Exterior	3rd Qtr 2002	30-Jun-2002	Nitrogen, Nitrate	101000	=	µg/L		29100
NBBW	B-321	WD	Exterior	3rd Qtr 2002	30-Jun-2002	Bromodichloromethane	11	=	µg/L		1
NBBW	B-321	WD	Exterior	3rd Qtr 2002	30-Jun-2002	Chloroform	16	=	µg/L		6
NBBW	B-507R	WD	Exterior	1st Qtr 1986	17-Jan-1986	1,1-Dichloroethene	8	=	µg/L	x	7
NBBW	B-507R	WD	Exterior	2nd Qtr 1986	20-Mar-1986	1,2-Dichloroethane	4.1	J	µg/L	x	1
NBBW	B-507R	WD	Exterior	3rd Qtr 1985	27-Jun-1985	Barium	2250	=	µg/L	x	1000
NBBW	B-507R	WD	Exterior	2nd Qtr 1986	22-Apr-1986	Iron	3910	J	µg/L	x	2060
NBBW	B-507R	WD	Exterior	2nd Qtr 1986	24-Apr-1986	Iron	2100	=	µg/L	x	2060
NBBW	B-507R	WD	Exterior	1st Qtr 1986	17-Jan-1986	Methylene Chloride	23	J	µg/L	x	5
NBBW	B-507R	WD	Exterior	2nd Qtr 1986	20-Mar-1986	Methylene Chloride	12	=	µg/L	x	5
NBBW	B-507R	WD	Exterior	1st Qtr 1986	17-Jan-1986	Nitrobenzene	20	J	µg/L	x	10
NBBW	B-507R	WD	Exterior	1st Qtr 1986	17-Jan-1986	Tetrachloroethene	34	=	µg/L	x	5
NBBW	B-507R	WD	Exterior	2nd Qtr 1986	20-Mar-1986	Tetrachloroethene	15	=	µg/L	x	5
NBBW	B-507R	WD	Exterior	2nd Qtr 1986	22-Apr-1986	Tetrachloroethene	7	=	µg/L	x	5
NBBW	B-507R	WD	Exterior	2nd Qtr 1986	24-Apr-1986	Tetrachloroethene	6.5	=	µg/L	x	5
NBBW	BW-PZ-1	WD	Interior	3rd Qtr 2002	01-Jul-2002	Chloroform	21	=	µg/L		6
NBBW	BW-PZ-1	WD	Interior	3rd Qtr 2002	01-Jul-2002	Trichloroethene	12	=	µg/L		5
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	1,1,1-Trichloroethane	1453	=	µg/L	x	200
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	1,1,1-Trichloroethane	1060	J	µg/L	x	200
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	1,1,1-Trichloroethane	290	=	µg/L	x	200
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	1,1,2-Trichloroethane	9	J	µg/L	x	3
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	1,1-Dichloroethene	490	=	µg/L	x	7
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	1,1-Dichloroethene	581	J	µg/L	x	7
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	1,1-Dichloroethene	220	=	µg/L	x	7
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	1,2-Dichloroethane	17	J	µg/L	x	1
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	1,2-Dichloroethane	7.6	=	µg/L	x	1
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	1,2-Dichloropropane	11	J	µg/L	x	1
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	1,2-Dichloropropane	4.7	=	µg/L	x	1
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	1,4-Dioxane	990	J	µg/L	x	200
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	Chloride	1400000	=	µg/L	x	1000000
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Chloride	1550000	=	µg/L	x	1000000
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Chloroform	11	J	µg/L	x	6
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	cis-1,2-Dichloroethene	160	=	µg/L	x	70
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	Iron	5791.127	J	µg/L	x	2060
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Iron	4600	J	µg/L	x	2060
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	Nitrogen, Nitrate plus Nitrite	215000	=	µg/L	x	34000
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Nitrogen, Nitrate plus Nitrite	199000	=	µg/L	x	34000
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Potassium-40	55.3	=	pCi/L	x	4.3
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	Tetrachloroethene	294	=	µg/L	x	5
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Tetrachloroethene	309	J	µg/L	x	5
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	Tetrachloroethene	99	=	µg/L	x	5
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Thorium-228	15.7	NJ	pCi/L	x	0.87
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	Trichloroethene	99	=	µg/L	x	5
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Trichloroethene	114	J	µg/L	x	5
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 2002	01-Feb-2002	Trichloroethene	32	=	µg/L	x	5
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	Uranium-234	12	=	pCi/L	x	3

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Uranium-234	12	=	pCi/L	x	3
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	08-Jan-1991	Uranium-238	8.4	=	pCi/L	x	1.7
NBBW	GW-107A	UNWD/WD	Interior	1st Qtr 1991	20-Feb-1991	Uranium-238	9	=	pCi/L	x	1.7
NBBW	GW-107UD	UNWD	Interior	3rd Qtr 1996	13-Jun-1996	1,1-Dichloroethene	52	=	µg/L	x	7
NBBW	GW-107UD	UNWD	Interior	1st Qtr 2002	05-Feb-2002	1,1-Dichloroethene	15	=	µg/L	x	7
NBBW	GW-107UD	UNWD	Interior	3rd Qtr 1996	13-Jun-1996	1,2-Dichloroethane	5	=	µg/L	x	1
NBBW	GW-107UD	UNWD	Interior	1st Qtr 2002	05-Feb-2002	1,2-Dichloroethane	1.4	=	µg/L	x	1
NBBW	GW-107UD	UNWD	Interior	3rd Qtr 1996	13-Jun-1996	1,2-Dichloropropane	2	J	µg/L	x	1
NBBW	GW-107UD	UNWD	Interior	3rd Qtr 1996	13-Jun-1996	cis-1,2-Dichloroethene	170	=	µg/L	x	70
NBBW	GW-107UD	UNWD	Interior	3rd Qtr 1996	13-Jun-1996	Tetrachloroethene	21	=	µg/L	x	5
NBBW	GW-107UD	UNWD	Interior	1st Qtr 2002	05-Feb-2002	Tetrachloroethene	8.4	=	µg/L	x	5
NBBW	GW-107UD	UNWD	Interior	3rd Qtr 1996	13-Jun-1996	Trichloroethene	10	=	µg/L	x	5
NBBW	GW-108A	UNWD/U. DEN.	Exterior	1st Qtr 1991	10-Jan-1991	1,2-Dichloroethane	8	=	µg/L	x	1
NBBW	GW-109	WD	Exterior	2nd Qtr 2001	12-Mar-2001	1,4-Dioxane	370	=	µg/L	x	200
NBBW	GW-109	WD	Exterior	1st Qtr 2002	28-Jan-2002	1,4-Dioxane	250	J	µg/L	x	200
NBBW	GW-109	WD	Exterior	1st Qtr 1991	20-Feb-1991	Arsenic	55.2	J	µg/L	x	52.18
NBBW	GW-109	WD	Exterior	1st Qtr 2002	28-Jan-2002	Bromodichloromethane	1.9	=	µg/L	x	1
NBBW	GW-109	WD	Exterior	1st Qtr 1991	20-Feb-1991	Chloride	1030000	=	µg/L	x	1000000
NBBW	GW-109	WD	Exterior	1st Qtr 2002	28-Jan-2002	Chloroform	7	=	µg/L	x	6
NBBW	GW-109	WD	Exterior	1st Qtr 1991	08-Jan-1991	Iron	3798.761	=	µg/L	x	2060
NBBW	GW-109	WD	Exterior	1st Qtr 1991	20-Feb-1991	Iron	5330	=	µg/L	x	2060
NBBW	GW-109	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Nitrogen, Nitrate	43600	=	µg/L	x	29100
NBBW	GW-109	WD	Exterior	1st Qtr 1991	08-Jan-1991	Nitrogen, Nitrate plus Nitrite	57000	=	µg/L	x	34000
NBBW	GW-109	WD	Exterior	1st Qtr 1991	20-Feb-1991	Nitrogen, Nitrate plus Nitrite	53500	=	µg/L	x	34000
NBBW	GW-109	WD	Exterior	2nd Qtr 2001	12-Mar-2001	Nitrogen, Nitrite	2400	J	µg/L	x	1000
NBBW	GW-109	WD	Exterior	1st Qtr 1991	20-Feb-1991	Selenium	414	=	µg/L	x	371.98
NBBW	GW-109	WD	Exterior	1st Qtr 1991	08-Jan-1991	Uranium-234	17	=	pCi/L	x	3
NBBW	GW-109	WD	Exterior	1st Qtr 1991	20-Feb-1991	Uranium-234	21	=	pCi/L	x	3
NBBW	GW-109	WD	Exterior	1st Qtr 1991	08-Jan-1991	Uranium-238	13	=	pCi/L	x	1.7
NBBW	GW-109	WD	Exterior	1st Qtr 1991	20-Feb-1991	Uranium-238	17	=	pCi/L	x	1.7
NBBW	GW-114A	WD	Exterior	1st Qtr 1993	13-Jan-1993	bis(2-Ethylhexyl)phthalate	28	=	µg/L	x	10
NBBW	GW-114A	WD	Exterior	1st Qtr 1991	09-Jan-1991	Bromodichloromethane	3	=	µg/L	x	1
NBBW	GW-114A	WD	Exterior	1st Qtr 1991	09-Jan-1991	Bromoform	17	J	µg/L	x	4
NBBW	GW-114A	WD	Exterior	1st Qtr 1991	09-Jan-1991	Chloroform	21	=	µg/L	x	6
NBBW	GW-114A	WD	Exterior	2nd Qtr 1991	01-Mar-1991	Chloroform	8	=	µg/L	x	6
NBBW	GW-114A	WD	Exterior	4th Qtr 1992	23-Oct-1992	Iron	7800	=	µg/L	x	2060
NBBW	GW-114A	WD	Exterior	4th Qtr 1998	03-Sep-1998	Methylene Chloride	17	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	1st Qtr 1999	13-Jan-1999	Methylene Chloride	36	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	3rd Qtr 1999	26-Jul-1999	Methylene Chloride	14	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	1st Qtr 2000	16-Feb-2000	Methylene Chloride	20	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	1st Qtr 2001	09-Feb-2001	Methylene chloride	8.5	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	3rd Qtr 2001	17-Jul-2001	Methylene chloride	18	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	1st Qtr 2002	22-Jan-2002	Methylene Chloride	22	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	1st Qtr 1991	09-Jan-1991	Nitrogen, Nitrate plus Nitrite	48400	=	µg/L	x	34000
NBBW	GW-114A	WD	Exterior	1st Qtr 1999	13-Jan-1999	Thallium	14.5	J	µg/L	x	10
NBBW	GW-114A	WD	Exterior	1st Qtr 1991	09-Jan-1991	Trichloroethene	9	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	2nd Qtr 1993	12-Apr-1993	Trichloroethene	5.2	=	µg/L	x	5
NBBW	GW-114A	WD	Exterior	1st Qtr 1999	13-Jan-1999	Trichloroethene	6.3	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 1995	14-Jul-1995	1,1,2,2-Tetrachloroethane	7.6	=	µg/L	x	0.089
NBBW	MW-1000	WD	Exterior	4th Qtr 1995	31-Oct-1995	1,1,2,2-Tetrachloroethane	16	=	µg/L	x	0.089
NBBW	MW-1000	WD	Exterior	3rd Qtr 1995	14-Jul-1995	1,1,2-Trichloroethane	3.6	=	µg/L	x	3
NBBW	MW-1000	WD	Exterior	4th Qtr 1995	31-Oct-1995	1,1,2-Trichloroethane	8.6	=	µg/L	x	3
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	1,1-Dichloroethene	18	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	4th Qtr 1993	20-Oct-1993	1,1-Dichloroethene	48	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	1st Qtr 1994	05-Jan-1994	1,1-Dichloroethene	34	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	2nd Qtr 1994	08-Apr-1994	1,1-Dichloroethene	11	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	3rd Qtr 1994	25-Jul-1994	1,1-Dichloroethene	27	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	4th Qtr 1994	14-Oct-1994	1,1-Dichloroethene	33	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	1st Qtr 1995	20-Jan-1995	1,1-Dichloroethene	26	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	2nd Qtr 1995	28-Apr-1995	1,1-Dichloroethene	26	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	3rd Qtr 1995	14-Jul-1995	1,1-Dichloroethene	10	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	4th Qtr 1995	31-Oct-1995	1,1-Dichloroethene	19	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	2nd Qtr 1996	20-Mar-1996	1,1-Dichloroethene	29	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	3rd Qtr 1996	19-Jul-1996	1,1-Dichloroethene	20	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	1st Qtr 1997	22-Jan-1997	1,1-Dichloroethene	22	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	3rd Qtr 1997	11-Jul-1997	1,1-Dichloroethene	12	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	3rd Qtr 1998	31-Aug-1998	1,1-Dichloroethene	7.4	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	1st Qtr 2001	09-Feb-2001	1,1-Dichloroethene	13	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	3rd Qtr 2001	06-Jul-2001	1,1-Dichloroethene	10	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	1st Qtr 2002	23-Jan-2002	1,1-Dichloroethene	10	=	µg/L	x	7
NBBW	MW-1000	WD	Exterior	1st Qtr 1993	20-Jan-1993	1,2-Dichloroethane	1.7	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	2nd Qtr 1993	12-Apr-1993	1,2-Dichloroethane	2.4	J	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1993	16-Jul-1993	1,2-Dichloroethane	2.6	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	4th Qtr 1993	20-Oct-1993	1,2-Dichloroethane	6	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1994	05-Jan-1994	1,2-Dichloroethane	4.1	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	2nd Qtr 1994	08-Apr-1994	1,2-Dichloroethane	2.6	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1994	25-Jul-1994	1,2-Dichloroethane	3.4	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	4th Qtr 1994	14-Oct-1994	1,2-Dichloroethane	2.2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1995	20-Jan-1995	1,2-Dichloroethane	2.6	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1995	14-Jul-1995	1,2-Dichloroethane	1.9	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	4th Qtr 1995	31-Oct-1995	1,2-Dichloroethane	2.1	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	2nd Qtr 1996	20-Mar-1996	1,2-Dichloroethane	2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1996	19-Jul-1996	1,2-Dichloroethane	2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1997	22-Jan-1997	1,2-Dichloroethane	2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 2001	06-Jul-2001	1,2-Dichloroethane	1.2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 2002	23-Jan-2002	1,2-Dichloroethane	1.2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	2nd Qtr 1993	12-Apr-1993	1,2-Dichloropropane	3.9	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1993	16-Jul-1993	1,2-Dichloropropane	3.2	=	µg/L	x	1

