

2007 Groundwater Level Monitoring Plan
for the
Groundwater Level Monitoring Project

Los Alamos National Laboratory
Water Stewardship Program
LAUR-07-0573
EP2007-0048

January 2007

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Executive Summary

Groundwater level monitoring in FY07 is planned for 58 regional aquifer wells, 31 intermediate zone wells, and 104 alluvial groundwater wells. Some wells planned for monitoring are multi-completion wells. These wells have more than one screen involved in groundwater level monitoring. These multi-completion wells may include screens in both the intermediate saturated zone and the regional saturated zone. The wells with screens in multiple saturated zones were included in the above well count as one intermediate well and one regional well. Multi-completion wells may also have multiple screens in the intermediate or regional saturated zones.

Table ES-1 summarizes the planned number of groundwater level monitoring locations by screen.

Table ES-1. Summary of Groundwater Level Monitoring for 2006

Number of Well Screens Planned for Groundwater Level Monitoring					
Saturated Zone	Area	Continuous (Transducer)	Quarterly (Manual)	Annual (Manual or Transducer)	Total
Regional	Los Alamos-Pueblo	12	0	0	12
	Sandia	6	0	0	6
	Mortandad-CDB	15	0	0	15
	Pajarito	18	0	0	18
	Water-CDV-Ancho	21	0	0	21
	Supply Wells	11	0	0	11
	Total	83	0	0	0
Intermediate	Los Alamos-Pueblo	12	0	1	13
	Sandia	2	0	0	2
	Mortandad-CDB	5	1	0	6
	Pajarito	4	4	1	9
	Water-CDV-Ancho	4	0	7	11
	Total	27	5	9	41
Alluvial	Los Alamos-Pueblo	17	2	0	19
	Sandia	8	2	0	10
	Mortandad-CDB	34	7	0	41
	Pajarito	19	0	0	19
	Water-CDV-Ancho	9	5	0	14
	Total	87	16	0	103
Total	Los Alamos-Pueblo	41	2	1	44
	Sandia	15	2	0	17
	Mortandad-CDB	54	8	0	62
	Pajarito	40	3	1	44
	Water-CDV-Ancho	34	5	7	46
	Supply Wells	11	0	0	11
	Grand Total	195	20	9	227

1.0 Introduction

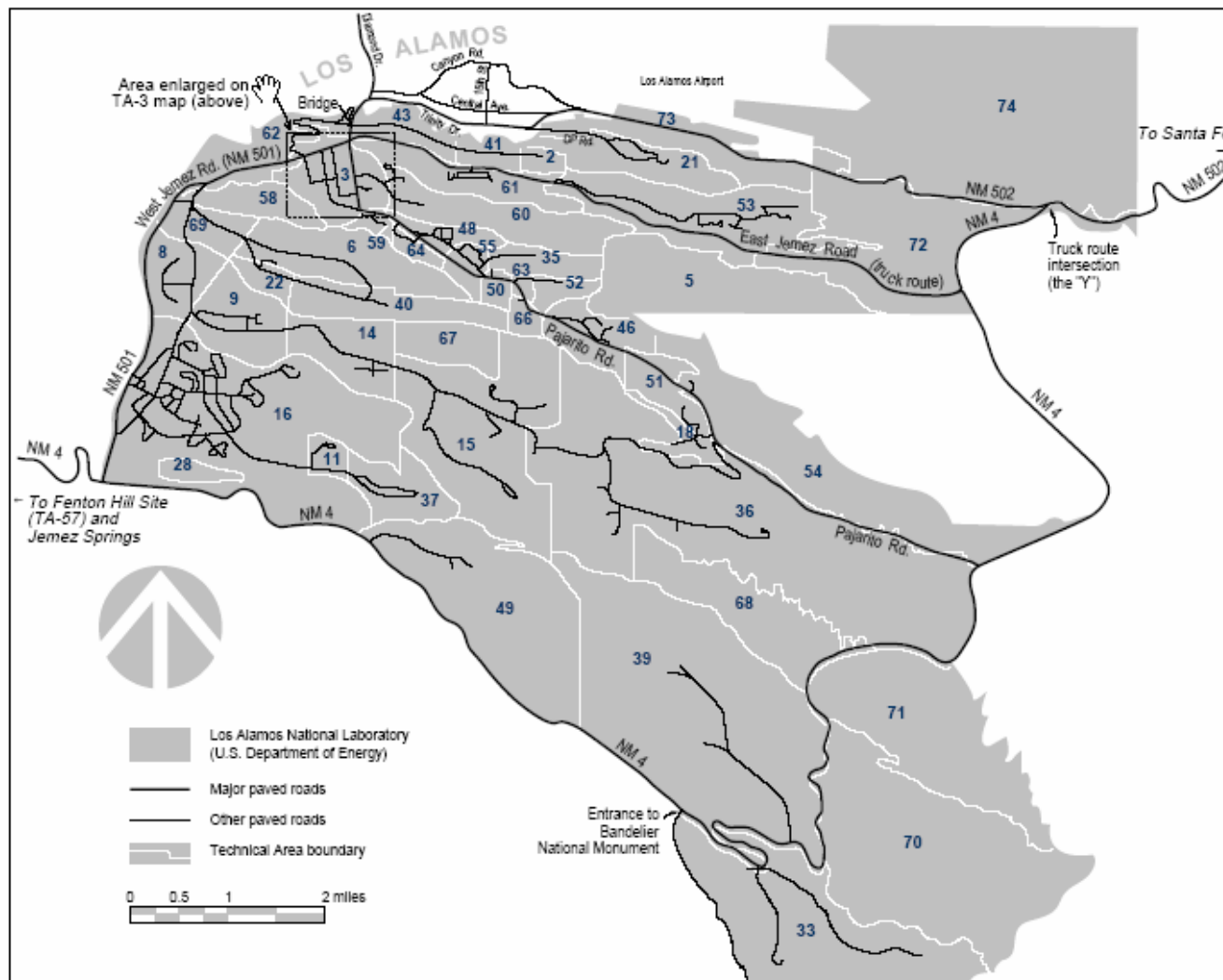
The U.S. Department of Energy's (DOE) Los Alamos National Laboratory (LANL) occupies 43 square miles of land on the Pajarito Plateau west of the Rio Grande in north-central New Mexico. The technical areas at LANL where water level monitoring activities are conducted are shown in Figure 1.1 along with other prominent features and facilities on and adjacent to LANL.

