Report

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NATIONAL LABORATORY
EST. 1943

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Date: February 15, 2005
Refer to: ER2005-0056

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FEB 2005
NMED Hazardous Waste Bureau

Mr. John Young, Corrective Action Project Leader
Permits Management Program
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505-6303

SUBJECT: QUARTERLY TECHNICAL REPORT FOR OCTOBER – DECEMBER 2004

Dear Mr. Young:

Enclosed are two copies of the Remediation Services Quarterly Technical Report, October – December 2004. The report presents information on the activities for the quarter including regulatory meetings, sampling, cleanups, and report writing. The report includes a certification statement signed by the designee owner and operator for the Los Alamos National Laboratory. In accordance with Laboratory security requirements, copies of this report are available upon request through the external Remediation Services Web site at http://erproject.lanl.gov/documents/virtualhome.html.

If you have questions regarding this report, please contact David J. McInroy at (505) 667-0808 or David Gregory at (505) 667-5808.

Sincerely,

David J McInroy, Deputy Project Director
Remediation Services
Los Alamos National Laboratory

Sincerely,

David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Operations

DM/DG/MS/ds

Enclosure: 1) Quarterly Technical Report for October – December 2004 ER2005-0003
2) Certification

8228

Mr. John Young
ER2005-0056

February 15, 2005

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CERTIFICATION

CERTIFICATION BY THE ENVIRONMENTAL STEWARDSHIP–REMEDIATION SERVICES (ENV-RS) PROJECT TECHNICAL REPRESENTATIVES

Document Title: **QUARTERLY TECHNICAL REPORT FOR OCTOBER – DECEMBER 2004**

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Name: _____ Date: 2/15/05

David McInroy, Deputy Project Director
Remediation Services
Los Alamos National Laboratory

or

_____ Date: _____

Ken Hargis, Division Leader
Environmental Stewardship Division
Los Alamos National Laboratory

_____ Date: 2/15/05

David Gregory, Federal Project Director
Environmental Restoration Program
Department of Energy/Los Alamos Site Office

or

_____ Date: _____

John Ordaz,
Assistant Area Manager of Environmental Projects
Department of Energy/Los Alamos Site Office

LA-UR-05-0499
February 2005
ER2005-0003

Quarterly Technical Report October–December 2004

Los Alamos
NATIONAL LABORATORY
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LIST OF ACRONYMS AND ABBREVIATIONS

ACA	accelerated corrective action
AOC	area of concern
BMP	best management practice
CCNS	Concerned Citizens for Nuclear Safety
CMS	corrective measures study
CMI	corrective measures implementation
COPEC	chemical of potential ecological concern
D&D	decontamination and decommissioning
DECP	Department of Environment and Cultural Preservation
DI	Desk Instruction
DOE	Department of Energy
DOE-LASO	Department of Energy–Los Alamos Site Office
DSA	documented safety analysis
EM	Office of Environmental Management (DOE)
EMS	Environmental Management System
ENV-ECR	Environmental Stewardship–Environmental Characterization and Remediation Group
ENV-RS	Environmental Stewardship–Remediation Services
ENV-WQH	Environmental Stewardship–Water Quality and Hydrology
EPA	Environmental Protection Agency
ER	Environmental Restoration Project
ERDB	Environmental Restoration Database
ESL	ecological screening level
ET	evapotranspiration
FIRP	Facilities Infrastructure Recapitalization Program
FFCA	Federal Facility Compliance Agreement
FMU	Facility Management Unit
FSF	Field Support Facility
FWO-IP	Facilities and Waste Operations Division–Infrastructure Project
FY	fiscal year
GIS	geographic information system
GPS	global positioning system
HE	high explosives

HSWA	Hazardous and Solid Waste Amendments
IA	interim action
IM	interim measure
Laboratory	Los Alamos National Laboratory
MDA	material disposal area
NES	Nuclear Environmental Sites
NMED	New Mexico Environment Department
NMED-HWB	New Mexico Environment Department–Hazardous Waste Bureau
NMED–SWQB	New Mexico Environment Department–Surface Water Quality Bureau
NNMCAB	Northern New Mexico Citizens Advisory Board
NNSA	National Nuclear Security Administration
NOD	Notice of Deficiency
NPDES	National Pollutant Discharge Elimination System
NTISV	nontraditional in situ vitrification
PAMG	Performance Assessment Maintenance Group
PCE	tetrachloroethene
PM	Program Management (Laboratory division)
PR-ID	permit and requirement identification
ppbv	parts per billion by volume
ppmv	parts per million by volume
PRS	potential release site
PTSE	primary toxicity study evaluation
QP	quality procedure
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RPF	Records Processing Facility
RPD	relative percent difference
RSI	request for supplemental information
SAP	sampling and analysis plan
SMART	spatial mapping, analysis, and reporting tool
SMO	Sample Management Office
SOP	standard operating procedure
SR	sample round
SWMU	solid waste management unit

SWPPP	Stormwater Pollution Prevention Plan
SWSC	Solid Waste System Consolidation
SWTS	Storm Water Tracking System
TA	technical area
TDR	time domain reflectometry
TRV	toxicity reference value
TCA	1,1,1-trichloroethane
TCE	trichloroethene
VCA	voluntary corrective action
VCM	voluntary corrective measure
VOC	volatile organic compound
WCSF	Waste Characterization Strategy Form

QUARTERLY TECHNICAL REPORT

OCTOBER–DECEMBER 2004

LOS ALAMOS NATIONAL LABORATORY

ENVIRONMENTAL STEWARDSHIP–REMEDIATION SERVICES

LOS ALAMOS SITE OFFICE

CONTRACTOR: University of California

DEPUTY PROJECT DIRECTOR: David McInroy

NUMBER OF POTENTIAL RELEASE SITES: Approximately 830

POTENTIAL WASTE: High Explosives, Inorganic Chemicals, Organic Chemicals

1.0 INTRODUCTION

This quarterly report describes the technical status of activities in the Los Alamos National Laboratory (the Laboratory) Environmental Stewardship–Remediation Services (ENV-RS). The activities are reported according to the current program structure and then, when applicable, by the technical area (TA) where the specific activity is located. The Hazardous and Solid Waste Amendments (HSWA) portion of the Laboratory's Hazardous Waste Facility Permit (Module VIII, Section P, Tasks V, C) requires the submission of a technical progress report on a quarterly basis. This report, submitted to fulfill the permit's requirement, summarizes much of the fieldwork and report writing performed this quarter in ENV-RS.

2.0 WORK PACKAGES

2.1 Townsites — Project Leader: Terry Rust

Land transfer, private property, Los Alamos community development, Department of Energy (DOE) project support, and other non-DOE property-related issues continue this quarter.

2.1.1 TA-00

DP Road Land Transfer Tract Solid Waste Management Units (SWMUs) 00-030(a), 00-030(b)-00, and 00-033(a) and part of SWMU 21-021-99] and Areas of Concern (AOCs) 00-010(a,b), 00-027, and 00-029(a,b,c). A Notice of Deficiency (NOD) on the voluntary corrective action (VCA) completion report for SWMUs 0-030(a), 0-030(b)-00 and 0-033(a); AOCs 0-029(a,b,c) and 0-010(a,b); and for the interim action (IA) at SWMU 21-021-99 required supplemental sampling at selected locations. Confirmation sampling indicated a very small amount of soil needed to be removed. After additional removal and subsequent confirmation sampling were completed, the team restored the site(s) and demobilized.

The VCA completion report supplement addressing the results of the in situ remediation at AOC 00-027 is currently in progress.

Preparation of the Rendija Canyon potential release site (PRS) aggregate work plan began in the first quarter.

2.1.2 TA-01

The reinvestigation and additional remediation of the former TA-01 area is currently underway. Initial work has begun on preparing the work plan.

2.1.3 TA-10

Work on Bayo Canyon PRS Aggregate work plan began in the first quarter.

2.1.4 TA-19

The data evaluation and final completion report are underway, and a 60% draft is expected this quarter.

2.1.5 TA-73

Ash Pile

DOE awarded a contract to characterize and clean up the ash debris from PRS 73-002 (Ash Pile). DOE is working toward meeting the May 31, 2005, deadline for submittal of the work plan and the September 30, 2005, deadline for cleanup. Work on the characterization should begin in late February, early March.

Airport Landfill

The environmental assessment (EA) on the airport landfill is progressing and will be completed in late April. Los Alamos County has selected a preferred alternative for the landfill cover cap that is commensurate with their airport development plans, and this preferred alternative will be part of the EA. A redesign and amended Phase II Work Plan that incorporates the results of the EA will be submitted to HWB by June 30, 2005.

2.1.6 Pueblo Canyon PRS Aggregate

In mid-December 2004, initial work began on preparing the Pueblo Canyon Aggregate investigation work plan. This work plan will address multiple TAs, including TA-31, TA-45, TA-73, and portions of TA-00 and TA-01.

2.1.7 Facility Integration Activities

Land transfer, private property, Los Alamos community development, and other non-DOE property-related issues were addressed this quarter.

2.2 Industrial Sites — Project Leader: Gabriela Lopez Escobedo

2.2.1 Middle Mortandad/Ten Site Aggregate

Field Investigation: The investigation fieldwork, as described in the Middle Mortandad/Ten Site Aggregate and supplemental sampling and analysis plans (SAPs), began in late August 2004. By the end

of this quarter (December 31, 2004), all the boreholes, hand-auger holes, and transects within TA-35 were sampled, with the exception of Pratt Canyon and the TA-35 wastewater treatment plant locations. The latter are Nuclear Environmental Sites (NES), requiring an approved documented safety analysis (DSA) before the work is performed.

All the sampling within TAs-04, TA-05, TA-52, TA-60, and TA-63 has been completed, with the exception of one hand-auger location. This location is within an impoundment and has been covered with standing water and/or ice for over a month. Reporting activities for Middle Mortandad/Ten Site Aggregate will begin in the second quarter of FY2005.

2.2.2 TA-53

TA-53 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report: ENV-RS personnel are awaiting comments on or approval of the investigation and remediation report for SWMU 53-002(a)-99 and AOC 53-008 (LANL 2004, 85221), which was delivered to the New Mexico Environment Department (NMED) on January 30, 2004.

2.2.3 Facility Integration Activities

During the fourth quarter of FY2004, Industrial Sites Team members responded to approximately 110 requests for excavation permits, 36 permit and requirement identification (PR-ID) questionnaires, 27 structure-siting requests, and numerous facility inquiries about new construction projects. The team worked with facility managers on ongoing projects and planned construction projects collocated with SWMUs and AOCs by attending meetings, conducting field visits, and providing information. Section 2.13 further describes the activities undertaken this quarter.

2.3 High-Explosives Production Sites and Material Disposal Area (MDA) P Closure — Project Leaders: Don Hickmott and Bill Criswell

Field activities associated with the High-Explosives Production Sites Team were initiated at the TA-16 Ponds and TA-16-340 Complex. These activities included surveying, drilling, sampling, soil removal, and geophysical investigations.

2.3.1 TA-16

TA-16-260 Outfall: The TA-16-260 Outfall Corrective Action Team continued fieldwork and data analysis in support of the corrective measures study (CMS)/corrective measures implementation (CMI) at SWMU 16-021(c)-99 (the TA-16-260 Outfall). Hydrogeology studies and high-performance team activities also continued this quarter.

2.3.1.1 TA-16 CMS Hydrogeology and Monitoring

The field team continued to monitor water levels in the Cañon de Valle alluvial wells and in the intermediate-depth wells. The hydrologic system in the canyon remained moderately wet throughout the quarter, and during this period, surface flow in Cañon de Valle extended from near the Burning Ground spring area to just past MDA P, the typical disposition of surface flow in the canyon during low- to moderate-flow conditions. All five alluvial wells in Cañon de Valle contained water during the first half of this quarter; the uppermost well was dry in the second half of the quarter. Surface flow was present in Martin Spring Canyon through early December 2004. SWSC contained a small amount of standing water early in the quarter. The Fishladder seep was dry throughout the reporting period. The 90s Line pond was

wet throughout the quarter, which impeded drilling activities. The Cañon de Valle headwaters were saturated. The intermediate depth wells maintained approximately the same water levels as previous quarters. Quarterly sampling in the Cañon de Valle alluvial system was completed in October 2004 at the above locations where water was found.

Deep wells CdV-R-15-3 and CdV-R-37-2 were sampled during October 2004. Field parameters were consistent with previous sampling rounds.

Three new intermediate-depth boreholes continued to be monitored. The first borehole, CdV-R-16-1(i), located in Cañon de Valle, had its pump installed and will be sampled in the second quarter of FY2005. The second borehole, CdV-R-16-2(i), was drilled east of the TA-16 Burning Ground to a depth of 1063 ft. It was completed as a two-screen well, with the screens located at approximately 860 and 1000 ft. This well became dry in January 2004. Another borehole, CdV-6-3(i), was drilled southeast of TA-16-340 to a depth of approximately 1400 ft. No water was observed in this borehole during drilling. Water-level measurements in CdV-R-16-2(i) suggest little water is being produced in the borehole, but similar measurements in CdV-R-16-3(i) suggest water is present with extremely slow infiltration. CdV-R-16-2(i) will be overdrilled and a new well drilled to ensure that a water-producing well is available for monitoring. CdV-R-16-3(i) was bailed, and water was collected for a screening sample in December 2004.

Approval with modifications for the Phase III RFI report for SWMU 16-021(c)-99 was received in late June 2004; the report was updated and submitted to NMED in December 2004.

2.3.1.2 SWMU 16-021(c)-99 CMS

The CMS report for SWMU 16-021(c)-99 was submitted to NMED on November 26, 2003. Because the Laboratory is awaiting approval of the report, no new activity occurred at this site during this quarter.

2.3.1.3 Surface Water

Best management practices (BMPs) at SWMU 16-021(c)-99 were inspected and maintained. Jute matting located in the TA-16-260 drainage required repairs; these were completed during October 2004.

2.3.2 TA-16

TA-16-340 Complex (Fishladder) and High Explosives (HE) Ponds: The investigation work plan for the TA-16-340 Complex was submitted to NMED on March 31, 2004. This work plan describes proposed cleanup activities, which will be coordinated with decontamination and decommissioning (D&D) and proposed Phase II characterization activities for soils, tuff, and alluvial groundwater associated with SWMUs at the TA-16-340 Complex. NMED approved this work plan on June 28, 2004.

Fieldwork for the TA-16-340 Complex and HE Ponds projects was initiated in October 2004. Activities completed this quarter included the following:

(1) conducting field surveys for HE and radionuclides,

(2) drilling and sampling 16 shallow (less than 20 ft) boreholes at the 30s Line Ponds,

(3) drilling and vapor sampling two intermediate (approximately 200 ft) boreholes at the TA-16-340 outfall,

(4) screening of all borehole samples collected using D-Tech HE kits,

(5) submitting core samples to a laboratory based on the screening results,

(6) sampling to determine the nature and extent of contamination at the TA-16-340 Complex,

(7) conducting initial soil-removal activities at the TA-16-340 outfall area, and

(8) conducting geophysical investigations in Fishladder Canyon.

Screening analyses showed low levels of HE in the 30s Line Ponds. Standing water at the site prevented sampling at the 90s Line Pond. A job-site accident at the TA-16-340 Complex slowed progress on the soil cleanup during December 2004.

2.3.3 MDA P Closure

The MDA P and Flash Pad 387 closure certification report was submitted to NMED on October 31, 2003. The VCA report for SWMU 16-016(c)-99 (Flash Pad 386, a barium nitrate pile, and a septic system) was submitted to NMED on November 26, 2003. The response to the NMED request for supplemental information (RSI) was submitted on May 14, 2004, and the response to the notice of disapproval for the MDA P closure certification report was submitted on November 24, 2004. ENV-RS personnel are awaiting approval of the MDA P closure certification report as well as comments on the VCA report.

2.4 Canyon Investigations — Project Leader: Danny Katzman

2.4.1 Los Alamos and Pueblo Canyons

ENV-RS personnel are awaiting comments on or approval of the Los Alamos and Pueblo Canyons investigation report, submitted to NMED in April 2004.

2.4.2 Mortandad Canyon

In September 2004, the Laboratory began implementing the approved groundwater work plan for Mortandad Canyon (LANL 2004, 82613). Work also continued on implementing the sediment investigation according to the 1997 work plan for Mortandad Canyon (LANL 1997, 56835). Results from the groundwater investigation and investigations of sediment and biota in Mortandad Canyon (described below) will be integrated in the investigation report for Mortandad Canyon currently due to the NMED in June 2006.

2.4.2.1 Sediment Investigation

Analytical data were received and validated from Phase 2 sediment investigations in the Mortandad Canyon watershed. These data are currently undergoing evaluation to help determine the specific sampling objectives for Phase 3 investigations, if needed.

2.4.2.2 Surface and Alluvial Groundwater Investigation

In accordance with the approved Mortandad Canyon groundwater work plan (LANL 2004, 82613), drilling of alluvial groundwater monitoring wells, piezometers, and characterization boreholes in Mortandad Canyon began in September 2004. To date, 5 alluvial monitoring wells, 2 nested piezometers, and 13 characterization boreholes have been completed. Surface water sampling sites have been selected and are described in detail in the approved groundwater work plan (LANL 2004, 82613). Sampling of alluvial groundwater and surface water will be conducted concurrently and is scheduled to begin in the spring of 2005 after the planned alluvial wells are completed and developed. Sampling of core for moisture, anions,

and tritium was conducted as core was collected from the characterization boreholes. Sampling for other analytes will be conducted following core curation.

2.4.2.3 Intermediate and Regional Groundwater Investigation

Installation of boreholes R-33 and R-34 in Mortandad Canyon was completed in the first quarter of FY2005. Five intermediate-depth groundwater monitoring wells, described in the revision of the groundwater work plan for Mortandad Canyon (LANL 2004, 82613), were also completed in the first quarter. One intermediate well is planned for completion in the second quarter of FY2005.

2.4.2.4 Biota Investigation

Development of a biota plan for Mortandad Canyon began this quarter and involved compiling and evaluating existing data. The plan will present the approach for characterizing potential adverse ecological effects associated with chemicals of potential ecological concern (COPECs) identified from the sediment, surface water, and alluvial groundwater investigations conducted to date in Mortandad Canyon. The plan will be submitted as an addendum to the initial biota plan that was included in the approved work plan for Mortandad Canyon, dated September 1997. The plan will be submitted to NMED in the third quarter of FY2005.

2.4.2.5 Infiltration Investigation

The primary goal of the infiltration study is to quantify subsurface fluxes in the zones from the land surface to the zone below the alluvial aquifer to better understand the rates of water and contaminant movement in the various parts of Mortandad Canyon. Downhole equipment for monitoring infiltration was installed into characterization boreholes drilled in September and October 2004. Target installation areas were selected according to existing hydrologic and contaminant information as well as recent geophysical surveys.

2.4.3 Pajarito Canyon

The Laboratory began preparing for field work in the Pajarito Canyon watershed as specified in the 1998 work plan for Pajarito Canyon (LANL 1998, 58820). Field work is anticipated to begin in the spring of 2005 with Phase 1 sediment investigations in 13 reaches identified as priority reaches in the work plan.

2.5 Deep Groundwater Wells — Project Leader: Armand Groffman

Groundwater sampling activities for the regional and intermediate wells are as follows. Regional well R-5 (fourth sampling round [SR]) was sampled the last week in September. Well R-8a (fourth SR) was sampled in December; R-15 (seventh SR) was sampled during mid-November; R-CdV-15-3 (15th SR) was sampled the third week of October; and R-16 (fourth SR) was sampled the first week of December. The third and fourth sample rounds were collected from R-20 during late September and early November, respectively. R-21 was sampled during the third week of September (third SR) and mid-December (fourth SR). The fourth and last characterization sampling round was collected from R-23 in late September, and the fourth round of samples was collected from R-32 in mid-November. Finally, the tenth round of samples was collected from R-CdV-37-2 in late October, and sampling at R-33 is still on hold because of problems with the Westbay sampling port.

Hydrochemical groundwater data from monitor wells R-5 (SRs 2 and 3), R-8a (SRs 1 and 2), R-CdV-15-3 (SRs12, 13, and 14), R-16 (SRs 2, 3, and 4), R-20 (SRs 1, 2, and 3), R-21 (SRs 1, 2, and 4), R-32

(SRs 4), and R-CdV-37-2 (SRs 9, and 10) are reported in Appendix-A. Because of the size of Appendix A, the data tables are included on a CD in MS Word format.

2.6 TA-21 Material Disposal Areas — Project Leader: Ron Rager

SWMU 21-014 (MDA A) and General's Tanks. An investigation work plan and historical investigation report are currently being written to determine the nature and extent of contamination on the surface and below MDA A. Planning activities to sample the contents of the General's Tanks, categorized as containing Hazard Category 2 nuclear facility inventories, are being undertaken by AEA Technologies through a DOE contract. Bench-pilot and engineering-scale tests were performed on a surrogate tank heel material, resulting in a demonstration of the technology either to remove or to grout in place the residue of solids remaining at the bottom of the tank after pumping (also called "heel material").

SWMU 21-015 (MDA B). The investigation work plan for MDA B, submitted to NMED on June 30, 2004, proposes to characterize the contents of the landfill within the MDA and sampling bedrock immediately below the disposal trenches. The Laboratory received a notice of disapproval of the plan on October 26, 2004, and responded to the comments on November 24, 2004. NMED's letter of approval was received by DOE on December 23, 2004.

SWMU 21-016(a)-99 (MDA T). An investigation work plan for MDA T was submitted to NMED on February 29, 2004. A notice of disapproval of the plan was received on September 30, 2004. The Laboratory responded to comments on October 29, 2004, and is awaiting its response.

SWMU 21-017(a)-99 (MDA U). An investigation work plan and historical investigation report for MDA U were submitted to NMED on November 30, 2004. The Laboratory is currently awaiting comments on the investigation work plan.

SWMU 21-018(a)-99 (MDA V). The investigation work plan for SWMU 21-018(a)-99 was submitted to NMED on June 30, 2004. NMED sent a notice of disapproval for the work plan on September 14, 2004, and the Laboratory submitted its response on October 20, 2004. NMED approved the investigation work plan with modifications on November 5, 2004. Preparation for fieldwork at SMWU 21-018(a)-99 will begin in the second quarter of FY2005.

2.7 TA-21 Non-Material Disposal Areas — Project Leaders: Mark Thacker and Becky Coel-Roback

SWMU 21-011(k) VCM Activities. Personnel are awaiting comments on or approval of the voluntary correction measure (VCM) report documenting field activities at the SWMU 21-011(k) outfall, which was submitted to NMED at the end of October 2003. The VCM was successful in removing low-level radioactively contaminated soil, sediment, and tuff, and confirmation samples show the site meets the trail-user, risk-based scenario.

SWMU 21-013(d)-99 VCA Activities. Resampling was conducted at eight locations within SWMU 21-013(d)-99 on September 23, 2004, in response to comments from NMED in its notice of disapproval of the VCA completion report. The resampling activities were necessary to determine if elevated levels of chromium, copper, and nickel observed in 2003 samples from the SWMU are the result of a release from the site, or if they are an artifact of the sampling method. The elevated metal results were not repeated in the 2004 samples, indicating that the elevated levels observed in the 2003 samples are an artifact of the sampling method. A response to a supplemental notice of disapproval providing the resampling results was submitted to NMED on December 23, 2004.

SWMU 21-018(a)-99 NTISV Hot Demonstration at MDA V. The Laboratory is awaiting comments on or approval of the interim measure completion report for the nontraditional in situ vitrification (NTISV) hot demonstration project at MDA V. The report was submitted to NMED on September 30, 2003.

SWMU 21-029 DP Tank Farm. The quarterly site inspection at the two hydrocarbon seep areas in DP Canyon was conducted at the end of December 2004. The inspection report for the first quarter of FY2005 is included as Appendix B of this document. A letter requesting that DP Canyon quarterly inspections cease was submitted to NMED in May 2003. Quarterly inspections will continue until the Laboratory receives concurrence from NMED.

TA-21 Combined Plans. The investigation work plan for the DP Site Aggregate Area at TA- 21 was submitted to NMED on August 31, 2004. Work continues on the implementation plan for the corrective action sites. The plan will summarize existing data and propose removal actions and confirmatory sampling for the corrective action sites. Radiological and geophysical surveys have been finalized at the corrective action sites, and the data are being used to refine the scope of the planned removal actions.

2.8 TA-49, TA-50, and TA-54 — Project Leaders: John Hopkins and Dwain Farley

2.8.1 TA-49

SWMU 49-001(a)-00, MDA AB, Areas 2, 2A, and 2B. Moisture monitoring continued at this site during the first quarter of FY2005. Neutron moisture measurements were performed on only 7 of 18 locations as a result of instrument failure. During the quarter, time domain reflectometry (TDR) measurements and precipitation quantities were recorded twice a day to a Campbell Scientific datalogger. The TDR data, a discussion of moisture trends over time, and a discussion of the relationship between precipitation and moisture content are included in Appendix C.

Erosion-control BMPs were inspected following precipitation events and remain in good condition. Biological intrusion from ground squirrel activity was observed. The wire mesh biological intrusion barrier will be repaired as soon as weather conditions permit.

2.8.2 TA-50

SWMU 50-0009, MDA C. The Laboratory is awaiting comments on or approval of the update to the MDA C investigation work plan, which was submitted to NMED in January 2004.

2.8.3 TA-54

SWMU 54-013(b)-99, MDA G. NMED approved the MDA G investigation work plan on November 5, 2004. A readiness review was held on January 6, 2005, after which the drilling team was mobilized.

SWMU 54-004, MDA H. NMED issued a notice of disapproval for the CMS on October 20, 2004. Responses to the notice were sent to NMED in November 2004. NMED, the Laboratory, and DOE participated in a telephone conversation on December 16, 2004, to review the comment responses. The Laboratory will incorporate NMED's comments and issue a final CMS report in January 2005. On December 17, 2004, NMED requested the Laboratory initiate quarterly sampling of three MDA H boreholes for volatile organic compounds (VOCs) and tritium. The Laboratory began sampling in January 2005.

SWMU 54-006, MDA L. NMED approved the investigation work plan on September 28, 2004. Drilling activities began on November 29, 2004, and continued through the second week of January 2005.

Pore-Gas Monitoring. The quarterly pore-gas monitoring at MDA G and MDA L was completed as required by Module VIII of the Laboratory's Hazardous Waste Facility Permit. The field-screening information and final analytical data for the first quarter of FY2005 are presented in Appendix D of this report.

2.9 Corrective Action Strategy — Project Leader: Richard Mirenda

2.9.1 Science-Based Monitoring Stewardship

The progress on the three elements included in the science-based monitoring stewardship task is summarized below.

2.9.1.1 End-States Vision Document Development and Maintenance

The team continued to revise the End-States Vision document. The detailed maps are being updated and also will be used with the PRS Aggregate report to avoid duplication.

2.9.1.2 Long-Term Environmental Stewardship Transition Planning

The team worked with National Nuclear Security Administration (NNSA) personnel to incorporate information regarding long-term environmental stewardship site information into the NNSA ten-year comprehensive site plan.

The team began to document and establish an internal webpage for long-term environmental stewardship. Work on the concept and design of the external webpage also continued.

2.9.1.3 Science-Based Risk Reduction

The team completed the probabilistic groundwater pathway risk assessment and quantitative decision analysis for Mortandad Canyon. The assessment completed for Mortandad Canyon groundwater contaminants incorporates conceptual uncertainties in contaminant releases, infiltration processes along Mortandad Canyon, and flow paths in the regional aquifer. It also validates the heterogeneity, variability, and uncertainty in contaminant transport through the vadose zone and the regional aquifer. The results of the probabilistic risk assessment translate the overall systematic uncertainty into probabilities of exceeding threshold values for safe drinking water. The decision analysis then translates the results of the probabilistic risk assessment into evaluations of alternative actions (i.e., additional investigations, potential remedies, monitoring) that have a high likelihood of reducing the probability of exceeding these thresholds. A draft report describing the methodology and results of that risk assessment and decision analysis will be completed early in the second quarter.

2.9.2 Data Quality

Data-quality activities for the first quarter of FY2005 included the following:

- began revising standard operating procedure (SOP) 1.04 to include information on global positioning satellite (GPS) instruments used in the field (e.g., make/model and accuracy),
- continued tracking missing *x-y* coordinates for sample data by project leaders, and

- began revision of Desk Instruction (DI-) 4.28 to include a checklist for review of frequency of detect tables.

2.9.3 Peer Review Team

Team members coordinated and participated in peer reviews for ENV-RS documents this quarter, as needed.

2.9.4 Data Validation

Data verifiers and validators completed the verification and validation of 261 requests during the quarter. Data validators remain current with incoming data packages. The process consists of validating external laboratory data packages, based on the Environmental Protection Agency's (EPA's) National Functional Guidelines. Team members follow quality procedure (QP-) 5.13, Rev. 0, "Analytical Data Verification/Validation Process." Data validators also assisted with the assignment and review of reporting qualifiers and reason codes for preparing data sets as well as addressing duplicate sample analytes in the Environmental Restoration Database (ERDB).

Data verifiers continued to review reports and plans and compared the data to the ERDB and the hard-copy data packages. This exercise is designed to evaluate the completeness and accuracy of data sets in the ERDB.

2.9.5 Data Stewardship

2.9.5.1 Integrated Information Management System Support

The Data Stewardship Team continued to work with the Information Management Team to design and implement the Integrated Information Management System. The system consists, in part, of software tools intended to ensure consistency and accuracy in data and information management and to allow tracking and traceability of environmental data. This quarter, the Data Stewardship Team continued to provide technical support for developing, testing, and implementing the sample-tracking application; verification and validation application; and the spatial mapping, analysis, and reporting tool (SMART) application.

2.9.5.2 Data Stewardship and Reporting

The Data Stewardship Team continued to deliver quality data sets to meet ENV-RS needs. The team continued to make progress with the cleanup of legacy data. Data stewards also continued optimizing the data process.

Data Set Preparation. Team members prepared and delivered 32 electronic data sets requested by ENV-RS data users and ENV Division. In addition, 58 new sampling events were documented, and the required field paperwork was generated for 1765 samples.

Data Management and Legacy Data Cleanup. Data management and legacy data cleanup activities continued this quarter. Data stewards continued work on other types of global data cleanup, such as the removal of duplicate records in the ERDB. A field data information review of 4015 Sample Management Office (SMO) event sample records was performed using ENV DI-4.26, "Review of Sample Field Data." In addition, 23 new sample events were moved to the "field complete" category, indicating that all 716 samples in the events had been accounted for and reviewed in accordance with DI-4.26. Data stewards

also uploaded and/or updated *x-y* coordinates and other location information for 132 existing sampling locations. The uploads/updates generated 706 new sampling locations.

2.9.6 Risk Assessment

Personnel from the Human Health and Ecological Risk Assessment teams participated in peer reviews for the ECORISK Database, Version 2.1, field implementation plans, the accelerated corrective action plan for the Security Perimeter Road project, the MDA U investigation work plan and historical investigation report, and the MDA A investigation work plan and historical investigation report.

2.9.6.1 Human Health Risk

Human health risk team activities for the first quarter of fiscal year 2005 included the following:

- finalizing the "Technical Approach for Calculating Recreational Soil Screening Levels for Chemicals" and submitting the document to NMED for review;
- revising the "Human Health Risk-Based Screening Methodology";
- starting a revision of the "Derivation and Use of Radionuclide Screening Action Levels";
- providing input for and reviewing responses to NMED's notice of disapproval of the MDA H CMS report; and
- providing responses to comments in NMED's notice of disapproval of the MDA P closure certification report.

2.9.6.2 Ecological Risk

Ecological risk team activities for the first quarter of fiscal year 2005 included the following:

- finalizing ECORISK Database, version 2.1, and providing copies to NMED for review;
- distributing ECORISK Database, version 2.1, to the risk assessment team;
- reviewing and finalizing the second revision of the "Screening-Level Ecological Risk Assessment Methods" document;
- presenting two posters at the 2004 Fourth World Congress Meeting of the Society of Environmental Toxicology and Chemistry in Portland, Oregon; and
- presenting a poster and a paper at the Society of Risk Analysis Meeting in Palm Springs, California.

2.9.6.3 Ecological Risk Database

Team members reviewed literature for toxicity information, conducted primary toxicity study evaluations (PTSEs) on literature reviewed, and updated toxicity reference value (TRV) summary reports.

Team members also addressed data and interface issues, which included revising the total chromium TRV and ecological screening levels (ESLs) for birds and identifying a fix for the analyte search dialogue boxes, and revising transfer factors (and ESLs) for organic analytes per EPA Ecological Soil Screening Levels guidance. They revised the sediment ESLs for the four aquatic organisms (algae, daphnid, fish, and snail) per DOE guidance recommending that the contribution of an internal dose be removed from these models. The team also incorporated comments and changes to the ECORISK Database,

version 2.1. CDs of version 2.1 were sent to NMED for review and were also distributed to the project risk assessors to begin using in reports starting in the calendar year 2005.

2.9.7 Native American Risk

The team provided soil and vegetation data from samples collected in July 2004 in lower Los Alamos Canyon to the Department of Environmental and Cultural Preservation (DECP) at San Ildefonso Pueblo.

In addition, the team conducted training for San Ildefonso personnel on calculating risk from data for soil and vegetation samples collected on San Ildefonso Pueblo lands. The training included how to determine exposure parameters and receptors, summarize sample data, and perform the calculations of risk using a spreadsheet provided to DECP personnel.

2.10 Regulatory Compliance — Project Leader: Phillip Noll

This quarter, ENV personnel conducted peer and technical reviews of the following documents:

- "Investigation Work Plan for Material Disposal Area U, Solid Waste Management Unit 21-017(a)-99, at Technical Area 21";
- "Historical Investigation Report for Material Disposal Area U, Solid Waste Management Unit 21-017(a)-99, at Technical Area 21";
- "Ecological Preliminary Remediation Goals for Soils at Los Alamos National Laboratory";
- "Seven-Day Notification Report to NMED Concerning a Sewage Release at Solid Waste Management Unit 40-001(b)";
- "Investigation Work Plan for Material Disposal Area A, Solid Waste Management Unit 21-014, at Technical Area 21";
- "Historical Investigation Report for Material Disposal Area A, Solid Waste Management Unit 21-014, at Technical Area 21";
- "Accelerated Corrective Action Plan for TA-3, Security Perimeter Project";
- "Supplemental Notice of Disapproval Response for Solid Waste Management Unit 21-013(d)-99";
- Update to "Investigation Work Plan for Material Disposal Area G Investigation Work Plan, Revision 1";
- "Field Summary Report on Sediment Sampling Adjacent to Technical Area 54 in Cañada del Buey and Pajarito Canyon";
- "Response to Notice of Disapproval for the Investigation Work Plan for Material Disposal Area G, Solid Waste Management Unit 54-013(b)-99, at Technical Area 54, Revision 1";
- "Response to Notice of Disapproval for the Investigation Work Plan for Material Disposal Area B, Solid Waste Management Unit 21-015, at Technical Area 21";
- "Response to Notice of Disapproval for the Investigation Work Plan for Material Disposal Area T, Solid Waste Management Unit 21-016(a)-99, at Technical Area 21";
- "Response to Notice of Disapproval for the Investigation Work Plan for Material Disposal Area V, Solid Waste Management Unit 21-018(a)-99, at Technical Area 21"; and

- "Response to Notice of Disapproval for the Corrective Measures Study for Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54."

2.10.1 Waste Management and Waste Minimization

ENV-RS personnel participated in the review and revision of numerous Waste Characterization Strategy Forms (WCSFs) for upcoming field investigations. The WCSFs ensure that the appropriate waste management requirements are incorporated into the planning phase of any ENV-RS activities that potentially generate waste and ensure that an approved characterization strategy exists for each waste stream before it is generated. The WCSFs prepared during this quarter included anticipated waste generation for the TA-3 Perimeter Security Road project, the TA-16-340 Complex, 30s Line Pond and 90s Line Pond, MDA L drilling and characterization sampling, MDA G borehole abandonment, and the TA-19 accelerated corrective action. A request for "no-longer-contained-in" determination for sediment samples from Mortandad Canyon that have been returned from the analytical laboratory was submitted to NMED to allow for management of the sample waste as nonhazardous.

2.10.2 Stakeholder Involvement

2.10.2.1 Outreach Activities

Communications continue with the Northern New Mexico Citizen's Advisory Board (NNMCAB) on several environmental issues. Staff attended waste management, environmental monitoring, and environmental restoration (ER) subcommittee meetings this quarter.

The communications staff planned, coordinated, and set up the Groundwater Protection Program quarterly public poster session held on October 25, 2004.

The communications staff assisted with the Russian Environmental Presentation and Tour held on October 4, 2004.

The communications staff also assisted with the tour for the Interstate Technology and Regulatory Council on October 27, 2004.

2.10.2.2 Virtual Library/Public Reading Room

Personnel continued to work with the Laboratory's information management expert to redesign the existing ENV-RS project website to provide both internal and external sites. Currently, documents in the Virtual Library are accessible only to internal staff.

2.10.3 PRS Deliverable Information Management

2.10.3.1 Compliance Schedule Tracking

Personnel continued to track deliverables due to various stakeholders on a monthly basis.

2.10.3.2 SWMU Report

The SWMU report remains in the final review process pending the resolution of issues related to the proposed NMED Consent Order.

2.10.4 Field Support Facility

Field Support Facility (FSF) staff have been characterizing legacy borehole samples and moving the appropriate core into B21 and B12 waste containers. For the 36 boxes of legacy samples identified, all the individual containers have been disposed of.

2.10.5 Records Management

Personnel added more than 192 new documents to the Records Processing Facility (RPF) database, which now contains more than 247,770 documents available for query. Staff handled over 615 walk-in, email, and phone requests, which resulted in 1722 retrievals and/or queries. Staff also scanned over 14,000 record pages to meet DOE dual-storage requirements.

A total of 324 rolls of film are being transferred to electronic media by a subcontractor as part of the new scanning process. Deliverables are being received periodically, and the effort is approximately 56% complete. The subcontractor expects to complete the conversion by the end of the calendar year, as scheduled. When completed, the scanned historical documents will be available for electronic viewing. The staff are also reviewing the final taxonomy for transferring all documents to the domino.doc system.

2.11 Land Transfer — Project Leader: Terry Rust

Staff has continued to support DOE-LASO in efforts to transfer identified property to Los Alamos County in accordance with Public Law 119-120. In the first quarter of FY2005, staff supported a tour by the extended Los Alamos County staff of land transfer tracts A8 and A11, the supplemental NOD response for tracts A8 and A15-1, the ongoing remediation process at tracts A-8 and A18, and the preparation of estimates for a variety of potential scenarios involving tract A14. The staff also continues to work with Los Alamos County to keep county personnel apprised of the current remediation status of all tracts of interest.

2.12 Documentation and Tracking — Project Leader: Stephen Bolivar

2.12.1 Information Management

The primary focus of Information Management personnel is business-process reengineering. This effort focuses on four main activities:

- rebuilding the ERDB (completed);
- developing a series of applications for the SMO to enter data into the database (completed);
- developing a SMART application to retrieve data from the database (this application is now in the final development phase and module testing); and
- developing a GeoPro application to track modeling input and output parameters.

Development efforts this quarter have focused on the next web release of SMART, which will provide an analytical data editor to allow staff to remove the A3 tool box because it does not have adequate documentation. The SMART application will have complete documentation. The application has been created and is in final testing. Release is scheduled for mid-January, 2005. Efforts to transfer this application to the NMED Oversight Bureau are almost complete, and the transfer is expected to occur in early 2005. SMART applications are used to produce data for evaluation in a web-based environment.

The Phase I portion of this application allows user-determined data pulls and allows the user to select and display a sample event in a geographic information system (GIS) format (map) on a desktop environment.

Personnel divided the database into two datamarts, one for reportable data (data that have undergone a formal quality-assurance check) and one for unreportable data (data that have not yet undergone a quality-assurance check). This architecture increases the speed of the application. Database flags, which describe the quality of the data, were also reviewed and updated to ensure maximum accuracy in the datamarts. A problem in the verification and validation checker module was fixed, and a simplified form for AN-95 data was created to facilitate cleanup. Several inconsistencies in standardization functions were identified and fixed. The strategic plan was updated. Several data updates were provided to Risk Assessment Corporation personnel.

2.12.2 Sample Management Office

The SMO issued 149 field data groups (number of discrete samples) and had 471 customers this quarter. Personnel handled and shipped 4188 containers. Shipping totals are 48% above the five-yr quarterly average of 2263 and above the two-yr average of 2237. Averages were increased this quarter because several field activities began for corrective actions and because of abundant precipitation during the fall.

2.12.3 Computer Support

Computer support personnel received 582 service requests this quarter, of which 15 remain unfilled. This rate is a 45% increase over the number of requests submitted by this time last year. The increase is attributed to personnel recording “hallway” fixes that were not captured previously, as well as to an increased population in the Pueblo Complex.

2.12.4 Geographic Information System

Users from ten unique groups accessed the flat-file repository and/or relational database management system to view spatial data. The ENV-RS GIS team produced 79 cartographic products and/or figures as a result of 22 service requests. There were nine requests for maps, five requests for digital data, one request for authentication of a user, and three requests to revise spatial data. The remaining requests fall into the “other” category that includes such tasks as georectifying an aerial photograph and responding to a query for the extent of LIDAR coverage from the 2000 flyover. Updated feature themes this quarter include ER Project Locations. A two-day Trimbel GPS Pathfinder Systems training course was held. This equipment will be used to provide *x-y* locations for ENV-RS field work. Significant effort was expended on Spring Feature data and Watershed Aggregates data.

2.13 Facility Integration and Site Identification — Project Leader: Roy Bohn

Personnel continued to meet with the Facility and Waste Operations—Infrastructure Projects (FWO-IP) and Program Management (PM) Division staff to provide information, regulatory status, current data, and location maps; and to recommend various approaches to address numerous issues associated with PRSs located at sites where D&D and construction/land development activities are planned.

ENV-RS Facility Integration staff continued to participate in developing and implementing the Laboratory Environmental Management System (EMS) in accordance with DOE Order 450.1 to ensure that ENV-RS issues are adequately and consistently addressed by the system. Staff continued to assist with finalizing and implementing the environmental aspect identification procedure, and developing training tools for Division-specific training. In addition, ENV-RS Facility Integration staff continued to participate in

developing and testing the new Laboratory-wide automated job hazard analysis tool to ensure that all ENV-RS PRS issues are adequately addressed.

Facility Integration personnel also performed the following activities this quarter:

- Staff participated in the review of approximately 110 excavation permit requests, 36 PR-IDs, and 27 structure-siting requests; 43 field sites visits were conducted in support of these reviews.
- Staff reviewed maps, the PRS database, and work plans to identify PRSs that will be affected by the D&D of structures/buildings planned for fiscal year (FY)2005 and FY2006.
- Staff continued to compile information on building and Facilities Management Unit (FMU) associations for each active PRS to support Active Facility Integration efforts. This process will be used to help clarify and formalize ownership and budgets needed to bring Office of Environmental Management (EM) activities to completion and reconcile the baseline and PRS database.
- ENV-RS Facility Integration staff completed the evaluation of exceptionally significant historical buildings and structures to be retained and managed; the majority of the proposed sites are collocated with PRSs.

2.13.1 New Construction at TA-03

ENV-RS personnel continued to meet with ENV Division stormwater staff and FWD construction staff at the location of a new gas turbine and major utility lines within the boundary of SWMU 03-012(b)-00. Excavation of the new utility trenches continued in the area directly east of the TA-02 Steam Plant cooling towers. Excavation activities for the concrete support pads for the gas turbine and its components are scheduled to begin during the second quarter of FY2005.

ENV-RS Facility Integration personnel continued to support the Security Perimeter Road project during the first quarter of FY2005. An accelerated corrective action (ACA) work plan for the investigation and remediation of SWMUs 61-002 and 03-029 and AOC 03-001(i) was submitted to NMED on December 3, 2004. The work plan describes the activities to be accomplished in support of the characterization and remediation of the PRSs located in the direct path of the Security Perimeter Road project. The ENV-RS project implemented the work plan in January 2005 to ensure that characterization and remediation activities are completed before road construction activities begin in March 2005.

ENV-RS Facility Integration personnel continued to meet with FWD and PM Division staff regarding the removal and replacement of the Radio Shop at TA-03 (Building 03-23). The Radio Shop is located in the path of the new Security Perimeter Road; therefore, the structure will be removed and a new Radio Shop constructed at a location south of the current location within TA-03. The installation of a new electrical conduit for the new building will intersect PRS [SWMU 3-009(i)]; Facility Integration staff will ensure that impacts to the PRS are minimal.

ENV-RS Facility Integration personnel met with FWD and PM Division staff regarding the removal and replacement of the TA-03 Roads and Grounds crew building (03-70) to Sigma Mesa (TA-60) to accommodate the Security Perimeter Road Project. As a result of numerous meetings and site visits, the new Roads and Grounds crew building on Sigma Mesa will not impact any PRSs.

2.13.2 New Construction at TA-33

ENV-RS Facility Integration personnel continued to meet with FWO-IP and TA-33 facility management staff to provide information, regulatory status, current data, and location maps and recommended approaches to addressing numerous issues associated with PRSs located at the planned sites of new

security fences, buildings, parking lots, bunker refurbishments, sanitary septic systems, and utility upgrades. An ACA work plan is being developed to complete the characterization and remediation of SWMUs 33-002(a) and 33-013, located in the direct path of the planned High Bay Complex at TA-33. The ACA plan will be submitted to NMED during the second quarter of FY2005.

2.13.3 New Construction at TA-50

ENV-RS Facility Integration staff continued to work with TA-50 and FWD Managers and PM Division staff on preliminary plans either to renovate or to replace the Radioactive Liquid Waste Treatment Facility at TA 50. The preliminary plans to replace Building 50-01 could potentially impact numerous PRSs. ENV-RS Facility Integration staff will participate on the Planning Team in this project.

2.13.4 New Construction at TA-16

ENV-RS Facility Integration personnel continued to meet with PM and TA-16 facility management staff to provide information, regulatory status, current data, and location maps and recommended approaches to address issues associated with PRSs located at the planned sites of new security fences, buildings, parking lots, and utility upgrades associated with the TA-16 Weapons Campus Upgrade project.

2.13.5 Hillside 137 BMP Project at TA-01

ENV-RS Facility Integration personnel conducted site visits, attended project planning meetings and provided comments on the PR-ID for the planned BMP installation project to divert storm water runoff away from Hillside137 to the bottom of Los Alamos Canyon. Project implementation has been delayed until May 2005.