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Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	MW-1000	WD	Exterior	4th Qtr 1993	20-Oct-1993	1,2-Dichloropropane	8	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1994	05-Jan-1994	1,2-Dichloropropane	6.1	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	2nd Qtr 1994	08-Apr-1994	1,2-Dichloropropane	3.4	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1994	25-Jul-1994	1,2-Dichloropropane	5.3	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	4th Qtr 1994	14-Oct-1994	1,2-Dichloropropane	4.8	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1995	20-Jan-1995	1,2-Dichloropropane	4.6	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	2nd Qtr 1995	28-Apr-1995	1,2-Dichloropropane	4	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1995	14-Jul-1995	1,2-Dichloropropane	2.4	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	4th Qtr 1995	31-Oct-1995	1,2-Dichloropropane	3	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	2nd Qtr 1996	20-Mar-1996	1,2-Dichloropropane	4	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1996	19-Jul-1996	1,2-Dichloropropane	3	J	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1997	22-Jan-1997	1,2-Dichloropropane	3	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1997	11-Jul-1997	1,2-Dichloropropane	2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1998	07-Jan-1998	1,2-Dichloropropane	2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1998	31-Aug-1998	1,2-Dichloropropane	1.1	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,2-Dichloropropane	1.1	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1999	26-Jul-1999	1,2-Dichloropropane	1.5	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,2-Dichloropropane	1.2	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 2001	09-Feb-2001	1,2-Dichloropropane	1.5	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 2001	06-Jul-2001	1,2-Dichloropropane	1.4	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	1st Qtr 2002	23-Jan-2002	1,2-Dichloropropane	1.8	=	µg/L	x	1
NBBW	MW-1000	WD	Exterior	3rd Qtr 1998	31-Aug-1998	1,4-Dioxane	240	=	µg/L	x	200
NBBW	MW-1000	WD	Exterior	3rd Qtr 1999	26-Jul-1999	1,4-Dioxane	250	J	µg/L	x	200
NBBW	MW-1000	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,4-Dioxane	230	J	µg/L	x	200
NBBW	MW-1000	WD	Exterior	1st Qtr 2001	09-Feb-2001	1,4-Dioxane	260	=	µg/L	x	200
NBBW	MW-1000	WD	Exterior	3rd Qtr 2001	06-Jul-2001	1,4-Dioxane	290	=	µg/L	x	200
NBBW	MW-1000	WD	Exterior	1st Qtr 2002	23-Jan-2002	1,4-Dioxane	370	J	µg/L	x	200
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Alpha, Gross	120	J	pCi/L	x	55.4
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Barium	3500	=	µg/L	x	1000
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Beta, Gross	130	J	pCi/L	x	80
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Chromium	100	=	µg/L	x	50
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Cobalt	90	=	µg/L	x	50
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Iron	190000	=	µg/L	x	2060
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Manganese	3700	=	µg/L	x	1620
NBBW	MW-1000	WD	Exterior	3rd Qtr 1997	11-Jul-1997	Nickel	184	=	µg/L	x	100
NBBW	MW-1000	WD	Exterior	1st Qtr 1998	07-Jan-1998	Nickel	195	=	µg/L	x	100
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Tetrachloroethene	15	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	4th Qtr 1993	20-Oct-1993	Tetrachloroethene	29	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 1994	05-Jan-1994	Tetrachloroethene	20	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	2nd Qtr 1994	08-Apr-1994	Tetrachloroethene	9.2	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 1994	25-Jul-1994	Tetrachloroethene	17	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	4th Qtr 1994	14-Oct-1994	Tetrachloroethene	17	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 1995	20-Jan-1995	Tetrachloroethene	19	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	2nd Qtr 1995	28-Apr-1995	Tetrachloroethene	19	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	2nd Qtr 1996	20-Mar-1996	Tetrachloroethene	17	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 1996	19-Jul-1996	Tetrachloroethene	12	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 1997	22-Jan-1997	Tetrachloroethene	14	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 1997	11-Jul-1997	Tetrachloroethene	9	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 1998	07-Jan-1998	Tetrachloroethene	7	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 1998	31-Aug-1998	Tetrachloroethene	5.8	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 1999	26-Jul-1999	Tetrachloroethene	5.3	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 2000	11-Jul-2000	Tetrachloroethene	5.1	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 2001	09-Feb-2001	Tetrachloroethene	7.5	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 2001	06-Jul-2001	Tetrachloroethene	8	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 2002	23-Jan-2002	Tetrachloroethene	6.9	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Trichloroethene	6	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	4th Qtr 1993	20-Oct-1993	Trichloroethene	13	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 1994	05-Jan-1994	Trichloroethene	9.9	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	3rd Qtr 1994	25-Jul-1994	Trichloroethene	7.4	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	4th Qtr 1994	14-Oct-1994	Trichloroethene	8.9	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 1995	20-Jan-1995	Trichloroethene	7.8	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	2nd Qtr 1995	28-Apr-1995	Trichloroethene	8	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	2nd Qtr 1996	20-Mar-1996	Trichloroethene	7	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	1st Qtr 1997	22-Jan-1997	Trichloroethene	6	=	µg/L	x	5
NBBW	MW-1000	WD	Exterior	4th Qtr 1992	23-Oct-1992	Vanadium	310	J	µg/L	x	100
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	1,1,1-Trichloroethane	270	=	µg/L	x	200
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	1,1,1-Trichloroethane	350	=	µg/L	x	200
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	02-Dec-1992	1,1,1-Trichloroethane	350	J	µg/L	x	200
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	14-Dec-1992	1,1,1-Trichloroethane	360	=	µg/L	x	200
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	1,1,1-Trichloroethane	390	=	µg/L	x	200
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	1,1,1-Trichloroethane	500	=	µg/L	x	200
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	1,1-Dichloroethane	1500	=	µg/L	x	990
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	1,1-Dichloroethene	130	=	µg/L	x	7
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	1,1-Dichloroethene	160	=	µg/L	x	7
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	02-Dec-1992	1,1-Dichloroethene	73	=	µg/L	x	7
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	14-Dec-1992	1,1-Dichloroethene	150	=	µg/L	x	7
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	1,1-Dichloroethene	150	=	µg/L	x	7
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	1,1-Dichloroethene	420	=	µg/L	x	7
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	1,2-Dichloroethane	10	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	1,2-Dichloroethane	12	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	02-Dec-1992	1,2-Dichloroethane	11	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	14-Dec-1992	1,2-Dichloroethane	10	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	1,2-Dichloroethane	12	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	1,2-Dichloroethane	91	J	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	1,2-Dichloropropane	7.9	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	02-Dec-1992	1,2-Dichloropropane	7.4	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	1,2-Dichloropropane	7.4	=	µg/L	x	1
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	1,2-Dichloropropane	26	J	µg/L	x	1