The Groundwater Level Monitoring Project (WLMP) is conducted by the Water Stewardship Program (WSP) which supports the environmental restoration program and characterization efforts within the Environmental Programs (EP) Directorate. Under the WSP, LANL routinely collects groundwater samples, measures groundwater levels in wells, and conducts groundwater characterization activities to fulfill a variety of state and federal regulations.

The WSP submits an annual groundwater status report to DOE summarizing the status of groundwater protection activities. DOE Order 5400.1: "General Environmental Protection Program" establishes environmental protection requirements, authorities, and responsibilities for all DOE facilities (DOE 1988, 0075). The goal of this order is to ensure that operations at DOE facilities comply with all applicable environmental laws and regulations, executive orders, and departmental policies.

This document represents the Groundwater Level Monitoring Plan (GWLMP) for LANL. This document is tiered to the Quality Assurance Project Plan (QAPP) for the Groundwater Level Monitoring Project (LANL 2007) and to the Interim Facility-Wide Groundwater Monitoring Plan (LANL 2006). This monitoring plan will be revised and updated annually to incorporate newly installed monitoring wells and revisions of scope.

Figure 1.1 Los Alamos National Laboratory – Technical Areas



Technical Areas

TA Nomenclature

- 2 Omega Site
- 3 South Mesa Site
- 5 Beta Site
- 6 Two-Mile Mesa South Site
- 8 Anchor West Site
- 9 Anchor East Site
- 11 K-Site
- 14 Q-Site
- 15 R-Site
- 16 S-Site
- 18 Pajarito Laboratory
- 21 DP-Site
- 22 TD-Site
- 28 Magazine Area A
- 33 HP-Site
- 35 Ten Site
- 36 Kappa Site
- 37 Magazine Area C
- 39 Ancho Canyon Site
- 40 DF-Site
- 41 W-Site
- 43 Health Research Laboratory/
DOE Headquarters
- 46 WA-Site
- 48 Radiochemistry Site
- 49 Frijoles Mesa Site
- 50 Waste Management Site
- 51 Environmental Research Site
- 52 Reactor Development Site
- 53 Los Alamos Neutron Science Center
- 54 Waste Disposal Site
- 55 Plutonium Facility
- 57 Fenton Hill Site
- 58 Two-Mile Mesa North Site
- 59 OH-Site
- 60 Sigma Mesa Site
- 61 East Jemez Site
- 62 Northwest Site
- 63 Pajarito Service Site
- 64 Central Guard Site
- 66 Central Technical Support Site
- 67 Pajarito Mesa Site
- 68 Water Canyon Site
- 69 Anchor North Site
- 71 Southeast Site
- 72 East Entry Site
- 73 Airport Site
- 74 Otowi Site

1.1 Purpose and Scope

The purpose of this plan is to define the groundwater level monitoring locations and scope of work to support the GWLM (Groundwater Level Monitoring) Project at LANL during 2007.