2.13.6 D&D Activities

ENV-RS staff continued integration activities with the Facilities Infrastructure Recapitalization Program (FIRP) by attending weekly meetings to address PRSs that may be impacted by FY2005 D&D projects. Ongoing D&D projects include the following:

- Buildings 21-1, 21-228, and 21-402
- Building 16-540
- TA-16 340 Complex
- Buildings/structures at TA-15, The Hollow
- Buildings 40-2, 40-3, and 40-4
- Buildings 03-246, 03-247, and 03-379

2.14 Surface Water Programs and BMPs — Project Leader: Steve Veenis

2.14.1 BMP Installation, Inspection, and Maintenance

This quarter, the following tasks were undertaken:

- continued support of ER-SOP 2.01, “Surface Water Site Assessments,” updating information in the Storm Water Tracking System (SWTS) database, and continued development of methods for

using the Trimble Explorer hand-held GPS units to conduct field inspections. Electronic inspection forms have been created to allow direct uploading into the SWTS.

- completion of the final engineering design for the Hillside 137 storm water diversion project, the submission of the excavation permit and PR-ID and addressing comments, approval of the 401/404 application, initiation of the site access agreement, completion of the Storm Water Pollution Prevention Plan (SWPPP), selection of Marcon Excavation as the construction subcontractor, and modification and submission of the site-specific health and safety plan and integrated work document. However, the project has been put on hold until spring to address health and safety concerns.
- completion of BMP maintenance and repair work at TA-01, TA-20, and T-21, including the installation of rock check dams, georidges, straw bales, jute matting, and wattles.
- conducting BMP verification inspections at over 60 SWMU/AOCs to support the individual permit application for storm water discharges.

2.14 Surface Water Quality

Individual Permit Application:

ENV-Water Quality and Hydrology (ENV-WQH) staff members and support contractors have completed an Individual Permit Application for Storm Water Discharges from Solid Waste Management Units for submission to EPA Region VI in Dallas, Texas. This permit will begin the process of evaluating the quality of storm water discharged from Laboratory SWMUs, the BMPs required to control sediment migration, and the steps necessary to improve water quality in Laboratory watersheds. The application provided information on soil and sediment data, storm water monitoring data, spill history, National Pollutant Discharge Elimination System (NPDES) outfalls, and RCRA operating units. GIS maps were also generated on a site-specific and watershed scale showing existing and proposed storm water monitoring locations, BMPs, and drainage areas. This submittal is part one of a two-part permit that will cover the Laboratory's entire 40 sq mi, with the second submittal required by March 31, 2005. After an initial EPA and NMED review, a public comment period is expected sometime during 2005.

Implementation of Federal Facility Compliance Agreement/EPA Schedule Order:

Laboratory personnel, NMED, and EPA are continuing discussions regarding the final language of the draft Federal Facility Compliance Agreement (FFCA). The EPA has placed the draft on its webpage for the public comment period that ended on December 17, 2004. Once all comments have been addressed, the EPA will issue the final FFCA to DOE.

Laboratory personnel provided copies of the final Storm Water Monitoring Plan to EPA and NMED as required by the draft FFCA.

Laboratory personnel briefed the Northern New Mexico Citizens Advisory Board (NNMCAB) on the status of implementation of the FFCA. Copies of the Storm Water Monitoring Plan were provided to the NNMCAB and to Concerned Citizens for Nuclear Safety (CCNS) at the briefing.

Personnel collected 27 samples at selected locations (42 locations covering 62 SWMU/AOCs) within Los Alamos, Pueblo, and Mortandad Canyons and Cañada del Buey. Data from sample collection are pending but are expected in early 2005.

Other activities this quarter included the following:

- completion of an estimate for stream bank stabilization in Pueblo Canyon,
- participation in a conference call between personnel from the Laboratory, DOE, NMED–Hazardous Waste Bureau (NMED–HWB), NMED–Surface Water Quality Bureau (NMED–SWQB), and NMED–Oversight Bureau to discuss issues associated with FFCA, and
- follow-up support to FMUs regarding erosion controls and SWPPP modifications after the Annual Site Compliance Evaluations.

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Appendix A

Groundwater Sampling Results,
Wells R-5, R-8, R-16, R-20, R-21, R-32,
CdV-R-15-3, and CdV-R-37-2
First Quarter, Fiscal Year 2005

(CD on inside back cover of this report)

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Table A-1
Analytical Laboratory Data Qualifiers

Qualifier	Explanation
B	Inorganic – Reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL). Organic – Analyte present in the blank and the sample.
B*	Inorganic – Reported value was obtained from a reading that was less than the CRDL but greater than or equal to the IDL. Inorganic – Duplicate analysis not within control limits.
BJ	Inorganic – The associated numeric value is an estimated quantity. The reported value was obtained from a reading that was less than the CRDL.
E	GEL – Percent difference between the parent sample and its serial dilution's concentration exceeds 10%.
EN*	Inorganic – The qualifier that is used when the percent difference between the parent sample and its serial dilution's concentration exceeds 10%. The sample's concentration must be greater than 50 times the IDL/MDL for ICP or 100 times the absolute value of the preparation blank's concentration for inductively coupled plasma mass spectrometry (ICPMS).
EN	Organic – Identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. Presumptive evidence based on a mass spectral library search to make a tentative identification of the analyte. Inorganic – The qualifier that is used when the percent difference between the parent sample and its serial dilution's concentration exceeds 10%. The sample's concentration must be greater than 50 times the IDL/MDL for ICP or 100 times the absolute value of the preparation blank's concentration for ICP-MS. However, if analyzing ILMO 4.0 (ICPMS), the parent sample's concentration must be 20 times the CRDL before the "E" flag is applied. This qualifier is used to indicate that the matrix or predigested spike sample recovery for an analyte is not within the specified control limit.
H	Holding time exceeded
HJ	Inorganic – This qualifier is used to indicate the holding time expired for a particular parameter, J.
J	The analyte is classified as detected but the reported concentration value is expected to be more uncertain than usual.
J*	Inorganic – The associated numerical value is an estimated quantity. The duplicate analysis is not within control limits.
JN-	Presumptive evidence of the presence of the material at an estimated quantity with a suspected negative bias.
JP	Organic – The associated numerical value is an estimated quantity. There is a >25% difference for detected concentrations between two columns.
N	Inorganic – Spiked sample recovery not within control limits. Organic – Presumptive evidence based on a mass spectral library search to make a tentative identification of the analyte.
U	Inorganic – The material was analyzed for, but was not detected above the level of the associated numeric value. The associated numerical value is either the sample-quantitation limit or the sample-detection limit. Organic – The material was analyzed.
UH	Inorganic – The value of the qualifier was below the instrument detection limit. This qualifier is used to indicate the holding time expired for a particular parameter.
UI	Denotes uncertain identification for gamma spectroscopy.
UJ	The analyte is classified as not detected, with an expectation that the reported result is more uncertain than usual.
U*	Inorganic – Compound was analyzed for, but was not detected. The duplicate analysis is not within control limits.
*	Inorganic – Duplicate analysis not within control limits. Organic – Spike recovery is equal to or outside the control criteria used.

Table A-2
Los Alamos National Laboratory* Data Qualifiers

Qualifier	Explanation
J	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual.
J+	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual with a potential positive bias.
J-	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual with a potential negative bias.
JN+	Presumptive evidence of the presence of the material at an estimated quantity with a suspected positive bias.
JN-	Presumptive evidence of the presence of the material at an estimated quantity with a suspected negative bias.
R	The reported sample result is classified as rejected because of noncompliances with quality-control acceptance criteria.
U	The analyte is classified as not detected.
UJ	The analyte is classified as not detected, with an expectation that the reported result is more uncertain than usual.

* LANL data qualifiers are those used by the Water Quality and Hydrology Group to validate analytical data.

Table A-3
Samples Taken at Wells

Location ID	Depth (ft)	Screen Number	Sample Date	Field Preparation	Alkalinity (CO_3+HCO_3)	Alpha Spectrometry	Ammonia (N)	Anion	CN (Total)	Gamma Spectrometry	Gross AB	HEXP	Isotopic Rad	Metals	NO_3+NO_2—N
R-5	383.9	2	Feb-04	F	X	—	X	X	—	—	—	—	—	X	X
R-5	383.9	2	Feb-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-5	718.6	3	Feb-04	F	X	—	X	X	—	—	—	—	—	X	X
R-5	718.6	3	Feb-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-5	860.9	4	Feb-04	F	X	—	X	X	—	—	—	—	—	X	X
R-5	860.9	4	Feb-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-5	383.9	2	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-5	383.9	2	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-5	718.6	3	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-5	718.6	3	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-5	860.9	4	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-5	860.9	4	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-8	711.1	1	Feb-04	F	—	—	X	X	—	—	—	—	—	X	X
R-8	711.1	1	Feb-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-8	825	2	Feb-04	F	—	—	X	X	—	—	—	—	—	X	X
R-8	825	2	Feb-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-8	711.1	1	Apr-04	F	X	—	X	X	—	—	—	—	—	X	X
R-8	711.1	1	Apr-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-8	825	2	Apr-04	F	X	—	X	X	—	—	—	—	—	X	X
R-8	825	2	Apr-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	866.1	2	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	866.1	2	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	1018.4	3	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	1018.4	3	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	1238	4	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	1238	4	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	866.1	2	Oct-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	866.1	2	Oct-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	1018.4	3	Oct-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	1018.4	3	Oct-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	1238	4	Oct-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	1238	4	Oct-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	866.1	2	Dec-04	F	X	—	X	X	—	—	—	—	—	X	X

Table A-3 (continued)

Location ID	Depth (ft)	Screen Number	Sample Date	Field Preparation	P	PCB	Perchlorate (LCMSMS)	Pesticides	SVOC	TECH_99	TKN	TOC	LLEE	VOC
R-5	383.9	2	Feb-04	F	X	—	—	—	—	—	X	—	—	—
R-5	383.9	2	Feb-04	NF	X	X	X	X	X	X	X	X	X	X
R-5	718.6	3	Feb-04	F	X	—	—	—	—	—	X	—	—	—
R-5	718.6	3	Feb-04	NF	X	X	X	X	X	X	X	X	X	X
R-5	860.9	4	Feb-04	F	X	—	—	—	—	—	X	—	—	—
R-5	860.9	4	Feb-04	NF	X	X	X	X	X	X	X	X	X	X
R-5	383.9	2	May-04	F	X	—	—	—	—	—	X	—	—	—
R-5	383.9	2	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-5	718.6	3	May-04	F	X	—	—	—	—	—	X	—	—	—
R-5	718.6	3	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-5	860.9	4	May-04	F	X	—	—	—	—	—	X	—	—	—
R-5	860.9	4	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-8	711.1	1	Feb-04	F	X	—	—	—	—	—	X	—	—	—
R-8	711.1	1	Feb-04	NF	X	X	X	X	X	X	X	X	X	X
R-8	825	2	Feb-04	F	X	—	—	—	—	—	X	—	—	—
R-8	825	2	Feb-04	NF	X	X	X	X	X	X	X	X	X	X
R-8	711.1	1	Apr-04	F	X	—	—	—	—	—	X	—	—	—
R-8	711.1	1	Apr-04	NF	X	X	X	X	X	X	X	X	X	X
R-8	825	2	Apr-04	F	X	—	—	—	—	—	X	—	—	—
R-8	825	2	Apr-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	866.1	2	May-04	F	X	—	—	—	—	—	X	—	—	—
R-16	866.1	2	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	1018.4	3	May-04	F	X	—	—	—	—	—	X	—	—	—
R-16	1018.4	3	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	1238	4	May-04	F	X	—	—	—	—	—	X	—	—	—
R-16	1238	4	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	866.1	2	Oct-04	F	X	—	—	—	—	—	X	—	—	—
R-16	866.1	2	Oct-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	1018.4	3	Oct-04	F	X	—	—	—	—	—	X	—	—	—
R-16	1018.4	3	Oct-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	1238	4	Oct-04	F	X	—	—	—	—	—	X	—	—	—
R-16	1238	4	Oct-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	866.1	2	Dec-04	F	X	—	—	—	—	—	X	—	—	—

Table A-3 (continued)

Location ID	Depth (ft)	Screen Number	Sample Date	Field Preparation	Alkalinity (CO_3+HCO_3)	Alpha Spectrometry	Ammonia (N)	Anion	CN (Total)	Gamma Spectrometry	Gross AB	HEXP	Isotopic Rad	Metals	NO_3+NO_2—N
R-16	866.1	2	Dec-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	1018.4	3	Dec-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	1018.4	3	Dec-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-16	1238	4	Dec-04	F	X	—	X	X	—	—	—	—	—	X	X
R-16	1238	4	Dec-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	907	1	Mar-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	907	1	Mar-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	1149.7	2	Mar-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	1149.7	2	Mar-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	1330	3	Mar-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	1330	3	Mar-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	907	1	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	907	1	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	1149.7	2	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	1149.7	2	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	1330	3	May-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	1330	3	May-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	907	1	Sep-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	907	1	Sep-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	1149.7	2	Sep-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	1149.7	2	Sep-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-20	1330	3	Sep-04	F	X	—	X	X	—	—	—	—	—	X	X
R-20	1330	3	Sep-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-21	888.8-906.8	1	Mar-04	F	X	—	X	X	—	—	—	—	—	X	X
R-21	888.8-906.8	1	Mar-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-21	888.8-906.8	1	Jun-04	F	X	—	X	X	—	—	—	—	—	X	X
R-21	888.8-906.8	1	Jun-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-21	888.8-906.8	1	Dec-04	F	X	—	X	X	—	—	—	—	—	X	X
R-21	888.8-906.8	1	Dec-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-32	870.9	1	Nov-04	F	X	—	X	X	—	—	—	—	—	X	X
R-32	870.9	1	Nov-04	NF	—	X	X	—	X	X	X	X	X	X	X
R-32	976	3	Nov-04	F	X	—	X	X	—	—	—	—	—	X	X
R-32	976	3	Nov-04	NF	—	X	X	—	X	X	X	X	X	X	X

Table A-3 (continued)

Location ID	Depth (ft)	Screen Number	Sample Date	Field Preparation	P	PCB	Perchlorate (LCMSMS)	Pesticides	SVOC	TECH_99	TKN	TOC	LLEE	VOC
R-16	866.1	2	Dec-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	1018.4	3	Dec-04	F	X	—	—	—	—	—	X	—	—	—
R-16	1018.4	3	Dec-04	NF	X	X	X	X	X	X	X	X	X	X
R-16	1238	4	Dec-04	F	X	—	—	—	—	—	X	—	—	—
R-16	1238	4	Dec-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	907	1	Mar-04	F	X	—	—	—	—	—	X	—	—	—
R-20	907	1	Mar-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	1149.7	2	Mar-04	F	X	—	—	—	—	—	X	—	—	—
R-20	1149.7	2	Mar-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	1330	3	Mar-04	F	X	—	—	—	—	—	X	—	—	—
R-20	1330	3	Mar-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	907	1	May-04	F	X	—	—	—	—	—	X	—	—	—
R-20	907	1	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	1149.7	2	May-04	F	X	—	—	—	—	—	X	—	—	—
R-20	1149.7	2	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	1330	3	May-04	F	X	—	—	—	—	—	X	—	—	—
R-20	1330	3	May-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	907	1	Sep-04	F	X	—	—	—	—	—	X	—	—	—
R-20	907	1	Sep-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	1149.7	2	Sep-04	F	X	—	—	—	—	—	X	—	—	—
R-20	1149.7	2	Sep-04	NF	X	X	X	X	X	X	X	X	X	X
R-20	1330	3	Sep-04	F	X	—	—	—	—	—	X	—	—	—
R-20	1330	3	Sep-04	NF	X	X	X	X	X	X	X	X	X	X
R-21	888.8-906.8	1	Mar-04	F	X	—	—	—	—	—	X	—	—	—
R-21	888.8-906.8	1	Mar-04	NF	X	X	X	X	X	X	X	X	X	X
R-21	888.8-906.8	1	Jun-04	F	X	—	—	—	—	—	X	—	—	—
R-21	888.8-906.8	1	Jun-04	NF	X	X	X	X	X	X	X	X	X	X
R-21	888.8-906.8	1	Dec-04	F	X	—	—	—	—	—	X	—	—	—
R-21	888.8-906.8	1	Dec-04	NF	X	X	X	X	X	X	X	X	X	X
R-32	870.9	1	Nov-04	F	X	—	—	—	—	—	X	—	—	—
R-32	870.9	1	Nov-04	NF	X	X	X	X	X	X	X	X	X	X
R-32	976	3	Nov-04	F	X	—	—	—	—	—	X	—	—	—
R-32	976	3	Nov-04	NF	X	X	X	X	X	X	X	X	X	X

Table A-3 (continued)

Location ID	Depth (ft)	Screen Number	Sample Date	Field Preparation	Alkalinity (CO_3+HCO_3)	Alpha Spectrometry	Ammonia (N)	Anion	CN (Total)	Gamma Spectrometry	Gross AB	HEXP	Isotopic Rad	Metals	NO_3+NO_2—N
CdV-R-15-3	1254.4	3	Jan-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1254.4	3	Jan-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-15-3	1350.1	4	Jan-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1350.1	4	Jan-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-15-3	1640.1	5	Jan-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1640.1	5	Jan-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-15-3	1350.1	4	Apr-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1350.1	4	Apr-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-15-3	1640.1	5	Apr-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1640.1	5	Apr-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-15-3	1254.4	3	Jul-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1254.4	3	Jul-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-15-3	1350.1	4	Jul-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1350.1	4	Jul-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-15-3	1640.1	5	Jul-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-15-3	1640.1	5	Jul-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-37-2	1200.3	2	Apr-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-37-2	1200.3	2	Apr-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-37-2	1359.3	3	Apr-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-37-2	1359.3	3	Apr-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-37-2	1550.6	4	Apr-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-37-2	1550.6	4	Apr-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-37-2	1200.3	2	Oct-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-37-2	1200.3	2	Oct-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-37-2	1359.3	3	Oct-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-37-2	1359.3	3	Oct-04	NF	—	—	—	—	X	—	—	X	—	X	—
CdV-R-37-2	1550.6	4	Oct-04	F	X	—	X	X	—	—	—	—	—	X	X
CdV-R-37-2	1550.6	4	Oct-04	NF	—	—	—	—	X	—	—	X	—	X	—

Table A-3 (continued)

Location ID	Depth (ft)	Screen Number	Sample Date	Field Preparation	P	PCB	Perchlorate (LCMSMS)	Pesticides	SVOC	TECH_99	TKN	TOC	LLEE	VOC
CdV-R-15-3	1254.4	3	Jan-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1254.4	3	Jan-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-15-3	1350.1	4	Jan-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1350.1	4	Jan-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-15-3	1640.1	5	Jan-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1640.1	5	Jan-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-15-3	1350.1	4	Apr-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1350.1	4	Apr-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-15-3	1640.1	5	Apr-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1640.1	5	Apr-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-15-3	1254.4	3	Jul-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1254.4	3	Jul-04	NF	—	X	X	X	X	—	X	X	—	X
CdV-R-15-3	1350.1	4	Jul-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1350.1	4	Jul-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-15-3	1640.1	5	Jul-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-15-3	1640.1	5	Jul-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-37-2	1200.3	2	Apr-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-37-2	1200.3	2	Apr-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-37-2	1359.3	3	Apr-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-37-2	1359.3	3	Apr-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-37-2	1550.6	4	Apr-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-37-2	1550.6	4	Apr-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-37-2	1200.3	2	Oct-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-37-2	1200.3	2	Oct-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-37-2	1359.3	3	Oct-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-37-2	1359.3	3	Oct-04	NF	—	X	X	X	X	—	X	X	X	X
CdV-R-37-2	1550.6	4	Oct-04	F	X	—	—	—	—	—	—	—	—	—
CdV-R-37-2	1550.6	4	Oct-04	NF	—	X	X	X	X	—	X	X	X	X

Table A-4

Well R-5 Screen 2 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-5 was 685 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Aluminum	02/23/04	383.9	F[a]	14.7	—[b]	—	14.7	µg/L	U	R
Aluminum	02/23/04	383.9	NF[c]	26.7	—	—	14.7	µg/L	B	JN-
Ammonia (as N)	02/23/04	383.9	F	24	—	—	24	µg/L	U	UJ
Ammonia (as N)	02/25/04	383.9	NF	24	—	—	24	µg/L	U	UJ
Antimony	02/23/04	383.9	F	0.28	—	—	0.28	µg/L	U	—
Antimony	02/23/04	383.9	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	02/23/04	383.9	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	02/23/04	383.9	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	02/23/04	383.9	F	200	—	—	0.222	µg/L	—	—
Barium	02/23/04	383.9	NF	200	—	—	0.222	µg/L	—	—
Beryllium	02/23/04	383.9	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	02/23/04	383.9	NF	0.08	—	—	0.08	µg/L	U	—
Boron	02/23/04	383.9	F	23.1	—	—	4.88	µg/L	B	—
Boron	02/23/04	383.9	NF	23	—	—	4.88	µg/L	B	—
Bromide	02/23/04	383.9	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	02/23/04	383.9	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	02/23/04	383.9	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	02/23/04	383.9	F	30700	—	—	5.54	µg/L	—	—
Calcium	02/23/04	383.9	NF	30400	—	—	5.54	µg/L	—	—
Chloride	02/23/04	383.9	F	6990	—	—	32.2	µg/L	—	—
Chromium	02/23/04	383.9	F	5.09	—	—	0.503	µg/L	—	—
Chromium	02/23/04	383.9	NF	5.27	—	—	0.503	µg/L	—	—
Cobalt	02/23/04	383.9	F	1.43	—	—	0.541	µg/L	B	U
Cobalt	02/23/04	383.9	NF	1.01	—	—	0.541	µg/L	B	U

Table A-4 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	02/23/04	383.9	F	1.39	—	—	1.39	µg/L	U	—
Copper	02/23/04	383.9	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	02/23/04	383.9	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	02/23/04	383.9	F	1020	—	—	55.3	µg/L	—	—
Iron	02/23/04	383.9	F	12.6	—	—	12.6	µg/L	U	—
Iron	02/23/04	383.9	NF	12.6	—	—	12.6	µg/L	U	—
Lead	02/23/04	383.9	F	0.05	—	—	0.05	µg/L	U	—
Lead	02/23/04	383.9	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	02/23/04	383.9	F	2970	—	—	5.18	µg/L	—	—
Magnesium	02/23/04	383.9	NF	2940	—	—	5.18	µg/L	—	—
Manganese	02/23/04	383.9	F	1.61	—	—	1.61	µg/L	U	—
Manganese	02/23/04	383.9	NF	1.61	—	—	1.61	µg/L	U	—
Mercury	02/23/04	383.9	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	02/25/04	383.9	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	02/23/04	383.9	F	2.02	—	—	0.2	µg/L	—	—
Molybdenum	02/23/04	383.9	NF	2.28	—	—	0.2	µg/L	—	—
Nickel	02/23/04	383.9	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	02/23/04	383.9	NF	0.69	—	—	0.69	µg/L	U	UJ
Nitrate	02/23/04	383.9	F	2450	—	—	34.1	µg/L	H	J
Nitrate+Nitrite (as N)	02/23/04	383.9	F	2430	—	—	10	µg/L	—	J
Nitrate+Nitrite (as N)	02/23/04	383.9	NF	2570	—	—	10	µg/L	—	—
Nitrite	02/23/04	383.9	F	54.2	—	—	54.2	µg/L	UH	R
Oxalate	02/23/04	383.9	F	346	—	—	346	µg/L	U	—
Perchlorate	02/23/04	383.9	NF	1.04	—	—	—	µg/L	—	J
Phosphorus (as PO_4)	02/23/04	383.9	F	151	—	—	151	µg/L	UH	R
Potassium	02/23/04	383.9	F	4220	—	—	16.5	µg/L	—	—
Potassium	02/23/04	383.9	NF	4250	—	—	16.5	µg/L	—	—
Selenium	02/23/04	383.9	F	2.81	—	—	2.81	µg/L	U	UJ
Selenium	02/23/04	383.9	NF	2.81	—	—	2.81	µg/L	U	UJ

Table A-4 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	02/23/04	383.9	F	54300	—	—	21.2	µg/L	—	—
Silicon Dioxide	02/25/04	383.9	NF	53200	—	—	21.2	µg/L	—	—
Silver	02/23/04	383.9	F	0.835	—	—	0.835	µg/L	U	—
Silver	02/23/04	383.9	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	02/23/04	383.9	F	14500	—	—	14.4	µg/L	—	—
Sodium	02/23/04	383.9	NF	14500	—	—	14.4	µg/L	—	—
Strontium	02/23/04	383.9	F	314	—	—	0.178	µg/L	—	—
Strontium	02/23/04	383.9	NF	313	—	—	0.178	µg/L	—	—
Sulfate	02/23/04	383.9	F	8110	—	—	193	µg/L	—	—
Thallium	02/23/04	383.9	F	0.082	—	—	0.02	µg/L	B	U
Thallium	02/23/04	383.9	NF	0.02	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	02/23/04	383.9	F	450	—	—	30	µg/L	—	—
Total Kjeldahl Nitrogen	02/23/04	383.9	NF	180	—	—	30	µg/L	—	—
Phosphorus (as P)	02/23/04	383.9	F	11	—	—	11	µg/L	U	—
Phosphorus (as P)	02/23/04	383.9	NF	11	—	—	11	µg/L	U	—
Uranium	02/23/04	383.9	F	2.81	—	—	0.02	µg/L	—	—
Uranium	02/23/04	383.9	NF	2.85	—	—	0.02	µg/L	—	—
Vanadium	02/23/04	383.9	F	8.71	—	—	0.606	µg/L	—	—
Vanadium	02/23/04	383.9	NF	8.47	—	—	0.606	µg/L	—	—
Zinc	02/23/04	383.9	F	1.58	—	—	0.883	µg/L	B	U
Zinc	02/23/04	383.9	NF	2.07	—	—	0.883	µg/L	B	U
Detected Organic Constituents										
DDE[4,4'-]	02/25/04	383.9	NF	0.0203	—	—	—	µg/L	J	—
DDT[4,4'-]	02/25/04	383.9	NF	0.0253	—	—	—	µg/L	J	—
Total Organic Carbon	02/23/04	383.9	NF	409	—	—	25	µg/L	—	J-
Radiologic Constituents										
Americium-241	02/25/04	383.9	NF	0.02	0.0116	0.059	—	pCi/L	U	U
Cesium-137	02/23/04	383.9	NF	0.0678	0.957	3.36	—	pCi/L	U	U
Plutonium-238	02/25/04	383.9	NF	-0.0123	0.0107	0.043	—	pCi/L	U	U

Table A-4 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Plutonium-239/240	02/25/04	383.9	NF	0.00615	0.0087	0.038	—	pCi/L	U	U
Strontium-90	02/25/04	383.9	NF	-0.0392	0.0547	0.262	—	pCi/L	U	U
Technetium-99	02/25/04	383.9	NF	-0.774	1.24	4.19	—	pCi/L	U	U
Tritium	02/23/04	383.9	NF	0.26	0.38	0.29	—	pCi/L	—	—
Uranium-234	02/25/04	383.9	NF	1.17	0.106	0.083	—	pCi/L	—	—
Uranium-235/236	02/25/04	383.9	NF	0.101	0.0233	0.048	—	pCi/L	—	J
Uranium-238	02/25/04	383.9	NF	0.671	0.069	0.053	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-5
Well R-5 Screen 3 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals
The static water level for the regional aquifer at R-5 was 685 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Aluminum	02/26/04	718.6	F[a]	14.7	—[b]	—	14.7	µg/L	U	R
Aluminum	03/02/04	718.6	NF[c]	14.7	—	—	14.7	µg/L	U	R
Ammonia (as N)	02/26/04	718.6	F	24	—	—	24	µg/L	U	—
Ammonia (as N)	03/02/04	718.6	NF	24	—	—	24	µg/L	U	UJ
Antimony	02/26/04	718.6	F	0.28	—	—	0.28	µg/L	U	—
Antimony	03/02/04	718.6	NF	0.28	—	—	0.28	µg/L	U	UJ
Arsenic	02/26/04	718.6	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	03/02/04	718.6	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	02/26/04	718.6	F	99.6	—	—	0.222	µg/L	—	—
Barium	03/02/04	718.6	NF	99.8	—	—	0.222	µg/L	—	J
Beryllium	02/26/04	718.6	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	03/02/04	718.6	NF	0.08	—	—	0.08	µg/L	U	UJ
Boron	02/26/04	718.6	F	34.7	—	—	4.88	µg/L	J	—
Boron	03/02/04	718.6	NF	32.5	—	—	4.88	µg/L	J	J
Bromide	02/26/04	718.6	F	246	—	—	97.8	µg/L	—	—
Cadmium	02/26/04	718.6	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	03/02/04	718.6	NF	0.04	—	—	0.04	µg/L	U	UJ
Calcium	02/26/04	718.6	F	25900	—	—	5.54	µg/L	—	—
Calcium	03/02/04	718.6	NF	25800	—	—	5.54	µg/L	—	J
Chloride	02/26/04	718.6	F	8010	—	—	32.2	µg/L	—	—
Chromium	02/26/04	718.6	F	5.95	—	—	0.503	µg/L	—	—
Chromium	03/02/04	718.6	NF	13.2	—	—	0.503	µg/L	—	J
Cobalt	02/26/04	718.6	F	0.541	—	—	0.541	µg/L	U	UJ
Cobalt	03/02/04	718.6	NF	0.541	—	—	0.541	µg/L	U	UJ

Table A-5 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	02/26/04	718.6	F	1.39	—	—	1.39	µg/L	U	R
Copper	03/02/04	718.6	NF	1.39	—	—	1.39	µg/L	U	R
Cyanide (Total)	03/02/04	718.6	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	02/26/04	718.6	F	643	—	—	55.3	µg/L	—	—
Iron	02/26/04	718.6	F	12.6	—	—	12.6	µg/L	U	—
Iron	03/02/04	718.6	NF	34.2	—	—	12.6	µg/L	J	J
Lead	02/26/04	718.6	F	0.05	—	—	0.05	µg/L	U	—
Lead	03/02/04	718.6	NF	0.05	—	—	0.05	µg/L	U	UJ
Magnesium	02/26/04	718.6	F	4320	—	—	5.18	µg/L	—	—
Magnesium	03/02/04	718.6	NF	4290	—	—	5.18	µg/L	—	J
Manganese	02/26/04	718.6	F	1.61	—	—	1.61	µg/L	U	—
Manganese	03/02/04	718.6	NF	4.83	—	—	1.61	µg/L	J	J
Mercury	02/26/04	718.6	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	03/02/04	718.6	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	02/26/04	718.6	F	2.71	—	—	0.2	µg/L	—	—
Molybdenum	03/02/04	718.6	NF	4.46	—	—	0.2	µg/L	—	J
Nickel	02/26/04	718.6	F	2.18	—	—	0.69	µg/L	J	U
Nickel	03/02/04	718.6	NF	7.28	—	—	0.69	µg/L	-	U
Nitrate	02/26/04	718.6	F	1860	—	—	34.1	µg/L	H	J
Nitrate+Nitrite (as N)	02/26/04	718.6	F	2000	—	—	50	µg/L	—	—
Nitrate+Nitrite (as N)	03/02/04	718.6	NF	2040	—	—	10	µg/L	—	J
Nitrite	02/26/04	718.6	F	54.2	—	—	54.2	µg/L	UH	R
Oxalate	02/26/04	718.6	F	346	—	—	346	µg/L	U	—
Perchlorate	03/02/04	718.6	NF	1.05	—	—	0.05	µg/L	—	—
Perchlorate	03/02/04	718.6	NF	1.16	—	—	0.2	µg/L	H	J
Phosphorus (as PO_4)	02/26/04	718.6	F	151	—	—	151	µg/L	UH	R
Potassium	02/26/04	718.6	F	3360	—	—	16.5	µg/L	—	—
Potassium	03/02/04	718.6	NF	3310	—	—	16.5	µg/L	—	J

Table A-5 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Selenium	02/26/04	718.6	F	2.81	—	—	2.81	µg/L	U	UJ
Selenium	03/02/04	718.6	NF	2.81	—	—	2.81	µg/L	U	UJ
Silicon Dioxide	02/26/04	718.6	F	49200	—	—	21.2	µg/L	—	—
Silicon Dioxide	03/02/04	718.6	NF	48900	—	—	21.2	µg/L	—	J
Silver	02/26/04	718.6	F	0.835	—	—	0.835	µg/L	U	UJ
Silver	03/02/04	718.6	NF	0.835	—	—	0.835	µg/L	U	UJ
Sodium	02/26/04	718.6	F	20400	—	—	14.4	µg/L	—	—
Sodium	03/02/04	718.6	NF	20100	—	—	14.4	µg/L	—	J
Strontium	02/26/04	718.6	F	200	—	—	0.178	µg/L	—	—
Strontium	03/02/04	718.6	NF	201	—	—	0.178	µg/L	—	J
Sulfate	02/26/04	718.6	F	16300	—	—	193	µg/L	—	—
Thallium	02/26/04	718.6	F	0.396	—	—	0.02	µg/L	J	—
Thallium	03/02/04	718.6	NF	0.079	—	—	0.02	µg/L	J	J
Total Kjeldahl Nitrogen	02/26/04	718.6	F	350	—	—	30	µg/L	—	—
Total Kjeldahl Nitrogen	03/02/04	718.6	NF	250	—	—	30	µg/L	—	—
Phosphorus (as P)	02/26/04	718.6	F	11	—	—	11	µg/L	U	—
Phosphorus (as P)	03/02/04	718.6	NF	11	—	—	11	µg/L	U	—
Uranium	02/26/04	718.6	F	1.74	—	—	0.02	µg/L	—	—
Uranium	03/02/04	718.6	NF	1.74	—	—	0.02	µg/L	—	J
Uranium-235	03/02/04	718.6	NF	0.00933	—	—	0.0066	µg/L	J	—
Uranium-238	03/02/04	718.6	NF	1.36	—	—	0.00367	µg/L	—	—
Vanadium	02/26/04	718.6	F	8.56	—	—	0.606	µg/L	—	U
Vanadium	03/02/04	718.6	NF	8.48	—	—	0.606	µg/L	—	U
Zinc	02/26/04	718.6	F	2.65	—	—	0.883	µg/L	J	U
Zinc	03/02/04	718.6	NF	4.21	—	—	0.883	µg/L	J	U
Detected Organic Constituents										
DDE[4,4'-]	03/02/04	718.6	NF	0.00505	—	—	—	µg/L	JP	NJ
DDT[4,4'-]	03/02/04	718.6	NF	0.0353	—	—	—	µg/L	JP	J+
Total Organic Carbon	03/02/04	718.6	NF	308	—	—	25	µg/L	—	JN-

Table A-5 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Radiologic Constituents										
Americium-241	03/02/04	718.6	NF	-0.00438	0.00536	0.039	—	pCi/L	U	U
Cesium-137	03/02/04	718.6	NF	-1.26	1.19	4.15	—	pCi/L	U	U
Plutonium-238	03/02/04	718.6	NF	0.00402	0.00493	0.028	—	pCi/L	U	U
Plutonium-239/240	03/02/04	718.6	NF	0.00201	0.00348	0.025	—	pCi/L	U	U
Strontium-90	03/02/04	718.6	NF	0.0482	0.0687	0.296	—	pCi/L	U	U
Technetium-99	03/02/04	718.6	NF	-1.35	1.12	3.81	—	pCi/L	U	U
Tritium	03/02/04	718.6	NF	-0.22	0.29	0.29	—	pCi/L	—	—
Uranium-234	03/02/04	718.6	NF	0.918	0.0806	0.056	—	pCi/L	—	—
Uranium-235/236	03/02/04	718.6	NF	0.144	0.0225	0.032	—	pCi/L	—	J+
Uranium-238	03/02/04	718.6	NF	0.51	0.0508	0.036	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-6

Well R-5 Screen 4 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-5 was 685 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Aluminum	02/19/04	860.9	F[a]	14.7	—[b]	—	14.7	µg/L	U	R
Aluminum	02/19/04	860.9	NF[c]	14.7	—	—	14.7	µg/L	U	R
Ammonia (as N)	02/19/04	860.9	F	24	—	—	24	µg/L	U	R
Ammonia (as N)	02/19/04	860.9	NF	24	—	—	24	µg/L	U	R
Antimony	02/19/04	860.9	F	0.28	—	—	0.28	µg/L	U	—
Antimony	02/19/04	860.9	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	02/19/04	860.9	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	02/19/04	860.9	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	02/19/04	860.9	F	179	—	—	0.222	µg/L	—	—
Barium	02/19/04	860.9	NF	183	—	—	0.222	µg/L	—	—
Beryllium	02/19/04	860.9	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	02/19/04	860.9	NF	0.08	—	—	0.08	µg/L	U	—
Boron	02/19/04	860.9	F	53.7	—	—	4.88	µg/L	—	—
Boron	02/19/04	860.9	NF	50.6	—	—	4.88	µg/L	—	—
Bromide	02/19/04	860.9	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	02/19/04	860.9	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	02/19/04	860.9	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	02/19/04	860.9	F	25600	—	—	5.54	µg/L	—	—
Calcium	02/19/04	860.9	NF	26300	—	—	5.54	µg/L	—	—
Chloride	02/19/04	860.9	F	5480	—	—	32.2	µg/L	—	—
Chromium	02/19/04	860.9	F	1.02	—	—	0.503	µg/L	B	JN-
Chromium	02/19/04	860.9	NF	2.14	—	—	0.503	µg/L	B	JN-
Cobalt	02/19/04	860.9	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	02/19/04	860.9	NF	0.541	—	—	0.541	µg/L	U	—

Table A-6 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	02/19/04	860.9	F	1.39	—	—	1.39	µg/L	U	R
Copper	02/19/04	860.9	NF	1.39	—	—	1.39	µg/L	U	R
Cyanide (Total)	02/19/04	860.9	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	02/19/04	860.9	F	380	—	—	55.3	µg/L	—	—
Iron	02/19/04	860.9	F	386	—	—	12.6	µg/L	—	—
Iron	02/19/04	860.9	NF	556	—	—	12.6	µg/L	—	—
Lead	02/19/04	860.9	F	0.05	—	—	0.05	µg/L	U	—
Lead	02/19/04	860.9	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	02/19/04	860.9	F	4180	—	—	5.18	µg/L	—	—
Magnesium	02/19/04	860.9	NF	4320	—	—	5.18	µg/L	—	—
Manganese	02/19/04	860.9	F	537	—	—	1.61	µg/L	—	—
Manganese	02/19/04	860.9	NF	530	—	—	1.61	µg/L	—	—
Mercury	02/19/04	860.9	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	02/19/04	860.9	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	02/19/04	860.9	F	4.89	—	—	0.2	µg/L	—	—
Molybdenum	02/19/04	860.9	NF	4.47	—	—	0.2	µg/L	—	—
Nickel	02/19/04	860.9	F	4.73	—	—	0.69	µg/L	B	—
Nickel	02/19/04	860.9	NF	5.71	—	—	0.69	µg/L	—	—
Nitrate	02/19/04	860.9	F	107	—	—	34.1	µg/L	H	J
Nitrate+Nitrite (as N)	02/19/04	860.9	F	20	—	—	10	µg/L	J	U
Nitrate+Nitrite (as N)	02/19/04	860.9	NF	10	—	—	10	µg/L	J	U
Nitrite	02/19/04	860.9	F	54.2	—	—	54.2	µg/L	UH	R
Oxalate	02/19/04	860.9	F	346	—	—	346	µg/L	U	—
Perchlorate	02/19/04	860.9	NF	0.2	—	—	-	µg/L	U	—
Phosphorus (PO_4)	02/19/04	860.9	F	151	—	—	151	µg/L	UH	—
Potassium	02/19/04	860.9	F	3550	—	—	16.5	µg/L	—	—
Potassium	02/19/04	860.9	NF	3630	—	—	16.5	µg/L	—	—
Selenium	02/19/04	860.9	F	2.81	—	—	2.81	µg/L	U	—
Selenium	02/19/04	860.9	NF	2.81	—	—	2.81	µg/L	U	—

Table A-6 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	02/19/04	860.9	F	54900	—	—	21.2	µg/L	—	—
Silicon Dioxide	02/19/04	860.9	NF	59500	—	—	21.2	µg/L	—	—
Silver	02/19/04	860.9	F	0.835	—	—	0.835	µg/L	U	—
Silver	02/19/04	860.9	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	02/19/04	860.9	F	17200	—	—	14.4	µg/L	—	—
Sodium	02/19/04	860.9	NF	17900	—	—	14.4	µg/L	—	—
Strontium	02/19/04	860.9	F	212	—	—	0.178	µg/L	—	—
Strontium	02/19/04	860.9	NF	216	—	—	0.178	µg/L	—	—
Sulfate	02/19/04	860.9	F	4050	—	—	193	µg/L	—	—
Thallium	02/19/04	860.9	F	0.379	—	—	0.02	µg/L	B	—
Thallium	02/19/04	860.9	NF	0.02	—	—	0.02	µg/L	U	—
Total Kjeldahl Nitrogen	02/19/04	860.9	F	950	—	—	30	µg/L	—	—
Total Kjeldahl Nitrogen	02/19/04	860.9	NF	1370	—	—	100	µg/L	—	—
Phosphorus (as P)	02/19/04	860.9	F	11	—	—	11	µg/L	U	JN-
Phosphorus (as P)	02/19/04	860.9	NF	1150	—	—	11	µg/L	—	—
Uranium	02/19/04	860.9	F	1.05	—	—	0.02	µg/L	—	—
Uranium	02/19/04	860.9	NF	1.02	—	—	0.02	µg/L	—	—
Vanadium	02/19/04	860.9	F	3.81	—	—	0.606	µg/L	B	U
Vanadium	02/19/04	860.9	NF	4.08	—	—	0.606	µg/L	B	U
Zinc	02/19/04	860.9	F	5.96	—	—	0.883	µg/L	—	—
Zinc	02/19/04	860.9	NF	4.56	—	—	0.883	µg/L	B	—
Detected Organic Constituents										
Total Organic Carbon	02/19/04	860.9	NF	1470	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	02/19/04	860.9	NF	0.0463	0.0399	0.082	—	pCi/L	U	U
Cesium-137	02/19/04	860.9	NF	-1.81	0.982	3.19	—	pCi/L	U	U
Plutonium-238	02/19/04	860.9	NF	-0.00368	0.00974	0.051	—	pCi/L	U	U
Plutonium-239/240	02/19/04	860.9	NF	0	0.0052	0.045	—	pCi/L	U	U
Strontium-90	02/19/04	860.9	NF	0.0936	0.0629	0.249	—	pCi/L	U	U

Table A-6 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Technetium-99	02/19/04	860.9	NF	-1.49	1.13	3.91	—	pCi/L	U	U
Tritium	02/19/04	860.9	NF	0.42	0.29	0.29	—	pCi/L	—	—
Uranium-234	02/19/04	860.9	NF	0.542	0.0587	0.08	—	pCi/L	—	—
Uranium-235/236	02/19/04	860.9	NF	0.0381	0.0161	0.046	—	pCi/L	U	U
Uranium-238	02/19/04	860.9	NF	0.269	0.0363	0.051	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-7
Well R-5 Screen 2 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals
The static water level for the regional aquifer at R-5 was 685 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	04/28/04	383.9	F[a]	89900	—[b]	—	1450	µg/L	—	—
Aluminum	04/28/04	383.9	F	16.8	—	—	14.7	µg/L	B	U
Aluminum	04/28/04	383.9	NF[c]	16.7	—	—	14.7	µg/L	B	U
Ammonia (as N)	04/28/04	383.9	F	15.9	—	—	15.9	µg/L	U	R
Ammonia (as N)	04/28/04	383.9	NF	15.9	—	—	15.9	µg/L	U	R
Antimony	04/28/04	383.9	F	0.3	—	—	0.28	µg/L	B	U
Antimony	04/28/04	383.9	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/28/04	383.9	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	04/28/04	383.9	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	04/28/04	383.9	F	204	—	—	0.222	µg/L	—	—
Barium	04/28/04	383.9	NF	195	—	—	0.222	µg/L	—	—
Beryllium	04/28/04	383.9	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	04/28/04	383.9	NF	0.08	—	—	0.08	µg/L	U	—
Boron	04/28/04	383.9	F	34.5	—	—	4.88	µg/L	B	U
Boron	04/28/04	383.9	NF	32	—	—	4.88	µg/L	B	U
Bromide	04/28/04	383.9	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/28/04	383.9	F	0.065	—	—	0.04	µg/L	B	—
Cadmium	04/28/04	383.9	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/28/04	383.9	F	31900	—	—	5.54	µg/L	—	—
Calcium	04/28/04	383.9	NF	30800	—	—	5.54	µg/L	—	—
Chloride	04/28/04	383.9	F	6720	—	—	32.2	µg/L	—	—
Chromium	04/28/04	383.9	F	4.4	—	—	0.503	µg/L	B	—
Chromium	04/28/04	383.9	NF	5.5	—	—	0.503	µg/L	—	—
Cobalt	04/28/04	383.9	F	4.2	—	—	0.541	µg/L	B	—
Cobalt	04/28/04	383.9	NF	0.541	—	—	0.541	µg/L	U	—

Table A-7 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	04/28/04	383.9	F	1.39	—	—	1.39	µg/L	U	UJ
Copper	04/28/04	383.9	NF	1.39	—	—	1.39	µg/L	U	UJ
Cyanide (Total)	04/28/04	383.9	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	04/28/04	383.9	F	1030	—	—	55.3	µg/L	—	—
Iron	04/28/04	383.9	F	12.6	—	—	12.6	µg/L	U	—
Iron	04/28/04	383.9	NF	12.6	—	—	12.6	µg/L	U	—
Lead	04/28/04	383.9	F	0.05	—	—	0.05	µg/L	U	—
Lead	04/28/04	383.9	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	04/28/04	383.9	F	3210	—	—	5.18	µg/L	—	—
Magnesium	04/28/04	383.9	NF	3080	—	—	5.18	µg/L	—	—
Manganese	04/28/04	383.9	F	6	—	—	1.61	µg/L	—	—
Manganese	04/28/04	383.9	NF	1.61	—	—	1.61	µg/L	U	—
Mercury	04/28/04	383.9	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	04/28/04	383.9	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	04/28/04	383.9	F	2	—	—	0.2	µg/L	—	—
Molybdenum	04/28/04	383.9	NF	2	—	—	0.2	µg/L	—	—
Nickel	04/28/04	383.9	F	0.69	—	—	0.69	µg/L	U	—
Nickel	04/28/04	383.9	NF	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	04/28/04	383.9	F	2310	—	—	10	µg/L	—	—
Nitrate+Nitrite (as N)	04/28/04	383.9	NF	2260	—	—	10	µg/L	—	—
Perchlorate	04/28/04	383.9	NF	0.995	—	—	—	µg/L	—	—
Phosphorus (as PO_4)	04/28/04	383.9	F	151	—	—	151	µg/L	UH	UJ
Potassium	04/28/04	383.9	F	4440	—	—	16.5	µg/L	—	—
Potassium	04/28/04	383.9	NF	4310	—	—	16.5	µg/L	—	—
Selenium	04/28/04	383.9	F	2.81	—	—	2.81	µg/L	U	—
Selenium	04/28/04	383.9	NF	2.81	—	—	2.81	µg/L	U	—
Silicon Dioxide	04/28/04	383.9	F	53200	—	—	21.2	µg/L	—	—
Silicon Dioxide	04/28/04	383.9	NF	51900	—	—	21.2	µg/L	—	—
Silver	04/28/04	383.9	F	0.835	—	—	0.835	µg/L	U	—