See legend and notes on last page

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	1,4-Dioxane	6200	J	µg/L	x	200
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Alpha, Gross	77	=	pCi/L	x	55.4
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	Alpha, Gross	89	=	pCi/L	x	55.4
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Beta, Gross	94	=	pCi/L	x	80
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	Beta, Gross	120	=	pCi/L	x	80
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	bis(2-Ethylhexyl)phthalate	19	=	µg/L	x	10
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	Chloride	2010000	=	µg/L	x	1000000
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	cis-1,2-Dichloroethene	850	=	µg/L	x	70
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	cis-1,2-Dichloroethene	5000	=	µg/L	x	70
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Iron	58000	=	µg/L	x	2060
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Manganese	5200	=	µg/L	x	1620
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	Manganese	5100	=	µg/L	x	1620
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	02-Dec-1992	Manganese	4800	=	µg/L	x	1620
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	14-Dec-1992	Manganese	3800	=	µg/L	x	1620
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	Manganese	4400	=	µg/L	x	1620
NBBW	MW-EW-1	WD	Interior	1st Qtr 1994	06-Jan-1994	Nickel	117	=	µg/L	x	100
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Tetrachloroethene	26	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	Tetrachloroethene	29	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	02-Dec-1992	Tetrachloroethene	29	J	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	14-Dec-1992	Tetrachloroethene	31	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	Tetrachloroethene	30	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	Tetrachloroethene	46	J	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Trichloroethene	19	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	Trichloroethene	21	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	02-Dec-1992	Trichloroethene	20	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	14-Dec-1992	Trichloroethene	15	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	Trichloroethene	21	=	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	Trichloroethene	57	J	µg/L	x	5
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Vanadium	200	J	µg/L	x	100
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	22-Oct-1992	Vinyl Chloride	39	=	µg/L	x	2
NBBW	MW-EW-1	WD	Interior	4th Qtr 1992	13-Nov-1992	Vinyl Chloride	21	=	µg/L	x	2
NBBW	MW-EW-1	WD	Interior	1st Qtr 1993	04-Jan-1993	Vinyl Chloride	60	=	µg/L	x	2
NBBW	MW-EW-1	WD	Interior	1st Qtr 2002	30-Jan-2002	Vinyl Chloride	54	J	µg/L	x	2
NBBW	MW-EW-1LC	UNWD	Interior	2nd Qtr 2002	11-Apr-2002	1,4-Dioxane	610	J	µg/L	x	200
NBBW	MW-EW-1LCRA	UNWD	Interior	3rd Qtr 2002	22-Jul-2002	1,2-Dichloroethane	1.3	=	µg/L		1
NBBW	MW-EW-1LCRA	UNWD	Interior	3rd Qtr 2002	08-Aug-2002	1,2-Dichloroethane	1.1	=	µg/L		1
NBBW	MW-EW-1LCRA	UNWD	Interior	3rd Qtr 2002	22-Jul-2002	1,4-Dioxane	290	=	µg/L		200
NBBW	MW-EW-1LCRA	UNWD	Interior	3rd Qtr 2002	08-Aug-2002	1,4-Dioxane	210	=	µg/L		200
NBBW	MW-EW-1LCRA	UNWD	Interior	3rd Qtr 2002	08-Aug-2002	Vinyl Chloride	2.4	=	µg/L		2
NBBW	MW-EW-2LC	UNWD	Interior	3rd Qtr 1996	11-Jun-1996	1,1-Dichloroethene	14	=	µg/L	x	7
NBBW	MW-EW-2LC	UNWD	Interior	3rd Qtr 1996	11-Jun-1996	cis-1,2-Dichloroethene	85	=	µg/L	x	70
NBBW	MW-EW-2LCR	UNWD	Interior	2nd Qtr 2002	28-May-2002	1,1-Dichloroethene	12	=	µg/L		7
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,1,2-Trichloroethane	3.1	J	µg/L	x	3
NBBW	MW37-WD	WD	Exterior	2nd Qtr 1997	23-Apr-1997	1,1-Dichloroethene	28	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	2nd Qtr 1997	28-May-1997	1,1-Dichloroethene	32	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1997	11-Jul-1997	1,1-Dichloroethene	32	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	1,1-Dichloroethene	37	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	4th Qtr 1998	11-Sep-1998	1,1-Dichloroethene	49	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,1-Dichloroethene	48	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1999	03-Aug-1999	1,1-Dichloroethene	54	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	1,1-Dichloroethene	52	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,1-Dichloroethene	150	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	1,1-Dichloroethene	110	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,1-Dichloroethene	75	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	1,1-Dichloroethene	83	=	µg/L	x	7
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1997	11-Jul-1997	1,2-Dichloroethane	2	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	1,2-Dichloroethane	2	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	4th Qtr 1998	11-Sep-1998	1,2-Dichloroethane	1.6	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,2-Dichloroethane	1.6	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1999	03-Aug-1999	1,2-Dichloroethane	1.8	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	1,2-Dichloroethane	1.7	J	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,2-Dichloroethane	4.9	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	1,2-Dichloroethane	2.6	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,2-Dichloroethane	2.6	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	1,2-Dichloroethane	2.3	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1997	11-Jul-1997	1,2-Dichloropropane	2	J	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	1,2-Dichloropropane	2	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	4th Qtr 1998	11-Sep-1998	1,2-Dichloropropane	1.7	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,2-Dichloropropane	1.7	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1999	03-Aug-1999	1,2-Dichloropropane	1.9	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	1,2-Dichloropropane	1.8	J	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,2-Dichloropropane	5.3	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	1,2-Dichloropropane	2.7	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,2-Dichloropropane	2.7	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	1,2-Dichloropropane	2.5	=	µg/L	x	1
NBBW	MW37-WD	WD	Exterior	4th Qtr 1998	11-Sep-1998	1,4-Dioxane	450	=	µg/L	x	200
NBBW	MW37-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,4-Dioxane	360	=	µg/L	x	200
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1999	03-Aug-1999	1,4-Dioxane	460	=	µg/L	x	200
NBBW	MW37-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	1,4-Dioxane	470	J	µg/L	x	200
NBBW	MW37-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	1,4-Dioxane	600	=	µg/L	x	200
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,4-Dioxane	750	=	µg/L	x	200
NBBW	MW37-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	1,4-Dioxane	640	J	µg/L	x	200
NBBW	MW37-WD	WD	Exterior	4th Qtr 1998	11-Sep-1998	bis(2-Ethylhexyl)phthalate	20	=	µg/L	x	10
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	cis-1,2-Dichloroethene	80	=	µg/L	x	70
NBBW	MW37-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	Nitrogen, Nitrate	47400	=	µg/L	x	29100
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Nitrogen, Nitrate	48600	=	µg/L	x	29100
NBBW	MW37-WD	WD	Exterior	1st Qtr 2002	30-Jan-2002	Nitrogen, Nitrate	39400	J	µg/L	x	29100
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Nitrogen, Nitrate plus Nitrite	50600	=	µg/L	x	34000