The specific objectives of this plan are to:

- Identify wells that will be monitored for groundwater levels in 2007 in order to:
 - ensure compliance with the NMED Compliance Order on Consent (NMED 2005)
 - identify monitoring locations outlined in the approved Interim Facility-Wide Groundwater Monitoring Plan (04/2006),
 - identify monitoring locations outlined in the Interim Measures Work Plan for Chromium Contamination in Groundwater (03/2006), and
 - include monitoring locations outlined in the Response to the Notice of Disapproval for the Work Plan for Pajarito Canyon, LANL, (07/2005)
- Provide the frequency of groundwater level measurements for each well planned for groundwater level measurement in 2007.
- Identify the driver for monitoring each well in the plan.
- Provide the best information currently available regarding the specific hydrogeologic unit(s) monitored by each well.
- Reference the procedures and associated quality assurance requirements used to collect groundwater level data, and
- Describe how groundwater level data will be collected, reviewed, analyzed, validated, and reported.

This document is applicable only to the groundwater level monitoring activities conducted as part of the WSP activities at LANL in support of regulatory compliance and the established work plans mentioned above. Groundwater level monitoring activities may also be performed separately by other EP Programs as part of characterization or cleanup investigations.

1.2 Groundwater Level Monitoring Objectives

The Water Stewardship Project (WSP) collects field data for use in determining the direction and rate of groundwater flow and transport in order to interpret observed or potential contaminant migration patterns and to assess the potential for future contaminant movement.

Groundwater level monitoring is performed to either directly or indirectly fulfill the requirements of several higher-level planning documents, as well as various state and federal regulations, orders, and agreements. The Atomic Energy Act of 1954 as amended, calls for the U.S. Department of Energy (DOE) to conduct its operations in a manner that protects the health and safety of the public and the environment. DOE Order 5400.1 implements this requirement by establishing an environmental protection program to ensure compliance with applicable federal, state, and local regulations. This order requires an annual environmental report be prepared that, among other topics, includes a summary of groundwater movement.

An Interim Facility-Wide Groundwater Monitoring Plan (IFWGMP), pursuant to DOE Order 5400.1 and NMED requirements, documents the environmental monitoring and surveillance activities conducted at LANL. That document describes groundwater level monitoring locations and frequencies for each watershed at LANL.

1.3 Regulatory Drivers

Groundwater level monitoring conducted under DOE Order 5400.1 is referred to as "surveillance monitoring." Groundwater level monitoring is also conducted at sites regulated by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The RCRA regulations (40 CFR Part 265, Subpart F) require that groundwater elevations beneath regulated sites be evaluated at least annually to assess the ability of groundwater monitoring wells to detect contamination in the uppermost aquifer. If contamination is detected, more frequent groundwater level measurements may be required to determine the rate and extent of contaminant migration.

The NMED Order on Consent (NMED 2005) requires that groundwater levels be monitored in characterization and monitoring wells at LANL and that the rate and direction of groundwater flow in the uppermost aquifer be determined at least annually.

Sections of the Order on Consent state the following.

Section IV.A.2 General Facility Information, p. 39

The Respondents shall submit to the Department the following information. These submittals are one-time submittals, unless new information becomes available. In that case, the affected submittals shall be updated and resubmitted annually:

6. Alluvial groundwater maps depicting known saturated aquifer thickness and extent and suspected vertical and lateral extents of contamination;
7. Perched-intermediate groundwater maps depicting measured groundwater elevations and known flow direction(s);
8. Regional groundwater maps depicting measured groundwater elevations and known flow direction(s);
9. The Facility's existing Hydrogeologic Atlas, including groundwater level contour map of regional aquifer including known radii-of-effects from pumping of municipal supply wells;
11. Periodic water level data presented graphically and in tabular format.