Table A-7 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silver	04/28/04	383.9	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/28/04	383.9	F	15300	—	—	14.4	µg/L	—	—
Sodium	04/28/04	383.9	NF	14700	—	—	14.4	µg/L	—	—
Strontium	04/28/04	383.9	F	329	—	—	0.178	µg/L	—	—
Strontium	04/28/04	383.9	NF	319	—	—	0.178	µg/L	—	—
Sulfate	04/28/04	383.9	F	8030	—	—	193	µg/L	—	—
Thallium	04/28/04	383.9	F	0.23	—	—	0.02	µg/L	B	U
Thallium	04/28/04	383.9	NF	0.034	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	04/28/04	383.9	F	68	—	—	44	µg/L	J	—
Total Kjeldahl Nitrogen	04/28/04	383.9	NF	66	—	—	44	µg/L	J	—
Phosphorus (as P)	04/28/04	383.9	F	23	—	—	11	µg/L	J	U
Phosphorus (as P)	04/28/04	383.9	NF	16	—	—	11	µg/L	J	U
Uranium	04/28/04	383.9	F	2.8	—	—	0.02	µg/L	—	—
Uranium	04/28/04	383.9	NF	2.7	—	—	0.02	µg/L	—	—
Vanadium	04/28/04	383.9	F	8.6	—	—	0.606	µg/L	—	—
Vanadium	04/28/04	383.9	NF	8.3	—	—	0.606	µg/L	—	—
Zinc	04/28/04	383.9	F	10.9	—	—	0.883	µg/L	—	—
Zinc	04/28/04	383.9	NF	10.5	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	04/28/04	383.9	NF	305	—	—	25	µg/L	—	J-
Radiologic Constituents										
Americium-241	04/28/04	383.9	NF	0.00558	0.00883	0.05	—	pCi/L	U	U
Cesium-137	04/28/04	383.9	NF	6.8	1.57	6.04	—	pCi/L	UI	R
Gross gamma	04/28/04	383.9	NF	96.2	122	334	—	pCi/L	U	U
Plutonium-238	04/28/04	383.9	NF	0.00851	0.00852	0.044	—	pCi/L	U	U
Plutonium-239/240	04/28/04	383.9	NF	0.00567	0.00802	0.045	—	pCi/L	U	U
Strontium-90	04/28/04	383.9	NF	0.532	0.113	0.266	—	pCi/L	—	J
Technetium-99	04/28/04	383.9	NF	-1.06	0.805	2.79	—	pCi/L	U	U
Tritium	04/28/04	383.9	NF	0.03	0.29	0.29	—	pCi/L	—	—

Table A-7 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Uranium-234	04/28/04	383.9	NF	1.31	0.107	0.105	—	pCi/L	—	—
Uranium-235/236	04/28/04	383.9	NF	0.131	0.0237	0.064	—	pCi/L	—	J
Uranium-238	04/28/04	383.9	NF	0.885	0.0785	0.074	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-8

Well R-5 Screen 3 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-5 was 685 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Aluminum	04/30/04	718.6	F[a]	16.2	—[b]	—	14.7	µg/L	B	U
Aluminum	04/30/04	718.6	NF[c]	19.9	—	—	14.7	µg/L	B	U
Ammonia (as N)	04/30/04	718.6	F	15.9	—	—	15.9	µg/L	U	UJ
Ammonia (as N)	04/30/04	718.6	NF	15.9	—	—	15.9	µg/L	U	UJ
Antimony	04/30/04	718.6	F	0.28	—	—	0.28	µg/L	U	—
Antimony	04/30/04	718.6	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/30/04	718.6	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	04/30/04	718.6	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	04/30/04	718.6	F	102	—	—	0.222	µg/L	—	—
Barium	04/30/04	718.6	NF	107	—	—	0.222	µg/L	—	—
Beryllium	04/30/04	718.6	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	04/30/04	718.6	NF	0.08	—	—	0.08	µg/L	U	—
Boron	04/30/04	718.6	F	43	—	—	4.88	µg/L	B	U
Boron	04/30/04	718.6	NF	45.5	—	—	4.88	µg/L	B	—
Bromide	04/30/04	718.6	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/30/04	718.6	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/30/04	718.6	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/30/04	718.6	F	26800	—	—	5.54	µg/L	—	—
Calcium	04/30/04	718.6	NF	28100	—	—	5.54	µg/L	—	—
Chloride	04/30/04	718.6	F	7890	—	—	32.2	µg/L	—	—
Chromium	04/30/04	718.6	F	7.9	—	—	0.503	µg/L	—	—
Chromium	04/30/04	718.6	NF	8.9	—	—	0.503	µg/L	—	—
Cobalt	04/30/04	718.6	F	3.3	—	—	0.541	µg/L	B	—
Cobalt	04/30/04	718.6	NF	0.541	—	—	0.541	µg/L	U	—

Table A-8 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	04/30/04	718.6	F	2	—	—	1.39	µg/L	B	U
Copper	04/30/04	718.6	NF	2.4	—	—	1.39	µg/L	B	U
Cyanide (Total)	04/30/04	718.6	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	04/30/04	718.6	F	628	—	—	55.3	µg/L	—	—
Iron	04/30/04	718.6	F	12.6	—	—	12.6	µg/L	U	—
Iron	04/30/04	718.6	NF	31.8	—	—	12.6	µg/L	B	—
Lead	04/30/04	718.6	F	0.05	—	—	0.05	µg/L	U	—
Lead	04/30/04	718.6	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	04/30/04	718.6	F	4600	—	—	5.18	µg/L	—	—
Magnesium	04/30/04	718.6	NF	4850	—	—	5.18	µg/L	—	—
Manganese	04/30/04	718.6	F	5.5	—	—	1.61	µg/L	—	—
Manganese	04/30/04	718.6	NF	7.6	—	—	1.61	µg/L	—	—
Mercury	04/30/04	718.6	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	04/30/04	718.6	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	04/30/04	718.6	F	2.2	—	—	0.2	µg/L	—	—
Molybdenum	04/30/04	718.6	NF	2.3	—	—	0.2	µg/L	—	—
Nickel	04/30/04	718.6	F	0.69	—	—	0.69	µg/L	U	—
Nickel	04/30/04	718.6	NF	0.93	—	—	0.69	µg/L	B	U
Nitrate+Nitrite (as N)	04/30/04	718.6	F	1790	—	—	10	µg/L	—	—
Nitrate+Nitrite (as N)	04/30/04	718.6	NF	1790	—	—	10	µg/L	—	—
Perchlorate	04/30/04	718.6	NF	1.15	—	—	0.1	µg/L	—	J-
Perchlorate	04/30/04	718.6	NF	1.2	—	—	0.2	µg/L	H	J
Potassium	04/30/04	718.6	F	3610	—	—	16.5	µg/L	—	—
Potassium	04/30/04	718.6	NF	3790	—	—	16.5	µg/L	—	—
Selenium	04/30/04	718.6	F	2.81	—	—	2.81	µg/L	U	—
Selenium	04/30/04	718.6	NF	2.81	—	—	2.81	µg/L	U	—
Silicon Dioxide	04/30/04	718.6	F	50600	—	—	21.2	µg/L	—	—
Silicon Dioxide	04/30/04	718.6	NF	53600	—	—	21.2	µg/L	—	—
Silver	04/30/04	718.6	F	0.835	—	—	0.835	µg/L	U	—

Table A-8 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silver	04/30/04	718.6	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/30/04	718.6	F	21300	—	—	14.4	µg/L	—	—
Sodium	04/30/04	718.6	NF	22400	—	—	14.4	µg/L	—	—
Strontium	04/30/04	718.6	F	209	—	—	0.178	µg/L	—	—
Strontium	04/30/04	718.6	NF	219	—	—	0.178	µg/L	—	—
Sulfate	04/30/04	718.6	F	16000	—	—	193	µg/L	—	—
Thallium	04/30/04	718.6	F	0.21	—	—	0.02	µg/L	B	—
Thallium	04/30/04	718.6	NF	0.053	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	04/30/04	718.6	F	78	—	—	44	µg/L	J	—
Total Kjeldahl Nitrogen	04/30/04	718.6	NF	169	—	—	44	µg/L	—	—
Phosphorus (as P)	04/30/04	718.6	F	23	—	—	11	µg/L	J	U
Phosphorus (as P)	04/30/04	718.6	NF	18	—	—	11	µg/L	J	U
Uranium	04/30/04	718.6	F	1.8	—	—	0.02	µg/L	—	—
Uranium	04/30/04	718.6	NF	1.8	—	—	0.02	µg/L	—	—
Uranium-235	04/30/04	718.6	NF	0.011	—	—	0.0066	µg/L	J	—
Uranium-238	04/30/04	718.6	NF	1.558	—	—	0.00367	µg/L	—	—
Vanadium	04/30/04	718.6	F	10.1	—	—	0.606	µg/L	—	—
Vanadium	04/30/04	718.6	NF	10.8	—	—	0.606	µg/L	—	—
Zinc	04/30/04	718.6	F	11.2	—	—	0.883	µg/L	—	U
Zinc	04/30/04	718.6	NF	13.6	—	—	0.883	µg/L	—	U
Detected Organic Constituents										
Total Organic Carbon	04/30/04	718.6	NF	259	—	—	25	µg/L	—	J-
Radiologic Constituents										
Americium-241	04/30/04	718.6	NF	0.019	0.0137	0.034	—	pCi/L	U	U
Cesium-137	04/30/04	718.6	NF	-1.07	1.31	4.49	—	pCi/L	U	U
Gross gamma	04/30/04	718.6	NF	99.8	109	324	—	pCi/L	U	U
Plutonium-238	04/30/04	718.6	NF	-0.0203	0.0114	0.039	—	pCi/L	U	U
Plutonium-239/240	04/30/04	718.6	NF	0.00254	0.00568	0.041	—	pCi/L	U	U
Strontium-90	04/30/04	718.6	NF	0.0956	0.0746	0.244	—	pCi/L	U	U

Table A-8 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Technetium-99	04/30/04	718.6	NF	-2.4	1.42	4.95	—	pCi/L	U	U
Tritium	04/30/04	718.6	NF	0.1	0.29	0.29		pCi/L	—	—
Uranium-234	04/30/04	718.6	NF	0.973	0.0771	0.067	—	pCi/L	—	—
Uranium-235/236	04/30/04	718.6	NF	0.0662	0.0135	0.041	—	pCi/L	—	J
Uranium-238	04/30/04	718.6	NF	0.493	0.0454	0.048	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-9

Well R-5 Screen 4 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-5 was 685 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	05/03/04	860.9	F[a]	103000	—[b]	—	1450	µg/L	—	—
Aluminum	05/03/04	860.9	F	14.7	—	—	14.7	µg/L	U	R
Aluminum	05/03/04	860.9	NF[c]	16	—	—	14.7	µg/L	B	J-
Ammonia (as N)	05/03/04	860.9	F	15.9	—	—	15.9	µg/L	U	R
Ammonia (as N)	05/04/04	860.9	NF	15.9	—	—	15.9	µg/L	U	R
Antimony	05/03/04	860.9	F	0.28	—	—	0.28	µg/L	U	—
Antimony	05/03/04	860.9	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	05/03/04	860.9	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	05/03/04	860.9	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	05/03/04	860.9	F	176	—	—	0.222	µg/L	—	—
Barium	05/03/04	860.9	NF	159	—	—	0.222	µg/L	—	J
Beryllium	05/03/04	860.9	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	05/03/04	860.9	NF	0.08	—	—	0.08	µg/L	U	—
Boron	05/03/04	860.9	F	40.8	—	—	4.88	µg/L	B	—
Boron	05/03/04	860.9	NF	38.8	—	—	4.88	µg/L	B	—
Bromide	05/03/04	860.9	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	05/03/04	860.9	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	05/03/04	860.9	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	05/03/04	860.9	F	25000	—	—	5.54	µg/L	—	—
Calcium	05/03/04	860.9	NF	23100	—	—	5.54	µg/L	—	J
Chloride	05/03/04	860.9	F	5310	—	—	32.2	µg/L	—	—
Chromium	05/03/04	860.9	F	1.3	—	—	0.503	µg/L	B	U
Chromium	05/03/04	860.9	NF	2.2	—	—	0.503	µg/L	B	U
Cobalt	05/03/04	860.9	F	5.4	—	—	0.541	µg/L	—	U
Cobalt	05/03/04	860.9	NF	1	—	—	0.541	µg/L	B	U

Table A-9 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	05/03/04	860.9	F	1.39	—	—	1.39	µg/L	U	—
Copper	05/03/04	860.9	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	05/03/04	860.9	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	05/03/04	860.9	F	347	—	—	55.3	µg/L	—	—
Iron	05/03/04	860.9	F	383	—	—	12.6	µg/L	—	—
Iron	05/03/04	860.9	NF	330	—	—	12.6	µg/L	—	—
Lead	05/03/04	860.9	F	0.05	—	—	0.052	µg/L	B	—
Lead	05/03/04	860.9	NF	0.1	—	—	0.05	µg/L	B	—
Magnesium	05/03/04	860.9	F	4120	—	—	5.18	µg/L	—	—
Magnesium	05/03/04	860.9	NF	3850	—	—	5.18	µg/L	—	J
Manganese	05/03/04	860.9	F	442	—	—	1.61	µg/L	—	—
Manganese	05/03/04	860.9	NF	391	—	—	1.61	µg/L	—	J
Mercury	05/03/04	860.9	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	05/04/04	860.9	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	05/03/04	860.9	F	4.7	—	—	0.2	µg/L	—	—
Molybdenum	05/03/04	860.9	NF	4.5	—	—	0.2	µg/L	—	—
Nickel	05/03/04	860.9	F	18.1	—	—	0.69	µg/L	—	—
Nickel	05/03/04	860.9	NF	20.1	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	05/03/04	860.9	F	10	—	—	10	µg/L	U	R
Nitrate+Nitrite (as N)	05/03/04	860.9	NF	10	—	—	10	µg/L	U	R
Perchlorate	05/03/04	860.9	NF	0.101	—	—	—	µg/L	J	—
Phosphorus (as PO_4)	05/03/04	860.9	F	151	—	—	151	µg/L	UH	UJ
Phosphorus (as P)	05/03/04	860.9	F	23	—	—	11	µg/L	J	—
Phosphorus (as P)	05/03/04	860.9	NF	11	—	—	11	µg/L	U	—
Potassium	05/03/04	860.9	F	3830	—	—	16.5	µg/L	—	—
Potassium	05/03/04	860.9	NF	3520	—	—	16.5	µg/L	—	—
Selenium	05/03/04	860.9	F	2.81	—	—	2.81	µg/L	U	UJ
Selenium	05/03/04	860.9	NF	2.81	—	—	2.81	µg/L	U	UJ
Silicon Dioxide	05/03/04	860.9	F	55400	—	—	21.2	µg/L	—	—

Table A-9 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	05/04/04	860.9	NF	53700	—	—	21.2	µg/L	—	—
Silver	05/03/04	860.9	F	0.835	—	—	0.835	µg/L	U	—
Silver	05/03/04	860.9	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	05/03/04	860.9	F	18500	—	—	14.4	µg/L	—	—
Sodium	05/03/04	860.9	NF	17200	—	—	14.4	µg/L	—	—
Strontium	05/03/04	860.9	F	214	—	—	0.178	µg/L	—	—
Strontium	05/03/04	860.9	NF	198	—	—	0.178	µg/L	—	J
Sulfate	05/03/04	860.9	F	4360	—	—	193	µg/L	—	—
Thallium	05/03/04	860.9	F	0.47	—	—	0.02	µg/L	B	U
Thallium	05/03/04	860.9	NF	0.16	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	05/03/04	860.9	F	296	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	05/03/04	860.9	NF	264	—	—	44	µg/L	—	—
Uranium	05/03/04	860.9	F	2	—	—	0.02	µg/L	—	—
Uranium	05/03/04	860.9	NF	2.2	—	—	0.02	µg/L	—	—
Vanadium	05/03/04	860.9	F	4.5	—	—	0.606	µg/L	B	—
Vanadium	05/03/04	860.9	NF	4.6	—	—	0.606	µg/L	B	—
Zinc	05/03/04	860.9	F	10.8	—	—	0.883	µg/L	—	—
Zinc	05/03/04	860.9	NF	10.8	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	05/04/04	860.9	NF	857	—	—	25	µg/L	—	J-
Radiologic Constituents										
Americium-241	05/04/04	860.9	NF	0.0106	0.0112	0.047	—	pCi/L	U	U
Cesium-137	05/03/04	860.9	NF	9.47	1.61	3.29	—	pCi/L	—	J
Gross gamma	05/04/04	860.9	NF	102	187	332	—	pCi/L	U	U
Plutonium-238	05/04/04	860.9	NF	-0.00599	0.00948	0.046	—	pCi/L	U	U
Plutonium-239/240	05/04/04	860.9	NF	0.00299	0.00792	0.048	—	pCi/L	U	U
Strontium-90	05/04/04	860.9	NF	-0.172	0.0799	0.3	—	pCi/L	U	U
Technetium-99	05/04/04	860.9	NF	-1.57	0.918	3.19	—	pCi/L	U	U
Tritium	05/04/04	860.9	NF	0.35	0.29	0.29	—	pCi/L	—	—

Table A-9 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Uranium-234	05/04/04	860.9	NF	1.22	0.097	0.087	—	pCi/L	—	—
Uranium-235/236	05/04/04	860.9	NF	0.0975	0.0195	0.053	—	pCi/L	—	J
Uranium-238	05/04/04	860.9	NF	0.7	0.0626	0.062	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-10

Well R-8 Screen 1 First Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-8 was 711 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Aluminum	02/20/04	711.1	F[a]	14.7	—[b]	—	14.7	µg/L	U	R
Aluminum	02/20/04	711.1	NF[c]	69.3	—	—	14.7	µg/L	B	JN-
Ammonia (as N)	02/20/04	711.1	F	24	—	—	24	µg/L	U	R
Ammonia (as N)	02/20/04	711.1	NF	24	—	—	24	µg/L	U	R
Antimony	02/20/04	711.1	F	0.297	—	—	0.28	µg/L	B	—
Antimony	02/20/04	711.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	02/20/04	711.1	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	02/20/04	711.1	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	02/20/04	711.1	F	131	—	—	0.222	µg/L	—	—
Barium	02/20/04	711.1	NF	122	—	—	0.222	µg/L	—	—
Beryllium	02/20/04	711.1	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	02/20/04	711.1	NF	0.08	—	—	0.08	µg/L	U	—
Boron	02/20/04	711.1	F	40	—	—	4.88	µg/L	B	—
Boron	02/20/04	711.1	NF	39.2	—	—	4.88	µg/L	B	—
Bromide	02/20/04	711.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	02/20/04	711.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	02/20/04	711.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	02/20/04	711.1	F	12100	—	—	5.54	µg/L	—	—
Calcium	02/20/04	711.1	NF	11200	—	—	5.54	µg/L	—	—
Chloride	02/20/04	711.1	F	3590	—	—	32.2	µg/L	—	—
Chromium	02/20/04	711.1	F	0.8	—	—	0.503	µg/L	B	JN-
Chromium	02/20/04	711.1	NF	2.58	—	—	0.503	µg/L	B	—
Cobalt	02/20/04	711.1	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	02/20/04	711.1	NF	0.541	—	—	0.541	µg/L	U	—

Table A-10 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	02/20/04	711.1	F	1.39	—	—	1.39	µg/L	U	R
Copper	02/20/04	711.1	NF	1.39	—	—	1.39	µg/L	U	R
Cyanide (Total)	02/20/04	711.1	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	02/20/04	711.1	F	360	—	—	55.3	µg/L	—	—
Iron	02/20/04	711.1	F	12.6	—	—	12.6	µg/L	U	—
Iron	02/20/04	711.1	NF	37.7	—	—	12.6	µg/L	B	—
Lead	02/20/04	711.1	F	0.05	—	—	0.05	µg/L	U	—
Lead	02/20/04	711.1	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	02/20/04	711.1	F	5700	—	—	5.18	µg/L	—	—
Magnesium	02/20/04	711.1	NF	5540	—	—	5.18	µg/L	—	—
Manganese	02/20/04	711.1	F	10.4	—	—	1.61	µg/L	—	—
Manganese	02/20/04	711.1	NF	9.64	—	—	1.61	µg/L	—	—
Mercury	02/20/04	711.1	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	02/20/04	711.1	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	02/20/04	711.1	F	2.16	—	—	0.2	µg/L	—	—
Molybdenum	02/20/04	711.1	NF	2.22	—	—	0.2	µg/L	—	—
Nickel	02/20/04	711.1	F	1.39	—	—	0.69	µg/L	B	JN-
Nickel	02/20/04	711.1	NF	1.81	—	—	0.69	µg/L	B	JN-
Nitrate	02/20/04	711.1	F	313	—	—	34.1	µg/L	H	J
Nitrate-Nitrite (as N)	02/20/04	711.1	F	290	—	—	10	µg/L	—	—
Nitrate-Nitrite (as N)	02/20/04	711.1	NF	260	—	—	10	µg/L	—	J
Nitrite	02/20/04	711.1	F	54.2	—	—	54.2	µg/L	UH	R
Oxalate	02/20/04	711.1	F	346	—	—	346	µg/L	U	—
Perchlorate	02/20/04	711.1	NF	0.213	—	—	—	µg/L	—	—
Phosphorus (as PO_4)	02/20/04	711.1	F	151	—	—	151	µg/L	UH	—
Phosphorus (as P)	02/20/04	711.1	F	11	—	—	11	µg/L	U	JN-

Table A-10 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Phosphorus (as P)	02/20/04	711.1	NF	11	—	—	11	µg/L	U	JN-
Potassium	02/20/04	711.1	F	4370	—	—	16.5	µg/L	—	—
Potassium	02/20/04	711.1	NF	4350	—	—	16.5	µg/L	—	—
Selenium	02/20/04	711.1	F	2.81	—	—	2.81	µg/L	U	—
Selenium	02/20/04	711.1	NF	2.81	—	—	2.81	µg/L	U	—
Silicon Dioxide	02/20/04	711.1	F	53200	—	—	21.2	µg/L	—	—
Silicon Dioxide	02/20/04	711.1	NF	52700	—	—	21.2	µg/L	—	—
Silver	02/20/04	711.1	F	0.835	—	—	0.835	µg/L	U	—
Silver	02/20/04	711.1	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	02/20/04	711.1	F	27100	—	—	14.4	µg/L	—	—
Sodium	02/20/04	711.1	NF	27100	—	—	14.4	µg/L	—	—
Strontium	02/20/04	711.1	F	183	—	—	0.178	µg/L	—	—
Strontium	02/20/04	711.1	NF	175	—	—	0.178	µg/L	—	—
Sulfate	02/20/04	711.1	F	3490	—	—	193	µg/L	—	—
Thallium	02/20/04	711.1	F	0.056	—	—	0.02	µg/L	B	U
Thallium	02/20/04	711.1	NF	0.181	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	02/20/04	711.1	F	510	—	—	30	µg/L	—	—
Total Kjeldahl Nitrogen	02/20/04	711.1	NF	420	—	—	30	µg/L	—	—
Uranium	02/20/04	711.1	F	1.26	—	—	0.02	µg/L	—	—
Uranium	02/20/04	711.1	NF	1.24	—	—	0.02	µg/L	—	—
Vanadium	02/20/04	711.1	F	10.9	—	—	0.606	µg/L	—	U
Vanadium	02/20/04	711.1	NF	9.13	—	—	0.606	µg/L	—	U
Zinc	02/20/04	711.1	F	1.17	—	—	0.883	µg/L	B	—
Zinc	02/20/04	711.1	NF	1.19	—	—	0.883	µg/L	B	—

Table A-10 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Detected Organic Constituents										
DDE[4,4'-]	02/23/04	711.1	NF	0.0204	—	—	—	µg/L	J	J
Total Organic Carbon	02/20/04	711.1	NF	970	—	—	25	µg/L	—	J-
Radiologic Constituents										
Americium-241	02/20/04	711.1	NF	-0.00395	0.022	0.07	—	pCi/L	U	U
Cesium-137	02/20/04	711.1	NF	0.314	1.08	3.77	—	pCi/L	U	U
Plutonium-238	02/20/04	711.1	NF	0.00596	0.00943	0.041	—	pCi/L	U	U
Plutonium-239/240	02/20/04	711.1	NF	0.00596	0.00422	0.037	—	pCi/L	U	U
Strontium-90	02/20/04	711.1	NF	0.0653	0.0649	0.267	—	pCi/L	U	U
Technetium-99	02/20/04	711.1	NF	0.161	1.22	4.12	—	pCi/L	U	U
Tritium	02/20/04	711.1	NF	0.12772	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	02/20/04	711.1	NF	0.739	0.0662	0.069	—	pCi/L	—	—
Uranium-235/236	02/20/04	711.1	NF	0.136	0.0223	0.04	—	pCi/L	—	—
Uranium-238	02/20/04	711.1	NF	0.291	0.0355	0.044	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-11
Well R-8 Screen 2 First Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals
The static water level for the regional aquifer at R-8 was 711 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Aluminum	02/25/04	825	F[a]	14.7	—[b]	—	14.7	µg/L	U	R
Aluminum	02/25/04	825	NF[c]	14.7	—	—	14.7	µg/L	U	R
Ammonia (as N)	02/25/04	825	F	24	—	—	24	µg/L	U	UJ
Ammonia (as N)	02/25/04	825	NF	24	—	—	24	µg/L	U	UJ
Antimony	02/25/04	825	F	0.28	—	—	0.28	µg/L	U	—
Antimony	02/25/04	825	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	02/25/04	825	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	02/25/04	825	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	02/25/04	825	F	25.1	—	—	0.222	µg/L	—	—
Barium	02/25/04	825	NF	27.8	—	—	0.222	µg/L	—	—
Beryllium	02/25/04	825	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	02/25/04	825	NF	0.08	—	—	0.08	µg/L	U	—
Boron	02/25/04	825	F	16.5	—	—	4.88	µg/L	B	—
Boron	02/25/04	825	NF	18.8	—	—	4.88	µg/L	B	—
Bromide	02/25/04	825	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	02/25/04	825	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	02/25/04	825	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	02/25/04	825	F	17500	—	—	5.54	µg/L	—	—
Calcium	02/25/04	825	NF	17000	—	—	5.54	µg/L	—	—
Chloride	02/25/04	825	F	1450	—	—	32.2	µg/L	—	—
Chromium	02/25/04	825	F	3.35	—	—	0.503	µg/L	B	U
Chromium	02/25/04	825	NF	3.73	—	—	0.503	µg/L	B	U
Cobalt	02/25/04	825	F	0.891	—	—	0.541	µg/L	B	U
Cobalt	02/25/04	825	NF	0.78	—	—	0.541	µg/L	B	U

Table A-11 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	02/25/04	825	F	1.39	—	—	1.39	µg/L	U	—
Copper	02/25/04	825	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	02/25/04	825	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	02/25/04	825	F	557	—	—	55.3	µg/L	—	—
Iron	02/25/04	825	F	12.6	—	—	12.6	µg/L	U	—
Iron	02/25/04	825	NF	15.5	—	—	12.6	µg/L	B	—
Lead	02/25/04	825	F	0.05	—	—	0.05	µg/L	U	—
Lead	02/25/04	825	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	02/25/04	825	F	2760	—	—	5.18	µg/L	—	—
Magnesium	02/25/04	825	NF	2710	—	—	5.18	µg/L	—	—
Manganese	02/25/04	825	F	1.61	—	—	1.61	µg/L	U	—
Manganese	02/25/04	825	NF	5.07	—	—	1.61	µg/L	—	—
Mercury	02/25/04	825	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	02/25/04	825	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	02/25/04	825	F	1.64	—	—	0.2	µg/L	—	—
Molybdenum	02/25/04	825	NF	1.62	—	—	0.2	µg/L	—	—
Nickel	02/25/04	825	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	02/25/04	825	NF	0.69	—	—	0.69	µg/L	U	UJ
Nitrate	02/25/04	825	F	398	—	—	34.1	µg/L	H	J
Nitrate+Nitrite (as N)	02/25/04	825	F	400	—	—	10	µg/L	—	J
Nitrate+Nitrite (as N)	02/25/04	825	NF	340	—	—	10	µg/L	—	—
Nitrite	02/25/04	825	F	54.2	—	—	54.2	µg/L	UH	R
Oxalate	02/25/04	825	F	346	—	—	346	µg/L	U	—
Perchlorate	02/25/04	825	NF	0.312	—	—	—	µg/L	—	J
Phosphorus (as PO_4)	02/25/04	825	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	02/25/04	825	F	11	—	—	11	µg/L	U	—

Table A-11 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Phosphorus (as P)	02/25/04	825	NF	11	—	—	11	µg/L	U	—
Potassium	02/25/04	825	F	2140	—	—	16.5	µg/L	—	—
Potassium	02/25/04	825	NF	2090	—	—	16.5	µg/L	—	—
Selenium	02/25/04	825	F	2.81	—	—	2.81	µg/L	U	UJ
Selenium	02/25/04	825	NF	2.81	—	—	2.81	µg/L	U	UJ
Silicon Dioxide	02/25/04	825	F	57900	—	—	21.2	µg/L	—	—
Silicon Dioxide	02/25/04	825	NF	57900	—	—	21.2	µg/L	—	—
Silver	02/25/04	825	F	0.835	—	—	0.835	µg/L	U	—
Silver	02/25/04	825	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	02/25/04	825	F	9780	—	—	14.4	µg/L	—	—
Sodium	02/25/04	825	NF	9490	—	—	14.4	µg/L	—	—
Strontium	02/25/04	825	F	95.8	—	—	0.178	µg/L	—	—
Strontium	02/25/04	825	NF	95.1	—	—	0.178	µg/L	—	—
Sulfate	02/25/04	825	F	2020	—	—	193	µg/L	—	—
Thallium	02/25/04	825	F	0.064	—	—	0.02	µg/L	B	U
Thallium	02/25/04	825	NF	0.287	—	—	0.02	µg/L	B	—
Total Kjeldahl Nitrogen	02/25/04	825	F	240	—	—	30	µg/L	—	—
Total Kjeldahl Nitrogen	02/25/04	825	NF	270	—	—	30	µg/L	—	—
Total Organic Carbon	02/25/04	825	NF	162	—	—	25	µg/L	J	J-
Uranium	02/25/04	825	F	0.409	—	—	0.02	µg/L	—	—
Uranium	02/25/04	825	NF	0.412	—	—	0.02	µg/L	—	—
Vanadium	02/25/04	825	F	12.4	—	—	0.606	µg/L	—	—
Vanadium	02/25/04	825	NF	13.3	—	—	0.606	µg/L	—	—
Zinc	02/25/04	825	F	1.36	—	—	0.883	µg/L	B	U
Zinc	02/25/04	825	NF	3.92	—	—	0.883	µg/L	B	U

Table A-11 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Radiologic Constituents										
Americium-241	02/25/04	825	NF	0.00338	0.00893	0.06	—	pCi/L	U	U
Cesium-137	02/23/04	825	NF	1.21	1.9	3.09	—	pCi/L	U	U
Plutonium-238	02/25/04	825	NF	-0.00324	0.0134	0.045	—	pCi/L	U	U
Plutonium-239/240	02/25/04	825	NF	0.00324	0.0141	0.04	—	pCi/L	U	U
Strontium-90	02/25/04	825	NF	0.138	0.0751	0.303	—	pCi/L	U	U
Technetium-99	02/25/04	825	NF	-1.19	1.21	4.12	—	pCi/L	U	U
Tritium	02/25/04	825	NF	0.19158	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	02/25/04	825	NF	0.225	0.0355	0.088	—	pCi/L	—	J
Uranium-235/236	02/25/04	825	NF	-0.00383	0.0127	0.051	—	pCi/L	U	U
Uranium-238	02/25/04	825	NF	0.107	0.0229	0.056	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-12

Well R-8 Screen 1 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-8 was 711 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity-CO_3+HCO_3	04/26/04	711.1	F[a]	66200	—[b]	—	1450	µg/L	—	—
Aluminum	04/26/04	711.1	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	04/26/04	711.1	NF[c]	17.2	—	—	14.7	µg/L	B	—
Ammonia (as N)	04/26/04	711.1	F	15.9	—	—	15.9	µg/L	U	UJ
Ammonia (as N)	04/26/04	711.1	NF	15.9	—	—	15.9	µg/L	U	UJ
Antimony	04/26/04	711.1	F	0.44	—	—	0.28	µg/L	B	U
Antimony	04/26/04	711.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/26/04	711.1	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	04/26/04	711.1	NF	3.8	—	—	2.24	µg/L	B	U
Barium	04/26/04	711.1	F	24.3	—	—	0.222	µg/L	—	—
Barium	04/26/04	711.1	NF	24.3	—	—	0.222	µg/L	—	—
Beryllium	04/26/04	711.1	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	04/26/04	711.1	NF	0.08	—	—	0.08	µg/L	U	—
Boron	04/26/04	711.1	F	22.2	—	—	4.88	µg/L	B	U
Boron	04/26/04	711.1	NF	14	—	—	4.88	µg/L	B	U
Bromide	04/26/04	711.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/26/04	711.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/26/04	711.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/26/04	711.1	F	17100	—	—	5.54	µg/L	—	—
Calcium	04/26/04	711.1	NF	17600	—	—	5.54	µg/L	—	—
Chloride	04/26/04	711.1	F	1470	—	—	32.2	µg/L	—	—
Chromium	04/26/04	711.1	F	4	—	—	0.503	µg/L	B	—
Chromium	04/26/04	711.1	NF	9.6	—	—	0.503	µg/L	—	J
Cobalt	04/26/04	711.1	F	3.2	—	—	0.541	µg/L	B	—
Cobalt	04/26/04	711.1	NF	0.541	—	—	0.541	µg/L	U	—

Table A-12 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	04/26/04	711.1	F	1.39	—	—	1.39	µg/L	U	—
Copper	04/26/04	711.1	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	04/26/04	711.1	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	04/26/04	711.1	F	597	—	—	55.3	µg/L	—	—
Iron	04/26/04	711.1	F	12.6	—	—	12.6	µg/L	U	—
Iron	04/26/04	711.1	NF	42.8	—	—	12.6	µg/L	B	—
Lead	04/26/04	711.1	F	0.05	—	—	0.05	µg/L	U	—
Lead	04/26/04	711.1	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	04/26/04	711.1	F	2820	—	—	5.18	µg/L	—	—
Magnesium	04/26/04	711.1	NF	2910	—	—	5.18	µg/L	—	—
Manganese	04/26/04	711.1	F	8.2	—	—	1.61	µg/L	—	—
Manganese	04/26/04	711.1	NF	4	—	—	1.61	µg/L	B	—
Mercury	04/26/04	711.1	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	04/26/04	711.1	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	04/26/04	711.1	F	1.5	—	—	0.02	µg/L	*	J
Molybdenum	04/26/04	711.1	NF	3.1	—	—	0.2	µg/L	*	J
Nickel	04/26/04	711.1	F	0.69	—	—	0.69	µg/L	U	—
Nickel	04/26/04	711.1	NF	1.4	—	—	0.69	µg/L	B	—
Nitrate+Nitrite (as N)	04/26/04	711.1	F	350	—	—	10	µg/L	—	J+
Nitrate+Nitrite (as N)	04/26/04	711.1	NF	360	—	—	10	µg/L	—	J+
Perchlorate	04/26/04	711.1	NF	0.282	—	—	0.05	µg/L	—	J-
Phosphorus (as PO_4)	04/26/04	711.1	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	04/26/04	711.1	F	22	—	—	11	µg/L	J	U
Phosphorus (as P)	04/26/04	711.1	NF	22	—	—	11	µg/L	J	U
Potassium	04/26/04	711.1	F	2070	—	—	16.5	µg/L	—	—
Potassium	04/26/04	711.1	NF	2160	—	—	16.5	µg/L	—	—
Selenium	04/26/04	711.1	F	2.81	—	—	2.81	µg/L	U	—
Selenium	04/26/04	711.1	NF	2.81	—	—	2.81	µg/L	U	—
Silicon Dioxide	04/26/04	711.1	F	55900	—	—	21.2	µg/L	—	—

Table A-12 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	04/26/04	711.1	NF	58900	—	—	21.2	µg/L	—	—
Silver	04/26/04	711.1	F	0.835	—	—	0.835	µg/L	U	—
Silver	04/26/04	711.1	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/26/04	711.1	F	9880	—	—	14.4	µg/L	—	—
Sodium	04/26/04	711.1	NF	9810	—	—	14.4	µg/L	—	—
Strontium	04/26/04	711.1	F	96.3	—	—	0.178	µg/L	—	—
Strontium	04/26/04	711.1	NF	96.9	—	—	0.178	µg/L	—	—
Sulfate	04/26/04	711.1	F	2120	—	—	193	µg/L	—	—
Thallium	04/26/04	711.1	F	0.27	—	—	0.02	µg/L	B	U
Thallium	04/26/04	711.1	NF	0.086	—	—	0.02	µg/L	B	—
Total Kjeldahl Nitrogen	04/26/04	711.1	F	61	—	—	44	µg/L	J	—
Total Kjeldahl Nitrogen	04/26/04	711.1	NF	49	—	—	44	µg/L	J	—
Uranium	04/26/04	711.1	F	0.365	—	—	0.02	µg/L	—	J
Uranium	04/26/04	711.1	NF	0.37	—	—	0.02	µg/L	—	J
Vanadium	04/26/04	711.1	F	13.1	—	—	0.606	µg/L	—	—
Vanadium	04/26/04	711.1	NF	13.8	—	—	0.606	µg/L	—	—
Zinc	04/26/04	711.1	F	7.3	—	—	0.883	µg/L	—	J+
Zinc	04/26/04	711.1	NF	8.5	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Chlordane[gamma-]	04/26/04	711.1	NF	0.00613	—	—	—	µg/L	JP	J
DDE[4,4'-]	04/26/04	711.1	NF	0.00875	—	—	—	µg/L	J	—
DDT[4,4'-]	04/26/04	711.1	NF	0.016	—	—	—	µg/L	J	—
Total Organic Carbon	04/26/04	711.1	NF	231	—	—	25	µg/L	H	J-
Radiologic Constituents										
Americium-241	04/26/04	711.1	NF	0.0242	0.00844	0.043	—	pCi/L	U	U
Cesium-137	04/26/04	711.1	NF	-1.5	1.3	4.27	—	pCi/L	U	U
Gross gamma	04/26/04	711.1	NF	142	141	457	—	pCi/L	U	U
Plutonium-238	04/26/04	711.1	NF	0.00571	0.0107	0.044	—	pCi/L	U	U
Plutonium-239/240	04/26/04	711.1	NF	0.00857	0.00857	0.046	—	pCi/L	U	U

Table A-12 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium-90	04/26/04	711.1	NF	0.88	0.155	0.279	—	pCi/L	—	J
Technetium-99	04/26/04	711.1	NF	-0.396	0.891	3.04	—	pCi/L	U	U
Uranium-234	04/26/04	711.1	NF	0.273	0.0339	0.09	—	pCi/L	—	—
Uranium-235/236	04/26/04	711.1	NF	0.0238	0.012	0.055	—	pCi/L	U	U
Uranium-238	04/26/04	711.1	NF	0.0859	0.0193	0.064	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-13

Well R-8 Screen 2 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-8 was 711 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	04/27/04	825	F[a]	116000	—[b]	—	1450	µg/L	—	—
Aluminum	04/27/04	825	F	18.8	—	—	14.7	µg/L	B	U
Aluminum	04/27/04	825	NF[c]	45	—	—	14.7	µg/L	B	U
Ammonia (as N)	04/27/04	825	F	15.9	—	—	15.9	µg/L	U	R
Ammonia (as N)	04/27/04	825	NF	15.9	—	—	15.9	µg/L	U	R
Antimony	04/27/04	825	F	0.43	—	—	0.28	µg/L	B	U
Antimony	04/27/04	825	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/27/04	825	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	04/27/04	825	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	04/27/04	825	F	191	—	—	0.222	µg/L	—	—
Barium	04/27/04	825	NF	148	—	—	0.222	µg/L	—	—
Beryllium	04/27/04	825	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	04/27/04	825	NF	0.08	—	—	0.08	µg/L	U	—
Boron	04/27/04	825	F	47.6	—	—	4.88	µg/L	B	U
Boron	04/27/04	825	NF	48.5	—	—	4.88	µg/L	B	U
Bromide	04/27/04	825	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/27/04	825	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/27/04	825	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/27/04	825	F	16700	—	—	5.54	µg/L	—	—
Calcium	04/27/04	825	NF	14000	—	—	5.54	µg/L	—	—
Chloride	04/27/04	825	F	4230	—	—	32.2	µg/L	—	—
Chromium	04/27/04	825	F	2.8	—	—	0.503	µg/L	B	—
Chromium	04/27/04	825	NF	3.3	—	—	0.503	µg/L	B	—
Cobalt	04/27/04	825	F	3.5	—	—	0.541	µg/L	B	—
Cobalt	04/27/04	825	NF	0.541	—	—	0.541	µg/L	U	—

Table A-13 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	04/27/04	825	F	1.39	—	—	1.39	µg/L	U	UJ
Copper	04/27/04	825	NF	1.39	—	—	1.39	µg/L	U	UJ
Cyanide (Total)	04/27/04	825	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	04/27/04	825	F	421	—	—	55.3	µg/L	—	—
Iron	04/27/04	825	F	23.4	—	—	12.6	µg/L	B	—
Iron	04/27/04	825	NF	25	—	—	12.6	µg/L	B	—
Lead	04/27/04	825	F	0.07	—	—	0.05	µg/L	B	—
Lead	04/27/04	825	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	04/27/04	825	F	6670	—	—	5.18	µg/L	—	—
Magnesium	04/27/04	825	NF	6610	—	—	5.18	µg/L	—	—
Manganese	04/27/04	825	F	55.7	—	—	1.61	µg/L	—	—
Manganese	04/27/04	825	NF	29.7	—	—	1.61	µg/L	—	—
Mercury	04/27/04	825	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	04/27/04	825	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	04/27/04	825	F	2.1	—	—	0.2	µg/L	—	—
Molybdenum	04/27/04	825	NF	2	—	—	0.2	µg/L	—	—
Nickel	04/27/04	825	F	0.69	—	—	0.69	µg/L	U	—
Nickel	04/27/04	825	NF	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	04/27/04	825	F	240	—	—	10	µg/L	—	—
Nitrate+Nitrite (as N)	04/27/04	825	NF	190	—	—	10	µg/L	—	—
Perchlorate	04/27/04	825	NF	0.238	—	—	—	µg/L	—	—
Phosphorus (as PO_4)	04/27/04	825	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	04/27/04	825	F	19	—	—	11	µg/L	J	U
Phosphorus (as P)	04/27/04	825	NF	11	—	—	11	µg/L	U	—
Potassium	04/27/04	825	F	3950	—	—	16.5	µg/L	—	—
Potassium	04/27/04	825	NF	4190	—	—	16.5	µg/L	—	—
Selenium	04/27/04	825	F	2.81	—	—	2.81	µg/L	U	—
Selenium	04/27/04	825	NF	2.81	—	—	2.81	µg/L	U	—
Silicon Dioxide	04/27/04	825	F	57500	—	—	21.2	µg/L	—	—

Table A-13 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	04/27/04	825	NF	59000	—	—	21.2	µg/L	—	—
Silver	04/27/04	825	F	0.835	—	—	0.835	µg/L	U	—
Silver	04/27/04	825	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/27/04	825	F	26500	—	—	14.4	µg/L	—	—
Sodium	04/27/04	825	NF	28900	—	—	14.4	µg/L	—	—
Strontium	04/27/04	825	F	213	—	—	0.178	µg/L	—	—
Strontium	04/27/04	825	NF	197	—	—	0.178	µg/L	—	—
Sulfate	04/27/04	825	F	3890	—	—	193	µg/L	—	—
Thallium	04/27/04	825	F	0.1	—	—	0.02	µg/L	B	U
Thallium	04/27/04	825	NF	0.12	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	04/27/04	825	F	119	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	04/27/04	825	NF	91	—	—	44	µg/L	J	—
Uranium	04/27/04	825	F	1.5	—	—	0.02	µg/L	—	—
Uranium	04/27/04	825	NF	1.4	—	—	0.02	µg/L	—	—
Vanadium	04/27/04	825	F	7.2	—	—	0.606	µg/L	—	—
Vanadium	04/27/04	825	NF	7.5	—	—	0.606	µg/L	—	—
Zinc	04/27/04	825	F	7.9	—	—	0.883	µg/L	—	U
Zinc	04/27/04	825	NF	9.6	—	—	0.883	µg/L	—	U
Detected Organic Constituents										
Total Organic Carbon	04/27/04	825	NF	1190	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	04/27/04	825	NF	0.00718	0.00987	0.042	—	pCi/L	U	U
Cesium-137	04/27/04	825	NF	2.47	1.38	5.05	—	pCi/L	U	U
Gross gamma	04/27/04	825	NF	132	109	430	—	pCi/L	U	U
Plutonium-238	04/27/04	825	NF	1.48E-09	0.0125	0.048	—	pCi/L	U	U
Plutonium-239/240	04/27/04	825	NF	0.00622	0.0132	0.05	—	pCi/L	U	U
Strontium-90	04/27/04	825	NF	-0.0611	0.0823	0.284	—	pCi/L	U	U
Technetium-99	04/27/04	825	NF	0.975	0.867	2.87	—	pCi/L	U	U
Tritium	04/28/04	825	NF	0.06386	0.28737	0.28737	—	pCi/L	—	—