See legend and notes on last page

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
NBBW	MW37-WD	WD	Exterior	2nd Qtr 1997	23-Apr-1997	Tetrachloroethene	7	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	2nd Qtr 1997	28-May-1997	Tetrachloroethene	8	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1997	11-Jul-1997	Tetrachloroethene	9	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	Tetrachloroethene	10	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	4th Qtr 1998	11-Sep-1998	Tetrachloroethene	10	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	Tetrachloroethene	9.6	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1999	03-Aug-1999	Tetrachloroethene	11	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	Tetrachloroethene	13	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	Tetrachloroethene	56	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	Tetrachloroethene	28	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Tetrachloroethene	23	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	Tetrachloroethene	22	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	2nd Qtr 1997	28-May-1997	Trichloroethene	6	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1997	11-Jul-1997	Trichloroethene	6	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	Trichloroethene	7	J	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	4th Qtr 1998	11-Sep-1998	Trichloroethene	7.7	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	Trichloroethene	8.3	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 1999	03-Aug-1999	Trichloroethene	8.8	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	Trichloroethene	10	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	Trichloroethene	30	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	Trichloroethene	17	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Trichloroethene	15	=	µg/L	x	5
NBBW	MW37-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	Trichloroethene	13	=	µg/L	x	5
NBBW	MW62-WD	WD	Exterior	3rd Qtr 2002	27-Jun-2002	Nitrogen, Nitrate	33900	=	µg/L		29100
NBBW	U-701	UNWD	Exterior	2nd Qtr 1988	28-Apr-1988	Mercury	2.09	=	µg/L	x	2
NBBW	U-701	UNWD	Exterior	4th Qtr 1988	01-Sep-1988	Uranium-235	9.9	=	pCi/L	x	3
NBBW	U-701	UNWD	Exterior	4th Qtr 1989	13-Sep-1989	Uranium-235	14	=	pCi/L	x	3
NBBW	U-701	UNWD	Exterior	4th Qtr 1989	13-Sep-1989	Uranium-238	190	=	pCi/L	x	1.7
NBBW	U-701-WD	WD	Exterior	4th Qtr 1997	10-Sep-1997	1,1-Dichloroethene	10	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	1,1-Dichloroethene	13	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	4th Qtr 1998	23-Sep-1998	1,1-Dichloroethene	20	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,1-Dichloroethene	25	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	3rd Qtr 1999	04-Aug-1999	1,1-Dichloroethene	18	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	1,1-Dichloroethene	24	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,1-Dichloroethene	22	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	1,1-Dichloroethene	23	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,1-Dichloroethene	21	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	1,1-Dichloroethene	19	=	µg/L	x	7
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,2-Dichloroethane	1.3	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	4th Qtr 1998	23-Sep-1998	1,2-Dichloropropane	1.3	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,2-Dichloropropane	1.4	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	3rd Qtr 1999	04-Aug-1999	1,2-Dichloropropane	1.3	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	1,2-Dichloropropane	1.4	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	1,2-Dichloropropane	1.3	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	1,2-Dichloropropane	1.2	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,2-Dichloropropane	1.2	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	1,2-Dichloropropane	1.2	=	µg/L	x	1
NBBW	U-701-WD	WD	Exterior	4th Qtr 1998	23-Sep-1998	1,4-Dioxane	490	=	µg/L	x	200
NBBW	U-701-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	1,4-Dioxane	300	=	µg/L	x	200
NBBW	U-701-WD	WD	Exterior	3rd Qtr 1999	04-Aug-1999	1,4-Dioxane	310	=	µg/L	x	200
NBBW	U-701-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	1,4-Dioxane	430	J	µg/L	x	200
NBBW	U-701-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	1,4-Dioxane	260	=	µg/L	x	200
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	1,4-Dioxane	400	=	µg/L	x	200
NBBW	U-701-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	1,4-Dioxane	500	J	µg/L	x	200
NBBW	U-701-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	Chromium	300	=	µg/L	x	50
NBBW	U-701-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	Iron	2780	=	µg/L	x	2060
NBBW	U-701-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	Iron	10400	=	µg/L	x	2060
NBBW	U-701-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	Nickel	1240	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	4th Qtr 1998	23-Sep-1998	Nickel	1200	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	Nickel	4160	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	3rd Qtr 1999	04-Aug-1999	Nickel	435	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	Nickel	1190	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	Nickel	1560	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	Nickel	721	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Nickel	319	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	1st Qtr 2002	29-Jan-2002	Nickel	1230	=	µg/L	x	100
NBBW	U-701-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	Nitrogen, Nitrate	44900	=	µg/L	x	29100
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Nitrogen, Nitrate	46900	=	µg/L	x	29100
NBBW	U-701-WD	WD	Exterior	1st Qtr 2002	30-Jan-2002	Nitrogen, Nitrate	46600	=	µg/L	x	29100
NBBW	U-701-WD	WD	Exterior	1st Qtr 1998	07-Jan-1998	Nitrogen, Nitrate plus Nitrite	40200	=	µg/L	x	34000
NBBW	U-701-WD	WD	Exterior	4th Qtr 1998	23-Sep-1998	Nitrogen, Nitrate plus Nitrite	57100	=	µg/L	x	34000
NBBW	U-701-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	Nitrogen, Nitrate plus Nitrite	47000	=	µg/L	x	34000
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Nitrogen, Nitrate plus Nitrite	39300	=	µg/L	x	34000
NBBW	U-701-WD	WD	Exterior	1st Qtr 2002	31-Jan-2002	Nitrogen, Nitrate plus Nitrite	38800	=	µg/L	x	34000
NBBW	U-701-WD	WD	Exterior	1st Qtr 1999	13-Jan-1999	Trichloroethene	5.5	=	µg/L	x	5
NBBW	U-701-WD	WD	Exterior	1st Qtr 2000	16-Feb-2000	Trichloroethene	5.6	=	µg/L	x	5
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2000	11-Jul-2000	Trichloroethene	5.4	=	µg/L	x	5
NBBW	U-701-WD	WD	Exterior	1st Qtr 2001	13-Feb-2001	Trichloroethene	5.2	=	µg/L	x	5
NBBW	U-701-WD	WD	Exterior	3rd Qtr 2001	10-Jul-2001	Trichloroethene	5.6	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	19-Jan-2000	1,1-Dichloroethene	46	=	µg/L	x	7
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	14-Feb-2000	1,1-Dichloroethene	21	=	µg/L	x	7
PM-15	BM-15I-100S	WD	Interior	3rd Qtr 2000	27-Jul-2000	1,1-Dichloroethene	29	=	µg/L	x	7
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2001	15-Feb-2001	1,1-Dichloroethene	33	=	µg/L	x	7
PM-15	BM-15I-100S	WD	Interior	3rd Qtr 2001	18-Jul-2001	1,1-Dichloroethene	11	=	µg/L	x	7
PM-15	BM-15I-100S	WD	Interior	2nd Qtr 2002	12-Mar-2002	1,1-Dichloroethene	28	=	µg/L	x	7
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	19-Jan-2000	1,2-Dichloroethane	2.1	=	µg/L	x	1
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	14-Feb-2000	1,2-Dichloroethane	13	=	µg/L	x	1
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	19-Jan-2000	Methylene Chloride	34	=	µg/L	x	5

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	14-Feb-2000	Methylene Chloride	36	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	3rd Qtr 2000	27-Jul-2000	Methylene Chloride	18	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2001	15-Feb-2001	Methylene chloride	19	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	2nd Qtr 2002	12-Mar-2002	Methylene Chloride	6.3	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	19-Jan-2000	Trichloroethene	20	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	14-Feb-2000	Trichloroethene	16	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	3rd Qtr 2000	27-Jul-2000	Trichloroethene	18	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2001	15-Feb-2001	Trichloroethene	17	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	2nd Qtr 2002	12-Mar-2002	Trichloroethene	8.3	=	µg/L	x	5
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2000	19-Jan-2000	Vinyl Chloride	3.7	J	µg/L	x	2
PM-15	BM-15I-100S	WD	Interior	3rd Qtr 2000	27-Jul-2000	Vinyl Chloride	3.2	=	µg/L	x	2
PM-15	BM-15I-100S	WD	Interior	1st Qtr 2001	15-Feb-2001	Vinyl chloride	2.4	=	µg/L	x	2
PM-15	BM-15I-150S	WD	Interior	2nd Qtr 2000	23-Mar-2000	1,1-Dichloroethene	16	=	µg/L	x	7
PM-15	BM-15I-150S	WD	Interior	1st Qtr 2001	15-Feb-2001	1,1-Dichloroethene	9.9	=	µg/L	x	7
PM-15	BM-15I-150S	WD	Interior	3rd Qtr 2001	18-Jul-2001	1,1-Dichloroethene	7.8	=	µg/L	x	7
PM-15	BM-15I-150S	WD	Interior	2nd Qtr 2002	12-Mar-2002	1,1-Dichloroethene	8.9	=	µg/L	x	7
PM-15	BM-15I-150S	WD	Interior	2nd Qtr 2000	23-Mar-2000	1,2-Dichloroethane	3.1	J	µg/L	x	1
PM-15	BM-15I-150S	WD	Interior	2nd Qtr 2000	12-May-2000	1,2-Dichloroethane	2.1	=	µg/L	x	1
PM-15	BM-15I-150S	WD	Interior	2nd Qtr 2000	12-May-2000	Methylene Chloride	14	J	µg/L	x	5
PM-15	BM-15I-150S	WD	Interior	1st Qtr 2001	15-Feb-2001	Methylene chloride	6	=	µg/L	x	5
PM-15	BM-15I-150S	WD	Interior	2nd Qtr 2000	23-Mar-2000	Trichloroethene	14	=	µg/L	x	5
PM-15	BM-15I-150S	WD	Interior	2nd Qtr 2000	12-May-2000	Trichloroethene	10	=	µg/L	x	5
PM-15	BM-15I-150S	WD	Interior	1st Qtr 2001	15-Feb-2001	Trichloroethene	7	=	µg/L	x	5
PM-15	BM-15I-15N	WD	Interior	2nd Qtr 2002	21-May-2002	1,1-Dichloroethene	13	=	µg/L	x	7
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	18-Jun-2002	1,1-Dichloroethene	15	=	µg/L		7
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	12-Jul-2002	1,1-Dichloroethene	10	=	µg/L		7
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	31-Jul-2002	1,1-Dichloroethene	14	=	µg/L		7
PM-15	BM-15I-15N	WD	Interior	4th Qtr 2002	03-Sep-2002	1,1-Dichloroethene	14	=	µg/L		7
PM-15	BM-15I-15N	WD	Interior	4th Qtr 2002	03-Sep-2002	Chloroform	32	=	µg/L		6
PM-15	BM-15I-15N	WD	Interior	2nd Qtr 2002	21-May-2002	Methylene Chloride	10	=	µg/L	x	5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	18-Jun-2002	Methylene Chloride	11	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	12-Jul-2002	Methylene Chloride	7.4	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	31-Jul-2002	Methylene Chloride	10	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	2nd Qtr 2002	21-May-2002	Tetrachloroethene	20	=	µg/L	x	5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	18-Jun-2002	Tetrachloroethene	23	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	12-Jul-2002	Tetrachloroethene	21	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	31-Jul-2002	Tetrachloroethene	21	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	15-Aug-2002	Tetrachloroethene	11	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	4th Qtr 2002	03-Sep-2002	Tetrachloroethene	20	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	18-Jun-2002	Trichloroethene	5.2	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	12-Jul-2002	Trichloroethene	6.4	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	31-Jul-2002	Trichloroethene	6.2	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	3rd Qtr 2002	15-Aug-2002	Trichloroethene	6.4	=	µg/L		5
PM-15	BM-15I-15N	WD	Interior	4th Qtr 2002	03-Sep-2002	Trichloroethene	5.4	J	µg/L		5
PM-15	BM-15I-200S	WD	Interior	3rd Qtr 2000	08-Jun-2000	Americium-241	0.48	=	pCi/L	x	0.2
PM-15	BM-15I-200S	WD	Interior	3rd Qtr 2000	01-Aug-2000	Lead-210	9.1	=	pCi/L	x	0.072
PM-15	BM-15I-200S	WD	Interior	3rd Qtr 2000	01-Aug-2000	Potassium-40	224	=	pCi/L	x	4.3
PM-15	BM-15I-200S	WD	Interior	1st Qtr 2001	13-Feb-2001	Potassium-40	53	=	pCi/L	x	4.3
PM-15	BM-15I-200S	WD	Interior	1st Qtr 2002	08-Feb-2002	Potassium-40	16.7	=	pCi/L	x	4.3
PM-15	BM-15I-200S	WD	Interior	3rd Qtr 2001	18-Jul-2001	Uranium-234	14.6	J+	pCi/L	x	3
PM-15	BM-15I-200S	WD	Interior	3rd Qtr 2000	08-Jun-2000	Uranium-238	10	=	pCi/L	x	1.7
PM-15	BM-15I-200S	WD	Interior	3rd Qtr 2000	01-Aug-2000	Uranium-238	10	=	pCi/L	x	1.7
PM-15	BM-15I-200S	WD	Interior	1st Qtr 2001	13-Feb-2001	Uranium-238	10	=	pCi/L	x	1.7
PM-15	BM-15I-200S	WD	Interior	3rd Qtr 2001	18-Jul-2001	Uranium-238	9.67	J+	pCi/L	x	1.7
PM-15	BM-15I-200S	WD	Interior	1st Qtr 2002	08-Feb-2002	Uranium-238	9.4	=	pCi/L	x	1.7
PM-15	BM-15I-25S	WD	Interior	3rd Qtr 2002	30-Aug-2002	Carbon Tetrachloride	1.3	J	µg/L		1
PM-15	BM-15I-37.5S	WD	Interior	2nd Qtr 2002	21-May-2002	1,1-Dichloroethene	9.1	=	µg/L	x	7
PM-15	BM-15I-37.5S	WD	Interior	3rd Qtr 2002	11-Jul-2002	Trichloroethene	5.1	=	µg/L		5
PM-15	BM-15I-37.5S	WD	Interior	3rd Qtr 2002	30-Jul-2002	Trichloroethene	5.8	=	µg/L		5
PM-15	BM-15I-37.5S	WD	Interior	3rd Qtr 2002	16-Aug-2002	Trichloroethene	5.1	=	µg/L		5
PM-15	BM-15I-37.5S	WD	Interior	3rd Qtr 2002	30-Aug-2002	Trichloroethene	5.3	=	µg/L		5
PM-15	BM-15I-37.5S	WD	Interior	2nd Qtr 2002	21-May-2002	Vinyl Chloride	2.1	=	µg/L	x	2
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	27-Jan-2000	1,1-Dichloroethene	18	=	µg/L	x	7
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	14-Feb-2000	1,1-Dichloroethene	15	=	µg/L	x	7
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2001	13-Feb-2001	1,1-Dichloroethene	14	=	µg/L	x	7
PM-15	BM-15I-50S	WD	Interior	3rd Qtr 2001	18-Jul-2001	1,1-Dichloroethene	13	=	µg/L	x	7
PM-15	BM-15I-50S	WD	Interior	2nd Qtr 2002	12-Mar-2002	1,1-Dichloroethene	15	=	µg/L	x	7
PM-15	BM-15I-50S	WD	Interior	3rd Qtr 2002	27-Aug-2002	1,1-Dichloroethene	7.4	=	µg/L		7
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	27-Jan-2000	1,2-Dichloroethane	6.3	=	µg/L	x	1
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	14-Feb-2000	1,2-Dichloroethane	1.5	J	µg/L	x	1
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	27-Jan-2000	Methylene Chloride	13	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	14-Feb-2000	Methylene Chloride	12	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2001	13-Feb-2001	Methylene chloride	10	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	3rd Qtr 2001	18-Jul-2001	Methylene chloride	19	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	2nd Qtr 2002	12-Mar-2002	Methylene Chloride	15	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	27-Jan-2000	Tetrachloroethene	8.8	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	14-Feb-2000	Tetrachloroethene	6.5	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2001	13-Feb-2001	Tetrachloroethene	6.3	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	3rd Qtr 2001	18-Jul-2001	Tetrachloroethene	6.7	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	2nd Qtr 2002	12-Mar-2002	Tetrachloroethene	6.5	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	27-Jan-2000	Trichloroethene	31	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	14-Feb-2000	Trichloroethene	25	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2001	13-Feb-2001	Trichloroethene	19	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	3rd Qtr 2001	18-Jul-2001	Trichloroethene	18	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	2nd Qtr 2002	12-Mar-2002	Trichloroethene	17	=	µg/L	x	5
PM-15	BM-15I-50S	WD	Interior	3rd Qtr 2002	27-Aug-2002	Trichloroethene	15	=	µg/L		5
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	27-Jan-2000	Vinyl Chloride	3.7	=	µg/L	x	2
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2000	14-Feb-2000	Vinyl Chloride	2.8	J	µg/L	x	2