The information shall be submitted to the Department, in hardcopy and CD-ROM, beginning 30 days after the effective date of this Consent Order, and no later than March 31 of each subsequent calendar year.

Section IV.A.3 Groundwater Investigation, p. 39.

IV.A.3.a Objectives, p. 39 - 40

3. the depth to groundwater, groundwater elevations, water table elevations, and potentiometric surface distributions;
4. groundwater flow directions and velocities;
5. migration of groundwater across hydrostratigraphic boundaries;
6. watershed and regional water balance information for evaluating contaminant fate and transport including:
 - recharge and discharge locations, rates, and volumes,
 - evapotranspiration data,
 - stream-flow data;
7. water supply well pumping influences, including data for wells not owned by the Respondants, if available;

Section IX.B.2 Field Exploration Activities, p. 169.

Section IX.B.2.h.i Groundwater Levels, p. 175

Groundwater level measurements shall be obtained at intervals required by the Department. Groundwater levels also shall be obtained prior to purging in preparation for a sampling event. Measurement data and the date and time of each measurement shall be recorded on a site monitoring data sheet. The depth to ground water shall be measured to the nearest 0.01 foot. The depth to groundwater shall be recorded relative to the surveyed well casing rim or other surveyed datum.

Groundwater levels shall be measured in all wells in a given watershed (or the number of wells otherwise specified in a Department approved groundwater monitoring work plan) within 24 hours. Facility-wide regional aquifer and intermediate perched zone groundwater level measurements shall be obtained at all well locations (or the number of wells otherwise specified in a Department approved groundwater monitoring work plan) within 14 days of the commencement of the specified measuring event. The Respondents shall conduct periodic measuring events, the schedule for which shall be provided in the groundwater monitoring work plans. In addition, groundwater levels shall be measured in alluvial wells in conjunction with the collection of surface water measurements in each watershed.

2.0 Groundwater Level Measurements

2.1 Manual Measurements

Manual groundwater level measurements are obtained in single completion wells, multi completion wells, or open-hole wells using approved standard operating procedures, including (SOP) ENV-DO-202 *Manual Groundwater Level Measurements*. Manual groundwater level measurements are recorded on the Groundwater Level Measurement Form. These measurements are recorded to 0.01 ft, and are accurate to about ± 0.01 ft for each 100 ft of measurement.

Quarterly manual groundwater level measurements collected under NMED consent order requirements for wells without pressure transducers will occur within a 24 hour period for each watershed, and within a 14 day period site wide. Water level measurements required by other drivers will be collected at the frequencies listed in Tables 3.1 through 3.7.

2.2 Transducer Measurements

Pressure transducers will be installed in specified wells to collect "continuous" water level data. Continuous groundwater level measurements using pressure transducers will be obtained at specified time intervals for each well. This "continuous" time interval is specified in Tables 3.1 through 3.7. For most wells planned for monitoring, transducer measurements will be collected every hour, one minute past the hour.

Transducer measurements will be obtained using approved standard operating procedures, including ENV-DO-201 "Pressure Transducer Installation, Removal, and Maintenance," and ENV-WQH-SOP-064, "Westbay® Pressure Transducer Installation, Removal, and Maintenance." Wells monitored with pressure transducers will have manual groundwater level measurements obtained semi-annually in order to provide data quality assurance.

During groundwater sampling of Westbay® equipped wells, pressure measurements will be obtained from each port in the well in addition to ports/zones being sampled. These pressure measurements will be obtained when possible given personnel time constraints during sampling in order to provide additional water level data and to provide a periodic quality assurance check of the operation of the Westbay® installation equipment.

3.0 Groundwater Level Monitoring Locations and Frequencies, FY07

The following tables (Table 3.1 – Table 3.7) list the monitoring wells at LANL and surrounding areas that will be measured for groundwater levels in FY07. The tables specify the type of monitoring to occur, the monitoring frequency, and the regulatory driver or purpose for data collection. For wells with multiple monitoring screens, the groundwater level monitoring plan for each screen is included.

As new monitoring wells are completed, they will be assessed for groundwater level monitoring needs. If new wells are added to the scope of this project, they will be included in the monitoring plan for the subsequent year. Any significant changes to the frequency or scope of the project during the year will require a formal revision of this Groundwater Level Monitoring Plan. This plan will be revised annually.