Table A-13 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Uranium-234	04/27/04	825	NF	0.856	0.0756	0.096	—	pCi/L	—	—
Uranium-235/236	04/27/04	825	NF	0.085	0.0183	0.058	—	pCi/L	—	J
Uranium-238	04/27/04	825	NF	0.439	0.0463	0.068	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-14

Well R-16 Screen 2 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	05/18/04	866.1	F[a]	88900	—[b]	—	1450	µg/L	—	J
Aluminum	05/12/04	866.1	F	24.8	—	—	14.7	µg/L	B	U
Aluminum	05/12/04	866.1	NF[c]	26.5	—	—	14.7	µg/L	B	U
Ammonia (as N)	05/18/04	866.1	F	15.9	—	—	15.9	µg/L	U	R
Ammonia (as N)	05/18/04	866.1	NF	15.9	—	—	15.9	µg/L	U	R
Antimony	05/12/04	866.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	05/12/04	866.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	05/12/04	866.1	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	05/12/04	866.1	NF	2.24	—	—	2.24	µg/L	U	—
Barium	05/12/04	866.1	F	34.9	—	—	0.222	µg/L	—	—
Barium	05/12/04	866.1	NF	36	—	—	0.222	µg/L	—	—
Beryllium	05/12/04	866.1	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	05/12/04	866.1	NF	0.08	—	—	0.08	µg/L	U	—
Boron	05/12/04	866.1	F	29.6	—	—	4.88	µg/L	B	U
Boron	05/12/04	866.1	NF	30.1	—	—	4.88	µg/L	B	U
Bromide	05/18/04	866.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	05/12/04	866.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	05/12/04	866.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	05/12/04	866.1	F	20400	—	—	5.54	µg/L	—	—
Calcium	05/12/04	866.1	NF	20900	—	—	5.54	µg/L	—	—
Chloride	05/18/04	866.1	F	2660	—	—	32.2	µg/L	—	—
Chromium	05/12/04	866.1	F	0.503	—	—	0.503	µg/L	U	UJ
Chromium	05/12/04	866.1	NF	4.1	—	—	0.503	µg/L	B	—
Cobalt	05/12/04	866.1	F	3.5	—	—	0.541	µg/L	B	—
Cobalt	05/12/04	866.1	NF	0.541	—	—	0.541	µg/L	U	—

Table A-14 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	05/12/04	866.1	F	1.39	—	—	1.39	µg/L	U	UJ
Copper	05/12/04	866.1	NF	1.39	—	—	1.39	µg/L	U	UJ
Cyanide (Total)	05/18/04	866.1	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	05/18/04	866.1	F	333	—	—	55.3	µg/L	—	J
Iron	05/12/04	866.1	F	14.1	—	—	12.6	µg/L	B	—
Iron	05/12/04	866.1	NF	34.9	—	—	12.6	µg/L	B	—
Lead	05/12/04	866.1	F	0.056	—	—	0.05	µg/L	B	—
Lead	05/12/04	866.1	NF	0.11	—	—	0.05	µg/L	B	—
Magnesium	05/12/04	866.1	F	1790	—	—	5.18	µg/L	—	—
Magnesium	05/12/04	866.1	NF	1820	—	—	5.18	µg/L	—	—
Manganese	05/12/04	866.1	F	44	—	—	1.61	µg/L	—	—
Manganese	05/12/04	866.1	NF	39	—	—	1.61	µg/L	—	—
Mercury	05/12/04	866.1	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	05/12/04	866.1	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	05/12/04	866.1	F	2.9	—	—	0.2	µg/L	—	—
Molybdenum	05/12/04	866.1	NF	3.3	—	—	0.2	µg/L	—	—
Nickel	05/12/04	866.1	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	05/12/04	866.1	NF	0.69	—	—	0.69	µg/L	U	UJ
Nitrate+Nitrite (as N)	05/18/04	866.1	F	10	—	—	10	µg/L	U	R
Nitrate+Nitrite (as N)	05/18/04	866.1	NF	10	—	—	10	µg/L	U	R
Perchlorate	05/18/04	866.1	NF	0.0954	—	—	0.05	µg/L	J	J-
Phosphorus (as PO_4)	05/18/04	866.1	F	151	—	—	151	µg/L	UH	UJ
Phosphorus (as P)	05/18/04	866.1	F	69	—	—	11	µg/L	—	U
Phosphorus (as P)	05/18/04	866.1	NF	93	—	—	11	µg/L	—	U
Potassium	05/12/04	866.1	F	2890	—	—	16.5	µg/L	—	—
Potassium	05/12/04	866.1	NF	2960	—	—	16.5	µg/L	—	—
Selenium	05/12/04	866.1	F	2.81	—	—	2.81	µg/L	U	—
Selenium	05/12/04	866.1	NF	2.81	—	—	2.81	µg/L	U	—

Table A-14 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	05/12/04	866.1	F	43000	—	—	21.2	µg/L	—	—
Silicon Dioxide	05/12/04	866.1	NF	44500	—	—	21.2	µg/L	—	—
Silver	05/12/04	866.1	F	0.835	—	—	0.835	µg/L	U	—
Silver	05/12/04	866.1	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	05/12/04	866.1	F	19000	—	—	14.4	µg/L	—	—
Sodium	05/12/04	866.1	NF	19200	—	—	14.4	µg/L	—	—
Strontium	05/12/04	866.1	F	196	—	—	0.178	µg/L	—	—
Strontium	05/12/04	866.1	NF	200	—	—	0.178	µg/L	—	—
Sulfate	05/18/04	866.1	F	3030	—	—	193	µg/L	—	—
Thallium	05/12/04	866.1	F	0.29	—	—	0.02	µg/L	B	U
Thallium	05/12/04	866.1	NF	0.081	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	05/18/04	866.1	F	559	—	—	44	µg/L	—	J
Total Kjeldahl Nitrogen	05/18/04	866.1	NF	486	—	—	44	µg/L	—	J
Uranium	05/12/04	866.1	F	0.49	—	—	0.02	µg/L	—	—
Uranium	05/12/04	866.1	NF	0.65	—	—	0.02	µg/L	—	—
Vanadium	05/12/04	866.1	F	1.9	—	—	0.606	µg/L	B	—
Vanadium	05/12/04	866.1	NF	3	—	—	0.606	µg/L	B	—
Zinc	05/12/04	866.1	F	8.8	—	—	0.883	µg/L	—	—
Zinc	05/12/04	866.1	NF	9.8	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
DDT[4,4'-]	05/18/04	866.1	NF	0.0785	—	—	—	µg/L	—	J+
Total Organic Carbon	05/18/04	866.1	NF	1510	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	05/12/04	866.1	NF	0.0286	0.00842	0.042	—	pCi/L	U	U
Cesium-137	05/12/04	866.1	NF	-0.569	0.619	2.06	—	pCi/L	U	U
Gross gamma	05/12/04	866.1	NF	65.9	53.9	179	—	pCi/L	U	U
Plutonium-238	05/12/04	866.1	NF	-0.00703	0.00525	0.036	—	pCi/L	U	U
Plutonium-239/240	05/12/04	866.1	NF	0.00234	0.00524	0.038	—	pCi/L	U	U
Strontium-90	05/12/04	866.1	NF	0.188	0.0542	0.15	—	pCi/L	—	J

Table A-14 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Technetium-99	05/12/04	866.1	NF	-0.474	0.983	3.3	—	pCi/L	U	U
Tritium	05/12/04	866.1	NF	-0.09579	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	05/12/04	866.1	NF	0.121	0.0236	0.08	—	pCi/L	—	J
Uranium-235/236	05/12/04	866.1	NF	-0.029	0.0166	0.049	—	pCi/L	U	U
Uranium-238	05/12/04	866.1	NF	0.0683	0.0198	0.057	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-15

Well R-16 Screen 3 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	05/13/04	1018.4	F[a]	99100	—[b]	—	1450	µg/L	—	—
Aluminum	05/13/04	1018.4	F	14.7	—	—	14.7	µg/L	U*	J-
Aluminum	05/13/04	1018.4	NF[c]	56.1	—	—	14.7	µg/L	B	J-
Ammonia (as N)	05/13/04	1018.4	F	1200	—	—	15.9	µg/L	—	—
Ammonia (as N)	05/13/04	1018.4	NF	1260	—	—	15.9	µg/L	—	—
Antimony	05/13/04	1018.4	F	0.28	—	—	0.28	µg/L	U	—
Antimony	05/13/04	1018.4	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	05/13/04	1018.4	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	05/13/04	1018.4	NF	3.1	—	—	2.24	µg/L	B	JN-
Barium	05/13/04	1018.4	F	71.9	—	—	0.222	µg/L	E	—
Barium	05/13/04	1018.4	NF	72.7	—	—	0.222	µg/L	—	J
Beryllium	05/13/04	1018.4	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	05/13/04	1018.4	NF	0.08	—	—	0.08	µg/L	U	—
Boron	05/13/04	1018.4	F	20.5	—	—	4.88	µg/L	B	—
Boron	05/13/04	1018.4	NF	20.5	—	—	4.88	µg/L	B	—
Bromide	05/13/04	1018.4	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	05/13/04	1018.4	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	05/13/04	1018.4	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	05/13/04	1018.4	F	30000	—	—	5.54	µg/L	—	—
Calcium	05/13/04	1018.4	NF	30500	—	—	5.54	µg/L	—	—
Chloride	05/13/04	1018.4	F	5160	—	—	32.2	µg/L	—	—
Chromium	05/13/04	1018.4	F	0.503	—	—	0.503	µg/L	U*	—
Chromium	05/13/04	1018.4	NF	8.6	—	—	0.503	µg/L	—	—
Cobalt	05/13/04	1018.4	F	8.3	—	—	0.541	µg/L	—	—
Cobalt	05/13/04	1018.4	NF	4.8	—	—	0.541	µg/L	B	—

Table A-15 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	05/13/04	1018.4	F	1.39	—	—	1.39	µg/L	U	—
Copper	05/13/04	1018.4	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	05/13/04	1018.4	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	05/13/04	1018.4	F	440	—	—	55.3	µg/L	—	—
Iron	05/13/04	1018.4	F	12.6	—	—	12.6	µg/L	U	—
Iron	05/13/04	1018.4	NF	55.8	—	—	12.6	µg/L	B	—
Lead	05/13/04	1018.4	F	0.075	—	—	0.05	µg/L	B	—
Lead	05/13/04	1018.4	NF	0.083	—	—	0.05	µg/L	B	—
Magnesium	05/13/04	1018.4	F	2230	—	—	5.18	µg/L	—	—
Magnesium	05/13/04	1018.4	NF	2260	—	—	5.18	µg/L	—	—
Manganese	05/13/04	1018.4	F	83.5	—	—	1.61	µg/L	—	J
Manganese	05/13/04	1018.4	NF	82.7	—	—	1.61	µg/L	—	J
Mercury	05/13/04	1018.4	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	05/13/04	1018.4	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	05/13/04	1018.4	F	1.7	—	—	0.2	µg/L	—	—
Molybdenum	05/13/04	1018.4	NF	2.2	—	—	0.2	µg/L	—	—
Nickel	05/13/04	1018.4	F	1.5	—	—	0.69	µg/L	B	U
Nickel	05/13/04	1018.4	NF	6.7	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	05/13/04	1018.4	F	10	—	—	10	µg/L	U	R
Nitrate+Nitrite (as N)	05/13/04	1018.4	NF	10	—	—	10	µg/L	U	R
Perchlorate	05/13/04	1018.4	NF	0.0954	—	—	0.05	µg/L	J	—
Phosphorus (as PO_4)	05/13/04	1018.4	F	350	—	—	151	µg/L	H	J
Phosphorus (as P)	05/13/04	1018.4	F	173	—	—	11	µg/L	—	—
Phosphorus (as P)	05/13/04	1018.4	NF	173	—	—	11	µg/L	—	—
Potassium	05/13/04	1018.4	F	3680	—	—	16.5	µg/L	—	—
Potassium	05/13/04	1018.4	NF	3760	—	—	16.5	µg/L	—	—
Selenium	05/13/04	1018.4	F	2.81	—	—	2.81	µg/L	U	UJ
Selenium	05/13/04	1018.4	NF	4	—	—	2.81	µg/L	B	JN-

Table A-15 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	05/13/04	1018.4	F	44500	—	—	21.2	µg/L	—	—
Silicon Dioxide	05/13/04	1018.4	NF	46000	—	—	21.2	µg/L	—	—
Silver	05/13/04	1018.4	F	0.835	—	—	0.835	µg/L	U	—
Silver	05/13/04	1018.4	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	05/13/04	1018.4	F	18800	—	—	14.4	µg/L	—	—
Sodium	05/13/04	1018.4	NF	19100	—	—	14.4	µg/L	—	—
Strontium	05/13/04	1018.4	F	338	—	—	0.178	µg/L	—	—
Strontium	05/13/04	1018.4	NF	343	—	—	0.178	µg/L	—	—
Sulfate	05/13/04	1018.4	F	12400	—	—	193	µg/L	—	—
Thallium	05/13/04	1018.4	F	0.33	—	—	0.02	µg/L	B	—
Thallium	05/13/04	1018.4	NF	0.027	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	05/13/04	1018.4	F	2680	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	05/13/04	1018.4	NF	2570	—	—	44	µg/L	—	—
Uranium	05/13/04	1018.4	F	3.5	—	—	0.02	µg/L	—	—
Uranium	05/13/04	1018.4	NF	3.6	—	—	0.02	µg/L	—	—
Vanadium	05/13/04	1018.4	F	8.1	—	—	0.606	µg/L	—	—
Vanadium	05/13/04	1018.4	NF	8.1	—	—	0.606	µg/L	—	—
Zinc	05/13/04	1018.4	F	15.2	—	—	0.883	µg/L	*	J-
Zinc	05/13/04	1018.4	NF	14.1	—	—	0.883	µg/L	—	J-
Detected Organic Constituents										
Total Organic Carbon	05/13/04	1018.4	NF	813	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	05/13/04	1018.4	NF	0.00463	0.00328	0.041	—	pCi/L	U	U
Cesium-137	05/13/04	1018.4	NF	1.62	0.669	1.55	—	pCi/L	—	U
Gross gamma	05/13/04	1018.4	NF	74.7	54.7	190	—	pCi/L	U	U
Plutonium-238	05/13/04	1018.4	NF	0.0044	0.00985	0.034	—	pCi/L	U	U
Plutonium-239/240	05/13/04	1018.4	NF	0.0286	0.0119	0.035	—	pCi/L	U	U
Strontium-90	05/13/04	1018.4	NF	0.204	0.0745	0.223	—	pCi/L	U	U
Technetium-99	05/13/04	1018.4	NF	0.529	0.832	2.76	—	pCi/L	U	U

Table A-15 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tritium	05/13/04	1018.4	NF	0.38316	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	05/13/04	1018.4	NF	1.71	0.132	0.09	—	pCi/L	—	—
Uranium-235/236	05/13/04	1018.4	NF	0.0591	0.015	0.055	—	pCi/L	—	J
Uranium-238	05/13/04	1018.4	NF	1.1	0.0913	0.064	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-16

Well R-16 Screen 4 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	05/13/04	1238	F[a]	126000	—[b]	—	1450	µg/L	—	—
Aluminum	05/13/04	1238	F	34.4	—	—	14.7	µg/L	B	J-
Aluminum	05/13/04	1238	NF[c]	73.1	—	—	14.7	µg/L	B	J-
Ammonia (as N)	05/13/04	1238	F	845	—	—	15.9	µg/L	—	—
Ammonia (as N)	05/13/04	1238	NF	847	—	—	15.9	µg/L	—	—
Antimony	05/13/04	1238	F	0.28	—	—	0.28	µg/L	U	—
Antimony	05/13/04	1238	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	05/13/04	1238	F	2.24	—	—	2.24	µg/L	U	UJ
Arsenic	05/13/04	1238	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	05/13/04	1238	F	97.2	—	—	0.222	µg/L	—	—
Barium	05/13/04	1238	NF	101	—	—	0.222	µg/L	—	—
Beryllium	05/13/04	1238	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	05/13/04	1238	NF	0.08	—	—	0.08	µg/L	U	—
Boron	05/13/04	1238	F	26.9	—	—	4.88	µg/L	B	—
Boron	05/13/04	1238	NF	27.2	—	—	4.88	µg/L	B	—
Bromide	05/13/04	1238	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	05/13/04	1238	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	05/13/04	1238	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	05/13/04	1238	F	53000	—	—	5.54	µg/L	—	—
Calcium	05/13/04	1238	NF	53900	—	—	5.54	µg/L	—	—
Chloride	05/13/04	1238	F	7010	—	—	32.2	µg/L	—	—
Chromium	05/13/04	1238	F	0.503	—	—	0.503	µg/L	U	—
Chromium	05/13/04	1238	NF	0.503	—	—	0.503	µg/L	U	—
Cobalt	05/13/04	1238	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	05/13/04	1238	NF	0.96	—	—	0.541	µg/L	B	—

Table A-16 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	05/13/04	1238	F	1.39	—	—	1.39	µg/L	U	—
Copper	05/13/04	1238	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	05/13/04	1238	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	05/13/04	1238	F	397	—	—	55.3	µg/L	—	—
Iron	05/13/04	1238	F	12.6	—	—	12.6	µg/L	U	—
Iron	05/13/04	1238	NF	38	—	—	12.6	µg/L	B	—
Lead	05/13/04	1238	F	0.065	—	—	0.05	µg/L	B	—
Lead	05/13/04	1238	NF	0.21	—	—	0.05	µg/L	B	—
Magnesium	05/13/04	1238	F	963	—	—	5.18	µg/L	—	—
Magnesium	05/13/04	1238	NF	1030	—	—	5.18	µg/L	—	—
Manganese	05/13/04	1238	F	10.7	—	—	1.61	µg/L	—	—
Manganese	05/13/04	1238	NF	13.4	—	—	1.61	µg/L	—	—
Mercury	05/13/04	1238	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	05/13/04	1238	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	05/13/04	1238	F	18	—	—	0.2	µg/L	—	—
Molybdenum	05/13/04	1238	NF	18.6	—	—	0.2	µg/L	—	—
Nickel	05/13/04	1238	F	7.5	—	—	0.69	µg/L	—	—
Nickel	05/13/04	1238	NF	10.4	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	05/13/04	1238	F	10	—	—	10	µg/L	U	R
Nitrate+Nitrite (as N)	05/13/04	1238	NF	10	—	—	10	µg/L	U	R
Perchlorate	05/13/04	1238	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	05/13/04	1238	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	05/13/04	1238	F	284	—	—	11	µg/L	—	—
Phosphorus (as P)	05/13/04	1238	NF	329	—	—	11	µg/L	—	—
Potassium	05/13/04	1238	F	5070	—	—	16.5	µg/L	—	—
Potassium	05/13/04	1238	NF	5080	—	—	16.5	µg/L	—	—
Selenium	05/13/04	1238	F	2.81	—	—	2.81	µg/L	U	—
Selenium	05/13/04	1238	NF	2.81	—	—	2.81	µg/L	U	—

Table A-16 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	05/13/04	1238	F	28800	—	—	21.2	µg/L	N	J+
Silicon Dioxide	05/13/04	1238	NF	33500	—	—	21.2	µg/L	N	—
Silver	05/13/04	1238	F	0.835	—	—	0.835	µg/L	U	—
Silver	05/13/04	1238	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	05/13/04	1238	F	30800	—	—	14.4	µg/L	—	—
Sodium	05/13/04	1238	NF	31300	—	—	14.4	µg/L	—	—
Strontium	05/13/04	1238	F	613	—	—	0.178	µg/L	—	—
Strontium	05/13/04	1238	NF	629	—	—	0.178	µg/L	—	—
Sulfate	05/13/04	1238	F	63200	—	—	965	µg/L	—	J+
Thallium	05/13/04	1238	F	0.27	—	—	0.02	µg/L	B	—
Thallium	05/13/04	1238	NF	0.02	—	—	0.02	µg/L	U	UJ
Total Kjeldahl Nitrogen	05/13/04	1238	F	1060	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	05/13/04	1238	NF	1090	—	—	44	µg/L	—	—
Uranium	05/13/04	1238	F	0.21	—	—	0.02	µg/L	—	—
Uranium	05/13/04	1238	NF	0.24	—	—	0.02	µg/L	—	—
Vanadium	05/13/04	1238	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	05/13/04	1238	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	05/13/04	1238	F	0.883	—	—	0.883	µg/L	U	R
Zinc	05/13/04	1238	NF	6.5	—	—	0.883	µg/L	—	J-
Detected Organic Constituents										
Isopropylbenzene	05/13/04	1238	NF	0.3	—	—	—	µg/L	J	—
Total Organic Carbon	05/13/04	1238	NF	2440	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	05/13/04	1238	NF	0.02	0.00676	0.039	—	pCi/L	U	U
Cesium-137	05/13/04	1238	NF	1.77	0.892	3.14	—	pCi/L	U	U
Gross gamma	05/13/04	1238	NF	95	72.5	278	—	pCi/L	U	U
Plutonium-238	05/13/04	1238	NF	-0.0155	0.0115	0.034	—	pCi/L	U	U
Plutonium-239/240	05/13/04	1238	NF	-0.00221	0.00662	0.035	—	pCi/L	U	U
Strontium-90	05/13/04	1238	NF	-0.0879	0.082	0.308	—	pCi/L	U	U

Table A-16 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Technetium-99	05/13/04	1238	NF	-0.33	0.805	2.7	—	pCi/L	U	U
Tritium	05/13/04	1238	NF	0.09579	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	05/13/04	1238	NF	0.0709	0.016	0.065	—	pCi/L	—	J
Uranium-235/236	05/13/04	1238	NF	0.0151	0.00653	0.04	—	pCi/L	U	U
Uranium-238	05/13/04	1238	NF	0.0709	0.0141	0.046	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-17

Well R-16 Screen 2 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	10/13/04	866.1	F[a]	86000	—[b]	—	1450	µg/L	—	—
Aluminum	10/13/04	866.1	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	10/13/04	866.1	NF[c]	32.4	—	—	14.7	µg/L	J	—
Ammonia (as N)	10/13/04	866.1	F	19	—	—	15.9	µg/L	J	—
Ammonia (as N)	10/13/04	866.1	NF	15.9	—	—	15.9	µg/L	U	—
Antimony	10/13/04	866.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	10/13/04	866.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	10/13/04	866.1	F	4.2	—	—	2.24	µg/L	J	—
Arsenic	10/13/04	866.1	NF	2.6	—	—	2.24	µg/L	J	—
Barium	10/13/04	866.1	F	21.6	—	—	0.222	µg/L	—	—
Barium	10/13/04	866.1	NF	34.1	—	—	0.222	µg/L	—	—
Beryllium	10/13/04	866.1	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	10/13/04	866.1	NF	0.08	—	—	0.08	µg/L	U	—
Boron	10/13/04	866.1	F	13.6	—	—	4.88	µg/L	J	—
Boron	10/13/04	866.1	NF	21.5	—	—	4.88	µg/L	J	—
Bromide	10/13/04	866.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	10/13/04	866.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	10/13/04	866.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	10/13/04	866.1	F	9160	—	—	5.54	µg/L	—	—
Calcium	10/13/04	866.1	NF	17600	—	—	5.54	µg/L	—	—
Chloride	10/13/04	866.1	F	2400	—	—	32.2	µg/L	—	—
Chromium	10/13/04	866.1	F	0.503	—	—	0.503	µg/L	U	—
Chromium	10/13/04	866.1	NF	0.503	—	—	0.503	µg/L	U	—
Cobalt	10/13/04	866.1	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	10/13/04	866.1	NF	0.541	—	—	0.541	µg/L	U	—

Table A-17 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	10/13/04	866.1	F	1.39	—	—	1.39	µg/L	U	—
Copper	10/13/04	866.1	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	10/13/04	866.1	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	10/13/04	866.1	F	356	—	—	55.3	µg/L	—	—
Iron	10/13/04	866.1	F	74.8	—	—	12.6	µg/L	J	—
Iron	10/13/04	866.1	NF	28	—	—	12.6	µg/L	J	—
Lead	10/13/04	866.1	F	0.05	—	—	0.05	µg/L	U	—
Lead	10/13/04	866.1	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	10/13/04	866.1	F	2920	—	—	5.18	µg/L	—	—
Magnesium	10/13/04	866.1	NF	1410	—	—	5.18	µg/L	—	—
Manganese	10/13/04	866.1	F	146	—	—	1.61	µg/L	—	—
Manganese	10/13/04	866.1	NF	24.2	—	—	1.61	µg/L	—	—
Mercury	10/13/04	866.1	F	0.064	—	—	0.0472	µg/L	J	—
Mercury	10/13/04	866.1	NF	0.059	—	—	0.0472	µg/L	J	—
Molybdenum	10/13/04	866.1	F	1.4	—	—	0.2	µg/L	—	—
Molybdenum	10/13/04	866.1	NF	2.9	—	—	0.2	µg/L	—	—
Nickel	10/13/04	866.1	F	0.69	—	—	0.69	µg/L	U	—
Nickel	10/13/04	866.1	NF	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	10/13/04	866.1	F	3.86	—	—	3	µg/L	J	—
Nitrate+Nitrite (as N)	10/13/04	866.1	NF	3	—	—	3	µg/L	U	—
Perchlorate	10/13/04	866.1	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	10/13/04	866.1	F	151	—	—	151	µg/L	UH	—
Phosphorus (as P)	10/13/04	866.1	F	41	—	—	11	µg/L	J	—
Phosphorus (as P)	10/13/04	866.1	NF	42	—	—	11	µg/L	J	—
Potassium	10/13/04	866.1	F	1740	—	—	16.5	µg/L	—	—
Potassium	10/13/04	866.1	NF	2780	—	—	16.5	µg/L	—	—
Selenium	10/13/04	866.1	F	4.2	—	—	2.81	µg/L	J*	—
Selenium	10/13/04	866.1	NF	2.81	—	—	2.81	µg/L	U*	—

Table A-17 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	10/13/04	866.1	F	31100	—	—	9.83	µg/L	—	—
Silicon Dioxide	10/13/04	866.1	NF	20200	—	—	9.83	µg/L	—	—
Silver	10/13/04	866.1	F	0.835	—	—	0.835	µg/L	U	—
Silver	10/13/04	866.1	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	10/13/04	866.1	F	12000	—	—	14.4	µg/L	—	—
Sodium	10/13/04	866.1	NF	20600	—	—	14.4	µg/L	—	—
Strontium	10/13/04	866.1	F	56.4	—	—	0.178	µg/L	—	—
Strontium	10/13/04	866.1	NF	186	—	—	0.178	µg/L	—	—
Sulfate	10/13/04	866.1	F	2930	—	—	193	µg/L	—	—
Thallium	10/13/04	866.1	F	0.41	—	—	0.02	µg/L	J	—
Thallium	10/13/04	866.1	NF	0.02	—	—	0.02	µg/L	U	—
Total Kjeldahl Nitrogen	10/13/04	866.1	F	111	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	10/13/04	866.1	NF	139	—	—	44	µg/L	—	—
Uranium	10/13/04	866.1	F	0.22	—	—	0.02	µg/L	—	—
Uranium	10/13/04	866.1	NF	0.28	—	—	0.02	µg/L	—	—
Vanadium	10/13/04	866.1	F	2.7	—	—	0.606	µg/L	J	—
Vanadium	10/13/04	866.1	NF	0.96	—	—	0.606	µg/L	J	—
Zinc	10/13/04	866.1	F	2.9	—	—	0.883	µg/L	J	—
Zinc	10/13/04	866.1	NF	2.6	—	—	0.883	µg/L	J	—
Detected Organic Constituents										
Acenaphthylene	10/13/04	866.1	NF	4.1	—	—	—	µg/L	—	—
Bis(2-chloroethyl)ether	10/13/04	866.1	NF	8.3	—	—	—	µg/L	J	—
Bis(2-ethylhexyl)phthalate	10/13/04	866.1	NF	4.4	—	—	—	µg/L	BJ	—
Total Organic Carbon	10/13/04	866.1	NF	1470	—	—	125	µg/L	—	—
Radiologic Constituents										
Americium-241	10/13/04	866.1	NF	0.00925	0.00889	0.029	—	pCi/L	U	—
Cesium-137	10/13/04	866.1	NF	-1.68	1.09	3.5	—	pCi/L	U	—
Cobalt-60	10/13/04	866.1	NF	1.12	1.13	4.08	—	pCi/L	U	—
Plutonium-238	10/13/04	866.1	NF	0.00251	0.0135	0.039	—	pCi/L	U	—

Table A-17 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Plutonium-239/240	10/13/04	866.1	NF	0.00501	0.00615	0.04	—	pCi/L	U	—
Strontium-90	10/13/04	866.1	NF	0.025	0.0508	0.224	—	pCi/L	U	—
Technetium-99	10/13/04	866.1	NF	1.94	0.841	2.71	—	pCi/L	U	—
Tritium	10/13/04	866.1	NF	0.19158	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	10/13/04	866.1	NF	0.0823	0.0148	0.068	—	pCi/L	—	—
Uranium-235/236	10/13/04	866.1	NF	0.00236	0.00529	0.044	—	pCi/L	U	—
Uranium-238	10/13/04	866.1	NF	0.0534	0.0132	0.048	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-18

Well R-16 Screen 3 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	10/14/04	1018.4	F[a]	80800	—[b]	—	1450	µg/L	—	—
Aluminum	10/14/04	1018.4	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	10/14/04	1018.4	NF[c]	14.7	—	—	14.7	µg/L	U	—
Ammonia (as N)	10/14/04	1018.4	F	577	—	—	15.9	µg/L	—	—
Ammonia (as N)	10/14/04	1018.4	NF	567	—	—	15.9	µg/L	—	—
Antimony	10/14/04	1018.4	F	0.28	—	—	0.28	µg/L	U	—
Antimony	10/14/04	1018.4	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	10/14/04	1018.4	F	4.2	—	—	2.24	µg/L	J	—
Arsenic	10/14/04	1018.4	NF	2.24	—	—	2.24	µg/L	U	—
Barium	10/14/04	1018.4	F	65.9	—	—	0.222	µg/L	—	—
Barium	10/14/04	1018.4	NF	64.9	—	—	0.222	µg/L	—	—
Beryllium	10/14/04	1018.4	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	10/14/04	1018.4	NF	0.08	—	—	0.08	µg/L	U	—
Boron	10/14/04	1018.4	F	19.7	—	—	4.88	µg/L	J	—
Boron	10/14/04	1018.4	NF	20.2	—	—	4.88	µg/L	J	—
Bromide	10/14/04	1018.4	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	10/14/04	1018.4	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	10/14/04	1018.4	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	10/14/04	1018.4	F	28600	—	—	5.54	µg/L	—	—
Calcium	10/14/04	1018.4	NF	28200	—	—	5.54	µg/L	—	—
Chloride	10/14/04	1018.4	F	3450	—	—	32.2	µg/L	—	—
Chromium	10/14/04	1018.4	F	0.93	—	—	0.503	µg/L	J	—
Chromium	10/14/04	1018.4	NF	1.3	—	—	0.503	µg/L	J	—
Cobalt	10/14/04	1018.4	F	3.1	—	—	0.541	µg/L	J	—
Cobalt	10/14/04	1018.4	NF	2.2	—	—	0.541	µg/L	J	—

Table A-18 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	10/14/04	1018.4	F	1.39	—	—	1.39	µg/L	U	—
Copper	10/14/04	1018.4	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	10/14/04	1018.4	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	10/14/04	1018.4	F	306	—	—	55.3	µg/L	—	—
Iron	10/14/04	1018.4	F	247	—	—	12.6	µg/L	—	—
Iron	10/14/04	1018.4	NF	12.6	—	—	12.6	µg/L	U	—
Lead	10/14/04	1018.4	F	0.05	—	—	0.05	µg/L	U	—
Lead	10/14/04	1018.4	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	10/14/04	1018.4	F	1990	—	—	5.18	µg/L	—	—
Magnesium	10/14/04	1018.4	NF	1960	—	—	5.18	µg/L	—	—
Manganese	10/14/04	1018.4	F	68.2	—	—	1.61	µg/L	—	—
Manganese	10/14/04	1018.4	NF	68	—	—	1.61	µg/L	—	—
Mercury	10/14/04	1018.4	F	0.072	—	—	0.0472	µg/L	J	—
Mercury	10/14/04	1018.4	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	10/14/04	1018.4	F	1.6	—	—	0.2	µg/L	—	—
Molybdenum	10/14/04	1018.4	NF	2.3	—	—	0.2	µg/L	—	—
Nickel	10/14/04	1018.4	F	0.69	—	—	0.69	µg/L	U	—
Nickel	10/14/04	1018.4	NF	1.3	—	—	0.69	µg/L	J	—
Nitrate+Nitrite (as N)	10/14/04	1018.4	F	93	—	—	3	µg/L	—	—
Nitrate+Nitrite (as N)	10/14/04	1018.4	NF	112	—	—	3	µg/L	—	—
Perchlorate	10/14/04	1018.4	NF	0.227	—	—	0.05	µg/L	—	—
Phosphorus (as PO_4)	10/14/04	1018.4	F	151	—	—	151	µg/L	UH	—
Phosphorus (as P)	10/14/04	1018.4	F	163	—	—	11	µg/L	—	—
Phosphorus (as P)	10/14/04	1018.4	NF	161	—	—	11	µg/L	—	—
Potassium	10/14/04	1018.4	F	3450	—	—	16.5	µg/L	—	—
Potassium	10/14/04	1018.4	NF	3340	—	—	16.5	µg/L	—	—
Selenium	10/14/04	1018.4	F	3.2	—	—	2.81	µg/L	J*	—
Selenium	10/14/04	1018.4	NF	2.81	—	—	2.81	µg/L	U*	—

Table A-18 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	10/14/04	1018.4	F	21700	—	—	9.83	µg/L	—	—
Silicon Dioxide	10/14/04	1018.4	NF	21400	—	—	9.83	µg/L	—	—
Silver	10/14/04	1018.4	F	0.835	—	—	0.835	µg/L	U	—
Silver	10/14/04	1018.4	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	10/14/04	1018.4	F	18400	—	—	14.4	µg/L	—	—
Sodium	10/14/04	1018.4	NF	18000	—	—	14.4	µg/L	—	—
Strontium	10/14/04	1018.4	F	316	—	—	0.178	µg/L	—	—
Strontium	10/14/04	1018.4	NF	310	—	—	0.178	µg/L	—	—
Sulfate	10/14/04	1018.4	F	7470	—	—	193	µg/L	—	—
Thallium	10/14/04	1018.4	F	0.11	—	—	0.02	µg/L	J	—
Thallium	10/14/04	1018.4	NF	0.11	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	10/14/04	1018.4	F	1300	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	10/14/04	1018.4	NF	1310	—	—	44	µg/L	—	—
Uranium	10/14/04	1018.4	F	3.1	—	—	0.02	µg/L	—	—
Uranium	10/14/04	1018.4	NF	3	—	—	0.02	µg/L	—	—
Vanadium	10/14/04	1018.4	F	10.4	—	—	0.606	µg/L	—	—
Vanadium	10/14/04	1018.4	NF	11.3	—	—	0.606	µg/L	—	—
Zinc	10/14/04	1018.4	F	12.5	—	—	0.883	µg/L	—	—
Zinc	10/14/04	1018.4	NF	13.7	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Bis(2-ethylhexyl)phthalate	10/14/04	1018.4	NF	4.3	—	—	—	µg/L	BJ	—
Total Organic Carbon	10/14/04	1018.4	NF	794	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	10/14/04	1018.4	NF	0.00409	0.0112	0.032	—	pCi/L	U	—
Cesium-137	10/14/04	1018.4	NF	15.9	1.34	4.19	—	pCi/L	UI	—
Cobalt-60	10/14/04	1018.4	NF	0.000441	0.62	2.16	—	pCi/L	U	—
Plutonium-238	10/14/04	1018.4	NF	0.0147	0.012	0.038	—	pCi/L	U	—
Plutonium-239/240	10/14/04	1018.4	NF	0.00734	0.00648	0.039	—	pCi/L	U	—
Strontium-90	10/14/04	1018.4	NF	-0.0594	0.0577	0.273	—	pCi/L	U	—

Table A-18 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Technetium-99	10/14/04	1018.4	NF	-0.0399	0.78	2.69	—	pCi/L	U	—
Tritium	10/14/04	1018.4	NF	0.3193	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	10/14/04	1018.4	NF	1.55	0.0919	0.062	—	pCi/L	—	—
Uranium-235/236	10/14/04	1018.4	NF	0.0391	0.0108	0.04	—	pCi/L	U	—
Uranium-238	10/14/04	1018.4	NF	1.08	0.0691	0.044	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-19

Well R-16 Screen 4 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	10/15/04	1238	F[a]	77700	—[b]	—	1450	µg/L	—	—
Aluminum	10/15/04	1238	F	18.1	—	—	14.7	µg/L	J	—
Aluminum	10/15/04	1238	NF[c]	20.1	—	—	14.7	µg/L	J	—
Ammonia (as N)	10/15/04	1238	F	839	—	—	15.9	µg/L	—	—
Ammonia (as N)	10/15/04	1238	NF	788	—	—	15.9	µg/L	—	—
Antimony	10/15/04	1238	F	0.28	—	—	0.28	µg/L	U	—
Antimony	10/15/04	1238	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	10/15/04	1238	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	10/15/04	1238	NF	2.24	—	—	2.24	µg/L	U	—
Barium	10/15/04	1238	F	84.6	—	—	0.222	µg/L	—	—
Barium	10/15/04	1238	NF	87.3	—	—	0.222	µg/L	—	—
Beryllium	10/15/04	1238	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	10/15/04	1238	NF	0.08	—	—	0.08	µg/L	U	—
Boron	10/15/04	1238	F	28.8	—	—	4.88	µg/L	J	—
Boron	10/15/04	1238	NF	27.6	—	—	4.88	µg/L	J	—
Bromide	10/15/04	1238	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	10/15/04	1238	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	10/15/04	1238	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	10/15/04	1238	F	46600	—	—	5.54	µg/L	—	—
Calcium	10/15/04	1238	NF	45400	—	—	5.54	µg/L	—	—
Chloride	10/15/04	1238	F	5800	—	—	32.2	µg/L	—	—
Chromium	10/15/04	1238	F	0.503	—	—	0.503	µg/L	U	—
Chromium	10/15/04	1238	NF	0.503	—	—	0.503	µg/L	U	—
Cobalt	10/15/04	1238	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	10/15/04	1238	NF	0.541	—	—	0.541	µg/L	U	—

Table A-19 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	10/15/04	1238	F	1.39	—	—	1.39	µg/L	U	—
Copper	10/15/04	1238	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	10/15/04	1238	NF	1.72	—	—	1.72	µg/L	UH	—
Fluoride	10/15/04	1238	F	380	—	—	55.3	µg/L	—	—
Iron	10/15/04	1238	F	14.1	—	—	12.6	µg/L	J	—
Iron	10/15/04	1238	NF	19	—	—	12.6	µg/L	J	—
Lead	10/15/04	1238	F	0.05	—	—	0.05	µg/L	U	—
Lead	10/15/04	1238	NF	0.066	—	—	0.05	µg/L	J	—
Magnesium	10/15/04	1238	F	706	—	—	5.18	µg/L	—	—
Magnesium	10/15/04	1238	NF	725	—	—	5.18	µg/L	—	—
Manganese	10/15/04	1238	F	9.4	—	—	1.61	µg/L	—	—
Manganese	10/15/04	1238	NF	11	—	—	1.61	µg/L	—	—
Mercury	10/15/04	1238	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	10/15/04	1238	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	10/15/04	1238	F	15.2	—	—	0.2	µg/L	—	—
Molybdenum	10/15/04	1238	NF	16.1	—	—	0.2	µg/L	—	—
Nickel	10/15/04	1238	F	7.1	—	—	0.69	µg/L	—	—
Nickel	10/15/04	1238	NF	7.9	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	10/15/04	1238	F	8.54	—	—	3	µg/L	J	—
Nitrate+Nitrite (as N)	10/15/04	1238	NF	9.04	—	—	3	µg/L	J	—
Perchlorate	10/15/04	1238	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	10/15/04	1238	F	151	—	—	151	µg/L	UH	—
Phosphorus (as P)	10/15/04	1238	F	245	—	—	11	µg/L	—	—
Phosphorus (as P)	10/15/04	1238	NF	307	—	—	11	µg/L	—	—
Potassium	10/15/04	1238	F	4500	—	—	16.5	µg/L	—	—
Potassium	10/15/04	1238	NF	4340	—	—	16.5	µg/L	—	—
Selenium	10/15/04	1238	F	3.6	—	—	2.81	µg/L	J	—
Selenium	10/15/04	1238	NF	2.81	—	—	2.81	µg/L	U	—

Table A-19 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	10/15/04	1238	F	15200	—	—	9.83	µg/L	—	—
Silicon Dioxide	10/15/04	1238	NF	15200	—	—	9.83	µg/L	—	—
Silver	10/15/04	1238	F	0.835	—	—	0.835	µg/L	U	—
Silver	10/15/04	1238	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	10/15/04	1238	F	29700	—	—	14.4	µg/L	—	—
Sodium	10/15/04	1238	NF	28300	—	—	14.4	µg/L	—	—
Strontium	10/15/04	1238	F	570	—	—	0.178	µg/L	—	—
Strontium	10/15/04	1238	NF	559	—	—	0.178	µg/L	—	—
Sulfate	10/15/04	1238	F	48900	—	—	386	µg/L	—	—
Thallium	10/15/04	1238	F	0.45	—	—	0.02	µg/L	J	—
Thallium	10/15/04	1238	NF	0.025	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	10/15/04	1238	F	675	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	10/15/04	1238	NF	947	—	—	44	µg/L	—	—
Uranium	10/15/04	1238	F	0.17	—	—	0.02	µg/L	J	—
Uranium	10/15/04	1238	NF	0.2	—	—	0.02	µg/L	—	—
Vanadium	10/15/04	1238	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	10/15/04	1238	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	10/15/04	1238	F	1.7	—	—	0.883	µg/L	J*	—
Zinc	10/15/04	1238	NF	11.5	—	—	0.883	µg/L	*	—
Detected Organic Constituents										
DDD[4,4'-]	10/15/04	1238	NF	0.00735	—	—	—	µg/L	JP	—
DDE[4,4'-]	10/15/04	1238	NF	0.00799	—	—	—	µg/L	P	—
Dieldrin	10/15/04	1238	NF	0.00631	—	—	—	µg/L	P	—
Endosulfan Sulfate	10/15/04	1238	NF	0.00964	—	—	—	µg/L	J	—
Endrin	10/15/04	1238	NF	0.0068	—	—	—	µg/L	P	—
Endrin Ketone	10/15/04	1238	NF	0.0208	—	—	—	µg/L	J	—
Isopropylbenzene	10/15/04	1238	NF	0.38	—	—	—	µg/L	J	—
Methoxychlor[4,4'-]	10/15/04	1238	NF	0.265	—	—	—	µg/L	P	—
Total Organic Carbon	10/15/04	1238	NF	1710	—	—	125	µg/L	—	—

Table A-19 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Radiologic Constituents										
Americium-241	10/15/04	1238	NF	0.0255	0.0107	0.037	—	pCi/L	U	—
Cesium-137	10/15/04	1238	NF	0.34	0.998	3.62	—	pCi/L	U	—
Cobalt-60	10/15/04	1238	NF	1.36	1.14	4.54	—	pCi/L	U	—
Plutonium-238	10/15/04	1238	NF	-0.0026	0.00451	0.04	—	pCi/L	U	—
Plutonium-239/240	10/15/04	1238	NF	0.0078	0.00452	0.042	—	pCi/L	U	—
Strontium-90	10/15/04	1238	NF	0.0216	0.0527	0.233	—	pCi/L	U	—
Technetium-99	10/15/04	1238	NF	1.3	0.791	2.6	—	pCi/L	U	—
Tritium	10/18/04	1238	NF	0.09579	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	10/15/04	1238	NF	0.109	0.0183	0.074	—	pCi/L	—	—
Uranium-235/236	10/15/04	1238	NF	0.0154	0.00632	0.048	—	pCi/L	U	—
Uranium-238	10/15/04	1238	NF	0.0699	0.0138	0.052	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-20

Well R-16 Screen 2 Fourth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	12/02/04	866.1	F[a]	86100	—[b]	—	1450	µg/L	—	—
Aluminum	12/02/04	866.1	F	15.3	—	—	14.7	µg/L	J	—
Aluminum	12/02/04	866.1	NF[c]	26	—	—	14.7	µg/L	J	—
Ammonia (as N)	12/02/04	866.1	F	20	—	—	15.9	µg/L	J	—
Ammonia (as N)	12/02/04	866.1	NF	17	—	—	15.9	µg/L	J	—
Antimony	12/02/04	866.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	12/02/04	866.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	12/02/04	866.1	F	4	—	—	2.24	µg/L	J	—
Arsenic	12/02/04	866.1	NF	5.5	—	—	2.24	µg/L	—	—
Barium	12/02/04	866.1	F	33.5	—	—	0.222	µg/L	—	—
Barium	12/02/04	866.1	NF	34.3	—	—	0.222	µg/L	—	—
Beryllium	12/02/04	866.1	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	12/02/04	866.1	NF	0.08	—	—	0.08	µg/L	U	—
Boron	12/02/04	866.1	F	22.3	—	—	4.88	µg/L	J	—
Boron	12/02/04	866.1	NF	20.8	—	—	4.88	µg/L	J	—
Bromide	12/02/04	866.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	12/02/04	866.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	12/02/04	866.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	12/02/04	866.1	F	17300	—	—	5.54	µg/L	—	—
Calcium	12/02/04	866.1	NF	17700	—	—	5.54	µg/L	—	—
Chloride	12/02/04	866.1	F	2710	—	—	32.2	µg/L	—	—
Chromium	12/02/04	866.1	F	0.78	—	—	0.503	µg/L	J	—
Chromium	12/02/04	866.1	NF	4.4	—	—	0.503	µg/L	J	—
Cobalt	12/02/04	866.1	F	0.82	—	—	0.541	µγ/Λ	J	—
Cobalt	12/02/04	866.1	NF	0.541	—	—	0.541	µγ/Λ	U	—