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
PM-15	BM-15I-50S	WD	Interior	1st Qtr 2001	13-Feb-2001	Vinyl chloride	3.1	=	µg/L	x	2
PM-15	BM-15I-50S	WD	Interior	3rd Qtr 2001	18-Jul-2001	Vinyl chloride	2.7	=	µg/L	x	2
PM-15	BM-15I-50S	WD	Interior	2nd Qtr 2002	12-Mar-2002	Vinyl Chloride	2.7	=	µg/L	x	2
PM-15	BM-15I-75S	WD	Interior	3rd Qtr 2002	27-Jun-2002	1,1-Dichloroethene	7.9	=	µg/L		7
PM-15	BM-15I-75S	WD	Interior	4th Qtr 2001	03-Oct-2001	Acetone	7000	=	µg/L	x	1600
PM-15	BM-15I-75S	WD	Interior	4th Qtr 2001	03-Oct-2001	Acetone	41000	=	µg/L	x	1600
PM-15	BM-15I-75S	WD	Interior	2nd Qtr 2001	05-Apr-2001	Trichloroethene	6.4	=	µg/L	x	5
PM-15	BM-15I-75S	WD	Interior	3rd Qtr 2002	27-Jun-2002	Trichloroethene	6.6	=	µg/L		5
PM-15	BM-15I-75S	WD	Interior	3rd Qtr 2002	27-Jun-2002	Vinyl Chloride	2.2	=	µg/L		2
PM-15	BM-15N1	WD	Exterior	1st Qtr 2000	18-Jan-2000	1,2-Dichloroethane	14	=	µg/L	x	1
PM-15	BM-15N1	WD	Exterior	1st Qtr 2000	24-Feb-2000	1,2-Dichloroethane	12	=	µg/L	x	1
PM-15	BM-15N1	WD	Exterior	4th Qtr 1999	29-Sep-1999	Manganese	1710	=	µg/L	x	1620
PM-15	BM-15N1	WD	Exterior	4th Qtr 1999	29-Sep-1999	Nitrogen, Nitrate	33900	=	µg/L	x	29100
PM-15	BM-15N1	WD	Exterior	2nd Qtr 2002	03-Apr-2002	Nitrogen, Nitrate	30300	=	µg/L	x	29100
PM-15	BM-15N1	WD	Exterior	4th Qtr 1999	29-Sep-1999	Tetrachloroethene	7.6	=	µg/L	x	5
PM-15	BM-15N1	WD	Exterior	4th Qtr 1999	29-Sep-1999	Tetrachloroethene	7.4	=	µg/L	x	5
PM-15	BM-15N1	WD	Exterior	1st Qtr 2000	24-Feb-2000	Tetrachloroethene	5.7	=	µg/L	x	5
PM-15	BM-15N1	WD	Exterior	3rd Qtr 2000	27-Jul-2000	Tetrachloroethene	8.2	=	µg/L	x	5
PM-15	BM-15N1	WD	Exterior	1st Qtr 2001	15-Feb-2001	Tetrachloroethene	8.5	=	µg/L	x	5
PM-15	BM-15N1	WD	Exterior	3rd Qtr 2001	18-Jul-2001	Tetrachloroethene	7.7	=	µg/L	x	5
PM-15	BM-15N1	WD	Exterior	2nd Qtr 2002	03-Apr-2002	Tetrachloroethene	6.3	=	µg/L	x	5
PM-15	BM-15N1	WD	Exterior	1st Qtr 2000	18-Jan-2000	Trichloroethene	5.4	=	µg/L	x	5
PM-15	BM-15N2	WD	Exterior	1st Qtr 2000	18-Jan-2000	1,2-Dichloroethane	13	=	µg/L	x	1
PM-15	BM-15N2	WD	Exterior	1st Qtr 2000	24-Feb-2000	1,2-Dichloroethane	10	=	µg/L	x	1
PM-15	BM-15N2	WD	Exterior	3rd Qtr 2000	27-Jul-2000	1,2-Dichloroethane	1.6	=	µg/L	x	1
PM-15	BM-15N3	WD	Exterior	2nd Qtr 2000	05-Apr-2000	1,2-Dichloroethane	4.6	=	µg/L	x	1
PM-15	BM-15N3	WD	Exterior	2nd Qtr 2000	10-May-2000	1,2-Dichloroethane	3.4	=	µg/L	x	1
PM-15	BM-15N3	WD	Exterior	2nd Qtr 2002	28-Mar-2002	Nitrogen, Nitrate	81000	=	µg/L	x	29100
PM-15	BM-15N4	WD	Exterior	2nd Qtr 2002	07-Mar-2002	Iron	2360	=	µg/L	x	2060
PM-15	BM-15N5	WD	Exterior	4th Qtr 2001	18-Oct-2001	1,1-Dichloroethene	9.7	=	µg/L	x	7
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2002	17-Jun-2002	1,1-Dichloroethene	8.8	=	µg/L		7
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2002	30-Jul-2002	1,1-Dichloroethene	7.4	=	µg/L		7
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2001	21-Jun-2001	Methylene chloride	8.7	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	4th Qtr 2001	18-Oct-2001	Methylene chloride	6.7	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	4th Qtr 2001	18-Oct-2001	Methylene chloride	7.7	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	1st Qtr 2002	11-Feb-2002	Methylene Chloride	6.8	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	2nd Qtr 2002	20-May-2002	Methylene Chloride	5.8	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2002	17-Jun-2002	Methylene Chloride	6.1	=	µg/L		5
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2002	30-Jul-2002	Methylene Chloride	6.4	=	µg/L		5
PM-15	BM-15N5	WD	Exterior	1st Qtr 2002	11-Feb-2002	Nitrogen, Nitrate plus Nitrite	39100	=	µg/L	x	34000
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2001	21-Jun-2001	Tetrachloroethene	37	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	4th Qtr 2001	18-Oct-2001	Tetrachloroethene	22	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	4th Qtr 2001	18-Oct-2001	Tetrachloroethene	25	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	1st Qtr 2002	11-Feb-2002	Tetrachloroethene	19	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	2nd Qtr 2002	20-May-2002	Tetrachloroethene	7	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2002	17-Jun-2002	Tetrachloroethene	14	=	µg/L		5
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2002	30-Jul-2002	Tetrachloroethene	18	=	µg/L		5
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2002	29-Aug-2002	Tetrachloroethene	5.8	=	µg/L		5
PM-15	BM-15N5	WD	Exterior	3rd Qtr 2001	21-Jun-2001	Trichloroethene	6.2	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	4th Qtr 2001	18-Oct-2001	Trichloroethene	6.2	=	µg/L	x	5
PM-15	BM-15N5	WD	Exterior	1st Qtr 2002	11-Feb-2002	Trichloroethene	5.8	=	µg/L	x	5
PM-15	BM-15N6	WD	Exterior	2nd Qtr 2002	20-May-2002	Tetrachloroethene	14	=	µg/L	x	5
PM-15	BM-15N6	WD	Exterior	3rd Qtr 2002	17-Jun-2002	Tetrachloroethene	12	=	µg/L		5
PM-15	BM-15N6	WD	Exterior	3rd Qtr 2002	11-Jul-2002	Tetrachloroethene	13	=	µg/L		5
PM-15	BM-15N6	WD	Exterior	3rd Qtr 2002	30-Jul-2002	Tetrachloroethene	13	=	µg/L		5
PM-15	BM-15N6	WD	Exterior	3rd Qtr 2002	16-Aug-2002	Tetrachloroethene	7.8	=	µg/L		5
PM-15	BM-15NW1	WD	Interior	4th Qtr 1999	18-Nov-1999	Nitrogen, Nitrate plus Nitrite	58200	=	µg/L	x	34000
PM-15	BM-15NW2	WD	Interior	4th Qtr 1999	28-Oct-1999	Nitrogen, Nitrate	83100	=	µg/L	x	29100
PM-15	BM-15X-50S	WD	Exterior	2nd Qtr 2002	07-Mar-2002	Nitrogen, Nitrate	31800	J	µg/L	x	29100
PM-15	BM-15X-75S	WD	Exterior	4th Qtr 2001	17-Oct-2001	1,1-Dichloroethene	11	=	µg/L	x	7
PM-15	BM-15X-75S	WD	Exterior	3rd Qtr 2002	06-Aug-2002	1,1-Dichloroethene	8.4	=	µg/L		7
PM-15	BM-15X-75S	WD	Exterior	4th Qtr 2001	17-Oct-2001	Methylene chloride	6.9	=	µg/L	x	5
PM-15	BM-15X-75S	WD	Exterior	4th Qtr 2001	17-Oct-2001	Methylene chloride	7.2	=	µg/L	x	5
PM-15	BM-15X-75S	WD	Exterior	3rd Qtr 2002	06-Aug-2002	Methylene Chloride	5.2	=	µg/L		5
PM-15	BM-15X-75S	WD	Exterior	4th Qtr 2001	17-Oct-2001	Trichloroethene	6.3	=	µg/L	x	5
PM-15	BM-15X-75S	WD	Exterior	4th Qtr 2001	17-Oct-2001	Trichloroethene	6.5	=	µg/L	x	5
PM-15	BM-15X-75S	WD	Exterior	3rd Qtr 2002	06-Aug-2002	Trichloroethene	5.2	=	µg/L		5
PM-15	MW53-WD	WD	Exterior	4th Qtr 1998	15-Sep-1998	Lead-210	1.3	=	pCi/L	x	0.072
PM-15	MW53-WD	WD	Exterior	1st Qtr 1999	20-Jan-1999	Potassium-40	180	=	pCi/L	x	4.3
PM-15	MW53-WD	WD	Exterior	4th Qtr 1998	15-Sep-1998	Selenium	380	=	µg/L	x	371.98
PM-15	MW53-WD	WD	Exterior	4th Qtr 1998	15-Sep-1998	Uranium-238	20	=	pCi/L	x	1.7
PM-15	PM-15I	WD	Interior	4th Qtr 1998	25-Sep-1998	1,1-Dichloroethene	8.8	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	4th Qtr 1998	23-Dec-1998	1,1-Dichloroethene	7.6	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	2nd Qtr 1999	09-Apr-1999	1,1-Dichloroethene	7.8	J	µg/L	x	7
PM-15	PM-15I	WD	Interior	4th Qtr 1999	15-Nov-1999	1,1-Dichloroethene	13	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	1st Qtr 2000	18-Jan-2000	1,1-Dichloroethene	21	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	3rd Qtr 2000	27-Jul-2000	1,1-Dichloroethene	17	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	1st Qtr 2001	15-Feb-2001	1,1-Dichloroethene	14	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	3rd Qtr 2001	18-Jul-2001	1,1-Dichloroethene	14	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	2nd Qtr 2002	05-Mar-2002	1,1-Dichloroethene	13	=	µg/L	x	7
PM-15	PM-15I	WD	Interior	3rd Qtr 1999	30-Aug-1999	1,2-Dichloroethane	1.6	J	µg/L	x	1
PM-15	PM-15I	WD	Interior	4th Qtr 1999	30-Sep-1999	1,2-Dichloroethane	1.9	J	µg/L	x	1
PM-15	PM-15I	WD	Interior	4th Qtr 1999	30-Sep-1999	Benzene	5.1	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	1st Qtr 2001	15-Feb-2001	Carbon tetrachloride	3.2	=	µg/L	x	1
PM-15	PM-15I	WD	Interior	4th Qtr 1998	25-Sep-1998	Methylene Chloride	30	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1998	23-Dec-1998	Methylene Chloride	24	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	2nd Qtr 1999	09-Apr-1999	Methylene Chloride	22	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1999	30-Sep-1999	Methylene Chloride	13	=	µg/L	x	5