In the following tables, the monitoring frequency code “C” refers to continuous groundwater level monitoring using a pressure transducer installed in the well. The continuous groundwater level measurement frequency for each well equipped with a transducer is designed to monitor systematic variations in water levels. Depending on the location of the monitoring well with respect to groundwater recharge areas or discharge areas (such as water supply wells), and depending on the existing record of systematic water level variations observed in a well, the measurement frequency of any well may be adjusted to provide adequate observations of water level variation.

The monitoring frequency code “Q” refers to quarterly measurements and the code “A” refers to annual measurements. These measurements will usually be obtained manually. In the multi-completion wells installed with the Westbay® MP system, all quarterly or annual measurements will be obtained using pressure transducers.

Table 3.1 – Groundwater Level Monitoring Locations and Frequencies for the Los Alamos Watershed

Pueblo Canyon (includes Acid Canyon)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
PAO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
PAO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
PAO-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	None	Well was destroyed during flooding in August of 2006. Further monitoring is not possible.
PAO-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
APCO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
TW-2A	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	None.	Scheduled for plugging and abandonment. No monitoring will occur under this plan.
POI-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
TW-1A	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	None	Planned for plugging and abandonment. No monitoring will occur under this plan.
R-5, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	A	Screen dry, no available groundwater. Screen 1 will be checked during sampling or transducer installation actives.
R-5, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
TW-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	None	Planned for plugging and abandonment. No monitoring will occur under this plan.
R-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
TW-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	None	Well not operable, planned for plugging and abandonment. No monitoring will occur under this plan.

Table 3.1 – Groundwater Level Monitoring Locations and Frequencies for the Los Alamos Watershed (continued)

Pueblo Canyon (includes Acid Canyon)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
R-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-5, screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-5, screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional		Groundwater level monitoring will occur upon completion of well and installation of pump system.
R-24	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
TW-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	None	Planned for plugging and abandonment. No monitoring will occur under this plan.

Monitoring frequency: C = continuous; M= monthly; Q= quarterly A = annual.

Table 3.1 – Groundwater Level Monitoring Locations and Frequencies for the Los Alamos Watershed (continued)

Upper Los Alamos Canyon (includes DP Canyon)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
LAO-B	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-0.3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-0.6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-1.6g	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-1.8	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAUZ-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-3a	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-4.5c	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAO-5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	A pressure transducer may be installed in LAO-5. Frequency will then change to continuous, 60 min.
LAO-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	A pressure transducer may be installed in LAO-6. Frequency will then change to continuous, 60 min.

Table 3.1 – Groundwater Level Monitoring Locations and Frequencies for the Los Alamos Watershed (continued)

Upper Los Alamos Canyon (includes DP Canyon)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
LAO-6a	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	LAO-5, LAO-6, and LAO-6a are grouped as one location in the Interim monitoring plan. LAO-6a is believed to be the most likely to have water saturation, and is planned for continuous monitoring.
LLAO-1b	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LLAO-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
LAOI(a)-1.1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-7 screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-7 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
LADP-3	Consent Order, Table XII-5	Intermediate	C, 60 min.	Monitoring requested by NMED (03/16/05). This location may change pending review of new monitoring data from intermediate well R-6i in LA Canyon.
LAOI-3.2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
LAOI-3.2a	Characterization – new well	Intermediate	C, 60 min.	
R-9i screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-9i screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-6i	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	

Table 3.1 – Groundwater Level Monitoring Locations and Frequencies for the Los Alamos Watershed (continued)

Upper Los Alamos Canyon (includes DP Canyon)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
LAOI-7	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-7, screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
TW-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	None.	Planned for plugging and abandonment. No monitoring will occur under this plan.
R-8, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-8, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-9	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Monitoring frequency: C = continuous; M= monthly; Q= quarterly A = annual.

Table 3.2 – Groundwater Level Monitoring Locations and Frequencies for the Sandia Watershed

Sandia Canyon				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
SCA-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
SCA-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
SCA-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
SCA-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
SCA-5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
SCP-1(a,b,c)	Interim Measures Work Plan for Chromium Contamination in Groundwater, (2006)	Alluvial	C, 60 min.	Triple nested piezometer. All three ports are planned for continuous monitoring.
SCP-2a	Interim Measures Work Plan for Chromium Contamination in Groundwater, (2006)	Alluvial	C, 60 min.	
SCP-2b	Interim Measures Work Plan for Chromium Contamination in Groundwater, (2006)	Alluvial	C, 60 min.	
SCO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	
SCO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	
R-12 screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-12 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	

Table 3.2 – Groundwater Level Monitoring Locations and Frequencies for the Sandia Watershed

Sandia Canyon				
R-10 screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-10 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-10a	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-11	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-12 screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-35	Interim Measures Work Plan for Chromium Contamination in Groundwater, (2006)	Regional	C, 60 min.	Groundwater level monitoring will occur upon completion of well.