Table A-20 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	12/02/04	866.1	F	1.39	—	—	1.39	µg/L	U	—
Copper	12/02/04	866.1	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	12/02/04	866.1	NF	2.94	—	—	1.72	µg/L	J	—
Fluoride	12/02/04	866.1	F	376	—	—	55.3	µg/L	—	—
Iron	12/02/04	866.1	F	12.6	—	—	12.6	µg/L	U	—
Iron	12/02/04	866.1	NF	29.7	—	—	12.6	µg/L	J	—
Lead	12/02/04	866.1	F	0.05	—	—	0.05	µg/L	U	—
Lead	12/02/04	866.1	NF	0.072	—	—	0.05	µg/L	J	—
Magnesium	12/02/04	866.1	F	1430	—	—	5.18	µg/L	—	—
Magnesium	12/02/04	866.1	NF	1470	—	—	5.18	µg/L	—	—
Manganese	12/02/04	866.1	F	25.1	—	—	1.61	µg/L	—	—
Manganese	12/02/04	866.1	NF	27	—	—	1.61	µg/L	—	—
Mercury	12/02/04	866.1	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	12/02/04	866.1	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	12/02/04	866.1	F	2.6	—	—	0.2	µg/L	*	—
Molybdenum	12/02/04	866.1	NF	2.7	—	—	0.2	µg/L	*	—
Nickel	12/02/04	866.1	F	1.2	—	—	0.69	µg/L	J	—
Nickel	12/02/04	866.1	NF	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	12/02/04	866.1	F	15.1	—	—	3	µg/L	J	—
Nitrate+Nitrite (as N)	12/02/04	866.1	NF	11	—	—	3	µg/L	J	—
Perchlorate	12/02/04	866.1	NF	0.0725	—	—	0.05	µg/L	J	—
Phosphorus (as PO_4)	12/02/04	866.1	F	270	—	—	151	µg/L	H	—
Phosphorus (as P)	12/02/04	866.1	F	53	—	—	11	µg/L	—	—
Phosphorus (as P)	12/02/04	866.1	NF	55	—	—	11	µg/L	—	—
Potassium	12/02/04	866.1	F	2910	—	—	16.5	µg/L	—	—
Potassium	12/02/04	866.1	NF	2990	—	—	16.5	µg/L	—	—
Selenium	12/02/04	866.1	F	2.81	—	—	2.81	µg/L	U	—
Selenium	12/02/04	866.1	NF	2.81	—	—	2.81	µg/L	U	—

Table A-20 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon	12/02/04	866.1	F	20700	—	—	9.83	µg/L	—	—
Silicon	12/02/04	866.1	NF	21200	—	—	9.83	µg/L	—	—
Silver	12/02/04	866.1	F	0.835	—	—	0.835	µg/L	U	—
Silver	12/02/04	866.1	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	12/02/04	866.1	F	19800	—	—	14.4	µg/L	—	—
Sodium	12/02/04	866.1	NF	19800	—	—	14.4	µg/L	—	—
Strontium	12/02/04	866.1	F	189	—	—	0.178	µg/L	—	—
Strontium	12/02/04	866.1	NF	192	—	—	0.178	µg/L	—	—
Sulfate	12/02/04	866.1	F	2790	—	—	193	µg/L	—	—
Thallium	12/02/04	866.1	F	0.43	—	—	0.02	µg/L	J	—
Thallium	12/02/04	866.1	NF	0.13	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	12/02/04	866.1	F	62	—	—	44	µg/L	J	—
Total Kjeldahl Nitrogen	12/02/04	866.1	NF	44	—	—	44	µg/L	U	—
Uranium	12/02/04	866.1	F	0.42	—	—	0.02	µg/L	—	—
Uranium	12/02/04	866.1	NF	0.82	—	—	0.02	µg/L	—	—
Vanadium	12/02/04	866.1	F	4.2	—	—	0.606	µg/L	J	—
Vanadium	12/02/04	866.1	NF	4.9	—	—	0.606	µg/L	J	—
Zinc	12/02/04	866.1	F	0.883	—	—	0.883	µg/L	U	—
Zinc	12/02/04	866.1	NF	1.5	—	—	0.883	µg/L	J	—
Detected Organic Constituents										
Bis(2-ethylhexyl)phthalate	12/02/04	866.1	NF	2.2	—	—	0	µg/L	J	—
Di-n-octylphthalate	12/02/04	866.1	NF	3.3	—	—	0	µg/L	BJ	—
Total Organic Carbon	12/02/04	866.1	NF	1800	—	—	50	µg/L	—	—
Radiologic Constituents										
Americium-241	12/02/04	866.1	NF	0.00593	0.00596	0.032	—	pCi/L	U	—
Cesium-137	12/02/04	866.1	NF	0.309	1.68	5.19	—	pCi/L	U	—
Cobalt-60	12/02/04	866.1	NF	0.0942	1.22	4.63	—	pCi/L	U	—

Table A-20 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Plutonium-238	12/02/04	866.1	NF	0.00683	0.0138	0.035	—	pCi/L	U	—
Plutonium-239/240	12/02/04	866.1	NF	-0.0114	0.00685	0.036	—	pCi/L	U	—
Strontium-90	12/02/04	866.1	NF	0.0792	0.0431	0.17	—	pCi/L	U	—
Technetium-99	12/02/04	866.1	NF	-0.102	1.1	3.73	—	pCi/L	U	—
Tritium	12/02/04	866.1	NF	-0.0958	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	12/02/04	866.1	NF	0.152	0.0211	0.067	—	pCi/L	—	—
Uranium-235/236	12/02/04	866.1	NF	0.0188	0.00747	0.044	—	pCi/L	U	—
Uranium-238	12/02/04	866.1	NF	0.0971	0.0166	0.048	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-21

Well R-16 Screen 3 Fourth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	12/03/04	1018.4	F[a]	113000	—[b]	—	1450	µg/L	—	—
Aluminum	12/03/04	1018.4	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	12/03/04	1018.4	NF[c]	14.7	—	—	14.7	µg/L	U	—
Ammonia (as N)	12/03/04	1018.4	F	389	—	—	15.9	µg/L	—	—
Ammonia as Nitrogen	12/06/04	1018.4	NF	354	—	—	15.9	µg/L	—	—
Antimony	12/03/04	1018.4	F	0.28	—	—	0.28	µg/L	U	—
Antimony	12/03/04	1018.4	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	12/03/04	1018.4	F	7.7	—	—	2.24	µg/L	—	—
Arsenic	12/03/04	1018.4	NF	2.4	—	—	2.24	µg/L	J	—
Barium	12/03/04	1018.4	F	64.7	—	—	0.222	µg/L	—	—
Barium	12/03/04	1018.4	NF	63.1	—	—	0.222	µg/L	—	—
Beryllium	12/03/04	1018.4	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	12/03/04	1018.4	NF	0.08	—	—	0.08	µg/L	U	—
Boron	12/03/04	1018.4	F	24	—	—	4.88	µg/L	J	—
Boron	12/03/04	1018.4	NF	16	—	—	4.88	µg/L	J	—
Bromide	12/03/04	1018.4	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	12/03/04	1018.4	F	0.04	—	—	0.04	µg/L	UN	—
Cadmium	12/03/04	1018.4	NF	0.04	—	—	0.04	µg/L	UN	—
Calcium	12/03/04	1018.4	F	28700	—	—	5.54	µg/L	—	—
Calcium	12/03/04	1018.4	NF	27800	—	—	5.54	µg/L	—	—
Chloride	12/03/04	1018.4	F	3490	—	—	32.2	µg/L	—	—
Chromium	12/03/04	1018.4	F	0.78	—	—	0.503	µg/L	J	—
Chromium	12/03/04	1018.4	NF	5	—	—	0.503	µg/L	—	—
Cobalt	12/03/04	1018.4	F	2.8	—	—	0.541	µg/L	J	—
Cobalt	12/03/04	1018.4	NF	2.7	—	—	0.541	µg/L	J	—

Table A-21 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	12/03/04	1018.4	F	1.39	—	—	1.39	µg/L	U	—
Copper	12/03/04	1018.4	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	12/03/04	1018.4	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	12/03/04	1018.4	F	427	—	—	55.3	µg/L	—	—
Iron	12/03/04	1018.4	F	12.6	—	—	12.6	µg/L	U	—
Iron	12/03/04	1018.4	NF	27.7	—	—	12.6	µg/L	J	—
Lead	12/03/04	1018.4	F	0.052	—	—	0.05	µg/L	J	—
Lead	12/03/04	1018.4	NF	0.052	—	—	0.05	µg/L	J	—
Magnesium	12/03/04	1018.4	F	1910	—	—	5.18	µg/L	—	—
Magnesium	12/03/04	1018.4	NF	1860	—	—	5.18	µg/L	—	—
Manganese	12/03/04	1018.4	F	66.5	—	—	1.61	µg/L	—	—
Manganese	12/03/04	1018.4	NF	63.8	—	—	1.61	µg/L	—	—
Mercury	12/03/04	1018.4	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	12/03/04	1018.4	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	12/03/04	1018.4	F	1.9	—	—	0.2	µg/L	—	—
Molybdenum	12/03/04	1018.4	NF	2.4	—	—	0.2	µg/L	—	—
Nickel	12/03/04	1018.4	F	1.8	—	—	0.69	µg/L	J	—
Nickel	12/03/04	1018.4	NF	4.2	—	—	0.69	µg/L	J	—
Nitrate+Nitrite (as N)	12/03/04	1018.4	F	192	—	—	3	µg/L	—	—
Nitrate+Nitrite (as N)	12/06/04	1018.4	NF	190	—	—	3	µg/L	—	—
Perchlorate	12/03/04	1018.4	NF	0.256	—	—	0.05	µg/L	—	—
Phosphorus (as PO_4)	12/03/04	1018.4	F	304	—	—	151	µg/L	H	—
Phosphorus (as P)	12/03/04	1018.4	F	166	—	—	11	µg/L	—	—
Phosphorus (as P)	12/06/04	1018.4	NF	177	—	—	11	µg/L	—	—
Potassium	12/03/04	1018.4	F	3580	—	—	82.4	µg/L	—	—
Potassium	12/03/04	1018.4	NF	3850	—	—	82.4	µg/L	—	—
Selenium	12/03/04	1018.4	F	2.81	—	—	2.81	µg/L	U	—
Selenium	12/03/04	1018.4	NF	2.81	—	—	2.81	µg/L	U	—
Silicon	12/03/04	1018.4	F	21400	—	—	9.83	µg/L	—	—

Table A-21 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon	12/03/04	1018.4	NF	20900	—	—	9.83	µg/L	—	—
Silver	12/03/04	1018.4	F	0.835	—	—	0.835	µg/L	U	—
Silver	12/03/04	1018.4	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	12/03/04	1018.4	F	19200	—	—	14.4	µg/L	—	—
Sodium	12/03/04	1018.4	NF	18800	—	—	14.4	µg/L	—	—
Strontium	12/03/04	1018.4	F	316	—	—	0.178	µg/L	—	—
Strontium	12/03/04	1018.4	NF	306	—	—	0.178	µg/L	—	—
Sulfate	12/03/04	1018.4	F	6730	—	—	193	µg/L	—	—
Thallium	12/03/04	1018.4	F	0.5	—	—	0.02	µg/L	—	—
Thallium	12/03/04	1018.4	NF	0.14	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	12/03/04	1018.4	F	1100	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	12/06/04	1018.4	NF	943	—	—	44	µg/L	—	—
Uranium	12/03/04	1018.4	F	3.6	—	—	0.02	µg/L	E	—
Uranium	12/03/04	1018.4	NF	3.3	—	—	0.02	µg/L	E	—
Vanadium	12/03/04	1018.4	F	11.6	—	—	0.606	µg/L	—	—
Vanadium	12/03/04	1018.4	NF	11.1	—	—	0.606	µg/L	—	—
Zinc	12/03/04	1018.4	F	11	—	—	0.883	µg/L	—	—
Zinc	12/03/04	1018.4	NF	11.9	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	12/06/04	1018.4	NF	773	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	12/03/04	1018.4	NF	0.00634	0.00922	0.033	—	pCi/L	U	—
Cesium-137	12/03/04	1018.4	NF	0.375	1.07	3.94	—	pCi/L	U	—
Cobalt-60	12/03/04	1018.4	NF	-0.764	1.06	3.77	—	pCi/L	U	—
Plutonium-238	12/03/04	1018.4	NF	-0.0264	0.00941	0.034	—	pCi/L	U	—
Plutonium-239/240	12/03/04	1018.4	NF	0.00879	0.00762	0.035	—	pCi/L	U	—
Strontium-90	12/03/04	1018.4	NF	0.0617	0.0832	0.321	—	pCi/L	U	—
Technetium-99	12/03/04	1018.4	NF	-0.823	1.1	3.75	—	pCi/L	U	—
Tritium	12/03/04	1018.4	NF	-0.15965	0.28737	0.28737	—	pCi/L	—	—

Table A-21 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Uranium-234	12/03/04	1018.4	NF	1.63	0.113	0.104	—	pCi/L	—	—
Uranium-235/236	12/03/04	1018.4	NF	0.196	0.029	0.067	—	pCi/L	—	—
Uranium-238	12/03/04	1018.4	NF	1.14	0.0861	0.074	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-22

Well R-16 Screen 4 Fourth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-16 was 642 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	12/07/04	1238	F[a]	138000	—[b]	—	1450	µg/L	—	—
Aluminum	12/07/04	1238	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	12/07/04	1238	NF[c]	14.7	—	—	14.7	µg/L	U	—
Ammonia (as N)	12/07/04	1238	F	836	—	—	15.9	µg/L	—	—
Ammonia (as N)	12/07/04	1238	NF	771	—	—	15.9	µg/L	—	—
Antimony	12/07/04	1238	F	0.28	—	—	0.28	µg/L	U	—
Antimony	12/07/04	1238	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	12/07/04	1238	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	12/07/04	1238	NF	2.24	—	—	2.24	µg/L	U	—
Barium	12/07/04	1238	F	88.7	—	—	0.222	µg/L	—	—
Barium	12/07/04	1238	NF	89.1	—	—	0.222	µg/L	—	—
Beryllium	12/07/04	1238	F	0.1	—	—	0.08	µg/L	J	—
Beryllium	12/07/04	1238	NF	0.08	—	—	0.08	µg/L	U	—
Boron	12/07/04	1238	F	38.6	—	—	4.88	µg/L	J	—
Boron	12/07/04	1238	NF	34.5	—	—	4.88	µg/L	J	—
Bromide	12/07/04	1238	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	12/07/04	1238	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	12/07/04	1238	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	12/07/04	1238	F	50000	—	—	5.54	µg/L	—	—
Calcium	12/07/04	1238	NF	49500	—	—	5.54	µg/L	—	—
Chloride	12/07/04	1238	F	5570	—	—	32.2	µg/L	—	—
Chromium	12/07/04	1238	F	0.97	—	—	0.503	µg/L	J	—
Chromium	12/07/04	1238	NF	3.2	—	—	0.503	µg/L	J	—
Cobalt	12/07/04	1238	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	12/07/04	1238	NF	0.541	—	—	0.541	µg/L	U	—

Table A-22 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	12/07/04	1238	F	1.39	—	—	1.39	µg/L	U	—
Copper	12/07/04	1238	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	12/07/04	1238	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	12/07/04	1238	F	412	—	—	55.3	µg/L	—	—
Iron	12/07/04	1238	F	12.6	—	—	12.6	µg/L	U	—
Iron	12/07/04	1238	NF	12.6	—	—	12.6	µg/L	U	—
Lead	12/07/04	1238	F	0.27	—	—	0.05	µg/L	J	—
Lead	12/07/04	1238	NF	0.25	—	—	0.05	µg/L	J	—
Magnesium	12/07/04	1238	F	744	—	—	5.18	µg/L	E	—
Magnesium	12/07/04	1238	NF	713	—	—	5.18	µg/L	E	—
Manganese	12/07/04	1238	F	13	—	—	1.61	µg/L	—	—
Manganese	12/07/04	1238	NF	12.5	—	—	1.61	µg/L	—	—
Mercury	12/07/04	1238	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	12/07/04	1238	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	12/07/04	1238	F	14.6	—	—	0.2	µg/L	—	—
Molybdenum	12/07/04	1238	NF	15.4	—	—	0.2	µg/L	—	—
Nickel	12/07/04	1238	F	6.3	—	—	0.69	µg/L	—	—
Nickel	12/07/04	1238	NF	7.7	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	12/07/04	1238	F	3	—	—	3	µg/L	U	—
Nitrate+Nitrite (as N)	12/07/04	1238	NF	3	—	—	3	µg/L	U	—
Perchlorate	12/07/04	1238	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	12/07/04	1238	F	502	—	—	151	µg/L	H	—
Phosphorus (as P)	12/07/04	1238	F	338	—	—	11	µg/L	—	—
Phosphorus (as P)	12/07/04	1238	NF	311	—	—	11	µg/L	—	—
Potassium	12/07/04	1238	F	4930	—	—	16.5	µg/L	—	—
Potassium	12/07/04	1238	NF	4820	—	—	16.5	µg/L	—	—
Selenium	12/07/04	1238	F	14.1	—	—	14.1	µg/L	U	—
Selenium	12/07/04	1238	NF	2.81	—	—	2.81	µg/L	U	—

Table A-22 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon	12/07/04	1238	F	15500	—	—	9.83	µg/L	—	—
Silicon	12/07/04	1238	NF	15900	—	—	9.83	µg/L	—	—
Silver	12/07/04	1238	F	0.835	—	—	0.835	µg/L	U	—
Silver	12/07/04	1238	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	12/07/04	1238	F	27900	—	—	14.4	µg/L	—	—
Sodium	12/07/04	1238	NF	27700	—	—	14.4	µg/L	—	—
Strontium	12/07/04	1238	F	599	—	—	0.178	µg/L	—	—
Strontium	12/07/04	1238	NF	596	—	—	0.178	µg/L	—	—
Sulfate	12/07/04	1238	F	40200	—	—	965	µg/L	—	—
Thallium	12/07/04	1238	F	0.46	—	—	0.02	µg/L	J	—
Thallium	12/07/04	1238	NF	0.15	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	12/07/04	1238	F	916	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	12/07/04	1238	NF	773	—	—	44	µg/L	—	—
Uranium	12/07/04	1238	F	0.24	—	—	0.02	µg/L	—	—
Uranium	12/07/04	1238	NF	0.22	—	—	0.02	µg/L	—	—
Vanadium	12/07/04	1238	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	12/07/04	1238	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	12/07/04	1238	F	8.3	—	—	0.883	µg/L	—	—
Zinc	12/07/04	1238	NF	10.1	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	12/07/04	1238	NF	3070	—	—	125	µg/L	—	—
Radiologic Constituents										
Americium-241	12/07/04	1238	NF	0.01	0.00726	0.032	—	pCi/L	U	—
Cesium-137	12/07/04	1238	NF	0.493	1.01	3.6	—	pCi/L	U	—
Cobalt-60	12/07/04	1238	NF	0.614	0.987	3.78	—	pCi/L	U	—
Plutonium-238	12/07/04	1238	NF	-0.00388	0.00549	0.027	—	pCi/L	U	—
Plutonium-239/240	12/07/04	1238	NF	0.00776	0.00389	0.024	—	pCi/L	U	—
Strontium-90	12/07/04	1238	NF	-0.14	0.0699	0.279	—	pCi/L	U	—
Technetium-99	12/07/04	1238	NF	0.0612	1.1	3.72	—	pCi/L	U	—

Table A-22 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tritium	12/07/04	1238	NF	-0.09579	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	12/07/04	1238	NF	0.0455	0.0102	0.058	—	pCi/L	U	—
Uranium-235/236	12/07/04	1238	NF	0.0141	0.00537	0.037	—	pCi/L	U	—
Uranium-238	12/07/04	1238	NF	0.0398	0.011	0.041	—	pCi/L	U	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-23

Well R-20 Screen 1 First Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	03/11/04	907	F[a]	134000	—[b]	—	1450	µg/L	—	—
Aluminum	03/11/04	907	F	35.7	—	—	14.7	µg/L	J	U
Aluminum	03/15/04	907	NF[c]	49	—	—	14.7	µg/L	J	U
Ammonia (as N)	03/11/04	907	F	482	—	—	15.9	µg/L	—	J+
Ammonia (as N)	03/15/04	907	NF	451	—	—	15.9	µg/L	—	J+
Antimony	03/11/04	907	F	0.28	—	—	0.28	µg/L	U	—
Antimony	03/15/04	907	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	03/11/04	907	F	5.43	—	—	2.24	µg/L	—	—
Arsenic	03/15/04	907	NF	5.06	—	—	2.24	µg/L	—	—
Barium	03/11/04	907	F	24.9	—	—	0.222	µg/L	—	—
Barium	03/15/04	907	NF	27.6	—	—	0.222	µg/L	—	—
Beryllium	03/11/04	907	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	03/15/04	907	NF	0.08	—	—	0.08	µg/L	U	—
Boron	03/11/04	907	F	59.4	—	—	4.88	µg/L	—	—
Boron	03/15/04	907	NF	51.7	—	—	4.88	µg/L	—	—
Bromide	03/11/04	907	F	97.8	—	—	97.8	µg/L	U	—
Calcium	03/11/04	907	F	3590	—	—	5.54	µg/L	—	—
Calcium	03/15/04	907	NF	3930	—	—	5.54	µg/L	—	—
Chloride	03/11/04	907	F	6250	—	—	32.2	µg/L	—	—
Chromium	03/11/04	907	F	1.16	—	—	0.503	µg/L	J	U
Chromium	03/15/04	907	NF	2.06	—	—	0.503	µg/L	J	U
Cobalt	03/11/04	907	F	0.541	—	—	0.541	µg/L	U	U
Cobalt	03/15/04	907	NF	0.898	—	—	0.541	µg/L	J	—
Copper	03/11/04	907	F	2.63	—	—	1.39	µg/L	J	U
Copper	03/15/04	907	NF	2.33	—	—	1.39	µg/L	J	U

Table A- 23 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Cyanide (Total)	03/15/04	907	NF	3.06	—	—	1.72	µg/L	J	—
Fluoride	03/11/04	907	F	495	—	—	55.3	µg/L	—	—
Iron	03/11/04	907	F	236	—	—	12.6	µg/L	—	U
Iron	03/15/04	907	NF	198	—	—	12.6	µg/L	—	U
Lead	03/11/04	907	F	0.84	—	—	0.05	µg/L	J	—
Lead	03/15/04	907	NF	0.946	—	—	0.05	µg/L	J	—
Magnesium	03/11/04	907	F	469	—	—	5.18	µg/L	—	—
Magnesium	03/15/04	907	NF	508	—	—	5.18	µg/L	—	—
Manganese	03/11/04	907	F	19.5	—	—	1.61	µg/L	—	—
Manganese	03/15/04	907	NF	16	—	—	1.61	µg/L	—	—
Mercury	03/11/04	907	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	03/15/04	907	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	03/11/04	907	F	27.7	—	—	0.2	µg/L	—	—
Molybdenum	03/15/04	907	NF	22.6	—	—	0.2	µg/L	—	—
Nickel	03/11/04	907	F	2.04	—	—	0.69	µg/L	J	U
Nickel	03/15/04	907	NF	1.94	—	—	0.69	µg/L	J	U
Nitrate+Nitrite (as N)	03/11/04	907	F	10	—	—	10	µg/L	U	—
Nitrate+Nitrite (as N)	03/15/04	907	NF	10	—	—	10	µg/L	U	—
Perchlorate	03/15/04	907	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	03/11/04	907	F	231	—	—	151	µg/L	H	J
Phosphorus (as P)	03/11/04	907	F	403	—	—	11	µg/L	—	—
Phosphorus (as P)	03/15/04	907	NF	316	—	—	11	µg/L	—	—
Potassium	03/11/04	907	F	3930	—	—	16.5	µg/L	—	—
Potassium	03/15/04	907	NF	3820	—	—	16.5	µg/L	—	—
Selenium	03/11/04	907	F	2.81	—	—	2.81	µg/L	U	—
Selenium	03/15/04	907	NF	4.77	—	—	2.81	µg/L	J	—
Silicon Dioxide	03/11/04	907	F	51300	—	—	21.2	µg/L	—	—
Silicon Dioxide	03/15/04	907	NF	55600	—	—	21.2	µg/L	—	—

Table A- 23 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silver	03/11/04	907	F	0.835	—	—	0.835	µg/L	U	—
Silver	03/15/04	907	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	03/11/04	907	F	69600	—	—	14.4	µg/L	—	—
Sodium	03/15/04	907	NF	65600	—	—	14.4	µg/L	—	—
Strontium	03/11/04	907	F	42.2	—	—	0.178	µg/L	—	—
Strontium	03/15/04	907	NF	40.4	—	—	0.178	µg/L	—	—
Sulfate	03/11/04	907	F	1670	—	—	193	µg/L	—	—
Thallium	03/11/04	907	F	0.341	—	—	0.02	µg/L	J	U
Thallium	03/15/04	907	NF	0.082	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	03/11/04	907	F	1010	—	—	44	µg/L	—	J+
Total Kjeldahl Nitrogen	03/15/04	907	NF	546	—	—	88	µg/L	—	J+
Uranium	03/11/04	907	F	0.169	—	—	0.02	µg/L	J	U
Uranium	03/15/04	907	NF	0.143	—	—	0.02	µg/L	J	U
Vanadium	03/11/04	907	F	0.606	—	—	0.606	µg/L	U	UJ
Vanadium	03/15/04	907	NF	0.606	—	—	0.606	µg/L	U	UJ
Zinc	03/11/04	907	F	0.883	—	—	0.883	µg/L	U	UJ
Zinc	03/15/04	907	NF	0.883	—	—	0.883	µg/L	U	UJ
Detected Organic Constituents										
Acetone	03/15/04	907	NF	209	—	—	—	µg/L	—	—
Naphthalene	03/15/04	907	NF	0.24	—	—	—	µg/L	J	—
Total Organic Carbon	03/15/04	907	NF	32400	—	—	125	µg/L	—	—
Radiologic Constituents										
Americium-241	03/15/04	907	NF	0.00264	0.00952	0.047	—	pCi/L	U	U
Cesium-137	03/15/04	907	NF	1.69	1.37	5.18	—	pCi/L	U	U
Gross gamma	03/15/04	907	NF	175	187	552	—	pCi/L	U	U
Plutonium-238	03/15/04	907	NF	-0.00682	0.0231	0.047	—	pCi/L	U	U
Plutonium-239/240	03/15/04	907	NF	0.0443	0.0149	0.042	—	pCi/L	—	J
Strontium-90	03/15/04	907	NF	0.229	0.0638	0.191	—	pCi/L	—	J
Technetium-99	03/15/04	907	NF	-0.429	1.09	3.71	—	pCi/L	U	U

Table A- 23 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tritium	03/15/04	907	NF	0.22351	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	03/15/04	907	NF	0.168	0.0256	0.075	—	pCi/L	—	J
Uranium-235/236	03/15/04	907	NF	0.0227	0.0118	0.043	—	pCi/L	U	U
Uranium-238	03/15/04	907	NF	0.042	0.0143	0.048	—	pCi/L	U	U

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-24

Well R-20 Screen 2 First Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	03/10/04	1149.7	F[a]	133000	—[b]	—	1450	µg/L	—	—
Aluminum	03/10/04	1149.7	F	14.7	—	—	14.7	µg/L	U	R
Aluminum	03/10/04	1149.7	NF[c]	14.7	—	—	14.7	µg/L	U	R
Ammonia (as N)	03/10/04	1149.7	F	799	—	—	15.9	µg/L	—	—
Ammonia (as N)	03/10/04	1149.7	NF	772	—	—	15.9	µg/L	—	—
Antimony	03/10/04	1149.7	F	0.28	—	—	0.28	µg/L	U	—
Antimony	03/10/04	1149.7	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	03/10/04	1149.7	F	2.96	—	—	2.24	µg/L	J	—
Arsenic	03/10/04	1149.7	NF	4.03	—	—	2.24	µg/L	J	—
Barium	03/10/04	1149.7	F	228	—	—	0.222	µg/L	—	—
Barium	03/10/04	1149.7	NF	261	—	—	0.222	µg/L	—	—
Beryllium	03/10/04	1149.7	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	03/10/04	1149.7	NF	0.08	—	—	0.08	µg/L	U	—
Boron	03/10/04	1149.7	F	97.1	—	—	4.88	µg/L	—	—
Boron	03/10/04	1149.7	NF	94.9	—	—	4.88	µg/L	—	—
Bromide	03/10/04	1149.7	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	03/10/04	1149.7	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	03/10/04	1149.7	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	03/10/04	1149.7	F	43200	—	—	5.54	µg/L	—	—
Calcium	03/10/04	1149.7	NF	43300	—	—	5.54	µg/L	—	—
Chloride	03/10/04	1149.7	F	7530	—	—	32.2	µg/L	—	—
Chromium	03/10/04	1149.7	F	0.503	—	—	0.503	µg/L	U	—
Chromium	03/10/04	1149.7	NF	9.49	—	—	0.503	µg/L	—	—
Cobalt	03/10/04	1149.7	F	1.69	—	—	0.541	µg/L	J	U
Cobalt	03/10/04	1149.7	NF	1.18	—	—	0.541	µg/L	J	U

Table A- 24 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	03/10/04	1149.7	F	1.39	—	—	1.39	µg/L	U	—
Copper	03/10/04	1149.7	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	03/10/04	1149.7	NF	5.53	—	—	1.72	µg/L	—	—
Fluoride	03/10/04	1149.7	F	699	—	—	55.3	µg/L	—	—
Iron	03/10/04	1149.7	F	158	—	—	12.6	µg/L	—	—
Iron	03/10/04	1149.7	NF	1070	—	—	12.6	µg/L	—	—
Lead	03/10/04	1149.7	F	0.082	—	—	0.05	µg/L	J	—
Lead	03/10/04	1149.7	NF	0.224	—	—	0.05	µg/L	J	—
Magnesium	03/10/04	1149.7	F	4310	—	—	5.18	µg/L	—	—
Magnesium	03/10/04	1149.7	NF	4320	—	—	5.18	µg/L	—	—
Manganese	03/10/04	1149.7	F	382	—	—	1.61	µg/L	E	—
Manganese	03/10/04	1149.7	NF	388	—	—	1.61	µg/L	E	J
Mercury	03/10/04	1149.7	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	03/10/04	1149.7	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	03/10/04	1149.7	F	4.65	—	—	0.2	µg/L	—	—
Molybdenum	03/10/04	1149.7	NF	4.91	—	—	0.2	µg/L	—	—
Nickel	03/10/04	1149.7	F	5.69	—	—	0.69	µg/L	*	U
Nickel	03/10/04	1149.7	NF	11.1	—	—	0.69	µg/L	*	UJ
Nitrate+Nitrite (as N)	03/10/04	1149.7	F	10	—	—	10	µg/L	U	R
Nitrate+Nitrite (as N)	03/10/04	1149.7	NF	10	—	—	10	µg/L	U	R
Perchlorate	03/10/04	1149.7	NF	0.2	—	—	—	µg/L	U	—
Phosphorus (as PO_4)	03/10/04	1149.7	F	941	—	—	151	µg/L	H	J
Phosphorus (as P)	03/10/04	1149.7	F	570	—	—	11	µg/L	—	—
Phosphorus (as P)	03/10/04	1149.7	NF	810	—	—	11	µg/L	—	—
Potassium	03/10/04	1149.7	F	4010	—	—	16.5	µg/L	—	—
Potassium	03/10/04	1149.7	NF	3980	—	—	16.5	µg/L	—	—
Selenium	03/10/04	1149.7	F	2.81	—	—	2.81	µg/L	U	—
Selenium	03/10/04	1149.7	NF	2.81	—	—	2.81	µg/L	U	—

Table A- 24 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	03/10/04	1149.7	F	64400	—	—	21.2	µg/L	—	—
Silicon Dioxide	03/10/04	1149.7	NF	65300	—	—	21.2	µg/L	—	—
Silver	03/10/04	1149.7	F	0.835	—	—	0.835	µg/L	U	—
Silver	03/10/04	1149.7	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	03/10/04	1149.7	F	101000	—	—	14.4	µg/L	—	—
Sodium	03/10/04	1149.7	NF	99800	—	—	14.4	µg/L	—	—
Strontium	03/10/04	1149.7	F	2050	—	—	0.178	µg/L	—	—
Strontium	03/10/04	1149.7	NF	2070	—	—	0.178	µg/L	—	—
Sulfate	03/10/04	1149.7	F	1040	—	—	193	µg/L	—	—
Thallium	03/10/04	1149.7	F	0.288	—	—	0.02	µg/L	J	—
Thallium	03/10/04	1149.7	NF	0.02	—	—	0.02	µg/L	U	UJ
Total Kjeldahl Nitrogen	03/10/04	1149.7	F	2330	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	03/10/04	1149.7	NF	3550	—	—	88	µg/L	—	—
Uranium	03/10/04	1149.7	F	0.175	—	—	0.02	µg/L	J	—
Uranium	03/10/04	1149.7	NF	0.18	—	—	0.02	µg/L	J	—
Vanadium	03/10/04	1149.7	F	0.606	—	—	0.606	µg/L	U	UJ
Vanadium	03/10/04	1149.7	NF	0.606	—	—	0.606	µg/L	U	UJ
Zinc	03/10/04	1149.7	F	2.14	—	—	0.883	µg/L	J	JN-
Zinc	03/10/04	1149.7	NF	5.92	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Diethylphthalate	03/10/04	1149.7	NF	2	—	—	—	µg/L	J	—
Naphthalene	03/10/04	1149.7	NF	0.5	—	—	—	µg/L	J	—
Total Organic Carbon	03/10/04	1149.7	NF	51700	—	—	250	µg/L	—	—
Radiologic Constituents										
Americium-241	03/10/04	1149.7	NF	-0.00657	0.00849	0.039	—	pCi/L	U	U
Cesium-137	03/10/04	1149.7	NF	15.5	1.56	5.49	—	pCi/L	UI	R
Plutonium-238	03/10/04	1149.7	NF	0.00427	0.00854	0.03	—	pCi/L	U	U
Plutonium-239/240	03/10/04	1149.7	NF	-0.00427	0.00427	0.026	—	pCi/L	U	U
Strontium-90	03/10/04	1149.7	NF	0.237	0.0565	0.168	—	pCi/L	—	J

Table A- 24 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Technetium-99	03/10/04	1149.7	NF	-0.559	1.04	3.56	—	pCi/L	U	U
Tritium	03/10/04	1149.7	NF	0.09579	0.28737	0.28737	—	pCi/L	—	—
Uranium 233, 234	03/10/04	1149.7	NF	0.0737	0.0171	0.071	—	pCi/L	—	—
Uranium-235/236	03/10/04	1149.7	NF	0.0154	0.0128	0.041	—	pCi/L	U	U
Uranium-238	03/10/04	1149.7	NF	0.0276	0.0121	0.045	—	pCi/L	U	U

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-25

Well R-20 Screen 3 First Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	03/09/04	1330	F[a]	120000	—[b]	—	1450	µg/L	—	—
Aluminum	03/09/04	1330	F	16	—	—	14.7	µg/L	J	JN-
Aluminum	03/09/04	1330	NF[c]	25.9	—	—	14.7	µg/L	J	JN-
Ammonia (as N)	03/09/04	1330	F	502	—	—	15.9	µg/L	—	—
Ammonia (as N)	03/09/04	1330	NF	484	—	—	15.9	µg/L	—	—
Antimony	03/09/04	1330	F	0.28	—	—	0.28	µg/L	U	—
Antimony	03/09/04	1330	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	03/09/04	1330	F	8.84	—	—	2.24	µg/L	—	—
Arsenic	03/09/04	1330	NF	5.4	—	—	2.24	µg/L	—	—
Barium	03/09/04	1330	F	86.9	—	—	0.222	µg/L	—	—
Barium	03/09/04	1330	NF	153	—	—	0.222	µg/L	—	—
Beryllium	03/09/04	1330	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	03/09/04	1330	NF	0.08	—	—	0.08	µg/L	U	—
Boron	03/09/04	1330	F	36.6	—	—	4.88	µg/L	J	—
Boron	03/09/04	1330	NF	34.9	—	—	4.88	µg/L	J	—
Bromide	03/09/04	1330	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	03/09/04	1330	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	03/09/04	1330	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	03/09/04	1330	F	21400	—	—	5.54	µg/L	—	—
Calcium	03/09/04	1330	NF	20900	—	—	5.54	µg/L	—	—
Chloride	03/09/04	1330	F	1940	—	—	32.2	µg/L	—	—
Chromium	03/09/04	1330	F	1.86	—	—	0.503	µg/L	J	JN-
Chromium	03/09/04	1330	NF	5.39	—	—	0.503	µg/L	—	—
Cobalt	03/09/04	1330	F	5.52	—	—	0.541	µg/L	—	U
Cobalt	03/09/04	1330	NF	1.25	—	—	0.541	µg/L	J	U

Table A-25 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	03/09/04	1330	F	1.39	—	—	1.39	µg/L	U	—
Copper	03/09/04	1330	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	03/09/04	1330	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	03/09/04	1330	F	886	—	—	55.3	µg/L	—	—
Iron	03/09/04	1330	F	5150	—	—	12.6	µg/L	—	—
Iron	03/09/04	1330	NF	12900	—	—	12.6	µg/L	—	—
Lead	03/09/04	1330	F	0.125	—	—	0.05	µg/L	J	—
Lead	03/09/04	1330	NF	0.223	—	—	0.05	µg/L	J	—
Magnesium	03/09/04	1330	F	5720	—	—	5.18	µg/L	—	—
Magnesium	03/09/04	1330	NF	5540	—	—	5.18	µg/L	—	—
Manganese	03/09/04	1330	F	1050	—	—	1.61	µg/L	—	—
Manganese	03/09/04	1330	NF	1120	—	—	1.61	µg/L	—	—
Mercury	03/09/04	1330	F	0.047	—	—	0.047	µg/L	U	—
Mercury	03/09/04	1330	NF	0.047	—	—	0.047	µg/L	U	—
Molybdenum	03/09/04	1330	F	31.3	—	—	0.2	µg/L	—	—
Molybdenum	03/09/04	1330	NF	30.8	—	—	0.2	µg/L	—	—
Nickel	03/09/04	1330	F	12.1	—	—	0.69	µg/L	—	—
Nickel	03/09/04	1330	NF	12.8	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	03/09/04	1330	F	10	—	—	10	µg/L	U	—
Nitrate+Nitrite (as N)	03/09/04	1330	NF	10	—	—	10	µg/L	U	—
Perchlorate	03/09/04	1330	NF	0.2	—	—	—	µg/L	U	—
Phosphorus (as PO_4)	03/09/04	1330	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	03/09/04	1330	F	69	—	—	11	µg/L	—	—
Phosphorus (as P)	03/09/04	1330	NF	1730	—	—	11	µg/L	—	—
Potassium	03/09/04	1330	F	3140	—	—	16.5	µg/L	—	—
Potassium	03/09/04	1330	NF	3130	—	—	16.5	µg/L	—	—
Selenium	03/09/04	1330	F	2.81	—	—	2.81	µg/L	U	—
Selenium	03/09/04	1330	NF	2.81	—	—	2.81	µg/L	U	—

Table A-25 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	03/09/04	1330	F	56300	—	—	21.2	µg/L	—	—
Silicon Dioxide	03/09/04	1330	NF	56600	—	—	21.2	µg/L	—	—
Silver	03/09/04	1330	F	0.835	—	—	0.835	µg/L	U	UJ
Silver	03/09/04	1330	NF	0.835	—	—	0.835	µg/L	U	UJ
Sodium	03/09/04	1330	F	25200	—	—	14.4	µg/L	—	—
Sodium	03/09/04	1330	NF	25900	—	—	14.4	µg/L	—	—
Strontium	03/09/04	1330	F	191	—	—	0.178	µg/L	—	—
Strontium	03/09/04	1330	NF	191	—	—	0.178	µg/L	—	—
Sulfate	03/09/04	1330	F	193	—	—	193	µg/L	U	—
Thallium	03/09/04	1330	F	0.268	—	—	0.02	µg/L	J	—
Thallium	03/09/04	1330	NF	0.043	—	—	0.02	µg/L	J	JN-
Total Kjeldahl Nitrogen	03/09/04	1330	F	1800	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	03/09/04	1330	NF	3540	—	—	88	µg/L	—	—
Uranium	03/09/04	1330	F	0.126	—	—	0.02	µg/L	J	U
Uranium	03/09/04	1330	NF	0.141	—	—	0.02	µg/L	J	U
Vanadium	03/09/04	1330	F	0.606	—	—	0.606	µg/L	U	UJ
Vanadium	03/09/04	1330	NF	0.753	—	—	0.606	µg/L	J	JN-
Zinc	03/09/04	1330	F	4.83	—	—	0.883	µg/L	J	—
Zinc	03/09/04	1330	NF	20.8	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Diethylphthalate	03/09/04	1330	NF	1	—	—	—	µg/L	J	—
Isopropylbenzene	03/09/04	1330	NF	0.31	—	—	—	µg/L	J	—
Total Organic Carbon	03/09/04	1330	NF	5130	—	—	25	µg/L	—	—
Detected Organic Constituents										
Americium-241	03/09/04	1330	NF	0.00688	0.00607	0.041	—	pCi/L	U	U
Cesium-137	03/09/04	1330	NF	-0.767	1.1	3.76	—	pCi/L	U	U
Gross gamma	03/09/04	1330	NF	131	143	377	—	pCi/L	—	U
Plutonium-238	03/09/04	1330	NF	0.0153	0.0108	0.035	—	pCi/L	U	U
Plutonium-239/240	03/09/04	1330	NF	6.06E-10	0.00623	0.031	—	pCi/L	U	U

Table A-25 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium-90	03/09/04	1330	NF	4.15	0.669	0.751	—	pCi/L	—	—
Technetium-99	03/09/04	1330	NF	-0.0611	0.994	3.36	—	pCi/L	U	U
Tritium	03/09/04	1330	NF	0.28737	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	03/09/04	1330	NF	0.0379	0.0113	0.073	—	pCi/L	U	U
Uranium-235/236	03/09/04	1330	NF	0.0158	0.0106	0.042	—	pCi/L	U	U
Uranium-238	03/09/04	1330	NF	0.00316	0.00836	0.046	—	pCi/L	U	U

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-26

Well R-20 Screen 1 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	05/11/04	907	F[a]	114000	—[b]	—	1450	µg/L	—	—
Aluminum	05/11/04	907	F	41.7	—	—	14.7	µg/L	B	—
Aluminum	05/11/04	907	NF[c]	56.1	—	—	14.7	µg/L	B	—
Ammonia (as N)	05/11/04	907	F	414	—	—	15.9	µg/L	—	—
Ammonia (as N)	05/11/04	907	NF	445	—	—	15.9	µg/L	—	—
Antimony	05/11/04	907	F	0.28	—	—	0.28	µg/L	U	—
Antimony	05/11/04	907	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	05/11/04	907	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	05/11/04	907	NF	3.7	—	—	2.24	µg/L	B	—
Barium	05/11/04	907	F	23.3	—	—	0.222	µg/L	—	—
Barium	05/11/04	907	NF	20.3	—	—	0.222	µg/L	—	—
Beryllium	05/11/04	907	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	05/11/04	907	NF	0.08	—	—	0.08	µg/L	U	—
Boron	05/11/04	907	F	43.8	—	—	4.88	µg/L	B	U
Boron	05/11/04	907	NF	45.2	—	—	4.88	µg/L	B	U
Bromide	05/11/04	907	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	05/11/04	907	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	05/11/04	907	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	05/11/04	907	F	3660	—	—	5.54	µg/L	—	—
Calcium	05/11/04	907	NF	2810	—	—	5.54	µg/L	—	—
Chloride	05/11/04	907	F	3890	—	—	32.2	µg/L	—	—
Chromium	05/11/04	907	F	0.63	—	—	0.503	µg/L	B	—
Chromium	05/11/04	907	NF	1.4	—	—	0.503	µg/L	B	—
Cobalt	05/11/04	907	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	05/11/04	907	NF	0.541	—	—	0.541	µg/L	U	—

Table A-26 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	05/11/04	907	F	1.39	—	—	1.39	µg/L	U	—
Copper	05/11/04	907	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	05/11/04	907	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	05/11/04	907	F	534	—	—	55.3	µg/L	—	—
Iron	05/11/04	907	F	121	—	—	12.6	µg/L	—	—
Iron	05/11/04	907	NF	143	—	—	12.6	µg/L	—	—
Lead	05/11/04	907	F	0.74	—	—	0.05	µg/L	B	—
Lead	05/11/04	907	NF	0.76	—	—	0.05	µg/L	B	—
Magnesium	05/11/04	907	F	523	—	—	5.18	µg/L	E	J
Magnesium	05/11/04	907	NF	369	—	—	5.18	µg/L	E	J
Manganese	05/11/04	907	F	15.1	—	—	1.61	µg/L	—	—
Manganese	05/11/04	907	NF	11.4	—	—	1.61	µg/L	—	—
Mercury	05/11/04	907	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	05/11/04	907	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	05/11/04	907	F	12.4	—	—	0.2	µg/L	—	—
Molybdenum	05/11/04	907	NF	11.7	—	—	0.2	µg/L	—	—
Nickel	05/11/04	907	F	0.69	—	—	0.69	µg/L	U	—
Nickel	05/11/04	907	NF	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	05/11/04	907	F	10	—	—	10	µg/L	U	—
Nitrate+Nitrite (as N)	05/11/04	907	NF	10	—	—	10	µg/L	U	—
Perchlorate	05/11/04	907	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	05/11/04	907	F	371	—	—	151	µg/L	H	J
Phosphorus (as P)	05/11/04	907	F	327	—	—	11	µg/L	—	—
Phosphorus (as P)	05/11/04	907	NF	267	—	—	11	µg/L	—	—
Potassium	05/11/04	907	F	3590	—	—	16.5	µg/L	—	—
Potassium	05/11/04	907	NF	3580	—	—	16.5	µg/L	—	—
Selenium	05/11/04	907	F	3.1	—	—	2.81	µg/L	B	U
Selenium	05/11/04	907	NF	4.1	—	—	2.81	µg/L	B	U