See legend and notes on last page

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
PM-15	PM-15I	WD	Interior	4th Qtr 1999	15-Nov-1999	Methylene Chloride	16	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	1st Qtr 2000	18-Jan-2000	Methylene Chloride	21	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 2000	27-Jul-2000	Methylene Chloride	19	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	1st Qtr 2001	15-Feb-2001	Methylene chloride	18	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 2001	18-Jul-2001	Methylene chloride	13	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	2nd Qtr 2002	05-Mar-2002	Methylene Chloride	13	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1999	30-Sep-1999	Nitrogen, Nitrate	39700	=	µg/L	x	29100
PM-15	PM-15I	WD	Interior	2nd Qtr 2002	05-Mar-2002	Nitrogen, Nitrate	35900	=	µg/L	x	29100
PM-15	PM-15I	WD	Interior	4th Qtr 1998	25-Sep-1998	Tetrachloroethene	140	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1998	23-Dec-1998	Tetrachloroethene	140	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	2nd Qtr 1999	09-Apr-1999	Tetrachloroethene	120	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 1999	30-Aug-1999	Tetrachloroethene	130	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1999	30-Sep-1999	Tetrachloroethene	130	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1999	15-Nov-1999	Tetrachloroethene	120	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	1st Qtr 2000	18-Jan-2000	Tetrachloroethene	140	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 2000	27-Jul-2000	Tetrachloroethene	95	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	1st Qtr 2001	15-Feb-2001	Tetrachloroethene	64	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 2001	18-Jul-2001	Tetrachloroethene	60	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	2nd Qtr 2002	05-Mar-2002	Tetrachloroethene	52	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 2002	27-Aug-2002	Tetrachloroethene	24	=	µg/L		5
PM-15	PM-15I	WD	Interior	4th Qtr 1998	25-Sep-1998	Trichloroethene	21	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1998	23-Dec-1998	Trichloroethene	23	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	2nd Qtr 1999	09-Apr-1999	Trichloroethene	19	J	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 1999	30-Aug-1999	Trichloroethene	24	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1999	30-Sep-1999	Trichloroethene	25	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1999	15-Nov-1999	Trichloroethene	15	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	1st Qtr 2000	18-Jan-2000	Trichloroethene	15	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 2000	27-Jul-2000	Trichloroethene	12	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	1st Qtr 2001	15-Feb-2001	Trichloroethene	9	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	3rd Qtr 2001	18-Jul-2001	Trichloroethene	8.8	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	2nd Qtr 2002	05-Mar-2002	Trichloroethene	9	=	µg/L	x	5
PM-15	PM-15I	WD	Interior	4th Qtr 1999	15-Nov-1999	Vinyl Chloride	2.6	J	µg/L	x	2
PM-15	PM-15I	WD	Interior	1st Qtr 2000	18-Jan-2000	Vinyl Chloride	3.7	J	µg/L	x	2
PM-15	PM-15I	WD	Interior	3rd Qtr 2000	27-Jul-2000	Vinyl Chloride	2.6	J	µg/L	x	2
PM-15	PM-15ID	WD	Interior	4th Qtr 1999	13-Oct-1999	1,1-Dichloroethene	9.6	=	µg/L	x	7
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	1,1-Dichloroethene	11	=	µg/L	x	7
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	1,1-Dichloroethene	8.9	=	µg/L	x	7
PM-15	PM-15ID	WD	Interior	1st Qtr 2002	15-Feb-2002	1,1-Dichloroethene	12	=	µg/L	x	7
PM-15	PM-15ID	WD	Interior	2nd Qtr 2002	20-May-2002	1,1-Dichloroethene	12	=	µg/L	x	7
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	18-Jun-2002	1,1-Dichloroethene	11	=	µg/L		7
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	31-Jul-2002	1,1-Dichloroethene	7.2	=	µg/L		7
PM-15	PM-15ID	WD	Interior	4th Qtr 1999	13-Oct-1999	Iron	4850	=	µg/L	x	2060
PM-15	PM-15ID	WD	Interior	4th Qtr 1999	13-Oct-1999	Manganese	4130	=	µg/L	x	1620
PM-15	PM-15ID	WD	Interior	4th Qtr 1999	13-Oct-1999	Methylene Chloride	11	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	Methylene chloride	12	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	Methylene chloride	15	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	1st Qtr 2002	15-Feb-2002	Methylene Chloride	13	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	2nd Qtr 2002	20-May-2002	Methylene Chloride	13	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	18-Jun-2002	Methylene Chloride	12	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	12-Jul-2002	Methylene Chloride	7.7	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	31-Jul-2002	Methylene Chloride	10	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	16-Aug-2002	Methylene Chloride	8.1	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	30-Aug-2002	Methylene Chloride	6.9	=	µg/L		5
PM-15	PM-15ID	WD	Interior	4th Qtr 1999	13-Oct-1999	Tetrachloroethene	41	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	Tetrachloroethene	21	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	Tetrachloroethene	24	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	1st Qtr 2002	15-Feb-2002	Tetrachloroethene	29	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	2nd Qtr 2002	20-May-2002	Tetrachloroethene	8.7	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	18-Jun-2002	Tetrachloroethene	7.5	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	12-Jul-2002	Tetrachloroethene	5.9	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	31-Jul-2002	Tetrachloroethene	12	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	16-Aug-2002	Tetrachloroethene	7.8	=	µg/L		5
PM-15	PM-15ID	WD	Interior	3rd Qtr 2002	30-Aug-2002	Tetrachloroethene	9.4	=	µg/L		5
PM-15	PM-15ID	WD	Interior	4th Qtr 1999	13-Oct-1999	Trichloroethene	6.6	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	Trichloroethene	8	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	Trichloroethene	6.2	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	1st Qtr 2002	15-Feb-2002	Trichloroethene	7.7	=	µg/L	x	5
PM-15	PM-15ID	WD	Interior	4th Qtr 1999	13-Oct-1999	Vinyl Chloride	2.7	J	µg/L	x	2
PM-15	PM-15ID	WD	Interior	4th Qtr 2001	02-Oct-2001	Vinyl Chloride	6.9	NJ	µg/L	x	2
PM-15	PM-15ID	WD	Interior	1st Qtr 2002	15-Feb-2002	Vinyl Chloride	2.8	=	µg/L	x	2
PM-15	PM-15ID	WD	Interior	2nd Qtr 2002	20-May-2002	Vinyl Chloride	3.6	=	µg/L	x	2
PM-15	PM-15IM	WD	Interior	4th Qtr 1999	14-Oct-1999	1,1-Dichloroethene	9.9	=	µg/L	x	7
PM-15	PM-15IM	WD	Interior	1st Qtr 2002	15-Feb-2002	1,1-Dichloroethene	7.8	=	µg/L	x	7
PM-15	PM-15IM	WD	Interior	4th Qtr 1999	14-Oct-1999	Methylene Chloride	19	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	4th Qtr 2001	09-Oct-2001	Methylene chloride	6.3	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	4th Qtr 2001	09-Oct-2001	Methylene chloride	7.3	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	1st Qtr 2002	15-Feb-2002	Methylene Chloride	7.2	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	4th Qtr 1999	14-Oct-1999	Nitrogen, Nitrate	36100	=	µg/L	x	29100
PM-15	PM-15IM	WD	Interior	1st Qtr 2002	15-Feb-2002	Nitrogen, Nitrate	36900	=	µg/L	x	29100
PM-15	PM-15IM	WD	Interior	4th Qtr 1999	14-Oct-1999	Tetrachloroethene	50	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	4th Qtr 2001	09-Oct-2001	Tetrachloroethene	12	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	4th Qtr 2001	09-Oct-2001	Tetrachloroethene	18	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	1st Qtr 2002	15-Feb-2002	Tetrachloroethene	31	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	4th Qtr 1999	14-Oct-1999	Trichloroethene	8.9	=	µg/L	x	5
PM-15	PM-15IM	WD	Interior	1st Qtr 2002	15-Feb-2002	Trichloroethene	7.3	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	14-Oct-1999	Benzene	5.1	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	14-Oct-1999	Chloroform	6.4	=	µg/L	x	6
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	19-Nov-1999	Chloroform	6.6	=	µg/L	x	6