Monitoring frequency: C = continuous; M= monthly; Q= quarterly; A = annual.

Table 3.3 – Groundwater Level Monitoring Locations and Frequencies for the Mortandad Watershed

Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
MCO-0.6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCA-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCA-5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCA-4	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCO-4B	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCO-5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCO-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
TSCA-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
TSWB-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	

Table 3.3 – Groundwater Level Monitoring Locations and Frequencies for the Mortandad Watershed (continued)

Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
MCA-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCO-7	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MT-1	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCO-7.5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCA-3a	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCA-3b	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCA-3c	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCA-3d	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCA-3e	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCA-3f	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCWB-5	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCWB-5.5B	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	

Table 3.3 – Groundwater Level Monitoring Locations and Frequencies for the Mortandad Watershed (continued)

Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
MCWB-6.2A	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCWB-6.5E	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCWB-7A	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCWB-7.4B	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCWB-7.7B	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MT-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MT-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MT-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MCA-8	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
MCA-9	Mortandad Canyon Groundwater Work Plan, (2004)	Alluvial	C, 60 min.	
CBDO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	Well is historically dry, water level monitoring will occur quarterly with manual measurements.
CBDO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	Well is historically dry, water level monitoring will occur quarterly with manual measurements.

Table 3.3 – Groundwater Level Monitoring Locations and Frequencies for the Mortandad Watershed (continued)

Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
CBDO-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	Well is historically dry, water level monitoring will occur quarterly with manual measurements.
CBDO-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	Well is historically dry, water level monitoring will occur quarterly with manual measurements.
CBDO-5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	Well is historically dry, water level monitoring will occur quarterly with manual measurements.
CBDO-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
CBDO-7	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
CBDO-8	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	Well is historically dry, water level monitoring will occur quarterly with manual measurements.
CBDO-9	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	Well is historically dry, water level monitoring will occur quarterly with manual measurements.
MCOI-1	Mortandad Canyon Groundwater Work Plan, (2004)	Intermediate	Q	
MCOI-8	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
MCOI-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
MCOBT-4.4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	

Table 3.3 – Groundwater Level Monitoring Locations and Frequencies for the Mortandad Watershed (continued)

Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
MCOI-5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
MCOI-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
TW-8	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-14, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-14, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	The 2006 IFWGMP only requires quarterly monitoring of R-14, screen 1. Continuous measurements will be collected since continuous monitoring will be done for screen 1, and continuous monitoring of screen 2 is not a significant increase in work load.
R-33, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-33, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Table 3.3 – Groundwater Level Monitoring Locations and Frequencies for the Mortandad Watershed (continued)

Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
R-15	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-28	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-13	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-34	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-16, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-16, screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-16, screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-16(r)	Mortandad Canyon Groundwater Work Plan, (2004)	Regional	C, 60 min.	
R-21	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Table 3.4 – Groundwater Level Monitoring Locations and Frequencies for the Pajarito Watershed

Pajarito Canyon (includes Two Mile and Three Mile Canyons)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
18-BG-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	A new alluvial well PCAO-6 may be drilled if 18-BG-1 is found to be not usable for sampling. Water level monitoring may transfer from 18-BG-1 to PCAO-6 if this occurs.
18-BG-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	A new alluvial well 3MAO-1 may be drilled if 18-BG-4 is found to be not usable for sampling. Water level monitoring may transfer from 18-BG-4 to 3MAO-1 if this occurs.
18-MW-7	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	A pressure transducer is installed in this well. This well is identified in the 2006 IFWGMP for water level monitoring. Continuous monitoring will occur under this plan to continue the historical record until a transducer installation can be performed at 18-MW-11. The equipment installed in 18-MW-7 may be moved to 18-MW-11.
18-MW-9	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
18-MW-11	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	A pressure transducer will be installed in this well during FY07.
18-MW-8	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
18-MW-17	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	A new series of wells, PCAO-7(a,b,c) may be drilled in lower Pajarito Canyon. Water level monitoring may transfer from 18-MW-17 to the PCAO-7 series. Continuous monitoring will occur in 18-MW-17 until a determination is made on the redundancy of monitoring.
18-MW-18	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
PCO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	A new series of wells, PCAO-7(a,b,c) may be drilled in lower Pajarito Canyon. Water level monitoring may transfer from PCO-1 to the PCAO-7 series. Continuous monitoring will occur in PCO-1 until a determination is made on the redundancy of monitoring.