Table A-26 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	05/11/04	907	F	58500	—	—	21.2	µg/L	—	—
Silicon Dioxide	05/11/04	907	NF	56300	—	—	21.2	µg/L	—	—
Silver	05/11/04	907	F	0.835	—	—	0.835	µg/L	U	—
Silver	05/11/04	907	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	05/11/04	907	F	54900	—	—	14.4	µg/L	—	—
Sodium	05/11/04	907	NF	55600	—	—	14.4	µg/L	—	—
Strontium	05/11/04	907	F	35.9	—	—	0.178	µg/L	—	—
Strontium	05/11/04	907	NF	28.1	—	—	0.178	µg/L	—	—
Sulfate	05/11/04	907	F	2940	—	—	193	µg/L	—	—
Thallium	05/11/04	907	F	0.04	—	—	0.02	µg/L	B	JN-
Thallium	05/11/04	907	NF	0.02	—	—	0.02	µg/L	U	UJ
Total Kjeldahl Nitrogen	05/11/04	907	F	612	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	05/11/04	907	NF	729	—	—	44	µg/L	—	—
Uranium	05/11/04	907	F	0.15	—	—	0.02	µg/L	B	—
Uranium	05/11/04	907	NF	0.15	—	—	0.02	µg/L	B	—
Vanadium	05/11/04	907	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	05/11/04	907	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	05/11/04	907	F	5.3	—	—	0.883	µg/L	*	UJ
Zinc	05/11/04	907	NF	6	—	—	0.883	µg/L	*	UJ
Detected Organic Constituents										
Acetone	05/11/04	907	NF	136	—	—	—	µg/L	—	J
DDT[4,4'-]	05/11/04	907	NF	0.0186	—	—	—	µg/L	J	J
Total Organic Carbon	05/11/04	907	NF	14800	—	—	125	µg/L	—	—
Radiologic Constituents										
Americium-241	05/11/04	907	NF	0.00226	0.00931	0.04	—	pCi/L	U	U
Cesium-137	05/11/04	907	NF	0.259	0.603	2.1	—	pCi/L	U	U
Cobalt-60	05/11/04	907	NF	0.445	0.591	2.2	—	pCi/L	U	U
Gross Gamma	05/11/04	907	NF	70.1	70.9	215	—	pCi/L	U	U
Plutonium-238	05/11/04	907	NF	0.00207	0.00463	0.032	—	pCi/L	U	U

Table A-26 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Plutonium-239/240	05/11/04	907	NF	4.93E-10	0.00585	0.033	—	pCi/L	U	U
Strontium-90	05/11/04	907	NF	-0.26	0.0938	0.306	—	pCi/L	U	U
Technetium-99	05/11/04	907	NF	-1.67	1.41	4.76	—	pCi/L	U	U
Tritium	05/10/04	907	NF	0.28737	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	05/11/04	907	NF	0.119	0.0192	0.074	—	pCi/L	—	J
Uranium-235/236	05/11/04	907	NF	0.017	0.00813	0.045	—	pCi/L	U	U
Uranium-238	05/11/04	907	NF	0.0727	0.0145	0.052	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-27

Well R-20 Screen 2 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	05/05/04	1149.7	F[a]	251000	—[b]	—	1450	µg/L	—	—
Aluminum	05/05/04	1149.7	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	05/05/04	1149.7	NF[c]	14.7	—	—	14.7	µg/L	U	—
Ammonia (as N)	05/05/04	1149.7	F	639	—	—	15.9	µg/L	—	—
Ammonia (as N)	05/05/04	1149.7	NF	714	—	—	15.9	µg/L	—	—
Antimony	05/05/04	1149.7	F	0.28	—	—	0.28	µg/L	U	—
Antimony	05/05/04	1149.7	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	05/05/04	1149.7	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	05/05/04	1149.7	NF	2.24	—	—	2.24	µg/L	U	—
Barium	05/05/04	1149.7	F	166	—	—	0.222	µg/L	—	—
Barium	05/05/04	1149.7	NF	202	—	—	0.222	µg/L	—	—
Beryllium	05/05/04	1149.7	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	05/05/04	1149.7	NF	0.08	—	—	0.08	µg/L	U	—
Boron	05/05/04	1149.7	F	73.3	—	—	4.88	µg/L	—	—
Boron	05/05/04	1149.7	NF	78.4	—	—	4.88	µg/L	—	—
Bromide	05/05/04	1149.7	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	05/05/04	1149.7	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	05/05/04	1149.7	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	05/05/04	1149.7	F	31000	—	—	5.54	µg/L	—	—
Calcium	05/05/04	1149.7	NF	35300	—	—	5.54	µg/L	—	—
Chloride	05/05/04	1149.7	F	6200	—	—	32.2	µg/L	—	—
Chromium	05/05/04	1149.7	F	0.76	—	—	0.503	µg/L	B	—
Chromium	05/05/04	1149.7	NF	1.4	—	—	0.503	µg/L	B	—
Cobalt	05/05/04	1149.7	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	05/05/04	1149.7	NF	0.541	—	—	0.541	µg/L	U	—

Table A-27 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	05/05/04	1149.7	F	1.39	—	—	1.39	µg/L	U	—
Copper	05/05/04	1149.7	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	05/05/04	1149.7	NF	2.1	—	—	1.72	µg/L	HJ	UJ
Fluoride	05/05/04	1149.7	F	502	—	—	55.3	µg/L	—	—
Iron	05/05/04	1149.7	F	495	—	—	12.6	µg/L	—	—
Iron	05/05/04	1149.7	NF	947	—	—	12.6	µg/L	—	—
Lead	05/05/04	1149.7	F	0.089	—	—	0.05	µg/L	B	—
Lead	05/05/04	1149.7	NF	0.22	—	—	0.05	µg/L	B	—
Magnesium	05/05/04	1149.7	F	3250	—	—	5.18	µg/L	—	—
Magnesium	05/05/04	1149.7	NF	3700	—	—	5.18	µg/L	—	—
Manganese	05/05/04	1149.7	F	355	—	—	1.61	µg/L	—	—
Manganese	05/05/04	1149.7	NF	362	—	—	1.61	µg/L	—	—
Mercury	05/05/04	1149.7	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	05/05/04	1149.7	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	05/05/04	1149.7	F	5	—	—	0.2	µg/L	—	—
Molybdenum	05/05/04	1149.7	NF	4.9	—	—	0.2	µg/L	—	—
Nickel	05/05/04	1149.7	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	05/05/04	1149.7	NF	0.69	—	—	0.69	µg/L	U	UJ
Nitrate+Nitrite (as N)	05/05/04	1149.7	F	10	—	—	10	µg/L	U	R
Nitrate+Nitrite (as N)	05/05/04	1149.7	NF	10	—	—	10	µg/L	U	R
Perchlorate	05/05/04	1149.7	NF	0.2	—	—	—	µg/L	U	—
Phosphorus (as PO_4)	05/05/04	1149.7	F	355	—	—	151	µg/L	H	J
Phosphorus (as P)	05/05/04	1149.7	F	681	—	—	11	µg/L	—	—
Phosphorus (as P)	05/05/04	1149.7	NF	823	—	—	11	µg/L	—	—
Potassium	05/05/04	1149.7	F	3400	—	—	16.5	µg/L	—	—
Potassium	05/05/04	1149.7	NF	3770	—	—	16.5	µg/L	—	—
Selenium	05/05/04	1149.7	F	2.81	—	—	2.81	µg/L	U	—
Selenium	05/05/04	1149.7	NF	2.81	—	—	2.81	µg/L	U	—

Table A-27 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	05/05/04	1149.7	F	61100	—	—	21.2	µg/L	—	—
Silicon Dioxide	05/05/04	1149.7	NF	68200	—	—	21.2	µg/L	—	—
Silver	05/05/04	1149.7	F	0.835	—	—	0.835	µg/L	U	—
Silver	05/05/04	1149.7	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	05/05/04	1149.7	F	71100	—	—	14.4	µg/L	—	—
Sodium	05/05/04	1149.7	NF	80800	—	—	14.4	µg/L	—	—
Strontium	05/05/04	1149.7	F	1480	—	—	0.178	µg/L	—	—
Strontium	05/05/04	1149.7	NF	1680	—	—	0.178	µg/L	—	—
Sulfate	05/05/04	1149.7	F	193	—	—	193	µg/L	U	—
Thallium	05/05/04	1149.7	F	0.48	—	—	0.02	µg/L	B	U
Thallium	05/05/04	1149.7	NF	0.035	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	05/05/04	1149.7	F	835	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	05/05/04	1149.7	NF	934	—	—	44	µg/L	—	—
Uranium	05/05/04	1149.7	F	0.072	—	—	0.02	µg/L	B	—
Uranium	05/05/04	1149.7	NF	0.08	—	—	0.02	µg/L	B	—
Vanadium	05/05/04	1149.7	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	05/05/04	1149.7	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	05/05/04	1149.7	F	59.5	—	—	0.883	µg/L	—	—
Zinc	05/05/04	1149.7	NF	12.6	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
DDT[4,4'-]	05/05/04	1149.7	NF	0.0171	—	—	—	µg/L	J	J-
Diethylphthalate	05/05/04	1149.7	NF	1.5	—	—	—	µg/L	J	—
Endosulfan Sulfate	05/05/04	1149.7	NF	0.0175	—	—	—	µg/L	J	NJ
HMX	05/05/04	1149.7	NF	0.88	—	—	—	µg/L	—	—
Naphthalene	05/05/04	1149.7	NF	0.56	—	—	—	µg/L	J	—
Total Organic Carbon	05/05/04	1149.7	NF	46200	—	—	125	µg/L	—	J
Radiologic Constituents										
Americium-241	05/05/04	1149.7	NF	0.0116	0.00841	0.041	—	pCi/L	U	U
Cesium-137	05/05/04	1149.7	NF	1.84	1.46	5.37	—	pCi/L	U	U

Table A-27 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Gross gamma	05/05/04	1149.7	NF	67.6	75.1	304	—	pCi/L	U	U
Plutonium-238	05/05/04	1149.7	NF	-0.00835	0.00835	0.043	—	pCi/L	U	U
Plutonium-239/240	05/05/04	1149.7	NF	0.00556	0.00682	0.045	—	pCi/L	U	U
Strontium-90	05/04/04	1149.7	NF	0.0501	0.0392	0.129	—	pCi/L	U	U
Strontium-90	05/05/04	1149.7	NF	0.0584	0.0527	0.174	—	pCi/L	U	U
Technetium-99	05/05/04	1149.7	NF	0.478	0.982	3.29	—	pCi/L	U	U
Tritium	05/05/04	1149.7	NF	7.40776	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	05/05/04	1149.7	NF	0.0516	0.0168	0.105	—	pCi/L	U	U
Uranium-235/236	05/05/04	1149.7	NF	-8.2E-10	0.0069	0.064	—	pCi/L	U	U
Uranium-238	05/05/04	1149.7	NF	0.055	0.0142	0.074	—	pCi/L	U	U

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-28

Well R-20 Screen 3 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	05/05/04	1330	F[a]	96000	—[b]	—	1450	µg/L	—	—
Aluminum	05/05/04	1330	F	20.8	—	—	14.7	µg/L	B	—
Aluminum	05/05/04	1330	NF[c]	20.7	—	—	14.7	µg/L	B	—
Ammonia (as N)	05/05/04	1330	F	368	—	—	15.9	µg/L	—	—
Ammonia (as N)	05/05/04	1330	NF	363	—	—	15.9	µg/L	—	—
Antimony	05/05/04	1330	F	0.28	—	—	0.28	µg/L	U	—
Antimony	05/05/04	1330	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	05/05/04	1330	F	9	—	—	2.24	µg/L	—	—
Arsenic	05/05/04	1330	NF	8.2	—	—	2.24	µg/L	—	—
Barium	05/05/04	1330	F	108	—	—	0.222	µg/L	—	—
Barium	05/05/04	1330	NF	110	—	—	0.222	µg/L	—	—
Beryllium	05/05/04	1330	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	05/05/04	1330	NF	0.08	—	—	0.08	µg/L	U	—
Boron	05/05/04	1330	F	32.4	—	—	4.88	µg/L	B	U
Boron	05/05/04	1330	NF	31.3	—	—	4.88	µg/L	B	U
Bromide	05/05/04	1330	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	05/05/04	1330	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	05/05/04	1330	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	05/05/04	1330	F	14300	—	—	5.54	µg/L	—	—
Calcium	05/05/04	1330	NF	14700	—	—	5.54	µg/L	—	—
Chloride	05/05/04	1330	F	1750	—	—	32.2	µg/L	—	—
Chromium	05/05/04	1330	F	0.88	—	—	0.503	µg/L	B	—
Chromium	05/05/04	1330	NF	635	—	—	0.503	µg/L	—	—
Cobalt	05/05/04	1330	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	05/05/04	1330	NF	0.541	—	—	0.541	µg/L	U	—

Table A-28 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	05/05/04	1330	F	1.39	—	—	1.39	µg/L	U	—
Copper	05/05/04	1330	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	05/05/04	1330	NF	1.72	—	—	1.72	µg/L	UH	UJ
Fluoride	05/05/04	1330	F	1050	—	—	55.3	µg/L	—	—
Iron	05/05/04	1330	F	9450	—	—	12.6	µg/L	—	—
Iron	05/05/04	1330	NF	9520	—	—	12.6	µg/L	—	—
Lead	05/05/04	1330	F	0.17	—	—	0.05	µg/L	B	—
Lead	05/05/04	1330	NF	0.15	—	—	0.05	µg/L	B	—
Magnesium	05/05/04	1330	F	3820	—	—	5.18	µg/L	—	—
Magnesium	05/05/04	1330	NF	3920	—	—	5.18	µg/L	—	—
Manganese	05/05/04	1330	F	858	—	—	1.61	µg/L	—	—
Manganese	05/05/04	1330	NF	849	—	—	1.61	µg/L	—	—
Mercury	05/05/04	1330	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	05/05/04	1330	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	05/05/04	1330	F	23.6	—	—	0.2	µg/L	—	—
Molybdenum	05/05/04	1330	NF	24.6	—	—	0.2	µg/L	—	—
Nickel	05/05/04	1330	F	2.7	—	—	0.69	µg/L	B	JN-
Nickel	05/05/04	1330	NF	6	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	05/05/04	1330	F	10	—	—	10	µg/L	U	R
Nitrate+Nitrite (as N)	05/05/04	1330	NF	10	—	—	10	µg/L	U	R
Perchlorate	05/05/04	1330	NF	0.2	—	—	—	µg/L	U	—
Phosphorus (as PO_4)	05/05/04	1330	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	05/05/04	1330	F	1940	—	—	11	µg/L	—	—
Phosphorus (as P)	05/05/04	1330	NF	1980	—	—	11	µg/L	—	—
Potassium	05/05/04	1330	F	2640	—	—	16.5	µg/L	—	—
Potassium	05/05/04	1330	NF	2720	—	—	16.5	µg/L	—	—
Selenium	05/05/04	1330	F	3.5	—	—	2.81	µg/L	B	—
Selenium	05/05/04	1330	NF	2.81	—	—	2.81	µg/L	U	—

Table A-28 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	05/05/04	1330	F	64400	—	—	21.2	µg/L	—	—
Silicon Dioxide	05/05/04	1330	NF	61800	—	—	21.2	µg/L	—	—
Silver	05/05/04	1330	F	0.835	—	—	0.835	µg/L	U	—
Silver	05/05/04	1330	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	05/05/04	1330	F	21300	—	—	14.4	µg/L	—	—
Sodium	05/05/04	1330	NF	22400	—	—	14.4	µg/L	—	—
Strontium	05/05/04	1330	F	133	—	—	0.178	µg/L	—	—
Strontium	05/05/04	1330	NF	139	—	—	0.178	µg/L	—	—
Sulfate	05/05/04	1330	F	193	—	—	193	µg/L	U	—
Thallium	05/05/04	1330	F	0.049	—	—	0.02	µg/L	B	U
Thallium	05/05/04	1330	NF	0.079	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	05/05/04	1330	F	644	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	05/05/04	1330	NF	662	—	—	44	µg/L	—	—
Uranium	05/05/04	1330	F	0.02	—	—	0.02	µg/L	U	—
Uranium	05/05/04	1330	NF	0.02	—	—	0.02	µg/L	U	—
Vanadium	05/05/04	1330	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	05/05/04	1330	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	05/05/04	1330	F	13.1	—	—	0.883	µg/L	—	—
Zinc	05/05/04	1330	NF	22	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Bis(2-ethylhexyl)phthalate	05/05/04	1330	NF	2.7	—	—	—	µg/L	J	—
Total Organic Carbon	05/05/04	1330	NF	3430	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	05/05/04	1330	NF	0.00486	0.0091	0.043	—	pCi/L	U	U
Cesium-137	05/05/04	1330	NF	1.11	0.958	3.64	—	pCi/L	U	U
Gross gamma	05/05/04	1330	NF	68.2	74.4	228	—	pCi/L	U	U
Plutonium-238	05/05/04	1330	NF	0.00283	0.0141	0.044	—	pCi/L	U	U
Plutonium-239/240	05/05/04	1330	NF	0.00283	0.00848	0.045	—	pCi/L	U	U

Table A-28 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium-90	05/04/04	1330	NF	0.0307	0.0727	0.246	—	pCi/L	U	U
Strontium-90	05/05/04	1330	NF	-0.0306	0.0676	0.234	—	pCi/L	U	U
Technetium-99	05/05/04	1330	NF	-2.1	0.897	3.15	—	pCi/L	U	U
Tritium	05/05/04	1330	NF	1.97966	0.28737	0.2874	—	pCi/L	—	—
Uranium-234	05/05/04	1330	NF	0.0156	0.0129	0.095	—	pCi/L	U	U
Uranium-235/236	05/05/04	1330	NF	0.0219	0.0105	0.058	—	pCi/L	U	U
Uranium-238	05/05/04	1330	NF	0.00624	0.00625	0.067	—	pCi/L	U	U

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-29

Well R-20 Screen 1 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents											
Alkalinity-CO_3+HCO_3	09/20/04	907	F[a]	91100	—[b]	—	—	1450	µg/L	—	—
Aluminum	09/20/04	907	F	40.6	—	13.5	—	14.7	µg/L	J	—
Aluminum	09/20/04	907	NF[c]	41	—	13.5	—	14.7	µg/L	J	—
Ammonia (as N)	09/20/04	907	F	359	—	—	—	15.9	µg/L	—	J-
Ammonia (as N)	09/20/04	907	NF	214	—	—	—	15.9	µg/L	—	J-
Antimony	09/20/04	907	F	0.28	—	0.101	—	0.28	µg/L	U	—
Antimony	09/20/04	907	NF	0.28	—	0.101	—	0.28	µg/L	U	—
Arsenic	09/20/04	907	F	5.6	—	3.3	—	2.24	µg/L	—	—
Arsenic	09/20/04	907	NF	4.1	—	3.3	—	2.24	µg/L	J	—
Barium	09/20/04	907	F	24.7	—	0.19	—	0.222	µg/L	—	—
Barium	09/20/04	907	NF	22.6	—	0.19	—	0.222	µg/L	—	—
Beryllium	09/20/04	907	F	0.08	—	0.029	—	0.08	µg/L	U	—
Beryllium	09/20/04	907	NF	0.08	—	0.029	—	0.08	µg/L	U	—
Boron	09/20/04	907	F	38.6	—	5.54	—	4.88	µg/L	J	—
Boron	09/20/04	907	NF	40.7	—	5.54	—	4.88	µg/L	J	—
Bromide	09/20/04	907	F	97.8	—	—	—	97.8	µg/L	U	—
Cadmium	09/20/04	907	F	0.04	—	0.013	—	0.04	µg/L	U	—
Cadmium	09/20/04	907	NF	0.04	—	0.013	—	0.04	µg/L	U	—
Calcium	09/20/04	907	F	3760	—	5.41	—	5.54	µg/L	—	—
Calcium	09/20/04	907	NF	3390	—	5.41	—	5.54	µg/L	—	—
Chloride	09/20/04	907	F	3670	—	—	—	32.2	µg/L	—	—
Chromium	09/20/04	907	F	0.503	—	1.23	—	0.503	µg/L	U	—
Chromium	09/20/04	907	NF	0.503	—	1.23	—	0.503	µg/L	U	—
Cobalt	09/20/04	907	F	0.541	—	1.19	—	0.541	µg/L	U	—
Cobalt	09/20/04	907	NF	0.541	—	1.19	—	0.541	µg/L	U	—

Table A-29 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	09/20/04	907	F	1.39	—	0.84	—	1.39	µg/L	U	—
Copper	09/20/04	907	NF	1.39	—	0.84	—	1.39	µg/L	U	—
Cyanide (Total)	09/20/04	907	NF	1.72	—	—	—	1.72	µg/L	U	—
Fluoride	09/20/04	907	F	437	—	—	—	55.3	µg/L	—	—
Iron	09/20/04	907	F	123	—	4.37	—	12.6	µg/L	—	—
Iron	09/20/04	907	NF	141	—	4.37	—	12.6	µg/L	—	—
Lead	09/20/04	907	F	0.58	—	0.003	—	0.05	µg/L	J	—
Lead	09/20/04	907	NF	0.64	—	0.003	—	0.05	µg/L	J	—
Magnesium	09/20/04	907	F	514	—	10.1	—	5.18	µg/L	—	—
Magnesium	09/20/04	907	NF	457	—	10.1	—	5.18	µg/L	—	—
Manganese	09/20/04	907	F	16	—	0.019	—	1.61	µg/L	—	—
Manganese	09/20/04	907	NF	14.7	—	0.019	—	1.61	µg/L	—	—
Mercury	09/20/04	907	F	0.0472	—	0.027	—	0.0472	µg/L	U	UJ
Mercury	09/20/04	907	NF	0.0472	—	0.027	—	0.0472	µg/L	U	UJ
Molybdenum	09/20/04	907	F	12.9	—	0.065	—	0.2	µg/L	—	—
Molybdenum	09/20/04	907	NF	13.5	—	0.065	—	0.2	µg/L	—	—
Nickel	09/20/04	907	F	0.69	—	2.27	—	0.69	µg/L	U	—
Nickel	09/20/04	907	NF	0.69	—	2.27	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	09/20/04	907	F	3	—	—	—	3	µg/L	U	R
Nitrate+Nitrite (as N)	09/20/04	907	NF	3	—	—	—	3	µg/L	U	R
Perchlorate	09/20/04	907	NF	4	—	—	—	4	µg/L	U	—
Perchlorate	09/20/04	907	NF	0.05	—	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	09/20/04	907	F	261	—	—	—	151	µg/L	H	J-
Phosphorus (as P)	09/20/04	907	F	267	—	—	—	11	µg/L	—	—
Phosphorus (as P)	09/20/04	907	NF	298	—	—	—	11	µg/L	—	J
Potassium	09/20/04	907	F	3610	—	6.36	—	16.5	µg/L	—	—
Potassium	09/20/04	907	NF	3610	—	6.36	—	16.5	µg/L	—	—

Table A-29 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Selenium	09/20/04	907	F	2.81	—	3.76	—	2.81	µg/L	U	—
Selenium	09/20/04	907	NF	2.81	—	3.76	—	2.81	µg/L	U	—
Silicon Dioxide	09/20/04	907	F	26200	—	11.2	—	9.83	µg/L	—	—
Silicon Dioxide	09/20/04	907	NF	26000	—	11.2	—	9.83	µg/L	—	—
Silver	09/20/04	907	F	0.835	—	0.87	—	0.835	µg/L	U	—
Silver	09/20/04	907	NF	0.835	—	0.87	—	0.835	µg/L	U	—
Sodium	09/20/04	907	F	52000	—	27.3	—	14.4	µg/L	—	—
Sodium	09/20/04	907	NF	53400	—	27.3	—	14.4	µg/L	—	—
Strontium	09/20/04	907	F	38.7	—	0.14	—	0.178	µg/L	—	—
Strontium	09/20/04	907	NF	33.2	—	0.14	—	0.178	µg/L	—	—
Sulfate	09/20/04	907	F	3760	—	—	—	193	µg/L	—	—
Thallium	09/20/04	907	F	0.42	—	0.005	—	0.02	µg/L	J	—
Thallium	09/20/04	907	NF	0.13	—	0.005	—	0.02	µg/L	J	U
Total Kjeldahl Nitrogen	09/20/04	907	F	531	—	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	09/20/04	907	NF	643	—	—	—	44	µg/L	—	J
Uranium	09/20/04	907	F	0.16	—	0.005	—	0.02	µg/L	J	—
Uranium	09/20/04	907	NF	0.18	—	0.005	—	0.02	µg/L	J	—
Vanadium	09/20/04	907	F	0.606	—	1.37	—	0.606	µg/L	U	—
Vanadium	09/20/04	907	NF	0.606	—	1.37	—	0.606	µg/L	U	—
Zinc	09/20/04	907	F	4.6	—	0.64	—	0.883	µg/L	J	U
Zinc	09/20/04	907	NF	4.6	—	0.64	—	0.883	µg/L	J	U
Detected Organic Constituents											
Acetone	09/20/04	907	NF	5	—	—	—	—	µg/L	U	—
Acetone	09/20/04	907	NF	164	—	—	—	—	µg/L	—	—
Total Organic Carbon	09/20/04	907	NF	17100	—	—	—	125	µg/L	—	—
Radiologic Constituents											
Americium-241	09/20/04	907	NF	0	0.0451	—	0.095	—	pCi/L	U	U
Cesium-137	09/20/04	907	NF	0.636	1.14	—	4.06	—	pCi/L	U	U
Cobalt-60	09/20/04	907	NF	0.314	1.24	—	4.52	—	pCi/L	U	U

Table A-29 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Plutonium-238	09/20/04	907	NF	-0.0172	0.0173	—	0.053	—	pCi/L	U	U
Plutonium-239/240	09/20/04	907	NF	0.0069	0.0109	—	0.055	—	pCi/L	U	U
Strontium-90	09/20/04	907	NF	-0.0241	0.0497	—	0.197	—	pCi/L	U	U
Technetium-99	09/20/04	907	NF	-0.359	1.21	—	4.11	—	pCi/L	U	U
Tritium	09/20/04	907	NF	0.22	0.29	—	0.29	—	pCi/L	—	—
Uranium-234	09/20/04	907	NF	0.098	0.0251	—	0.107	—	pCi/L	U	U
Uranium-235/236	09/20/04	907	NF	0.0223	0.0092	—	0.069	—	pCi/L	U	U
Uranium-238	09/20/04	907	NF	0.084	0.0175	—	0.076	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-30

Well R-20 Screen 2 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents											
Aluminum	09/07/04	1149.7	F[a]	28.4	—[b]	13.5	—	14.7	µg/L	J	J-
Aluminum	09/03/04	1149.7	NF[c]	45.8	—	13.5	—	14.7	µg/L	J	J-
Ammonia (as N)	09/07/04	1149.7	F	685	—	—	—	15.9	µg/L	—	—
Ammonia (as N)	09/07/04	1149.7	NF	640	—	—	—	15.9	µg/L	—	—
Antimony	09/03/04	1149.7	NF	0.28	—	0.101	—	0.28	µg/L	U	—
Antimony	09/07/04	1149.7	F	0.28	—	0.101	—	0.28	µg/L	U	—
Arsenic	09/03/04	1149.7	NF	4.6	—	3.3	—	2.24	µg/L	J	U
Arsenic	09/07/04	1149.7	F	3.3	—	3.3	—	2.24	µg/L	J	U
Barium	09/03/04	1149.7	NF	219	—	0.19	—	0.222	µg/L	—	—
Barium	09/07/04	1149.7	F	227	—	0.19	—	0.222	µg/L	—	—
Beryllium	09/03/04	1149.7	NF	0.08	—	0.029	—	0.08	µg/L	U	—
Beryllium	09/07/04	1149.7	F	0.08	—	0.029	—	0.08	µg/L	U	—
Boron	09/03/04	1149.7	NF	86.2	—	5.54	—	4.88	µg/L	—	—
Boron	09/07/04	1149.7	F	91.3	—	5.54	—	4.88	µg/L	—	—
Bromide	09/07/04	1149.7	F	97.8	—	—	—	97.8	µg/L	U	—
Cadmium	09/03/04	1149.7	NF	0.04	—	0.013	—	0.04	µg/L	U	—
Cadmium	09/07/04	1149.7	F	0.04	—	0.013	—	0.04	µg/L	U	—
Calcium	09/03/04	1149.7	NF	37300	—	5.41	—	5.54	µg/L	—	—
Calcium	09/07/04	1149.7	F	39700	—	5.41	—	5.54	µg/L	—	—
Chloride	09/07/04	1149.7	F	6790	—	—	—	32.2	µg/L	—	—
Chromium	09/03/04	1149.7	NF	2	—	1.23	—	0.503	µg/L	J	U
Chromium	09/07/04	1149.7	F	1.3	—	1.23	—	0.503	µg/L	J	U
Cobalt	09/03/04	1149.7	NF	0.541	—	1.19	—	0.541	µg/L	U	—
Cobalt	09/07/04	1149.7	F	0.541	—	1.19	—	0.541	µg/L	U	—

Table A-30 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	09/03/04	1149.7	NF	1.39	—	0.84	—	1.39	µg/L	U	—
Copper	09/07/04	1149.7	F	1.39	—	0.84	—	1.39	µg/L	U	—
Cyanide (Total)	09/03/04	1149.7	NF	3.05	—	—	—	1.72	µg/L	J	—
Fluoride	09/07/04	1149.7	F	829	—	—	—	55.3	µg/L	—	—
Iron	09/03/04	1149.7	NF	1090	—	4.37	—	12.6	µg/L	—	—
Iron	09/07/04	1149.7	F	246	—	4.37	—	12.6	µg/L	—	—
Lead	09/03/04	1149.7	NF	0.2	—	0.003	—	0.05	µg/L	J	U
Lead	09/07/04	1149.7	F	0.053	—	0.003	—	0.05	µg/L	J	U
Magnesium	09/03/04	1149.7	NF	3960	—	10.1	—	5.18	µg/L	—	—
Magnesium	09/07/04	1149.7	F	3890	—	10.1	—	5.18	µg/L	—	—
Manganese	09/03/04	1149.7	NF	348	—	0.019	—	1.61	µg/L	—	—
Manganese	09/07/04	1149.7	F	346	—	0.019	—	1.61	µg/L	—	—
Mercury	09/03/04	1149.7	NF	0.0472	—	0.027	—	0.0472	µg/L	U	—
Mercury	09/07/04	1149.7	F	0.0472	—	0.027	—	0.0472	µg/L	U	UJ
Mercury	09/07/04	1149.7	F	0.0472	—	0.027	—	0.0472	µg/L	U	UJ
Molybdenum	09/03/04	1149.7	NF	5.2	—	0.065	—	0.2	µg/L	—	—
Molybdenum	09/07/04	1149.7	F	5	—	0.065	—	0.2	µg/L	—	—
Nickel	09/03/04	1149.7	NF	3.2	—	2.27	—	0.69	µg/L	J	U
Nickel	09/07/04	1149.7	F	4	—	2.27	—	0.69	µg/L	J	U
Nitrate+Nitrite (as N)	09/07/04	1149.7	F	14.7	—	—	—	3	µg/L	J	U
Nitrate+Nitrite (as N)	09/07/04	1149.7	NF	15.3	—	—	—	3	µg/L	J	UJ
Perchlorate	09/07/04	1149.7	NF	0.05	—	—	—	0.05	µg/L	U	—
Potassium	09/03/04	1149.7	NF	3930	—	6.36	—	16.5	µg/L	—	—
Potassium	09/07/04	1149.7	F	4030	—	6.36	—	16.5	µg/L	—	—
Phosphorus (as P)	09/07/04	1149.7	F	693	—	—	—	11	µg/L	—	—
Phosphorus (as P)	09/07/04	1149.7	NF	805	—	—	—	11	µg/L	—	J
Selenium	09/03/04	1149.7	NF	2.81	—	3.76	—	2.81	µg/L	U	UJ
Selenium	09/07/04	1149.7	F	3.2	—	3.76	—	2.81	µg/L	J	UJ

Table A-30 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	09/03/04	1149.7	NF	31500	—	11.2	—	9.83	µg/L	—	—
Silicon Dioxide	09/07/04	1149.7	F	31400	—	11.2	—	9.83	µg/L	—	—
Silver	09/03/04	1149.7	NF	0.835	—	0.87	—	0.835	µg/L	U	—
Silver	09/07/04	1149.7	F	0.835	—	0.87	—	0.835	µg/L	U	—
Sodium	09/03/04	1149.7	NF	87000	—	27.3	—	14.4	µg/L	—	—
Sodium	09/07/04	1149.7	F	93600	—	27.3	—	14.4	µg/L	—	—
Strontium	09/03/04	1149.7	NF	1730	—	0.14	—	0.178	µg/L	—	—
Strontium	09/07/04	1149.7	F	1950	—	0.14	—	0.178	µg/L	—	—
Sulfate	09/07/04	1149.7	F	425	—	—	—	193	µg/L	—	—
Thallium	09/03/04	1149.7	NF	0.37	—	0.005	—	0.02	µg/L	J	U
Thallium	09/07/04	1149.7	F	0.11	—	0.005	—	0.02	µg/L	J	U
Total Kjeldahl Nitrogen	09/07/04	1149.7	F	893	—	—	—	44	µg/L	H	J
Total Kjeldahl Nitrogen	09/07/04	1149.7	NF	773	—	—	—	44	µg/L	H	J
Uranium	09/03/04	1149.7	NF	0.14	—	0.005	—	0.02	µg/L	J	—
Uranium	09/07/04	1149.7	F	0.062	—	0.005	—	0.02	µg/L	J	—
Vanadium	09/03/04	1149.7	NF	0.606	—	1.37	—	0.606	µg/L	U	—
Vanadium	09/07/04	1149.7	F	0.72	—	1.37	—	0.606	µg/L	J	UJ
Zinc	09/03/04	1149.7	NF	2.3	—	0.64	—	0.883	µg/L	J	JN-
Zinc	09/07/04	1149.7	F	0.883	—	0.64	—	0.883	µg/L	U	R
Detected Organic Constituents											
Bis(2-ethylhexyl)phthalate	09/07/04	1149.7	NF	1.9	—	—	—	—	µg/L	J	—
Diethylphthalate	09/07/04	1149.7	NF	1.9	—	—	—	—	µg/L	BJ	U
Naphthalene	09/07/04	1149.7	NF	0.41	—	—	—	—	µg/L	J	—
Total Organic Carbon	09/07/04	1149.7	NF	38300	—	—	—	125	µg/L	—	—
Trimethylbenzene[1,2,4-]	09/07/04	1149.7	NF	0.25	—	—	—	—	µg/L	J	—
Radiologic Constituents											
Americium-241	09/03/04	1149.7	NF	-0.0238	0.0147	—	0.038	—	pCi/L	U	U
Cesium-137	09/03/04	1149.7	NF	-0.698	0.884	—	3.01	—	pCi/L	U	U
Cobalt-60	09/03/04	1149.7	NF	0.437	0.812	—	3.27	—	pCi/L	U	U

Table A-30 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Plutonium-238	09/03/04	1149.7	NF	-0.0161	0.0152	—	0.042	—	pCi/L	U	U
Plutonium-239/240	09/03/04	1149.7	NF	0.0188	0.0104	—	0.043	—	pCi/L	U	U
Strontium-90	09/03/04	1149.7	NF	0.0201	0.0524	—	0.234	—	pCi/L	U	U
Technetium-99	09/03/04	1149.7	NF	1.19	1.34	—	4.45	—	pCi/L	U	U
Tritium	09/03/04	1149.7	NF	0.22	0.29	—	0.29	—	pCi/L	—	—
Uranium-234	09/03/04	1149.7	NF	0.111	0.0163	—	0.063	—	pCi/L	—	J
Uranium-235/236	09/03/04	1149.7	NF	0.0393	0.0095	—	0.041	—	pCi/L	U	U
Uranium-238	09/03/04	1149.7	NF	0.0575	0.0112	—	0.044	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-31

Well R-20 Screen 3 Third Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-20 was 873 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents											
Alkalinity-CO_3+HCO_3	09/07/04	1330	F[a]	91300	—[b]	0	—	1450	µg/L	—	—
Aluminum	09/07/04	1330	F	31.7	—	13.5	—	14.7	µg/L	J	—
Aluminum	09/07/04	1330	NF[c]	104	—	13.5	—	14.7	µg/L	—	—
Ammonia (as N)	09/07/04	1330	F	322	—	0	—	15.9	µg/L	—	—
Ammonia (as N)	09/07/04	1330	NF	337	—	0	—	15.9	µg/L	—	—
Antimony	09/07/04	1330	F	0.28	—	0.101	—	0.28	µg/L	U	—
Antimony	09/07/04	1330	NF	0.32	—	0.101	—	0.28	µg/L	J	—
Arsenic	09/07/04	1330	F	11.5	—	3.3	—	2.24	µg/L	—	—
Arsenic	09/07/04	1330	NF	10.3	—	3.3	—	2.24	µg/L	—	—
Barium	09/07/04	1330	F	93	—	0.19	—	0.222	µg/L	—	—
Barium	09/07/04	1330	NF	104	—	0.19	—	0.222	µg/L	—	—
Beryllium	09/07/04	1330	F	0.08	—	0.029	—	0.08	µg/L	U	—
Beryllium	09/07/04	1330	NF	0.08	—	0.029	—	0.08	µg/L	U	—
Boron	09/07/04	1330	F	31.6	—	5.54	—	4.88	µg/L	J	—
Boron	09/07/04	1330	NF	35.4	—	5.54	—	4.88	µg/L	J	—
Bromide	09/07/04	1330	F	97.8	—	0	—	97.8	µg/L	U	—
Cadmium	09/07/04	1330	F	0.04	—	0.013	—	0.04	µg/L	U	—
Cadmium	09/07/04	1330	NF	0.04	—	0.013	—	0.04	µg/L	U	—
Calcium	09/07/04	1330	F	12600	—	5.41	—	5.54	µg/L	—	—
Calcium	09/07/04	1330	NF	13100	—	5.41	—	5.54	µg/L	—	—
Chloride	09/07/04	1330	F	1430	—	0	—	32.2	µg/L	—	—
Chromium	09/07/04	1330	F	0.6	—	1.23	—	0.503	µg/L	J	—
Chromium	09/07/04	1330	NF	1.1	—	1.23	—	0.503	µg/L	J	—
Cobalt	09/07/04	1330	F	4	—	1.19	—	0.541	µg/L	J	—
Cobalt	09/07/04	1330	NF	0.541	—	1.19	—	0.541	µg/L	U	—

Table A-31 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	09/07/04	1330	F	1.39	—	0.84	—	1.39	µg/L	U	—
Copper	09/07/04	1330	NF	1.9	—	0.84	—	1.39	µg/L	J	—
Cyanide (Total)	09/07/04	1330	NF	6.78	—	0	—	1.72	µg/L	—	—
Fluoride	09/07/04	1330	F	1310	—	0	—	55.3	µg/L	—	—
Iron	09/07/04	1330	F	7750	—	4.37	—	12.6	µg/L	—	—
Iron	09/07/04	1330	NF	8560	—	4.37	—	12.6	µg/L	—	—
Lead	09/07/04	1330	F	0.14	—	0.003	—	0.05	µg/L	J	—
Lead	09/07/04	1330	NF	0.16	—	0.003	—	0.05	µg/L	J	—
Magnesium	09/07/04	1330	F	3430	—	10.1	—	5.18	µg/L	—	—
Magnesium	09/07/04	1330	NF	3530	—	10.1	—	5.18	µg/L	—	—
Manganese	09/07/04	1330	F	680	—	0.019	—	1.61	µg/L	—	—
Manganese	09/07/04	1330	NF	705	—	0.019	—	1.61	µg/L	—	—
Mercury	09/07/04	1330	F	0.0472	—	0.027	—	0.0472	µg/L	U	—
Mercury	09/07/04	1330	NF	0.0472	—	0.027	—	0.0472	µg/L	U	—
Molybdenum	09/07/04	1330	F	19	—	0.065	—	0.2	µg/L	—	—
Molybdenum	09/07/04	1330	NF	19.7	—	0.065	—	0.2	µg/L	—	—
Nickel	09/07/04	1330	F	4	—	2.27	—	0.69	µg/L	J	—
Nickel	09/07/04	1330	NF	3.9	—	2.27	—	0.69	µg/L	J	—
Nitrate+Nitrite (as N)	09/07/04	1330	F	3	—	0	—	3	µg/L	U	—
Nitrate+Nitrite (as N)	09/07/04	1330	NF	3	—	0	—	3	µg/L	U	—
Perchlorate	09/07/04	1330	NF	0.05	—	0	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	09/07/04	1330	F	160	—	0	—	151	µg/L	HJ	—
Phosphorus (as P)	09/07/04	1330	F	1550	—	0	—	11	µg/L	—	—
Phosphorus (as P)	09/07/04	1330	NF	1860	—	0	—	11	µg/L	—	—
Potassium	09/07/04	1330	F	2410	—	6.36	—	16.5	µg/L	—	—
Potassium	09/07/04	1330	NF	2520	—	6.36	—	16.5	µg/L	—	—
Selenium	09/07/04	1330	F	4.3	—	3.76	—	2.81	µg/L	J	—
Selenium	09/07/04	1330	NF	2.81	—	3.76	—	2.81	µg/L	U	—

Table A-31 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	09/07/04	1330	F	32500	—	11.2	—	9.83	µg/L	—	—
Silicon Dioxide	09/07/04	1330	NF	32700	—	11.2	—	9.83	µg/L	—	—
Silver	09/07/04	1330	F	0.92	—	0.87	—	0.835	µg/L	J	—
Silver	09/07/04	1330	NF	0.835	—	0.87	—	0.835	µg/L	U	—
Sodium	09/07/04	1330	F	20600	—	27.3	—	14.4	µg/L	—	—
Sodium	09/07/04	1330	NF	21800	—	27.3	—	14.4	µg/L	—	—
Strontium	09/07/04	1330	F	117	—	0.14	—	0.178	µg/L	—	—
Strontium	09/07/04	1330	NF	121	—	0.14	—	0.178	µg/L	—	—
Sulfate	09/07/04	1330	F	193	—	0	—	193	µg/L	U	—
Thallium	09/07/04	1330	F	0.063	—	0.005	—	0.02	µg/L	J	—
Thallium	09/07/04	1330	NF	0.036	—	0.005	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	09/07/04	1330	F	460	—	0	—	44	µg/L	H	—
Total Kjeldahl Nitrogen	09/07/04	1330	NF	518	—	0	—	44	µg/L	H	—
Uranium	09/07/04	1330	F	0.02	—	0.005	—	0.02	µg/L	U	—
Uranium	09/07/04	1330	NF	0.021	—	0.005	—	0.02	µg/L	J	—
Vanadium	09/07/04	1330	F	0.606	—	1.37	—	0.606	µg/L	U	—
Vanadium	09/07/04	1330	NF	0.606	—	1.37	—	0.606	µg/L	U	—
Zinc	09/07/04	1330	F	3	—	0.64	—	0.883	µg/L	J	—
Zinc	09/07/04	1330	NF	5.2	—	0.64	—	0.883	µg/L	—	—
Detected Organic Constituents											
Total Organic Carbon	09/07/04	1330	NF	2920	—	0	—	25	µg/L	—	—
Radiologic Constituents											
Americium-241	09/07/04	1330	NF	-0.0047	0.014	—	0.037	—	pCi/L	U	—
Cesium-137	09/07/04	1330	NF	-0.175	1.02	—	3.65	—	pCi/L	U	—
Cobalt-60	09/07/04	1330	NF	-1.05	1.03	—	3.61	—	pCi/L	U	—
Plutonium-238	09/07/04	1330	NF	0.01	0.0112	—	0.039	—	pCi/L	U	—
Plutonium-239/240	09/07/04	1330	NF	0.06	0.0144	—	0.04	—	pCi/L	—	—
Strontium-90	09/07/04	1330	NF	0.0947	0.0621	—	0.254	—	pCi/L	U	—
Technetium-99	09/07/04	1330	NF	-1.44	0.975	—	3.38	—	pCi/L	U	—

Table A-31 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Instrument Detection Limit	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tritium	09/07/04	1330	NF	0.19	0.29	—	0.29	—	pCi/L	—	—
Uranium-234	09/07/04	1330	NF	0.0646	0.0152	—	0.073	—	pCi/L	U	—
Uranium-235/236	09/07/04	1330	NF	0.028	0.0105	—	0.047	—	pCi/L	U	—
Uranium-238	09/07/04	1330	NF	0.0263	0.0105	—	0.052	—	pCi/L	U	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-32

Well R-21 Screen 1 First Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-21 was 803.6 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	03/31/04	888.8-906.8	F[a]	57000	—[b]	—	1450	µg/L	—	—
Aluminum	03/31/04	888.8-906.8	F	14.7	—	—	14.7	µg/L	U	R
Aluminum	03/31/04	888.8-906.8	NF[c]	14.7	—	—	14.7	µg/L	U	R
Ammonia (as N)	03/31/04	888.8-906.8	F	15.9	—	—	15.9	µg/L	U	UJ
Ammonia (as N)	03/31/04	888.8-906.8	NF	31.8	—	—	31.8	µg/L	U	UJ
Antimony	03/31/04	888.8-906.8	F	0.28	—	—	0.28	µg/L	U	—
Antimony	03/31/04	888.8-906.8	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	03/31/04	888.8-906.8	F	2.26	—	—	2.24	µg/L	J	—
Arsenic	03/31/04	888.8-906.8	NF	2.24	—	—	2.24	µg/L	U	—
Barium	03/31/04	888.8-906.8	F	15.6	—	—	0.222	µg/L	—	—
Barium	03/31/04	888.8-906.8	NF	14.8	—	—	0.222	µg/L	—	—
Beryllium	03/31/04	888.8-906.8	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	03/31/04	888.8-906.8	NF	0.08	—	—	0.08	µg/L	U	—
Boron	03/31/04	888.8-906.8	F	10.1	—	—	4.88	µg/L	J	—
Boron	03/31/04	888.8-906.8	NF	7.77	—	—	4.88	µg/L	J	—
Bromide	03/31/04	888.8-906.8	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	03/31/04	888.8-906.8	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	03/31/04	888.8-906.8	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	03/31/04	888.8-906.8	F	11400	—	—	5.54	µg/L	—	—
Calcium	03/31/04	888.8-906.8	NF	10900	—	—	5.54	µg/L	—	—
Chloride	03/31/04	888.8-906.8	F	1980	—	—	32.2	µg/L	—	—
Chromium	03/31/04	888.8-906.8	F	1.78	—	—	0.503	µg/L	J	JN-
Chromium	03/31/04	888.8-906.8	NF	1.05	—	—	0.503	µg/L	J	JN-
Cobalt	03/31/04	888.8-906.8	F	0.791	—	—	0.541	µg/L	J	U
Cobalt	03/31/04	888.8-906.8	NF	0.541	—	—	0.541	µg/L	U	—