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	14-Oct-1999	Methylene Chloride	9.6	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	19-Nov-1999	Methylene Chloride	7.9	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	19-Nov-1999	Methylene Chloride	7.2	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	14-Oct-1999	Nitrogen, Nitrate	38100	=	µg/L	x	29100
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	14-Oct-1999	Tetrachloroethene	12	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	19-Nov-1999	Tetrachloroethene	12	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	19-Nov-1999	Tetrachloroethene	14	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	14-Oct-1999	Trichloroethene	32	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	19-Nov-1999	Trichloroethene	26	=	µg/L	x	5
PM-15	PM-15IS	WD	Interior	4th Qtr 1999	19-Nov-1999	Trichloroethene	30	=	µg/L	x	5
PM-15	PM-15W	WD	Interior	3rd Qtr 2000	08-Jun-2000	Alpha, Gross	140	=	pCi/L	x	55.4
PM-15	PM-15W	WD	Interior	3rd Qtr 2000	08-Jun-2000	Americium-241	0.34	=	pCi/L	x	0.2
PM-15	PM-15W	WD	Interior	4th Qtr 1999	18-Nov-1999	Methylene Chloride	7	=	µg/L	x	5
PM-15	PM-15W	WD	Interior	4th Qtr 1999	19-Nov-1999	Methylene Chloride	7.8	=	µg/L	x	5
PM-15	PM-15W	WD	Interior	4th Qtr 1999	18-Nov-1999	Nitrogen, Nitrate plus Nitrite	44000	=	µg/L	x	34000
PM-15	PM-15W	WD	Interior	4th Qtr 1999	18-Nov-1999	Tetrachloroethene	12	=	µg/L	x	5
PM-15	PM-15W	WD	Interior	4th Qtr 1999	19-Nov-1999	Tetrachloroethene	15	=	µg/L	x	5
PM-15	PM-15W	WD	Interior	4th Qtr 1999	18-Nov-1999	Trichloroethene	19	=	µg/L	x	5
PM-15	PM-15W	WD	Interior	4th Qtr 1999	19-Nov-1999	Trichloroethene	23	=	µg/L	x	5
PM-15	PM-15W	WD	Interior	3rd Qtr 2000	08-Jun-2000	Uranium-238	20	=	pCi/L	x	1.7
PM-15	PM-15WR	WD	Interior	4th Qtr 2000	13-Dec-2000	Alpha, Gross	65	=	pCi/L	x	55.4
PM-15	PM-15WR	WD	Interior	1st Qtr 2001	13-Feb-2001	Alpha, Gross	100	=	pCi/L	x	55.4
PM-15	PM-15WR	WD	Interior	3rd Qtr 2001	18-Jul-2001	Alpha, Gross	105	=	pCi/L	x	55.4
PM-15	PM-15WR	WD	Interior	3rd Qtr 2001	18-Jul-2001	Beta, Gross	90.1	=	pCi/L	x	80
PM-15	PM-15WR	WD	Interior	4th Qtr 2000	13-Dec-2000	Nitrogen, Nitrate plus Nitrite	37800	=	µg/L	x	34000
PM-15	PM-15WR	WD	Interior	1st Qtr 2002	08-Feb-2002	Potassium-40	16.4	=	pCi/L	x	4.3
PM-15	PM-15WR	WD	Interior	4th Qtr 2000	13-Dec-2000	Selenium	534	=	µg/L	x	371.98
PM-15	PM-15WR	WD	Interior	1st Qtr 2001	13-Feb-2001	Selenium	502	=	µg/L	x	371.98
PM-15	PM-15WR	WD	Interior	3rd Qtr 2001	18-Jul-2001	Selenium	494	=	µg/L	x	371.98
PM-15	PM-15WR	WD	Interior	3rd Qtr 2001	18-Jul-2001	Uranium-234	50.1	J+	pCi/L	x	3
PM-15	PM-15WR	WD	Interior	4th Qtr 2000	13-Dec-2000	Uranium-238	34	=	pCi/L	x	1.7
PM-15	PM-15WR	WD	Interior	1st Qtr 2001	13-Feb-2001	Uranium-238	33	=	pCi/L	x	1.7
PM-15	PM-15WR	WD	Interior	3rd Qtr 2001	18-Jul-2001	Uranium-238	34.5	J+	pCi/L	x	1.7
PM-15	PM-15WR	WD	Interior	1st Qtr 2002	08-Feb-2002	Uranium-238	35.6	=	pCi/L	x	1.7
PM-15	PM-15X	WD	Exterior	4th Qtr 2001	11-Oct-2001	1,1-Dichloroethene	9.6	=	µg/L	x	7
PM-15	PM-15X	WD	Exterior	1st Qtr 2002	11-Feb-2002	1,1-Dichloroethene	8.8	=	µg/L	x	7
PM-15	PM-15X	WD	Exterior	4th Qtr 2001	11-Oct-2001	Methylene chloride	11	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	4th Qtr 2001	11-Oct-2001	Methylene chloride	14	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	1st Qtr 2002	11-Feb-2002	Methylene Chloride	11	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	4th Qtr 2001	11-Oct-2001	Tetrachloroethene	63	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	4th Qtr 2001	11-Oct-2001	Tetrachloroethene	84	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	1st Qtr 2002	11-Feb-2002	Tetrachloroethene	49	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	4th Qtr 2001	11-Oct-2001	Trichloroethene	12	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	1st Qtr 2002	11-Feb-2002	Trichloroethene	10	=	µg/L	x	5
PM-15	PM-15X	WD	Exterior	4th Qtr 2001	11-Oct-2001	Vinyl chloride	2.4	J	µg/L	x	2
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	1,1-Dichloroethene	7.7	=	µg/L	x	7
PM-15	PM-15XD	WD	Exterior	1st Qtr 2002	13-Feb-2002	1,1-Dichloroethene	7.4	=	µg/L	x	7
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	1,2-Dichloroethane	1.5	J	µg/L	x	1
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	Methylene chloride	8.6	=	µg/L	x	5
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	Methylene chloride	7.5	=	µg/L	x	5
PM-15	PM-15XD	WD	Exterior	1st Qtr 2002	13-Feb-2002	Methylene Chloride	5.2	=	µg/L	x	5
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	Tetrachloroethene	17	=	µg/L	x	5
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	Tetrachloroethene	20	=	µg/L	x	5
PM-15	PM-15XD	WD	Exterior	1st Qtr 2002	13-Feb-2002	Tetrachloroethene	19	=	µg/L	x	5
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	Vinyl chloride	2.4	J	µg/L	x	2
PM-15	PM-15XD	WD	Exterior	4th Qtr 2001	12-Oct-2001	Vinyl chloride	3.3	J	µg/L	x	2
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	1,1-Dichloroethene	9.4	=	µg/L	x	7
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	1,1-Dichloroethene	9.7	=	µg/L	x	7
PM-15	PM-15XM	WD	Exterior	1st Qtr 2002	13-Feb-2002	1,1-Dichloroethene	9.7	=	µg/L	x	7
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	Methylene chloride	17	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	1st Qtr 2002	13-Feb-2002	Methylene Chloride	5.7	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	Tetrachloroethene	68	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	Tetrachloroethene	110	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	1st Qtr 2002	13-Feb-2002	Tetrachloroethene	100	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	Trichloroethene	10	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	Trichloroethene	13	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	1st Qtr 2002	13-Feb-2002	Trichloroethene	12	=	µg/L	x	5
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	Vinyl chloride	2.4	J	µg/L	x	2
PM-15	PM-15XM	WD	Exterior	4th Qtr 2001	15-Oct-2001	Vinyl chloride	2.5	J	µg/L	x	2
PM-4	B-302	WD	Exterior	3rd Qtr 1983	26-Jul-1983	Trichloroethene	12	=	µg/L	x	5
PM-4	B-506	LIGNITE	Exterior	4th Qtr 1988	27-Oct-1988	bis(2-Ethylhexyl)phthalate	84	=	µg/L	x	10
PM-4	B-506	LIGNITE	Exterior	3rd Qtr 1985	27-Jun-1985	Iron	3070	=	µg/L	x	2060
PM-4	B-506	LIGNITE	Exterior	2nd Qtr 1986	22-Apr-1986	Iron	5780	J	µg/L	x	2060
PM-4	B-506	LIGNITE	Exterior	1st Qtr 1986	16-Jan-1986	Methylene Chloride	15	J	µg/L	x	5
PM-4	BM-4I-10S	WD	Interior	2nd Qtr 2001	30-May-2001	1,2-Dichloroethane	7.6	=	µg/L	x	1
PM-4	BM-4I-10S	WD	Interior	3rd Qtr 2001	06-Jul-2001	1,2-Dichloroethane	14	=	µg/L	x	1
PM-4	BM-4I-10S	WD	Interior	2nd Qtr 2002	12-Apr-2002	1,2-Dichloroethane	6.4	=	µg/L	x	1
PM-4	BM-4I-50S	WD	Interior	2nd Qtr 2001	30-May-2001	1,2-Dichloroethane	2.2	=	µg/L	x	1
PM-4	BM-4I-50S	WD	Interior	3rd Qtr 2001	06-Jul-2001	1,2-Dichloroethane	10	=	µg/L	x	1
PM-4	MW34-UD	UNWD	Exterior	2nd Qtr 1994	13-May-1994	Alpha, Gross	320	=	pCi/L	x	55.4
PM-4	MW34-UD	UNWD	Exterior	2nd Qtr 1994	13-May-1994	Beta, Gross	490	=	pCi/L	x	80
PM-4	MW34-UD	UNWD	Exterior	4th Qtr 1994	20-Oct-1994	Chromium, Hexavalent	300	=	µg/L	x	83.47
PM-4	MW34-UD	UNWD	Exterior	3rd Qtr 2001	17-Jul-2001	Iron	4270	=	µg/L	x	2060
PM-4	MW34-UD	UNWD	Exterior	3rd Qtr 2002	21-Aug-2002	Iron	5300	=	µg/L		2060
PM-4	MW34-UD	UNWD	Exterior	4th Qtr 1994	20-Oct-1994	Nitrogen, Nitrate plus Nitrite	76000	J	µg/L	x	34000
PM-4	MW34-WD	WD	Exterior	4th Qtr 1994	11-Oct-1994	Nitrogen, Nitrate plus Nitrite	48000	J	µg/L	x	34000
PM-4	MW34-WD	WD	Exterior	2nd Qtr 1995	01-May-1995	Sulfate	2500000	=	µg/L	x	2400000
PM-4	MW34-WD	WD	Exterior	3rd Qtr 1996	02-Aug-1996	Thallium	13	=	µg/L	x	10