Table 3.4 – Groundwater Level Monitoring Locations and Frequencies for the Pajarito Watershed (continued)

Pajarito Canyon (includes Two Mile and Three Mile Canyons)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
PCO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
PCO-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
PCAO-B	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
PCAO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
PCAO-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
PCAO-4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
PCAO-5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
PCAO-7a, 7b, 7c	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
3MAO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
TMO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
PCAO-8	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	Groundwater level monitoring will occur upon completion of well in FY07.
03-B-9	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	Q	
03-B-10	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	Q	

Table 3.4 – Groundwater Level Monitoring Locations and Frequencies for the Pajarito Watershed (continued)

Pajarito Canyon (includes Two Mile and Three Mile Canyons)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
03-B-13	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	Q	
R-19 screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	A	R-19 screen 1 will be pressure checked during sampling or during transducer installation annually.
R-19 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-23i shallow piezometer	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	Q	
R-23i screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	Water level monitoring will occur upon completion of the well and installation of the pump system.
R-23i screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	Water level monitoring will occur upon completion of the well and installation of the pump system.
R-17i	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	Water level monitoring will occur upon completion of the well and installation of the pump system.
R-17, Screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	Water level monitoring will occur upon completion of the well and installation of the pump system.
R-17, Screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	Water level monitoring will occur upon completion of the well and installation of the pump system.
R-18	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-19 screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-19 screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-19 screen 5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Table 3.4 – Groundwater Level Monitoring Locations and Frequencies for the Pajarito Watershed (continued)

Pajarito Canyon (includes Two Mile and Three Mile Canyons)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
R-19 screen 6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-19 screen 7	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-20, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	Water level monitoring will occur after the re-installation of the Westbay system when well re-habilitation is complete.
R-20, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	Water level monitoring will occur after the re-installation of the Westbay system when well re-habilitation is complete.
R-20, screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	Water level monitoring will occur after the re-installation of the Westbay system when well re-habilitation is complete.
R-22 screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-22 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-22 screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-22 screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-22 screen 5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-23, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-32, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-32, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Table 3.4 – Groundwater Level Monitoring Locations and Frequencies for the Pajarito Watershed (continued)

Pajarito Canyon (includes Two Mile and Three Mile Canyons)				
R-32, screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Monitoring frequency: C = continuous; M= monthly; Q= quarterly; A = annual.

Table 3.5 – Groundwater Level Monitoring Locations and Frequencies for Water Canyon and Cañon de Valle Watersheds

Water Canyon (includes Cañon del Valle, Potrillo, and Fence canyons)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
CDV-16-2655	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
CDV-16-2656	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
CDV-16-2657	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
CDV-16-2658	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
CDV-16-2659	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MSC-16-6293	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MSC-16-6294	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
MSC-16-6295	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	
FCO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	
WCO-1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	
WCO-2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	C, 60 min.	

Table 3.5 – Groundwater Level Monitoring Locations and Frequencies for Water Canyon and Cañon de Valle Watersheds (continued)

Water Canyon (includes Cañon del Valle, Potrillo, and Fence canyons)				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
WCO-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	
R-25, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
R-25, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
CdV-R37-2 screen 1d	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	A	CdV-R37-2 screen 1 will be pressure checked during sampling or transducer installation events. Screen 1 has been historically dry.
CdV-16-1(i)	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
CdV-16-2(i)r	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	C, 60 min.	
CdV-R15-3 screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	A	CdV-R15-3 screen 1 will be pressure checked during sampling or transducer installation events. Screen 1 has been historically dry.
CdV-R15-3 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	A	CdV-R15-3 screen 2 will be pressure checked during sampling or transducer installation events. Screen 2 has been historically dry.
CdV-R15-3 screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	A	CdV-R15-3 screen 3 will be pressure checked during sampling or transducer installation events. Screen 3 has been historically dry.
MSC-16-02665	1998 260 CMS Plan	Intermediate	A	A manual groundwater level measurement will be obtained once a year during spring runoff.
90LP-SE-16-02669	1998 260 CMS Plan	Intermediate	A	A manual groundwater level measurement will be obtained once a year during spring runoff.
R-26, screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Table 3.5 – Groundwater Level Monitoring Locations and Frequencies for Water Canyon and Cañon de Valle Watersheds (continued)