Table A-32 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	03/31/04	888.8-906.8	F	1.39	—	—	1.39	µg/L	U	—
Copper	03/31/04	888.8-906.8	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	03/31/04	888.8-906.8	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	03/31/04	888.8-906.8	F	348	—	—	55.3	µg/L	—	—
Iron	03/31/04	888.8-906.8	F	23.1	—	—	12.6	µg/L	J	—
Iron	03/31/04	888.8-906.8	NF	20.5	—	—	12.6	µg/L	J	—
Lead	03/31/04	888.8-906.8	F	0.123	—	—	0.05	µg/L	J	—
Lead	03/31/04	888.8-906.8	NF	0.137	—	—	0.05	µg/L	J	—
Magnesium	03/31/04	888.8-906.8	F	2950	—	—	5.18	µg/L	—	—
Magnesium	03/31/04	888.8-906.8	NF	2810	—	—	5.18	µg/L	—	—
Manganese	03/31/04	888.8-906.8	F	8.73	—	—	1.61	µg/L	—	—
Manganese	03/31/04	888.8-906.8	NF	8.47	—	—	1.61	µg/L	—	—
Mercury	03/31/04	888.8-906.8	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	03/31/04	888.8-906.8	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	03/31/04	888.8-906.8	F	3.85	—	—	0.2	µg/L	—	—
Molybdenum	03/31/04	888.8-906.8	NF	3.67	—	—	0.2	µg/L	—	—
Nickel	03/31/04	888.8-906.8	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	03/31/04	888.8-906.8	NF	0.69	—	—	0.69	µg/L	U	UJ
Nitrate+Nitrite (as N)	03/31/04	888.8-906.8	F	320	—	—	10	µg/L	—	—
Nitrate+Nitrite (as N)	03/31/04	888.8-906.8	NF	320	—	—	10	µg/L	—	—
Perchlorate	03/31/04	888.8-906.8	NF	0.299	—	—	-	µg/L	—	—
Phosphorus (as PO_4)	03/31/04	888.8-906.8	F	151	—	—	151	µg/L	UH	UJ
Phosphorus (as P)	03/31/04	888.8-906.8	F	11	—	—	11	µg/L	U	—
Phosphorus (as P)	03/31/04	888.8-906.8	NF	37	—	—	11	µg/L	J	U
Potassium	03/31/04	888.8-906.8	F	1740	—	—	16.5	µg/L	—	—
Potassium	03/31/04	888.8-906.8	NF	1690	—	—	16.5	µg/L	—	—
Selenium	03/31/04	888.8-906.8	F	7.86	—	—	2.81	µg/L	—	U
Selenium	03/31/04	888.8-906.8	NF	2.81	—	—	2.81	µg/L	U	—

Table A-32 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	03/31/04	888.8-906.8	F	71700	—	—	21.2	µg/L	—	—
Silicon Dioxide	03/31/04	888.8-906.8	NF	68300	—	—	21.2	µg/L	—	—
Silver	03/31/04	888.8-906.8	F	0.835	—	—	0.835	µg/L	U	—
Silver	03/31/04	888.8-906.8	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	03/31/04	888.8-906.8	F	10600	—	—	14.4	µg/L	—	—
Sodium	03/31/04	888.8-906.8	NF	10100	—	—	14.4	µg/L	—	—
Strontium	03/31/04	888.8-906.8	F	45.1	—	—	0.178	µg/L	—	—
Strontium	03/31/04	888.8-906.8	NF	42.9	—	—	0.178	µg/L	—	—
Sulfate	03/31/04	888.8-906.8	F	2320	—	—	193	µg/L	—	—
Thallium	03/31/04	888.8-906.8	F	0.297	—	—	0.02	µg/L	J	—
Thallium	03/31/04	888.8-906.8	NF	0.078	—	—	0.02	µg/L	J	U
Total Kjeldahl Nitrogen	03/31/04	888.8-906.8	F	344	—	—	44	µg/L	—	J+
Total Kjeldahl Nitrogen	03/31/04	888.8-906.8	NF	425	—	—	44	µg/L	—	J+
Uranium	03/31/04	888.8-906.8	F	0.401	—	—	0.02	µg/L	—	—
Uranium	03/31/04	888.8-906.8	NF	0.415	—	—	0.02	µg/L	—	—
Vanadium	03/31/04	888.8-906.8	F	5.28	—	—	0.606	µg/L	—	J-
Vanadium	03/31/04	888.8-906.8	NF	5.52	—	—	0.606	µg/L	—	J-
Zinc	03/31/04	888.8-906.8	F	7.58	—	—	0.883	µg/L	—	—
Zinc	03/31/04	888.8-906.8	NF	5.81	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	03/31/04	888.8-906.8	NF	366	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	03/31/04	888.8-906.8	NF	0.00652	0.00897	0.039	—	pCi/L	U	U
Cesium-137	03/31/04	888.8-906.8	NF	0.146	0.978	3.49	—	pCi/L	U	U
Gross gamma	03/31/04	888.8-906.8	NF	79	165	249	—	pCi/L	U	U
Plutonium-238	03/31/04	888.8-906.8	NF	0.0139	0.00659	0.032	—	pCi/L	U	U
Plutonium-239/240	03/31/04	888.8-906.8	NF	0.00697	0.00771	0.029	—	pCi/L	U	U
Strontium-90	03/31/04	888.8-906.8	NF	-0.0166	0.053	0.217	—	pCi/L	U	U
Technetium-99	03/31/04	888.8-906.8	NF	0.393	1.55	5.14	—	pCi/L	U	U

Table A-32 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tritium	03/31/04	888.8-906.8	NF	0.06386	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	03/31/04	888.8-906.8	NF	0.253	0.0303	0.055	—	pCi/L	—	—
Uranium-235/236	03/31/04	888.8-906.8	NF	0.0355	0.0106	0.031	—	pCi/L	—	J
Uranium-238	03/31/04	888.8-906.8	NF	0.102	0.0171	0.035	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-33

Well R-21 Screen 1 Second Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-21 was 803.6 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	06/30/04	888.8-906.8	F[a]	85800	—[b]	—	1450	µg/L	—	—
Aluminum	06/30/04	888.8-906.8	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	06/30/04	888.8-906.8	NF[c]	14.7	—	—	14.7	µg/L	U	—
Ammonia (as N)	06/30/04	888.8-906.8	F	15.9	—	—	15.9	µg/L	U	—
Ammonia (as N)	06/30/04	888.8-906.8	NF	15.9	—	—	15.9	µg/L	U	—
Antimony	06/30/04	888.8-906.8	F	0.28	—	—	0.28	µg/L	U	—
Antimony	06/30/04	888.8-906.8	NF	0.28	—	—	0.28	µg/L	U	UJ
Arsenic	06/30/04	888.8-906.8	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	06/30/04	888.8-906.8	NF	2.24	—	—	2.24	µg/L	U	—
Barium	06/30/04	888.8-906.8	F	15	—	—	0.222	µg/L	—	—
Barium	06/30/04	888.8-906.8	NF	15.2	—	—	0.222	µg/L	—	—
Beryllium	06/30/04	888.8-906.8	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	06/30/04	888.8-906.8	NF	0.08	—	—	0.08	µg/L	U	UJ
Boron	06/30/04	888.8-906.8	F	17.9	—	—	4.9	µg/L	B	U
Boron	06/30/04	888.8-906.8	NF	17.7	—	—	4.9	µg/L	B	U
Bromide	06/30/04	888.8-906.8	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	06/30/04	888.8-906.8	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	06/30/04	888.8-906.8	NF	0.04	—	—	0.04	µg/L	U	UJ
Calcium	06/30/04	888.8-906.8	F	11700	—	—	5.54	µg/L	—	—
Calcium	06/30/04	888.8-906.8	NF	11500	—	—	5.54	µg/L	—	—
Chloride	06/30/04	888.8-906.8	F	1920	—	—	32.2	µg/L	—	—
Chromium	06/30/04	888.8-906.8	F	2.36	—	—	0.503	µg/L	B	—
Chromium	06/30/04	888.8-906.8	NF	2.42	—	—	0.503	µg/L	B	—
Cobalt	06/30/04	888.8-906.8	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	06/30/04	888.8-906.8	NF	0.541	—	—	0.541	µg/L	U	—

Table A-33 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	06/30/04	888.8-906.8	F	1.39	—	—	1.39	µg/L	U	—
Copper	06/30/04	888.8-906.8	NF	13.1	—	—	1.39	µg/L	—	—
Cyanide (Total)	06/30/04	888.8-906.8	NF	1.72	—	—	1.72	µg/L	UH	UJ
Fluoride	06/30/04	888.8-906.8	F	347	—	—	55.3	µg/L	—	—
Iron	06/30/04	888.8-906.8	F	14.9	—	—	12.6	µg/L	B	—
Iron	06/30/04	888.8-906.8	NF	48.9	—	—	12.6	µg/L	B	—
Lead	06/30/04	888.8-906.8	F	0.09	—	—	0.05	µg/L	B	—
Lead	06/30/04	888.8-906.8	NF	0.097	—	—	0.05	µg/L	B	J
Magnesium	06/30/04	888.8-906.8	F	3120	—	—	5.18	µg/L	—	—
Magnesium	06/30/04	888.8-906.8	NF	3060	—	—	5.18	µg/L	—	—
Manganese	06/30/04	888.8-906.8	F	7.29	—	—	1.61	µg/L	—	—
Manganese	06/30/04	888.8-906.8	NF	7.22	—	—	1.61	µg/L	—	J
Mercury	06/30/04	888.8-906.8	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	06/30/04	888.8-906.8	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	06/30/04	888.8-906.8	F	2.7	—	—	0.2	µg/L	—	—
Molybdenum	06/30/04	888.8-906.8	NF	2.54	—	—	0.2	µg/L	—	J
Nickel	06/30/04	888.8-906.8	F	0.69	—	—	0.69	µg/L	U	—
Nickel	06/30/04	888.8-906.8	NF	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	06/30/04	888.8-906.8	F	310	—	—	10	µg/L	—	—
Nitrate+Nitrite (as N)	06/30/04	888.8-906.8	NF	310	—	—	10	µg/L	—	—
Perchlorate	06/30/04	888.8-906.8	NF	0.246	—	—	0.05	µg/L	—	J-
Phosphorus (as PO_4)	06/30/04	888.8-906.8	F	190	—	—	151	µg/L	HJ	U
Phosphorus (as P)	06/30/04	888.8-906.8	F	32	—	—	11	µg/L	J	UJ
Phosphorus (as P)	06/30/04	888.8-906.8	NF	21	—	—	11	µg/L	J	U
Potassium	06/30/04	888.8-906.8	F	1700	—	—	16.5	µg/L	—	—
Potassium	06/30/04	888.8-906.8	NF	1670	—	—	16.5	µg/L	—	—
Selenium	06/30/04	888.8-906.8	F	2.81	—	—	2.81	µg/L	U	—
Selenium	06/30/04	888.8-906.8	NF	4.3	—	—	2.81	µg/L	B	U

Table A-33 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon Dioxide	06/30/04	888.8-906.8	F	32200	—	—	9.83	µg/L	—	—
Silicon Dioxide	06/30/04	888.8-906.8	NF	31400	—	—	49.1	µg/L	—	—
Silver	06/30/04	888.8-906.8	F	0.835	—	—	0.835	µg/L	U	—
Silver	06/30/04	888.8-906.8	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	06/30/04	888.8-906.8	F	10600	—	—	14.4	µg/L	—	—
Sodium	06/30/04	888.8-906.8	NF	10400	—	—	14.4	µg/L	—	—
Strontium	06/30/04	888.8-906.8	F	45.8	—	—	0.178	µg/L	—	—
Strontium	06/30/04	888.8-906.8	NF	45.7	—	—	0.178	µg/L	—	—
Sulfate	06/30/04	888.8-906.8	F	2260	—	—	193	µg/L	—	—
Thallium	06/30/04	888.8-906.8	F	0.084	—	—	0.02	µg/L	B	U
Thallium	06/30/04	888.8-906.8	NF	0.033	—	—	0.02	µg/L	B	U
Total Kjeldahl Nitrogen	06/30/04	888.8-906.8	F	54	—	—	44	µg/L	J	—
Total Kjeldahl Nitrogen	06/30/04	888.8-906.8	NF	44	—	—	44	µg/L	U	—
Uranium	06/30/04	888.8-906.8	F	0.398	—	—	0.02	µg/L	—	—
Uranium	06/30/04	888.8-906.8	NF	0.386	—	—	0.02	µg/L	—	J
Vanadium	06/30/04	888.8-906.8	F	5.03	—	—	0.606	µg/L	—	—
Vanadium	06/30/04	888.8-906.8	NF	5.1	—	—	0.606	µg/L	—	—
Zinc	06/30/04	888.8-906.8	F	7.81	—	—	0.883	µg/L	—	—
Zinc	06/30/04	888.8-906.8	NF	16	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	06/30/04	888.8-906.8	NF	386	—	—	25	µg/L	—	U
Radiologic Constituents										
Americium-241	06/30/04	888.8-906.8	NF	0.0103	0.00623	0.037	—	pCi/L	U	U
Cesium-137	06/30/04	888.8-906.8	NF	1.93	1.11	4.23	—	pCi/L	U	U
Cobalt-60	06/30/04	888.8-906.8	NF	0.763	1.21	4.63	—	pCi/L	U	U
Gross gamma	06/30/04	888.8-906.8	NF	121	122	298	—	pCi/L	U	U
Plutonium-238	06/30/04	888.8-906.8	NF	0.00462	0.00328	0.036	—	pCi/L	U	U
Plutonium-239/240	06/30/04	888.8-906.8	NF	0.00462	0.00327	0.037	—	pCi/L	U	U
Strontium-90	06/30/04	888.8-906.8	NF	0.0445	0.0835	0.343	—	pCi/L	U	U

Table A-33 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Technetium-99	06/30/04	888.8-906.8	NF	-1.75	1.02	3.54	—	pCi/L	U	U
Tritium	06/30/04	888.8-906.8	NF	0.41509	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	06/30/04	888.8-906.8	NF	0.294	0.0319	0.058	—	pCi/L	—	—
Uranium-235/236	06/30/04	888.8-906.8	NF	0.054	0.0192	0.049	—	pCi/L	—	J
Uranium-238	06/30/04	888.8-906.8	NF	0.122	0.0227	0.051	—	pCi/L	—	J

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-34

Well R-21 Screen 1 Fourth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-21 was 803.6 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	12/14/04	888.8-906.8	F[a]	58300	—[b]	—	1450	µg/L	—	—
Aluminum	12/14/04	888.8-906.8	F	14.7	—	—	14.7	µg/L	U	—
Aluminum	12/14/04	888.8-906.8	NF[c]	14.7	—	—	14.7	µg/L	U	—
Ammonia (as N)	12/14/04	888.8-906.8	F	15.9	—	—	15.9	µg/L	U	—
Ammonia (as N)	12/14/04	888.8-906.8	NF	15.9	—	—	15.9	µg/L	U	—
Antimony	12/14/04	888.8-906.8	F	0.28	—	—	0.28	µg/L	U	—
Antimony	12/14/04	888.8-906.8	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	12/14/04	888.8-906.8	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	12/14/04	888.8-906.8	NF	2.24	—	—	2.24	µg/L	U	—
Barium	12/14/04	888.8-906.8	F	14.1	—	—	0.222	µg/L	E	—
Barium	12/14/04	888.8-906.8	NF	14.2	—	—	0.222	µg/L	E	—
Beryllium	12/14/04	888.8-906.8	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	12/14/04	888.8-906.8	NF	0.08	—	—	0.08	µg/L	U	—
Boron	12/14/04	888.8-906.8	F	20.8	—	—	4.88	µg/L	J	—
Boron	12/14/04	888.8-906.8	NF	18	—	—	4.88	µg/L	J	—
Bromide	12/14/04	888.8-906.8	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	12/14/04	888.8-906.8	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	12/14/04	888.8-906.8	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	12/14/04	888.8-906.8	F	11400	—	—	5.54	µg/L	—	—
Calcium	12/14/04	888.8-906.8	NF	11400	—	—	5.54	µg/L	—	—
Chloride	12/14/04	888.8-906.8	F	1880	—	—	32.2	µg/L	—	—
Chromium	12/14/04	888.8-906.8	F	3	—	—	0.503	µg/L	J	—
Chromium	12/14/04	888.8-906.8	NF	2.8	—	—	0.503	µg/L	J	—
Cobalt	12/14/04	888.8-906.8	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	12/14/04	888.8-906.8	NF	0.541	—	—	0.541	µg/L	U	—

Table A-34 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	12/14/04	888.8-906.8	F	1.39	—	—	1.39	µg/L	U	—
Copper	12/14/04	888.8-906.8	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	12/14/04	888.8-906.8	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	12/14/04	888.8-906.8	F	279	—	—	55.3	µg/L	—	—
Iron	12/14/04	888.8-906.8	F	12.6	—	—	12.6	µg/L	U	—
Iron	12/14/04	888.8-906.8	NF	12.6	—	—	12.6	µg/L	U	—
Lead	12/14/04	888.8-906.8	F	0.05	—	—	0.05	µg/L	U	—
Lead	12/14/04	888.8-906.8	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	12/14/04	888.8-906.8	F	3060	—	—	5.18	µg/L	—	—
Magnesium	12/14/04	888.8-906.8	NF	3050	—	—	5.18	µg/L	—	—
Manganese	12/14/04	888.8-906.8	F	8	—	—	1.61	µg/L	—	—
Manganese	12/14/04	888.8-906.8	NF	7.5	—	—	1.61	µg/L	—	—
Mercury	12/14/04	888.8-906.8	F	0.0472	—	—	0.0472	µg/L	U	—
Mercury	12/14/04	888.8-906.8	NF	0.0472	—	—	0.0472	µg/L	U	—
Molybdenum	12/14/04	888.8-906.8	F	2.1	—	—	0.2	µg/L	—	—
Molybdenum	12/14/04	888.8-906.8	NF	2.1	—	—	0.2	µg/L	—	—
Nickel	12/14/04	888.8-906.8	F	0.69	—	—	0.69	µg/L	U	—
Nickel	12/14/04	888.8-906.8	NF	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	12/14/04	888.8-906.8	F	305	—	—	3	µg/L	—	—
Nitrate+Nitrite (as N)	12/14/04	888.8-906.8	NF	300	—	—	3	µg/L	—	—
Perchlorate	12/14/04	888.8-906.8	NF	0.26	—	—	0.05	µg/L	—	—
Phosphorus (as PO_4)	12/14/04	888.8-906.8	F	210	—	—	151	µg/L	H	—
Phosphorus (as P)	12/14/04	888.8-906.8	F	126	—	—	11	µg/L	—	—
Phosphorus (as P)	12/14/04	888.8-906.8	NF	121	—	—	11	µg/L	—	—
Potassium	12/14/04	888.8-906.8	F	1670	—	—	16.5	µg/L	—	—
Potassium	12/14/04	888.8-906.8	NF	1650	—	—	16.5	µg/L	—	—
Selenium	12/14/04	888.8-906.8	F	2.81	—	—	2.81	µg/L	U	—
Selenium	12/14/04	888.8-906.8	NF	2.81	—	—	2.81	µg/L	U	—

Table A-34 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon	12/14/04	888.8-906.8	F	32600	—	—	9.83	µg/L	—	—
Silicon	12/14/04	888.8-906.8	NF	32300	—	—	9.83	µg/L	—	—
Silver	12/14/04	888.8-906.8	F	0.835	—	—	0.835	µg/L	U	—
Silver	12/14/04	888.8-906.8	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	12/14/04	888.8-906.8	F	10200	—	—	14.4	µg/L	—	—
Sodium	12/14/04	888.8-906.8	NF	10200	—	—	14.4	µg/L	—	—
Strontium	12/14/04	888.8-906.8	F	45.6	—	—	0.178	µg/L	—	—
Strontium	12/14/04	888.8-906.8	NF	45.4	—	—	0.178	µg/L	—	—
Sulfate	12/14/04	888.8-906.8	F	2290	—	—	193	µg/L	—	—
Thallium	12/14/04	888.8-906.8	F	0.83	—	—	0.02	µg/L	*	—
Thallium	12/14/04	888.8-906.8	NF	0.29	—	—	0.02	µg/L	J*	—
Total Kjeldahl Nitrogen	12/14/04	888.8-906.8	F	44	—	—	44	µg/L	U	—
Total Kjeldahl Nitrogen	12/14/04	888.8-906.8	NF	44	—	—	44	µg/L	U	—
Uranium	12/14/04	888.8-906.8	F	0.36	—	—	0.02	µg/L	—	—
Uranium	12/14/04	888.8-906.8	NF	0.36	—	—	0.02	µg/L	—	—
Vanadium	12/14/04	888.8-906.8	F	5	—	—	0.606	µg/L	J	—
Vanadium	12/14/04	888.8-906.8	NF	5.1	—	—	0.606	µg/L	—	—
Zinc	12/14/04	888.8-906.8	F	7.4	—	—	0.883	µg/L	—	—
Zinc	12/14/04	888.8-906.8	NF	7.8	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Aroclor-1242	12/14/04	888.8-906.8	NF	0.19	—	—	—	µg/L	B	—
Bis(2-ethylhexyl)phthalate	12/14/04	888.8-906.8	NF	1.6	—	—	—	µg/L	BJ	—
Total Organic Carbon	12/14/04	888.8-906.8	NF	384	—	—	25	µg/L	—	—
Radiologic Constituents										
Americium-241	12/14/04	888.8-906.8	NF	0.0117	0.0117	0.046		pCi/L	U	—
Cesium-137	12/14/04	888.8-906.8	NF	-0.578	0.977	3.26	—	pCi/L	U	—
Cobalt-60	12/14/04	888.8-906.8	NF	-0.876	0.925	3.13	—	pCi/L	U	—
Plutonium-238	12/14/04	888.8-906.8	NF	-0.00478	0.00956	0.037	—	pCi/L	U	—
Plutonium-239/240	12/14/04	888.8-906.8	NF	-1.1E-09	0.00676	0.038	—	pCi/L	U	—

Table A-34 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium-90	12/14/04	888.8-906.8	NF	0.0729	0.0628	0.266	—	pCi/L	U	—
Technetium-99	12/14/04	888.8-906.8	NF	1.06	0.957	3.18	—	pCi/L	U	—
Uranium-234	12/14/04	888.8-906.8	NF	0.241	0.0297	0.084	—	pCi/L	—	—
Uranium-235/236	12/14/04	888.8-906.8	NF	0.0177	0.011	0.055	—	pCi/L	U	—
Uranium-238	12/14/04	888.8-906.8	NF	0.0997	0.0191	0.06	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-35

Well R-32 Screen 1 Fourth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-32 was 793.8 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	11/15/04	870.9	F[a]	71100	—[b]	—	1450	µg/L	—	—
Aluminum	11/15/04	870.9	F	14.7	—	—	14.7	µg/L	U	R
Aluminum	11/15/04	870.9	NF[c]	21.3	—	—	14.7	µg/L	J	U
Ammonia (as N)	11/15/04	870.9	F	15.9	—	—	15.9	µg/L	U	—
Ammonia (as N)	11/15/04	870.9	NF	15.9	—	—	15.9	µg/L	U	—
Antimony	11/15/04	870.9	F	0.28	—	—	0.28	µg/L	U	—
Antimony	11/15/04	870.9	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	11/15/04	870.9	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	11/15/04	870.9	NF	2.24	—	—	2.24	µg/L	U	—
Barium	11/15/04	870.9	F	77	—	—	0.222	µg/L	—	—
Barium	11/15/04	870.9	NF	78.9	—	—	0.222	µg/L	—	—
Beryllium	11/15/04	870.9	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	11/15/04	870.9	NF	0.08	—	—	0.08	µg/L	U	—
Boron	11/15/04	870.9	F	13.8	—	—	4.88	µg/L	J	—
Boron	11/15/04	870.9	NF	17.3	—	—	4.88	µg/L	J	—
Bromide	11/15/04	870.9	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	11/15/04	870.9	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	11/15/04	870.9	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	11/15/04	870.9	F	16500	—	—	5.54	µg/L	—	—
Calcium	11/15/04	870.9	NF	16700	—	—	5.54	µg/L	—	—
Chloride	11/15/04	870.9	F	3040	—	—	32.2	µg/L	—	—
Chromium	11/15/04	870.9	F	1.4	—	—	0.503	µg/L	J	U
Chromium	11/15/04	870.9	NF	1.4	—	—	0.503	µg/L	J	U
Cobalt	11/15/04	870.9	F	0.55	—	—	0.541	µg/L	J	—
Cobalt	11/15/04	870.9	NF	0.541	—	—	0.541	µg/L	U	—

Table A-35 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	11/15/04	870.9	F	1.4	—	—	1.39	µg/L	J	—
Copper	11/15/04	870.9	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	11/15/04	870.9	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	11/15/04	870.9	F	324	—	—	55.3	µg/L	—	—
Iron	11/15/04	870.9	F	12.6	—	—	12.6	µg/L	U	—
Iron	11/15/04	870.9	NF	12.6	—	—	12.6	µg/L	U	—
Lead	11/15/04	870.9	F	0.05	—	—	0.05	µg/L	U	—
Lead	11/15/04	870.9	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	11/15/04	870.9	F	5040	—	—	5.18	µg/L	—	—
Magnesium	11/15/04	870.9	NF	5090	—	—	5.18	µg/L	—	—
Manganese	11/15/04	870.9	F	5.7	—	—	1.61	µg/L	—	—
Manganese	11/15/04	870.9	NF	5.7	—	—	1.61	µg/L	—	—
Mercury	11/15/04	870.9	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	11/15/04	870.9	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	11/15/04	870.9	F	2.6	—	—	0.2	µg/L	—	—
Molybdenum	11/15/04	870.9	NF	2.9	—	—	0.2	µg/L	—	—
Nickel	11/15/04	870.9	F	2.3	—	—	0.69	µg/L	J	JN-
Nickel	11/15/04	870.9	NF	1.3	—	—	0.69	µg/L	J	JN-
Nitrate+Nitrite (as N)	11/15/04	870.9	F	887	—	—	3	µg/L	—	—
Nitrate+Nitrite (as N)	11/15/04	870.9	NF	850	—	—	3	µg/L	—	—
Perchlorate	11/15/04	870.9	NF	0.315	—	—	0.05	µg/L	—	—
Phosphorus (as PO_4)	11/15/04	870.9	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	11/15/04	870.9	F	57	—	—	11	µg/L	—	U
Phosphorus (as P)	11/15/04	870.9	NF	53	—	—	11	µg/L	—	U
Potassium	11/15/04	870.9	F	1640	—	—	16.5	µg/L	—	—
Potassium	11/15/04	870.9	NF	1640	—	—	16.5	µg/L	—	—
Selenium	11/15/04	870.9	F	2.81	—	—	2.81	µg/L	U*	—
Selenium	11/15/04	870.9	NF	2.81	—	—	2.81	µg/L	U*	—

Table A-35 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon	11/15/04	870.9	F	30200	—	—	9.83	µg/L	—	—
Silicon	11/15/04	870.9	NF	30000	—	—	9.83	µg/L	—	—
Silver	11/15/04	870.9	F	1.5	—	—	0.835	µg/L	J	U
Silver	11/15/04	870.9	NF	1.3	—	—	0.835	µg/L	J	U
Sodium	11/15/04	870.9	F	10900	—	—	14.4	µg/L	—	—
Sodium	11/15/04	870.9	NF	11000	—	—	14.4	µg/L	—	—
Strontium	11/15/04	870.9	F	86.3	—	—	0.178	µg/L	—	—
Strontium	11/15/04	870.9	NF	87.3	—	—	0.178	µg/L	—	—
Sulfate	11/15/04	870.9	F	5690	—	—	193	µg/L	—	—
Thallium	11/15/04	870.9	F	0.53	—	—	0.02	µg/L	—	—
Thallium	11/15/04	870.9	NF	0.13	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	11/15/04	870.9	F	44	—	—	44	µg/L	U	—
Total Kjeldahl Nitrogen	11/15/04	870.9	NF	44	—	—	44	µg/L	U	—
Uranium	11/15/04	870.9	F	0.95	—	—	0.02	µg/L	—	—
Uranium	11/15/04	870.9	NF	0.96	—	—	0.02	µg/L	—	—
Vanadium	11/15/04	870.9	F	5.5	—	—	0.606	µg/L	—	—
Vanadium	11/15/04	870.9	NF	5	—	—	0.606	µg/L	J	—
Zinc	11/15/04	870.9	F	6.6	—	—	0.883	µg/L	—	J-
Zinc	11/15/04	870.9	NF	7.2	—	—	0.883	µg/L	—	J-
Detected Organic Constituents Screen 1										
Total Organic Carbon	11/15/04	870.9	NF	346	—	—	25	µg/L	—	J-
Radiologic Constituents Screen 1										
Americium-241	11/15/04	870.9	NF	1.26E-09	0.00988	0.042	—	pCi/L	U	U
Cesium-137	11/15/04	870.9	NF	0.183	0.906	3.34	—	pCi/L	U	U
Cobalt-60	11/15/04	870.9	NF	-0.565	1.01	3.64	—	pCi/L	U	U
Plutonium-238	11/15/04	870.9	NF	0.00618	0.00545	0.032	—	pCi/L	U	U
Plutonium-239/240	11/15/04	870.9	NF	-0.00206	0.00461	0.033	—	pCi/L	U	U
Strontium-90	11/15/04	870.9	NF	0.136	0.0493	0.177	—	pCi/L	U	U
Technetium-99	11/15/04	870.9	NF	-3.37	1.24	4.31	—	pCi/L	U	U

Table A-35 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tritium	11/15/04	870.9	NF	0.54281	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	11/15/04	870.9	NF	0.721	0.0497	0.069	—	pCi/L	—	—
Uranium-235/236	11/15/04	870.9	NF	0.0434	0.0114	0.045	—	pCi/L	U	U
Uranium-238	11/15/04	870.9	NF	0.347	0.0311	0.049	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-36

Well R-32 Screen 3 Fourth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at R-32 was 793.8 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	11/16/04	976	F[a]	61700	—[b]	—	1450	µg/L	—	—
Aluminum	11/16/04	976	F	14.7	—	—	14.7	µg/L	U	R
Aluminum	11/16/04	976	NF[c]	45.8	—	—	14.7	µg/L	J	U
Ammonia (as N)	11/16/04	976	F	187	—	—	15.9	µg/L	—	—
Ammonia (as N)	11/16/04	976	NF	185	—	—	15.9	µg/L	—	—
Antimony	11/16/04	976	F	0.28	—	—	0.28	µg/L	U	—
Antimony	11/16/04	976	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	11/16/04	976	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	11/16/04	976	NF	2.24	—	—	2.24	µg/L	U	—
Barium	11/16/04	976	F	80.8	—	—	0.222	µg/L	—	—
Barium	11/16/04	976	NF	81.4	—	—	0.222	µg/L	—	—
Beryllium	11/16/04	976	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	11/16/04	976	NF	0.08	—	—	0.08	µg/L	U	—
Boron	11/16/04	976	F	16.1	—	—	4.88	µg/L	J	—
Boron	11/16/04	976	NF	14.9	—	—	4.88	µg/L	J	—
Bromide	11/16/04	976	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	11/16/04	976	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	11/16/04	976	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	11/16/04	976	F	11200	—	—	5.54	µg/L	—	—
Calcium	11/16/04	976	NF	11200	—	—	5.54	µg/L	—	—
Chloride	11/16/04	976	F	2120	—	—	32.2	µg/L	—	—
Chromium	11/16/04	976	F	0.503	—	—	0.503	µg/L	U	—
Chromium	11/16/04	976	NF	0.76	—	—	0.503	µg/L	J	U
Cobalt	11/16/04	976	F	0.74	—	—	0.541	µg/L	J	—
Cobalt	11/16/04	976	NF	0.63	—	—	0.541	µg/L	J	—

Table A-36 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	11/16/04	976	F	1.39	—	—	1.39	µg/L	U	—
Copper	11/16/04	976	NF	1.39	—	—	1.39	µg/L	U	—
Cyanide (Total)	11/16/04	976	NF	1.72	—	—	1.72	µg/L	U	—
Fluoride	11/16/04	976	F	787	—	—	55.3	µg/L	—	—
Iron	11/16/04	976	F	813	—	—	12.6	µg/L	—	—
Iron	11/16/04	976	NF	805	—	—	12.6	µg/L	—	—
Lead	11/16/04	976	F	0.29	—	—	0.05	µg/L	J	—
Lead	11/16/04	976	NF	0.38	—	—	0.05	µg/L	J	—
Magnesium	11/16/04	976	F	3280	—	—	5.18	µg/L	—	—
Magnesium	11/16/04	976	NF	3340	—	—	5.18	µg/L	—	—
Manganese	11/16/04	976	F	2000	—	—	1.61	µg/L	—	—
Manganese	11/16/04	976	NF	1950	—	—	1.61	µg/L	—	—
Mercury	11/16/04	976	F	0.0472	—	—	0.0472	µg/L	U	UJ
Mercury	11/16/04	976	NF	0.0472	—	—	0.0472	µg/L	U	UJ
Molybdenum	11/16/04	976	F	1.6	—	—	0.2	µg/L	—	—
Molybdenum	11/16/04	976	NF	1.7	—	—	0.2	µg/L	—	—
Nickel	11/16/04	976	F	2.1	—	—	0.69	µg/L	J	JN-
Nickel	11/16/04	976	NF	1.8	—	—	0.69	µg/L	J	JN-
Nitrate+Nitrite (as N)	11/16/04	976	F	3	—	—	3	µg/L	U	R
Nitrate+Nitrite (as N)	11/16/04	976	NF	3	—	—	3	µg/L	U	R
Perchlorate	11/16/04	976	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	11/16/04	976	F	2140	—	—	151	µg/L	H	J
Phosphorus (as P)	11/16/04	976	F	2400	—	—	11	µg/L	—	—
Phosphorus (as P)	11/16/04	976	NF	2180	—	—	11	µg/L	—	—
Potassium	11/16/04	976	F	1440	—	—	16.5	µg/L	—	—
Potassium	11/16/04	976	NF	1430	—	—	16.5	µg/L	—	—
Selenium	11/16/04	976	F	2.81	—	—	2.81	µg/L	U*	—
Selenium	11/16/04	976	NF	2.81	—	—	2.81	µg/L	U*	—

Table A-36 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Silicon	11/16/04	976	F	39600	—	—	9.83	µg/L	—	—
Silicon	11/16/04	976	NF	38900	—	—	9.83	µg/L	—	—
Silver	11/16/04	976	F	1.1	—	—	0.835	µg/L	J	U
Silver	11/16/04	976	NF	1.7	—	—	0.835	µg/L	J	U
Sodium	11/16/04	976	F	10000	—	—	14.4	µg/L	—	—
Sodium	11/16/04	976	NF	10500	—	—	14.4	µg/L	—	—
Strontium	11/16/04	976	F	105	—	—	0.178	µg/L	—	—
Strontium	11/16/04	976	NF	104	—	—	0.178	µg/L	—	—
Sulfate	11/16/04	976	F	1890	—	—	193	µg/L	—	—
Thallium	11/16/04	976	F	0.064	—	—	0.02	µg/L	J	—
Thallium	11/16/04	976	NF	0.18	—	—	0.02	µg/L	J	—
Total Kjeldahl Nitrogen	11/16/04	976	F	410	—	—	44	µg/L	—	—
Total Kjeldahl Nitrogen	11/16/04	976	NF	345	—	—	44	µg/L	—	—
Uranium	11/16/04	976	F	0.037	—	—	0.02	µg/L	J	—
Uranium	11/16/04	976	NF	0.052	—	—	0.02	µg/L	J	—
Vanadium	11/16/04	976	F	1.4	—	—	0.606	µg/L	J	U
Vanadium	11/16/04	976	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	11/16/04	976	F	1.1	—	—	0.883	µg/L	J	JN-
Zinc	11/16/04	976	NF	6.7	—	—	0.883	µg/L	—	J-
Detected Organic Constituents										
Total Organic Carbon	11/16/04	976	NF	624	—	—	25	µg/L	—	J-
Radiologic Constituents										
Americium-241	11/16/04	976	NF	0.00534	0.00535	0.042	—	pCi/L	U	U
Cesium-137	11/16/04	976	NF	0.287	0.6	2.08	—	pCi/L	U	U
Cobalt-60	11/16/04	976	NF	0.469	0.592	2.16	—	pCi/L	U	U
Plutonium-238	11/16/04	976	NF	-0.00373	0.00457	0.029	—	pCi/L	U	U
Plutonium-239/240	11/16/04	976	NF	0.00373	0.00373	0.03	—	pCi/L	U	U
Strontium-90	11/16/04	976	NF	0.0859	0.0988	0.408	—	pCi/L	U	U
Technetium-99	11/16/04	976	NF	-3.31	1.25	4.33	—	pCi/L	U	U

Table A-36 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tritium	11/16/04	976	NF	0.44702	0.28737	0.28737	—	pCi/L	—	—
Uranium-234	11/16/04	976	NF	0.0434	0.0163	0.066	—	pCi/L	U	U
Uranium-235/236	11/16/04	976	NF	0.0208	0.00897	0.043	—	pCi/L	U	U
Uranium-238	11/16/04	976	NF	0.0369	0.0133	0.047	—	pCi/L	U	U

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-37

Well CdV-R-15-3 Screen 4 Twelfth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	01/06/04	1254.4	F[a]	58900	—[b]	—	1450	µg/L	—	—
Aluminum	01/06/04	1254.4	F	51	—	—	14.7	µg/L	—	JN-
Aluminum	01/06/04	1254.4	NF[c]	39.3	—	—	14.7	µg/L	—	JN-
Ammonia (as N)	01/06/04	1254.4	F	40	—	—	24	µg/L	J	J
Antimony	01/06/04	1254.4	F	0.28	—	—	0.28	µg/L	U	—
Antimony	01/06/04	1254.4	NF	0.28	—	—	0.28	µg/L	U	UJ
Arsenic	01/06/04	1254.4	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	01/06/04	1254.4	NF	2.87	—	—	2.24	µg/L	—	J
Barium	01/06/04	1254.4	F	21	—	—	0.222	µg/L	—	—
Barium	01/06/04	1254.4	NF	23.2	—	—	0.222	µg/L	—	J
Beryllium	01/06/04	1254.4	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	01/06/04	1254.4	NF	0.08	—	—	0.08	µg/L	U	UJ
Boron	01/06/04	1254.4	F	9.22	—	—	4.88	µg/L	—	—
Boron	01/06/04	1254.4	NF	6.78	—	—	4.88	µg/L	—	J
Bromide	01/06/04	1254.4	F	495	—	—	97.8	µg/L	—	U
Cadmium	01/06/04	1254.4	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	01/06/04	1254.4	NF	0.04	—	—	0.04	µg/L	U	UJ
Calcium	01/06/04	1254.4	F	10800	—	—	5.54	µg/L	—	—
Calcium	01/06/04	1254.4	NF	11200	—	—	5.54	µg/L	—	J
Chloride	01/06/04	1254.4	F	1490	—	—	32.2	µg/L	—	—
Chromium	01/06/04	1254.4	F	1.36	—	—	0.503	µg/L	—	JN-
Chromium	01/06/04	1254.4	NF	1.12	—	—	0.503	µg/L	—	JN-
Cobalt	01/06/04	1254.4	F	0.541	—	—	0.541	µg/L	U	UJ
Cobalt	01/06/04	1254.4	NF	0.541	—	—	0.541	µg/L	U	UJ
Copper	01/06/04	1254.4	F	5.85	—	—	1.39	µg/L	—	U
Copper	01/06/04	1254.4	NF	1.39	—	—	1.39	µg/L	U	R

Table A-37 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	01/06/04	1254.4	F	68	—	—	55.3	µg/L	J	—
Iron	01/06/04	1254.4	F	12.6	—	—	12.6	µg/L	U	—
Iron	01/06/04	1254.4	NF	12.6	—	—	12.6	µg/L	U	UJ
Lead	01/06/04	1254.4	F	0.05	—	—	0.05	µg/L	U	—
Lead	01/06/04	1254.4	NF	0.05	—	—	0.05	µg/L	U	UJ
Magnesium	01/06/04	1254.4	F	3500	—	—	5.18	µg/L	—	—
Magnesium	01/06/04	1254.4	NF	3560	—	—	5.18	µg/L	—	J
Manganese	01/06/04	1254.4	F	3.1	—	—	1.61	µg/L	—	—
Manganese	01/06/04	1254.4	NF	2.92	—	—	1.61	µg/L	—	J
Mercury	01/06/04	1254.4	F	0.047	—	—	0.047	µg/L	U	UJ
Mercury	01/06/04	1254.4	NF	0.047	—	—	0.047	µg/L	U	UJ
Molybdenum	01/06/04	1254.4	F	0.499	—	—	0.2	µg/L	—	—
Molybdenum	01/06/04	1254.4	NF	0.537	—	—	0.2	µg/L	—	J
Nickel	01/06/04	1254.4	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	01/06/04	1254.4	NF	0.87	—	—	0.69	µg/L	—	UJ
Nitrate+Nitrite (as N)	01/06/04	1254.4	F	250	—	—	10	µg/L	—	—
Oxalate	01/06/04	1254.4	F	346	—	—	346	µg/L	U	—
Perchlorate	01/06/04	1254.4	NF	0.228	—	—	0.05	µg/L	—	—
Phosphorus (as P)	01/06/04	1254.4	F	11	—	—	11	µg/L	U	—
Potassium	01/06/04	1254.4	F	1360	—	—	16.5	µg/L	—	—
Potassium	01/06/04	1254.4	NF	1540	—	—	16.5	µg/L	—	J
Selenium	01/06/04	1254.4	F	2.81	—	—	2.81	µg/L	U	—
Selenium	01/06/04	1254.4	NF	2.81	—	—	2.81	µg/L	U	UJ
Silicon Dioxide	01/06/04	1254.4	F	64800	—	—	21.2	µg/L	—	—
Silicon Dioxide	01/06/04	1254.4	NF	65800	—	—	21.2	µg/L	—	J
Silver	01/06/04	1254.4	F	0.835	—	—	0.835	µg/L	U	UJ
Silver	01/06/04	1254.4	NF	0.835	—	—	0.835	µg/L	U	UJ

Table A-37 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Sodium	01/06/04	1254.4	F	11100	—	—	14.4	µg/L	—	—
Sodium	01/06/04	1254.4	NF	10700	—	—	14.4	µg/L	—	J
Strontium	01/06/04	1254.4	F	57.9	—	—	0.178	µg/L	—	—
Strontium	01/06/04	1254.4	NF	60.5	—	—	0.178	µg/L	—	J
Sulfate	01/06/04	1254.4	F	1630	—	—	193	µg/L	—	—
Thallium	01/06/04	1254.4	F	0.02	—	—	0.02	µg/L	U	UJ
Thallium	01/06/04	1254.4	NF	0.02	—	—	0.02	µg/L	U	UJ
Total Kjeldahl Nitrogen	01/06/04	1254.4	F	133	—	—	44	µg/L	—	U
Uranium	01/06/04	1254.4	F	0.476	—	—	0.02	µg/L	—	—
Uranium	01/06/04	1254.4	NF	0.482	—	—	0.02	µg/L	—	J
Vanadium	01/06/04	1254.4	F	4.46	—	—	0.606	µg/L	—	J-
Vanadium	01/06/04	1254.4	NF	3.32	—	—	0.606	µg/L	—	J-
Zinc	01/06/04	1254.4	F	1.99	—	—	0.883	µg/L	—	U
Zinc	01/06/04	1254.4	NF	2.93	—	—	0.883	µg/L	—	UJ
Detected Organic Constituents										
Bis(2-ethylhexyl)phthalate	01/06/04	1254.4	NF	1.5	—	—	—	µg/L	J	—
Total Organic Carbon	01/06/04	1254.4	NF	356	—	—	25	µg/L	—	J-
Radiologic Constituents										
Tritium	01/06/04	1254.4	NF	0.86	0.29	0.29	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-38

Well CdV-R-15-3 Screen 5 Twelfth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	01/07/04	1350.1	F[a]	83800	—[b]	—	1450	µg/L	—	—
Aluminum	01/07/04	1350.1	F	22.6	—	—	14.7	µg/L	—	JN-
Aluminum	01/07/04	1350.1	NF[c]	22	—	—	14.7	µg/L	—	JN-
Ammonia (as N)	01/07/04	1350.1	F	150	—	—	24	µg/L	—	J
Antimony	01/07/04	1350.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	01/07/04	1350.1	NF	0.28	—	—	0.28	µg/L	U	UJ
Arsenic	01/07/04	1350.1	F	2.55	—	—	2.24	µg/L	—	—
Arsenic	01/07/04	1350.1	NF	2.77	—	—	2.24	µg/L	—	J
Barium	01/07/04	1350.1	F	127	—	—	0.222	µg/L	—	—
Barium	01/07/04	1350.1	NF	121	—	—	0.222	µg/L	—	J
Beryllium	01/07/04	1350.1	F	0.08	—	—	0.08	µg/L	U	—
Beryllium	01/07/04	1350.1	NF	0.08	—	—	0.08	µg/L	U	UJ
Boron	01/07/04	1350.1	F	27.6	—	—	4.88	µg/L	—	—
Boron	01/07/04	1350.1	NF	17.7	—	—	4.88	µg/L	—	J
Bromide	01/07/04	1350.1	F	610	—	—	97.8	µg/L	—	U
Cadmium	01/07/04	1350.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	01/07/04	1350.1	NF	0.04	—	—	0.04	µg/L	U	UJ
Calcium	01/07/04	1350.1	F	18100	—	—	5.54	µg/L	—	—
Calcium	01/07/04	1350.1	NF	16200	—	—	5.54	µg/L	—	J
Chloride	01/07/04	1350.1	F	2150	—	—	32.2	µg/L	—	—
Chromium	01/07/04	1350.1	F	0.503	—	—	0.503	µg/L	U	UJ
Chromium	01/07/04	1350.1	NF	0.503	—	—	0.503	µg/L	U	UJ
Cobalt	01/07/04	1350.1	F	0.541	—	—	0.541	µg/L	U	UJ
Cobalt	01/07/04	1350.1	NF	0.541	—	—	0.541	µg/L	U	UJ
Copper	01/07/04	1350.1	F	1.42	—	—	1.39	µg/L	—	U
Copper	01/07/04	1350.1	NF	1.39	—	—	1.39	µg/L	U	R