Table D-1
Monitoring Data that Exceed Performance Standards for Outstanding Issues of Concern

Area	Well	Formation	Interior or Exterior	Quarter	Sample Date	Contaminant	Result	Flags	Units	Validated	Performance Standard
PM-4	MW41-WD	WD	Exterior	4th Qtr 1998	28-Sep-1998	Lead-210	1	=	pCi/L	x	0.072
PM-4	MW41-WD	WD	Exterior	4th Qtr 1998	28-Sep-1998	Manganese	4700	=	µg/L	x	1620
PM-4	MW41-WD	WD	Exterior	4th Qtr 1998	23-Dec-1998	Manganese	3340	=	µg/L	x	1620
PM-4	MW41-WD	WD	Exterior	1st Qtr 1999	20-Jan-1999	Manganese	5790	=	µg/L	x	1620
PM-4	MW41-WD	WD	Exterior	2nd Qtr 1999	06-Apr-1999	Manganese	5240	=	µg/L	x	1620
PM-4	MW41-WD	WD	Exterior	1st Qtr 1999	20-Jan-1999	Potassium-40	250	=	pCi/L	x	4.3
PM-4	MW41-WD	WD	Exterior	4th Qtr 1998	28-Sep-1998	Uranium-235	3.1	=	pCi/L	x	3
PM-4	MW41-WD	WD	Exterior	4th Qtr 1998	28-Sep-1998	Uranium-238	14	=	pCi/L	x	1.7
PM-4	MW42-WD	WD	Exterior	4th Qtr 1998	24-Sep-1998	Lead-210	1.2	=	pCi/L	x	0.072
PM-4	MW42-WD	WD	Exterior	1st Qtr 1999	19-Jan-1999	Potassium-40	140	=	pCi/L	x	4.3
PM-4	MW42-WD	WD	Exterior	2nd Qtr 1999	06-Apr-1999	Thallium	17.2	=	µg/L	x	10
PM-4	MW42-WD	WD	Exterior	4th Qtr 1998	24-Sep-1998	Uranium-238	2.6	=	pCi/L	x	1.7
PM-4	PM-4EW1	WD	Interior	1st Qtr 2002	28-Feb-2002	1,2-Dichloroethane	7.1	=	µg/L	x	1
PM-4	PM-4EW1	WD	Interior	4th Qtr 2001	10-Dec-2001	Potassium-40	12.8	=	pCi/L	x	4.3
PM-4	PM-4EW1	WD	Interior	1st Qtr 2002	13-Feb-2002	Potassium-40	12.5	=	pCi/L	x	4.3
PM-4	PM-4EW1	WD	Interior	4th Qtr 2001	10-Dec-2001	Uranium-238	8.52	=	pCi/L	x	1.7
PM-4	PM-4EW1	WD	Interior	1st Qtr 2002	13-Feb-2002	Uranium-238	8.35	=	pCi/L	x	1.7
PM-4	PM-4I	WD	Interior	4th Qtr 1998	23-Dec-1998	1,2-Dichloroethane	1.2	=	µg/L	x	1
PM-4	PM-4I	WD	Interior	2nd Qtr 1999	08-Apr-1999	1,2-Dichloroethane	1.6	=	µg/L	x	1
PM-4	PM-4I	WD	Interior	3rd Qtr 2000	24-Jul-2000	1,2-Dichloroethane	3.5	=	µg/L	x	1
PM-4	PM-4I	WD	Interior	4th Qtr 2000	13-Dec-2000	1,2-Dichloroethane	2.9	=	µg/L	x	1
PM-4	PM-4I	WD	Interior	2nd Qtr 2001	31-May-2001	1,2-Dichloroethane	4.3	=	µg/L	x	1
PM-4	PM-4I	WD	Interior	4th Qtr 2001	04-Oct-2001	1,2-Dichloroethane	3.7	=	µg/L	x	1
PM-4	PM-4I	WD	Interior	4th Qtr 2001	04-Oct-2001	1,2-Dichloroethane	2	=	µg/L	x	1
PM-4	PM-4I	WD	Interior	2nd Qtr 1999	08-Apr-1999	Tetrachloroethene	5.1	=	µg/L	x	5
PM-4	PM-4I	WD	Interior	4th Qtr 2000	13-Dec-2000	Tetrachloroethene	5.6	=	µg/L	x	5
PM-4	PM-4I	WD	Interior	2nd Qtr 2001	31-May-2001	Tetrachloroethene	5.1	=	µg/L	x	5
PM-4	PM-4I	WD	Interior	4th Qtr 1998	29-Sep-1998	Vinyl Chloride	2.8	=	µg/L	x	2
PM-4	PM-4I	WD	Interior	4th Qtr 1998	23-Dec-1998	Vinyl Chloride	3	=	µg/L	x	2
PM-4	PM-4I	WD	Interior	2nd Qtr 1999	08-Apr-1999	Vinyl Chloride	3.2	=	µg/L	x	2
PM-4	PM-4I	WD	Interior	3rd Qtr 2000	24-Jul-2000	Vinyl Chloride	3.5	=	µg/L	x	2
PM-4	PM-4I	WD	Interior	4th Qtr 2000	13-Dec-2000	Vinyl chloride	4.6	=	µg/L	x	2
PM-4	PM-4I	WD	Interior	2nd Qtr 2001	31-May-2001	Vinyl chloride	2.2	=	µg/L	x	2
PM-4	PM-4I-6NE	UNWD	Interior	4th Qtr 2001	24-Oct-2001	1,2-Dichloroethane	3.8	=	µg/L	x	1
PM-4	PM-4I-6NE	UNWD	Interior	2nd Qtr 2002	08-Apr-2002	1,2-Dichloroethane	2.8	=	µg/L	x	1
PM-4	U-509	WD	Exterior	2nd Qtr 1986	23-Apr-1986	Aluminum	9750	J	µg/L	x	5000
PM-4	U-509	WD	Exterior	4th Qtr 1989	03-Oct-1989	Aluminum	24600	=	µg/L	x	5000
PM-4	U-509	WD	Exterior	3rd Qtr 1990	30-Aug-1990	Americium-241	2.3	=	pCi/L	x	0.2
PM-4	U-509	WD	Exterior	1st Qtr 1986	14-Jan-1986	Chromium	210	=	µg/L	x	50
PM-4	U-509	WD	Exterior	2nd Qtr 1986	23-Apr-1986	Iron	8640	J	µg/L	x	2060
PM-4	U-509	WD	Exterior	4th Qtr 1989	03-Oct-1989	Iron	43000	=	µg/L	x	2060
PM-4	U-509	WD	Exterior	3rd Qtr 1990	30-Aug-1990	Iron	2060.4	=	µg/L	x	2060
PM-4	U-509	WD	Exterior	1st Qtr 1986	14-Jan-1986	Methylene Chloride	10	J	µg/L	x	5
PM-4	U-509	WD	Exterior	3rd Qtr 1988	19-Aug-1988	Selenium	372	=	µg/L	x	371.98
PM-4	U-509	WD	Exterior	3rd Qtr 1996	02-Aug-1996	Selenium	391	=	µg/L	x	371.98
PM-4	U-509	WD	Exterior	1st Qtr 1997	24-Jan-1997	Selenium	427	J	µg/L	x	371.98
PM-4	U-509	WD	Exterior	1st Qtr 1986	14-Jan-1986	Tetrachloroethene	6	=	µg/L	x	5
PM-4	U-509	WD	Exterior	3rd Qtr 1996	02-Aug-1996	Thallium	10.6	=	µg/L	x	10
PM-4	U-509	WD	Exterior	3rd Qtr 1990	30-Aug-1990	Uranium-238	7	=	pCi/L	x	1.7
PM-4	U-509	WD	Exterior	1st Qtr 1986	14-Jan-1986	Zinc	655000	J	µg/L	x	2000

Legend and Notes

Formation

Geologic formation in which the well screen is installed

UNWD - Unweathered Dawson Formation

U. DEN. - Upper Denver Formation

WD - Weathered Dawson Formation

Interior/Exterior

Interior - Well is interior of the POC (data provided for information only; exceedances do not indicate remedy failure)

Exterior - Well is exterior of the POC (exceedances may indicate remedy failure, or may indicate residual contamination)

Flags

= - Detect

J - Estimated value

J+ - Estimated value, potential positive bias (true value may be lower)

N - Tentative identification

NJ - Tentative identification, estimated value

Validated

x - Data have been validated

No entry means data had not been validated as of 9/23/2002

Performance Standard

Values are in same units as result