Water Canyon (includes Cañon del Valle, Potrillo, and Fence canyons)				
Well Name	Well Name	Well Name	Well Name	Well Name
R-26, screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	R-26 MP2A is clogged with drilling fluids, inoperable as of April 2005. Monitoring MP2B.
R-25, screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-25, screen 5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-25, screen 6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-25, screen 7	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-25, screen 8	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-27	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
CdV-R37-2 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
CdV-R37-2 screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
CdV-R37-2 screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
CdV-R15-3 screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Table 3.5 – Groundwater Level Monitoring Locations and Frequencies for Water Canyon and Cañon de Valle Watersheds (continued)

Water Canyon (includes Cañon del Valle, Potrillo, and Fence canyons)				
Well Name	Well Name	Well Name	Well Name	Well Name
CdV-R15-3 screen 5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
CdV-R15-3 screen 6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Monitoring frequency: C = continuous; M= monthly; Q= quarterly; A = annual.

Table 3.6 – Groundwater Level Monitoring Locations and Frequencies for Ancho Canyon Watershed

Ancho Canyon				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
39-UM-3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	
39-DM-6	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Alluvial	Q	
R-31 screen 1	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Intermediate	A	R-31 screen 1 will be pressure checked during sampling or transducer installation events.
DT-5A	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
DT-9	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
DT-10	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-31 screen 2	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-31 screen 3	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-31 screen 4	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	
R-31 screen 5	Interim Facility-Wide Groundwater Monitoring Plan, (2006)	Regional	C, 60 min.	

Monitoring frequency: C = continuous; M= monthly; Q= quarterly; A = annual.

Table 3.7 – Groundwater Level Monitoring Locations and Frequencies for Water Supply Wells

Water Supply Wells				
Well Name	Driver for Monitoring	Water Body or Saturated Zone	Frequency	Comments
G-1a	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	None	Water level monitoring at G-1a is not possible due to well completion.
G-2a	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	
G-3	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	
G-3a	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	
G-4a	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	Water level monitoring at G-4a will occur if the approval to purchase monitoring equipment is received in FY07.
G-5a	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	
O-1	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	Water level monitoring at O-1 will occur if the approval to purchase monitoring equipment is received in FY07, and Los Alamos County is agreeable to removing the current equipment installed in the well.
O-4	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	None	Water level monitoring at O-4 is not possible due to well completion.
PM-1	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	Water level monitoring at PM-1 will occur if the approval to purchase monitoring equipment is received in FY07.
PM-2	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	

Table 3.7 – Groundwater Level Monitoring Locations and Frequencies for Water Supply Wells (continued)

Water Supply Wells				
PM-3	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	
PM-4	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	
PM-5	NMED Order Section IV.A.3 Groundwater Investigation, water supply well pumping influences	Regional	C, 60 min.	

Monitoring frequency: C = continuous; M= monthly; Q= quarterly; A = annual.

4.0 Data Handling

4.1 Data Review and Evaluation

Groundwater level data will be reviewed, processed, and evaluated according to ENV-WQH-QP-062.1, "Groundwater Level Data Processing, Review, and Validation." Data review and evaluation will be documented on the *Groundwater Level Data Review and Validation* form.

4.2 Data Management

Groundwater level data will be managed according to the requirements of the Quality Assurance Project Plan (QAPP) for the Groundwater Level Monitoring Project. All groundwater level data will be provided to data users via the WQDB.

5.0 Groundwater Level Data Analysis and Reporting

Groundwater level data will be reported according to the Quality Assurance Project Plan (QAPP) for the Groundwater Level Monitoring Project.

5.1 Reporting

Groundwater level data will be reported via the WQDB. All groundwater level data will be regularly and routinely updated and posted to the WQDB.

Groundwater level data will be included in the watershed based Periodic Monitoring Reports (PMRs). Validated water level data to be included in the PMRs will be pulled from the WQDB.

A Groundwater Level Status Report for FY06 will be completed prior to March 31st that will include graphic representations of all groundwater data collected during FY06.

6.0 References

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