Table A-38 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	01/07/04	1350.1	F	521	—	—	55.3	µg/L	—	—
Iron	01/07/04	1350.1	F	137	—	—	12.6	µg/L	—	—
Iron	01/07/04	1350.1	NF	151	—	—	12.6	µg/L	—	J
Lead	01/07/04	1350.1	F	0.051	—	—	0.05	µg/L	—	—
Lead	01/07/04	1350.1	NF	0.083	—	—	0.05	µg/L	—	J
Magnesium	01/07/04	1350.1	F	2050	—	—	5.18	µg/L	—	—
Magnesium	01/07/04	1350.1	NF	2090	—	—	5.18	µg/L	—	J
Manganese	01/07/04	1350.1	F	183	—	—	1.61	µg/L	—	—
Manganese	01/07/04	1350.1	NF	202	—	—	1.61	µg/L	—	J
Mercury	01/07/04	1350.1	F	0.047	—	—	0.047	µg/L	U	UJ
Mercury	01/07/04	1350.1	NF	0.047	—	—	0.047	µg/L	U	UJ
Molybdenum	01/07/04	1350.1	F	1.25	—	—	0.2	µg/L	—	—
Molybdenum	01/07/04	1350.1	NF	1.39	—	—	0.2	µg/L	—	J
Nickel	01/07/04	1350.1	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	01/07/04	1350.1	NF	0.69	—	—	0.69	µg/L	U	UJ
Nitrate+Nitrite (as N)	01/07/04	1350.1	F	10	—	—	10	µg/L	U	R
Oxalate	01/07/04	1350.1	F	346	—	—	346	µg/L	U	—
Perchlorate	01/07/04	1350.1	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as P)	01/07/04	1350.1	F	50	—	—	11	µg/L	—	U
Potassium	01/07/04	1350.1	F	1930	—	—	16.5	µg/L	—	—
Potassium	01/07/04	1350.1	NF	1910	—	—	16.5	µg/L	—	J
Selenium	01/07/04	1350.1	F	2.81	—	—	2.81	µg/L	U	—
Selenium	01/07/04	1350.1	NF	2.81	—	—	2.81	µg/L	U	UJ
Silicon Dioxide	01/07/04	1350.1	F	63000	—	—	21.2	µg/L	—	—
Silicon Dioxide	01/07/04	1350.1	NF	61200	—	—	21.2	µg/L	—	J
Silver	01/07/04	1350.1	F	0.835	—	—	0.835	µg/L	U	UJ
Silver	01/07/04	1350.1	NF	0.835	—	—	0.835	µg/L	U	UJ
Sodium	01/07/04	1350.1	F	17700	—	—	14.4	µg/L	—	—
Sodium	01/07/04	1350.1	NF	15000	—	—	14.4	µg/L	—	J

Table A-38 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium	01/07/04	1350.1	F	822	—	—	0.178	µg/L	—	—
Strontium	01/07/04	1350.1	NF	610	—	—	0.178	µg/L	—	J
Sulfate	01/07/04	1350.1	F	432	—	—	193	µg/L	—	—
Thallium	01/07/04	1350.1	F	0.02	—	—	0.02	µg/L	U	UJ
Thallium	01/07/04	1350.1	NF	0.02	—	—	0.02	µg/L	U	UJ
Total Kjeldahl Nitrogen	01/07/04	1350.1	F	250	—	—	44	µg/L	—	U
Uranium	01/07/04	1350.1	F	0.041	—	—	0.02	µg/L	—	—
Uranium	01/07/04	1350.1	NF	0.06	—	—	0.02	µg/L	—	J
Vanadium	01/07/04	1350.1	F	0.606	—	—	0.606	µg/L	U	UJ
Vanadium	01/07/04	1350.1	NF	0.606	—	—	0.606	µg/L	U	UJ
Zinc	01/07/04	1350.1	F	3.03	—	—	0.883	µg/L	—	U
Zinc	01/07/04	1350.1	NF	1.86	—	—	0.883	µg/L	—	UJ
Detected Organic Constituents										
Acetone	01/07/04	1350.1	NF	22.2	—	—	—	µg/L	—	—
Bis(2-ethylhexyl)phthalate	01/07/04	1350.1	NF	1.9	—	—	—	µg/L	J	—
Total Organic Carbon	01/07/04	1350.1	NF	8000	—	—	25	µg/L	—	—
Radiologic Constituents										
Tritium	01/07/04	1350.1	NF	0.38	0.29	0.29	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-39

Well CdV-R-15-3 Screen 6 Twelfth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	01/08/04	1640.1	F[a]	57900	—[b]	—	1450	µg/L	—	—
Aluminum	01/08/04	1640.1	F	46.2	—	—	14.7	µg/L	—	U
Aluminum	01/08/04	1640.1	NF[c]	15.7	—	—	14.7	µg/L	—	U
Ammonia (as N)	01/08/04	1640.1	F	30	—	—	24	µg/L	J	J
Antimony	01/08/04	1640.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	01/08/04	1640.1	NF	0.28	—	—	0.28	µg/L	U	UJ
Arsenic	01/08/04	1640.1	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	01/08/04	1640.1	NF	2.24	—	—	2.24	µg/L	U	UJ
Barium	01/08/04	1640.1	F	22.5	—	—	0.222	µg/L	—	—
Barium	01/08/04	1640.1	NF	22.7	—	—	0.222	µg/L	—	J
Beryllium	01/08/04	1640.1	F	0.093	—	—	0.08	µg/L	—	—
Beryllium	01/08/04	1640.1	NF	0.08	—	—	0.08	µg/L	U	UJ
Boron	01/08/04	1640.1	F	11.9	—	—	4.88	µg/L	—	—
Boron	01/08/04	1640.1	NF	10.6	—	—	4.88	µg/L	—	J
Bromide	01/08/04	1640.1	F	314	—	—	97.8	µg/L	—	U
Cadmium	01/08/04	1640.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	01/08/04	1640.1	NF	0.04	—	—	0.04	µg/L	U	UJ
Calcium	01/08/04	1640.1	F	9510	—	—	5.54	µg/L	—	—
Calcium	01/08/04	1640.1	NF	9660	—	—	5.54	µg/L	—	J
Chloride	01/08/04	1640.1	F	1520	—	—	32.2	µg/L	—	—
Chromium	01/08/04	1640.1	F	0.503	—	—	0.503	µg/L	U	UJ
Chromium	01/08/04	1640.1	NF	0.503	—	—	0.503	µg/L	U	UJ
Cobalt	01/08/04	1640.1	F	0.541	—	—	0.541	µg/L	U	UJ
Cobalt	01/08/04	1640.1	NF	0.541	—	—	0.541	µg/L	U	UJ
Copper	01/08/04	1640.1	F	1.43	—	—	1.39	µg/L	—	U
Copper	01/08/04	1640.1	NF	1.85	—	—	1.39	µg/L	—	U

Table A-39 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	01/08/04	1640.1	F	140	—	—	55.3	µg/L	—	U
Iron	01/08/04	1640.1	F	315	—	—	12.6	µg/L	—	—
Iron	01/08/04	1640.1	NF	410	—	—	12.6	µg/L	—	J
Lead	01/08/04	1640.1	F	0.325	—	—	0.05	µg/L	—	—
Lead	01/08/04	1640.1	NF	0.085	—	—	0.05	µg/L	—	J
Magnesium	01/08/04	1640.1	F	3070	—	—	5.18	µg/L	—	—
Magnesium	01/08/04	1640.1	NF	3150	—	—	5.18	µg/L	—	J
Manganese	01/08/04	1640.1	F	176	—	—	1.61	µg/L	—	—
Manganese	01/08/04	1640.1	NF	172	—	—	161	µg/L	—	J
Mercury	01/08/04	1640.1	F	0.047	—	—	0.047	µg/L	U	UJ
Mercury	01/08/04	1640.1	NF	0.047	—	—	0.047	µg/L	U	UJ
Molybdenum	01/08/04	1640.1	F	1.63	—	—	0.2	µg/L	—	—
Molybdenum	01/08/04	1640.1	NF	1.61	—	—	0.2	µg/L	—	J
Nickel	01/08/04	1640.1	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	01/08/04	1640.1	NF	1.51	—	—	0.69	µg/L	—	U
Nitrate+Nitrite (as N)	01/08/04	1640.1	F	10	—	—	10	µg/L	U	R
Oxalate	01/08/04	1640.1	F	346	—	—	346	µg/L	U	—
Perchlorate	01/08/04	1640.1	NF	0.2	—	—	0.05	µg/L	U	—
Phosphorus (as P)	01/08/04	1640.1	F	26	—	—	11	µg/L	J	U
Potassium	01/08/04	1640.1	F	1920	—	—	16.5	µg/L	—	—
Potassium	01/08/04	1640.1	NF	1880	—	—	16.5	µg/L	—	J
Selenium	01/08/04	1640.1	F	2.81	—	—	2.81	µg/L	U	—
Selenium	01/08/04	1640.1	NF	2.81	—	—	2.81	µg/L	U	UJ
Silicon Dioxide	01/08/04	1640.1	F	67900	—	—	21.2	µg/L	—	—
Silicon Dioxide	01/08/04	1640.1	NF	68300	—	—	21.2	µg/L	—	J
Silver	01/08/04	1640.1	F	0.835	—	—	0.835	µg/L	U	UJ
Silver	01/08/04	1640.1	NF	0.835	—	—	0.835	µg/L	U	UJ
Sodium	01/08/04	1640.1	F	12700	—	—	14.4	µg/L	—	—
Sodium	01/08/04	1640.1	NF	12600	—	—	14.4	µg/L	—	J

Table A-39 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium	01/08/04	1640.1	F	59.3	—	—	0.178	µg/L	—	—
Strontium	01/08/04	1640.1	NF	59.8	—	—	0.178	µg/L	—	J
Sulfate	01/08/04	1640.1	F	1320	—	—	193	µg/L	—	—
Thallium	01/08/04	1640.1	F	0.358	—	—	0.02	µg/L	—	—
Thallium	01/08/04	1640.1	NF	0.02	—	—	0.02	µg/L	U	UJ
Total Kjeldahl Nitrogen	01/08/04	1640.1	F	185	—	—	44	µg/L	—	U
Uranium	01/08/04	1640.1	F	0.32	—	—	0.02	µg/L	—	—
Uranium	01/08/04	1640.1	NF	0.316	—	—	0.02	µg/L	—	J
Vanadium	01/08/04	1640.1	F	0.606	—	—	0.606	µg/L	U	UJ
Vanadium	01/08/04	1640.1	NF	0.606	—	—	0.606	µg/L	U	UJ
Zinc	01/08/04	1640.1	F	2.94	—	—	0.883	µg/L	—	U
Zinc	01/08/04	1640.1	NF	9.35	—	—	0.883	µg/L	—	J
Detected Organic Constituents										
Bis(2-ethylhexyl)phthalate	01/08/04	1640.1	NF	2.2	—	—	—	µg/L	J	—
Total Organic Carbon	01/08/04	1640.1	NF	635	—	—	25	µg/L	—	JN-
Radiologic Constituents										
Tritium	01/08/04	1640.1	NF	0.1	0.29	0.29	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-40

Well CdV-R-15-3 Screen 5 Thirteenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	04/21/04	1350.1	F[a]	77400	—[b]	—	1450	µg/L	—	—
Aluminum	04/21/04	1350.1	F	30.3	—	—	14.7	µg/L	B	U
Aluminum	04/21/04	1350.1	NF[c]	28.6	—	—	14.7	µg/L	B	U
Ammonia (as N)	04/21/04	1350.1	F	113	—	—	15.9	µg/L	—	J-
Antimony	04/21/04	1350.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	04/21/04	1350.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/21/04	1350.1	F	2.24	—	—	2.24	µg/L	U	R
Arsenic	04/21/04	1350.1	NF	2.24	—	—	2.24	µg/L	U	R
Barium	04/21/04	1350.1	F	119	—	—	0.222	µg/L	—	—
Barium	04/21/04	1350.1	NF	112	—	—	0.222	µg/L	—	—
Beryllium	04/21/04	1350.1	F	0.158	—	—	0.158	µg/L	U	—
Beryllium	04/21/04	1350.1	NF	0.158	—	—	0.158	µg/L	U	—
Boron	04/21/04	1350.1	F	21.4	—	—	4.88	µg/L	B	—
Boron	04/21/04	1350.1	NF	17.1	—	—	4.88	µg/L	B	—
Bromide	04/21/04	1350.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/21/04	1350.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/21/04	1350.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/21/04	1350.1	F	16800	—	—	5.54	µg/L	—	—
Calcium	04/21/04	1350.1	NF	16100	—	—	5.54	µg/L	—	—
Chloride	04/21/04	1350.1	F	1950	—	—	32.2	µg/L	—	—
Chromium	04/21/04	1350.1	F	0.503	—	—	0.503	µg/L	U	—
Chromium	04/21/04	1350.1	NF	1.2	—	—	0.503	µg/L	B	—
Cobalt	04/21/04	1350.1	F	0.541	—	—	0.541	µγ/Λ	U	—
Cobalt	04/21/04	1350.1	NF	0.541	—	—	0.541	µγ/Λ	U	—
Copper	04/21/04	1350.1	F	1.39	—	—	1.39	µγ/Λ	U	—
Copper	04/21/04	1350.1	NF	1.39	—	—	1.39	µγ/Λ	U	—

Table A-40 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	04/21/04	1350.1	F	444	—	—	55.3	µg/L	—	—
Hardness	04/21/04	1350.1	F	50900	—	—	5.54	µg/L	—	—
Hardness	04/21/04	1350.1	NF	48900	—	—	5.54	µg/L	—	—
Iron	04/21/04	1350.1	F	140	—	—	12.6	µg/L	—	—
Iron	04/21/04	1350.1	NF	129	—	—	12.6	µg/L	—	—
Lead	04/21/04	1350.1	F	0.12	—	—	0.05	µg/L	B	—
Lead	04/21/04	1350.1	NF	0.075	—	—	0.05	µg/L	B	—
Magnesium	04/21/04	1350.1	F	2170	—	—	5.18	µg/L	—	—
Magnesium	04/21/04	1350.1	NF	2100	—	—	5.18	µg/L	—	—
Manganese	04/21/04	1350.1	F	226	—	—	0.296	µg/L	—	—
Manganese	04/21/04	1350.1	NF	223	—	—	0.296	µg/L	—	—
Molybdenum	04/21/04	1350.1	F	2.3	—	—	1.43	µg/L	B	U
Molybdenum	04/21/04	1350.1	NF	1.8	—	—	1.43	µg/L	B	U
Nickel	04/21/04	1350.1	F	0.69	—	—	0.69	µg/L	U	UJ
Nickel	04/21/04	1350.1	NF	2	—	—	0.69	µg/L	B	U
Nitrate+Nitrite (as N)	04/21/04	1350.1	F	10	—	—	10	µg/L	U	R
Perchlorate	04/21/04	1350.1	NF	0.0585	—	—	—	µg/L	J	—
Phosphorus (as PO_4)	04/21/04	1350.1	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	04/21/04	1350.1	F	57	—	—	11	µg/L	—	—
Potassium	04/21/04	1350.1	F	1880	—	—	16.5	µg/L	—	—
Potassium	04/21/04	1350.1	NF	1830	—	—	16.5	µg/L	—	—
Silicon Dioxide	04/21/04	1350.1	F	59900	—	—	21.2	µg/L	—	—
Silicon Dioxide	04/21/04	1350.1	NF	58300	—	—	21.2	µg/L	—	—
Silver	04/21/04	1350.1	F	0.835	—	—	0.835	µg/L	U	—
Silver	04/21/04	1350.1	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/21/04	1350.1	F	15500	—	—	14.4	µg/L	—	—
Sodium	04/21/04	1350.1	NF	14900	—	—	14.4	µg/L	—	—
Strontium	04/21/04	1350.1	F	615	—	—	0.178	µg/L	—	—
Strontium	04/21/04	1350.1	NF	574	—	—	0.178	µg/L	—	—

Table A-40 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Sulfate	04/21/04	1350.1	F	193	—	—	193	µg/L	U	—
Thallium	04/21/04	1350.1	F	0.031	—	—	0.02	µg/L	B	U
Thallium	04/21/04	1350.1	NF	0.02	—	—	0.02	µg/L	U	—
Tin	04/21/04	1350.1	F	3.26	—	—	3.26	µg/L	U	—
Tin	04/21/04	1350.1	NF	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	04/21/04	1350.1	F	188	—	—	44	µg/L	—	J-
Uranium	04/21/04	1350.1	F	0.053	—	—	0.02	µg/L	B	—
Uranium	04/21/04	1350.1	NF	0.05	—	—	0.02	µg/L	B	—
Vanadium	04/21/04	1350.1	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	04/21/04	1350.1	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	04/21/04	1350.1	F	0.96	—	—	0.883	µg/L	B	—
Zinc	04/21/04	1350.1	NF	3.6	—	—	0.883	µg/L	B	—
Detected Organic Constituents										
Total Organic Carbon	04/21/04	1350.1	NF	5570	—	—	25	µg/L	—	J
Radiologic Constituents										
Tritium	04/21/04	1350.1	NF	0.38316	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-41

Well CdV-R-15-3 Screen 6 Thirteenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	04/21/04	1640.1	F[a]	59000	—[b]	—	1450	µg/L	—	—
Aluminum	04/21/04	1640.1	F	26.5	—	—	14.7	µg/L	B	U
Aluminum	04/21/04	1640.1	NF[c]	14.7	—	—	14.7	µg/L	U	U
Ammonia (as N)	04/21/04	1640.1	F	15.9	—	—	15.9	µg/L	U	R
Antimony	04/21/04	1640.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	04/21/04	1640.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/21/04	1640.1	F	2.24	—	—	2.24	µg/L	U	R
Arsenic	04/21/04	1640.1	NF	3.1	—	—	2.24	µg/L	B	U
Barium	04/21/04	1640.1	F	20.1	—	—	0.222	µg/L	—	—
Barium	04/21/04	1640.1	NF	20.7	—	—	0.222	µg/L	—	—
Beryllium	04/21/04	1640.1	F	0.158	—	—	0.158	µg/L	U	—
Beryllium	04/21/04	1640.1	NF	0.158	—	—	0.158	µg/L	U	—
Boron	04/21/04	1640.1	F	7.2	—	—	4.88	µg/L	B	—
Boron	04/21/04	1640.1	NF	6.4	—	—	4.88	µg/L	B	—
Bromide	04/21/04	1640.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/21/04	1640.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/21/04	1640.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/21/04	1640.1	F	9250	—	—	5.54	µg/L	—	—
Calcium	04/21/04	1640.1	NF	9220	—	—	5.54	µg/L	—	—
Chloride	04/21/04	1640.1	F	1560	—	—	32.2	µg/L	—	—
Chromium	04/21/04	1640.1	F	0.503	—	—	0.503	µg/L	U	—
Chromium	04/21/04	1640.1	NF	1	—	—	0.503	µg/L	B	—
Cobalt	04/21/04	1640.1	F	3.9	—	—	0.541	µg/L	B	—
Cobalt	04/21/04	1640.1	NF	0.541	—	—	0.541	µg/L	U	—
Copper	04/21/04	1640.1	F	1.39	—	—	1.39	µg/L	U	—
Copper	04/21/04	1640.1	NF	1.39	—	—	1.39	µg/L	U	—

Table A-41 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	04/21/04	1640.1	F	215	—	—	55.3	µg/L	—	—
Hardness	04/21/04	1640.1	F	35500	—	—	5.54	µg/L	—	—
Hardness	04/21/04	1640.1	NF	35300	—	—	5.54	µg/L	—	—
Iron	04/21/04	1640.1	F	288	—	—	12.6	µg/L	—	—
Iron	04/21/04	1640.1	NF	286	—	—	12.6	µg/L	—	—
Lead	04/21/04	1640.1	F	0.13	—	—	0.05	µg/L	B	—
Lead	04/21/04	1640.1	NF	0.11	—	—	0.05	µg/L	B	—
Magnesium	04/21/04	1640.1	F	3020	—	—	5.18	µg/L	—	—
Magnesium	04/21/04	1640.1	NF	2980	—	—	5.18	µg/L	—	—
Manganese	04/21/04	1640.1	F	164	—	—	0.296	µg/L	—	—
Manganese	04/21/04	1640.1	NF	152	—	—	0.296	µg/L	—	—
Molybdenum	04/21/04	1640.1	F	2.4	—	—	1.43	µg/L	B	U
Molybdenum	04/21/04	1640.1	NF	1.43	—	—	1.43	µg/L	U	U
Nickel	04/21/04	1640.1	F	1.2	—	—	0.69	µg/L	B	U
Nickel	04/21/04	1640.1	NF	1.4	—	—	0.69	µg/L	B	U
Nitrate+Nitrite (as N)	04/21/04	1640.1	F	10	—	—	10	µg/L	U	R
Perchlorate	04/21/04	1640.1	NF	0.2	—	—	—	µg/L	U	—
Phosphorus (as PO_4)	04/21/04	1640.1	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	04/21/04	1640.1	F	11	—	—	11	µg/L	U	UJ
Potassium	04/21/04	1640.1	F	1760	—	—	16.5	µg/L	—	—
Potassium	04/21/04	1640.1	NF	1790	—	—	16.5	µg/L	—	—
Silicon Dioxide	04/21/04	1640.1	F	63000	—	—	21.2	µg/L	—	—
Silicon Dioxide	04/21/04	1640.1	NF	62400	—	—	21.2	µg/L	—	—
Silver	04/21/04	1640.1	F	0.835	—	—	0.835	µg/L	U	—
Silver	04/21/04	1640.1	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/21/04	1640.1	F	12900	—	—	14.4	µg/L	—	—
Sodium	04/21/04	1640.1	NF	11900	—	—	14.4	µg/L	—	—
Strontium	04/21/04	1640.1	F	56.1	—	—	0.178	µg/L	—	—
Strontium	04/21/04	1640.1	NF	54	—	—	0.178	µg/L	—	—

Table A-41 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Sulfate	04/21/04	1640.1	F	1600	—	—	193	µg/L	—	—
Thallium	04/21/04	1640.1	F	0.02	—	—	0.02	µg/L	U	—
Thallium	04/21/04	1640.1	NF	0.065	—	—	0.02	µg/L	B	U
Tin	04/21/04	1640.1	F	3.26	—	—	3.26	µg/L	U	—
Tin	04/21/04	1640.1	NF	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	04/21/04	1640.1	F	71	—	—	44	µg/L	J	J-
Uranium	04/21/04	1640.1	F	0.18	—	—	0.02	µg/L	B	—
Uranium	04/21/04	1640.1	NF	0.22	—	—	0.02	µg/L	—	—
Vanadium	04/21/04	1640.1	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	04/21/04	1640.1	NF	0.94	—	—	0.606	µg/L	B	U
Zinc	04/21/04	1640.1	F	2.3	—	—	0.883	µg/L	B	—
Zinc	04/21/04	1640.1	NF	5.9	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	04/21/04	1640.1	NF	481	—	—	25	µg/L	—	J-
Radiologic Constituents										
Tritium	04/21/04	1640.1	NF	0.28737	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-42

Well CdV-R-15-3 Screen 4 Fourteenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	07/06/04	1254.4	F[a]	54500	—[b]	—	1450	µg/L	—	—
Aluminum	07/06/04	1254.4	F	29.5	—	—	14.7	µg/L	B	U
Aluminum	07/06/04	1254.4	NF[c]	27.1	—	—	14.7	µg/L	B	U
Ammonia (as N)	07/06/04	1254.4	F	15.9	—	—	15.9	µg/L	U	—
Antimony	07/06/04	1254.4	F	0.28	—	—	0.28	µg/L	U	—
Antimony	07/06/04	1254.4	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	07/06/04	1254.4	F	2.2	—	—	2.2	µg/L	U	—
Arsenic	07/06/04	1254.4	NF	2.2	—	—	2.2	µg/L	U	—
Barium	07/06/04	1254.4	F	22.5	—	—	0.22	µg/L	—	—
Barium	07/06/04	1254.4	NF	23	—	—	0.22	µg/L	—	—
Beryllium	07/06/04	1254.4	F	0.16	—	—	0.16	µg/L	U	—
Beryllium	07/06/04	1254.4	NF	0.16	—	—	0.16	µg/L	U	—
Boron	07/06/04	1254.4	F	10.3	—	—	4.9	µg/L	B	—
Boron	07/06/04	1254.4	NF	8.78	—	—	4.9	µg/L	B	—
Bromide	07/06/04	1254.4	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	07/06/04	1254.4	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	07/06/04	1254.4	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	07/06/04	1254.4	F	10500	—	—	5.5	µg/L	—	—
Calcium	07/06/04	1254.4	NF	10400	—	—	5.5	µg/L	—	—
Chloride	07/06/04	1254.4	F	1410	—	—	32.2	µg/L	—	—
Chromium	07/06/04	1254.4	F	1.16	—	—	0.5	µg/L	B	JN-
Chromium	07/06/04	1254.4	NF	2.5	—	—	0.5	µg/L	B	JN-
Cobalt	07/06/04	1254.4	F	0.612	—	—	0.54	µg/L	B	—
Cobalt	07/06/04	1254.4	NF	0.54	—	—	0.54	µg/L	U	—
Copper	07/06/04	1254.4	F	1.4	—	—	1.4	µg/L	U	—
Copper	07/06/04	1254.4	NF	1.4	—	—	1.4	µg/L	U	—

Table A-42 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	07/06/04	1254.4	F	55.3	—	—	55.3	µg/L	U	—
Hardness	07/06/04	1254.4	F	40000	—	—	5.54	µg/L	—	—
Hardness	07/06/04	1254.4	NF	39500	—	—	5.54	µg/L	—	—
Iron	07/06/04	1254.4	F	12.6	—	—	12.6	µg/L	U	—
Iron	07/06/04	1254.4	NF	13.2	—	—	12.6	µg/L	B	U
Lead	07/06/04	1254.4	F	0.05	—	—	0.05	µg/L	U	—
Lead	07/06/04	1254.4	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	07/06/04	1254.4	F	3350	—	—	5.2	µg/L	—	—
Magnesium	07/06/04	1254.4	NF	3290	—	—	5.2	µg/L	—	—
Manganese	07/06/04	1254.4	F	0.647	—	—	0.3	µg/L	B	—
Manganese	07/06/04	1254.4	NF	1.13	—	—	0.3	µg/L	B	—
Molybdenum	07/06/04	1254.4	F	1.4	—	—	1.4	µg/L	U	—
Molybdenum	07/06/04	1254.4	NF	1.4	—	—	1.4	µg/L	U	—
Nickel	07/06/04	1254.4	F	0.994	—	—	0.69	µg/L	B	JN-
Nickel	07/06/04	1254.4	NF	2.56	—	—	0.69	µg/L	B	JN-
Nitrate+Nitrite (as N)	07/06/04	1254.4	F	200	—	—	10	µg/L	—	—
Perchlorate	07/06/04	1254.4	NF	0.248	—	—	0.05	µg/L	—	J-
Phosphorus (as PO_4)	07/06/04	1254.4	F	193	—	—	151	µg/L	HJ	UJ
Phosphorus (as P)	07/06/04	1254.4	F	33	—	—	11	µg/L	J	—
Potassium	07/06/04	1254.4	F	1440	—	—	16.5	µg/L	—	—
Potassium	07/06/04	1254.4	NF	1440	—	—	16.5	µg/L	—	—
Silicon Dioxide	07/06/04	1254.4	F	60400	—	—	21.2	µg/L	—	—
Silicon Dioxide	07/06/04	1254.4	NF	60100	—	—	21.2	µg/L	—	—
Silver	07/06/04	1254.4	F	0.84	—	—	0.84	µg/L	U	—
Silver	07/06/04	1254.4	NF	0.84	—	—	0.84	µg/L	U	—
Sodium	07/06/04	1254.4	F	9980	—	—	14.4	µg/L	—	—
Sodium	07/06/04	1254.4	NF	9970	—	—	14.4	µg/L	—	—
Strontium	07/06/04	1254.4	F	55.5	—	—	0.18	µg/L	—	—
Strontium	07/06/04	1254.4	NF	55.1	—	—	0.18	µg/L	—	—

Table A-42 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Sulfate	07/06/04	1254.4	F	1370	—	—	193	µg/L	—	—
Thallium	07/06/04	1254.4	F	0.041	—	—	0.02	µg/L	B	U
Thallium	07/06/04	1254.4	NF	0.02	—	—	0.02	µg/L	U	—
Tin	07/06/04	1254.4	F	3.3	—	—	3.3	µg/L	U	—
Tin	07/06/04	1254.4	NF	3.3	—	—	3.3	µg/L	U	—
Total Kjeldahl Nitrogen	07/06/04	1254.4	F	44	—	—	44	µg/L	U	—
Uranium	07/06/04	1254.4	F	0.438	—	—	0.02	µg/L	—	J+
Uranium	07/06/04	1254.4	NF	0.44	—	—	0.02	µg/L	—	J+
Vanadium	07/06/04	1254.4	F	4.34	—	—	0.61	µg/L	B	—
Vanadium	07/06/04	1254.4	NF	3.18	—	—	0.61	µg/L	B	—
Zinc	07/06/04	1254.4	F	0.88	—	—	0.88	µg/L	U	R
Zinc	07/06/04	1254.4	NF	1.95	—	—	0.88	µg/L	B	JN-
Detected Organic Constituents										
Total Organic Carbon	07/06/04	1254.4	NF	243	—	—	25	µg/L	—	R
Radiologic Constituents										
No radiologic constituents ordered										

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-43

Well CdV-R-15-3 Screen 5 Fourteenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	07/07/04	1350.1	F[a]	86800	—[b]	—	1450	µg/L	—	—
Aluminum	07/07/04	1350.1	F	18.7	—	—	14.7	µg/L	B	U
Aluminum	07/07/04	1350.1	NF[c]	26.1	—	—	14.7	µg/L	B	U
Ammonia (as N)	07/07/04	1350.1	F	139	—	—	15.9	µg/L	—	U
Antimony	07/07/04	1350.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	07/07/04	1350.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	07/07/04	1350.1	F	2.2	—	—	2.2	µg/L	U	—
Arsenic	07/07/04	1350.1	NF	4.79	—	—	2.2	µg/L	B	—
Barium	07/07/04	1350.1	F	118	—	—	0.22	µg/L	—	—
Barium	07/07/04	1350.1	NF	112	—	—	0.22	µg/L	—	—
Beryllium	07/07/04	1350.1	F	0.16	—	—	0.16	µg/L	U	—
Beryllium	07/07/04	1350.1	NF	0.161	—	—	0.16	µg/L	B	U
Boron	07/07/04	1350.1	F	23.3	—	—	4.9	µg/L	B	—
Boron	07/07/04	1350.1	NF	23.4	—	—	4.9	µg/L	B	—
Bromide	07/07/04	1350.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	07/07/04	1350.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	07/07/04	1350.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	07/07/04	1350.1	F	16300	—	—	5.5	µg/L	—	—
Calcium	07/07/04	1350.1	NF	15400	—	—	5.5	µg/L	—	—
Chloride	07/07/04	1350.1	F	1870	—	—	32.2	µg/L	—	—
Chromium	07/07/04	1350.1	F	0.5	—	—	0.5	µg/L	U	UJ
Chromium	07/07/04	1350.1	NF	0.5	—	—	0.5	µg/L	U	UJ
Cobalt	07/07/04	1350.1	F	4.41	—	—	0.54	µg/L	B	—
Cobalt	07/07/04	1350.1	NF	1.13	—	—	0.54	µg/L	B	—

Table A-43 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	07/07/04	1350.1	F	1.4	—	—	1.4	µg/L	U	—
Copper	07/07/04	1350.1	NF	1.4	—	—	1.4	µg/L	U	—
Fluoride	07/07/04	1350.1	F	348	—	—	55.3	µg/L	—	—
Hardness	07/07/04	1350.1	F	49300	—	—	5.54	µg/L	—	—
Hardness	07/07/04	1350.1	NF	46400	—	—	5.54	µg/L	—	—
Iron	07/07/04	1350.1	F	145	—	—	12.6	µg/L	—	—
Iron	07/07/04	1350.1	NF	147	—	—	12.6	µg/L	—	—
Lead	07/07/04	1350.1	F	0.053	—	—	0.05	µg/L	B	—
Lead	07/07/04	1350.1	NF	0.08	—	—	0.05	µg/L	B	—
Magnesium	07/07/04	1350.1	F	2100	—	—	5.2	µg/L	—	—
Magnesium	07/07/04	1350.1	NF	1950	—	—	5.2	µg/L	—	—
Manganese	07/07/04	1350.1	F	219	—	—	0.3	µg/L	—	—
Manganese	07/07/04	1350.1	NF	195	—	—	0.3	µg/L	—	—
Molybdenum	07/07/04	1350.1	F	1.4	—	—	1.4	µg/L	U	—
Molybdenum	07/07/04	1350.1	NF	1.55	—	—	1.4	µg/L	B	U
Nickel	07/07/04	1350.1	F	1.03	—	—	0.69	µg/L	B	JN-
Nickel	07/07/04	1350.1	NF	0.69	—	—	0.69	µg/L	U	UJ
Nitrate+Nitrite (as N)	07/07/04	1350.1	F	10	—	—	10	µg/L	U	R
Perchlorate	07/07/04	1350.1	NF	0.05	—	—	0.05	µg/L	U	R
Phosphorus (as PO_4)	07/07/04	1350.1	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	07/07/04	1350.1	F	49	—	—	11	µg/L	J	—
Potassium	07/07/04	1350.1	F	1880	—	—	16.5	µg/L	—	—
Potassium	07/07/04	1350.1	NF	1780	—	—	16.5	µg/L	—	—
Silicon Dioxide	07/07/04	1350.1	F	60900	—	—	21.2	µg/L	—	—
Silicon Dioxide	07/07/04	1350.1	NF	59100	—	—	21.2	µg/L	—	—
Silver	07/07/04	1350.1	F	0.84	—	—	0.84	µg/L	U	—
Silver	07/07/04	1350.1	NF	0.84	—	—	0.84	µg/L	U	—
Sodium	07/07/04	1350.1	F	15600	—	—	14.4	µg/L	—	—
Sodium	07/07/04	1350.1	NF	15200	—	—	14.4	µg/L	—	—

Table A-43 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium	07/07/04	1350.1	F	623	—	—	0.18	µg/L	—	—
Strontium	07/07/04	1350.1	NF	621	—	—	0.18	µg/L	—	—
Sulfate	07/07/04	1350.1	F	245	—	—	193	µg/L	J	—
Thallium	07/07/04	1350.1	F	0.02	—	—	0.02	µg/L	U	—
Thallium	07/07/04	1350.1	NF	0.042	—	—	0.02	µg/L	B	U
Tin	07/07/04	1350.1	F	3.3	—	—	3.3	µg/L	U	—
Tin	07/07/04	1350.1	NF	3.3	—	—	3.3	µg/L	U	—
Total Kjeldahl Nitrogen	07/07/04	1350.1	F	227	—	—	44	µg/L	—	—
Uranium	07/07/04	1350.1	F	0.035	—	—	0.02	µg/L	B	J+
Uranium	07/07/04	1350.1	NF	0.048	—	—	0.02	µg/L	B	J+
Vanadium	07/07/04	1350.1	F	0.61	—	—	0.61	µg/L	U	UJ
Vanadium	07/07/04	1350.1	NF	0.61	—	—	0.61	µg/L	U	UJ
Zinc	07/07/04	1350.1	F	0.88	—	—	0.88	µg/L	U	R
Zinc	07/07/04	1350.1	NF	0.88	—	—	0.88	µg/L	U	R
Detected Organic Constituents										
Total Organic Carbon	07/07/04	1350.1	NF	5320	—	—	25	µg/L	—	—
Radiologic Constituents										
Tritium	07/07/04	1350.1	NF	-0.13	0.29	0.29	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-44

Well CdV-R-15-3 Screen 6 Fourteenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-15-3 was 1246 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	07/08/04	1640.1	F[a]	56500	—[b]	—	1450	µg/L	—	—
Aluminum	07/08/04	1640.1	F	21.4	—	—	14.7	µg/L	B	J-
Aluminum	07/08/04	1640.1	NF[c]	27.2	—	—	14.7	µg/L	B	J-
Ammonia (as N)	07/08/04	1640.1	F	15.9	—	—	15.9	µg/L	U	—
Antimony	07/08/04	1640.1	F	0.28	—	—	0.28	µg/L	U	—
Antimony	07/08/04	1640.1	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	07/08/04	1640.1	F	2.2	—	—	2.2	µg/L	U	—
Arsenic	07/08/04	1640.1	NF	2.2	—	—	2.2	µg/L	U	—
Barium	07/08/04	1640.1	F	19	—	—	0.22	µg/L	—	—
Barium	07/08/04	1640.1	NF	18.4	—	—	0.22	µg/L	—	—
Beryllium	07/08/04	1640.1	F	0.16	—	—	0.16	µg/L	U	—
Beryllium	07/08/04	1640.1	NF	0.16	—	—	0.16	µg/L	U	—
Boron	07/08/04	1640.1	F	11.9	—	—	4.9	µg/L	B	—
Boron	07/08/04	1640.1	NF	12.7	—	—	4.9	µg/L	B	—
Bromide	07/08/04	1640.1	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	07/08/04	1640.1	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	07/08/04	1640.1	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	07/08/04	1640.1	F	8820	—	—	5.5	µg/L	—	—
Calcium	07/08/04	1640.1	NF	8890	—	—	5.5	µg/L	—	—
Chloride	07/08/04	1640.1	F	1460	—	—	32.2	µg/L	—	—
Chromium	07/08/04	1640.1	F	0.5	—	—	0.5	µg/L	U	UJ
Chromium	07/08/04	1640.1	NF	2.14	—	—	0.5	µg/L	B	JN-
Cobalt	07/08/04	1640.1	F	1.06	—	—	0.54	µg/L	B	U
Cobalt	07/08/04	1640.1	NF	0.54	—	—	0.54	µg/L	U	—

Table A-44 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	07/08/04	1640.1	F	1.4	—	—	1.4	µg/L	U	—
Copper	07/08/04	1640.1	NF	1.4	—	—	1.4	µg/L	U	—
Fluoride	07/08/04	1640.1	F	78	—	—	55.3	µg/L	J	—
Hardness	07/08/04	1640.1	F	33700	—	—	5.54	µg/L	—	—
Hardness	07/08/04	1640.1	NF	34000	—	—	5.54	µg/L	—	—
Iron	07/08/04	1640.1	F	203	—	—	12.6	µg/L	—	—
Iron	07/08/04	1640.1	NF	301	—	—	12.6	µg/L	—	—
Lead	07/08/04	1640.1	F	0.05	—	—	0.05	µg/L	U	—
Lead	07/08/04	1640.1	NF	0.055	—	—	0.05	µg/L	B	—
Magnesium	07/08/04	1640.1	F	2830	—	—	5.2	µg/L	—	—
Magnesium	07/08/04	1640.1	NF	2860	—	—	5.2	µg/L	—	—
Manganese	07/08/04	1640.1	F	132	—	—	0.3	µg/L	—	—
Manganese	07/08/04	1640.1	NF	136	—	—	0.3	µg/L	—	—
Molybdenum	07/08/04	1640.1	F	1.4	—	—	1.4	µg/L	U	—
Molybdenum	07/08/04	1640.1	NF	3.01	—	—	1.4	µg/L	B	U
Nickel	07/08/04	1640.1	F	0.913	—	—	0.69	µg/L	B	U
Nickel	07/08/04	1640.1	NF	1.74	—	—	0.69	µg/L	B	U
Nitrate+Nitrite (as N)	07/08/04	1640.1	F	10	—	—	10	µg/L	U	R
Perchlorate	07/08/04	1640.1	NF	0.199	—	—	0.05	µg/L	J	R
Phosphorus (as PO_4)	07/08/04	1640.1	F	192	—	—	151	µg/L	HJ	UJ
Phosphorus (as P)	07/08/04	1640.1	F	37	—	—	11	µg/L	J	—
Potassium	07/08/04	1640.1	F	1740	—	—	16.5	µg/L	—	—
Potassium	07/08/04	1640.1	NF	1740	—	—	16.5	µg/L	—	—
Silicon Dioxide	07/08/04	1640.1	F	61900	—	—	21.2	µg/L	—	—
Silicon Dioxide	07/08/04	1640.1	NF	62000	—	—	21.2	µg/L	—	—
Silver	07/08/04	1640.1	F	0.84	—	—	0.84	µg/L	U	—
Silver	07/08/04	1640.1	NF	0.84	—	—	0.84	µg/L	U	—
Sodium	07/08/04	1640.1	F	12000	—	—	14.4	µg/L	—	—
Sodium	07/08/04	1640.1	NF	12000	—	—	14.4	µg/L	—	—

Table A-44 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Strontium	07/08/04	1640.1	F	51.4	—	—	0.18	µg/L	—	—
Strontium	07/08/04	1640.1	NF	51.7	—	—	0.18	µg/L	—	—
Sulfate	07/08/04	1640.1	F	1160	—	—	193	µg/L	—	—
Thallium	07/08/04	1640.1	F	0.429	—	—	0.02	µg/L	B	—
Thallium	07/08/04	1640.1	NF	0.141	—	—	0.02	µg/L	B	U
Tin	07/08/04	1640.1	F	3.3	—	—	3.3	µg/L	U	—
Tin	07/08/04	1640.1	NF	3.3	—	—	3.3	µg/L	U	—
Total Kjeldahl Nitrogen	07/08/04	1640.1	F	146	—	—	44	µg/L	—	—
Uranium	07/08/04	1640.1	F	0.196	—	—	0.02	µg/L	B	—
Uranium	07/08/04	1640.1	NF	0.18	—	—	0.02	µg/L	B	—
Vanadium	07/08/04	1640.1	F	1.61	—	—	0.61	µg/L	B	JN-
Vanadium	07/08/04	1640.1	NF	0.662	—	—	0.61	µg/L	B	JN-
Zinc	07/08/04	1640.1	F	3.05	—	—	0.88	µg/L	B*	JN-
Zinc	07/08/04	1640.1	NF	3.85	—	—	0.88	µg/L	B*	JN-
Detected Organic Constituents										
Total Organic Carbon	07/08/04	1640.1	NF	440	—	—	25	µg/L	—	UJ
Radiologic Constituents										
Tritium	07/08/04	1640.1	NF	-0.03	0.29	0.29	—	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-45

Well CdV-R-37-2 Screen 2 Ninth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-37-2 was 1195 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	04/13/04	1200.3	F[a]	135000	—[b]	—	1450	µg/L	—	—
Aluminum	04/13/04	1200.3	F	14.7	—	—	14.7	µg/L	U	R
Aluminum	04/13/04	1200.3	NF[c]	14.7	—	—	14.7	µg/L	U	R
Ammonia (as N)	04/13/04	1200.3	F	634	—	—	15.9	µg/L	—	—
Antimony	04/13/04	1200.3	F	0.28	—	—	0.28	µg/L	U	—
Antimony	04/13/04	1200.3	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/13/04	1200.3	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	04/13/04	1200.3	NF	2.8	—	—	2.24	µg/L	B	—
Barium	04/13/04	1200.3	F	260	—	—	0.222	µg/L	—	—
Barium	04/13/04	1200.3	NF	254	—	—	0.222	µg/L	—	—
Beryllium	04/13/04	1200.3	F	0.158	—	—	0.158	µg/L	U	—
Beryllium	04/13/04	1200.3	NF	0.158	—	—	0.158	µg/L	U	—
Boron	04/13/04	1200.3	F	20	—	—	4.88	µg/L	B	—
Boron	04/13/04	1200.3	NF	18.5	—	—	4.88	µg/L	B	—
Bromide	04/13/04	1200.3	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/13/04	1200.3	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/13/04	1200.3	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/13/04	1200.3	F	24100	—	—	5.54	µg/L	—	—
Calcium	04/13/04	1200.3	NF	23900	—	—	5.54	µg/L	—	—
Chloride	04/13/04	1200.3	F	2340	—	—	32.2	µg/L	—	—
Chromium	04/13/04	1200.3	F	1.8	—	—	0.503	µg/L	B	U
Chromium	04/13/04	1200.3	NF	3.8	—	—	0.503	µg/L	B	U
Cobalt	04/13/04	1200.3	F	1.1	—	—	0.541	µg/L	B	—
Cobalt	04/13/04	1200.3	NF	1.4	—	—	0.541	µg/L	B	—

Table A-45 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Copper	04/13/04	1200.3	F	1.39	—	—	1.39	µg/L	U	—
Copper	04/13/04	1200.3	NF	1.39	—	—	1.39	µg/L	U	—
Fluoride	04/13/04	1200.3	F	214	—	—	55.3	µg/L	—	—
Hardness	04/13/04	1200.3	F	89900	—	—	5.54	µg/L	—	—
Hardness	04/13/04	1200.3	NF	89200	—	—	5.54	µg/L	—	—
Iron	04/13/04	1200.3	F	9950	—	—	12.6	µg/L	—	—
Iron	04/13/04	1200.3	NF	11600	—	—	12.6	µg/L	—	—
Lead	04/13/04	1200.3	F	0.05	—	—	0.05	µg/L	U	—
Lead	04/13/04	1200.3	NF	0.087	—	—	0.05	µg/L	B	U
Magnesium	04/13/04	1200.3	F	7210	—	—	5.18	µg/L	—	—
Magnesium	04/13/04	1200.3	NF	7160	—	—	5.18	µg/L	—	—
Manganese	04/13/04	1200.3	F	3420	—	—	0.296	µg/L	—	—
Manganese	04/13/04	1200.3	NF	3300	—	—	0.296	µg/L	—	—
Molybdenum	04/13/04	1200.3	F	16.7	—	—	1.43	µg/L	—	—
Molybdenum	04/13/04	1200.3	NF	16.1	—	—	1.43	µg/L	—	—
Nickel	04/13/04	1200.3	F	4.3	—	—	0.69	µg/L	B	U
Nickel	04/13/04	1200.3	NF	5.2	—	—	0.69	µg/L	—	—
Nitrate+Nitrite (as N)	04/13/04	1200.3	F	10	—	—	10	µg/L	U	R
Perchlorate	04/13/04	1200.3	NF	0.2	—	—	—	µg/L	U	—
Phosphorus (as PO_4)	04/13/04	1200.3	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	04/13/04	1200.3	F	11	—	—	11	µg/L	U	—
Potassium	04/13/04	1200.3	F	2860	—	—	16.5	µg/L	—	—
Potassium	04/13/04	1200.3	NF	2930	—	—	16.5	µg/L	—	—
Silicon Dioxide	04/13/04	1200.3	F	45200	—	—	21.2	µg/L	—	—
Silicon Dioxide	04/13/04	1200.3	NF	45300	—	—	21.2	µg/L	—	—
Silver	04/13/04	1200.3	F	0.835	—	—	0.835	µg/L	U	—
Silver	04/13/04	1200.3	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/13/04	1200.3	F	18500	—	—	14.4	µg/L	—	—
Sodium	04/13/04	1200.3	NF	18600	—	—	14.4	µg/L	—	—
Strontium	04/13/04	1200.3	F	175	—	—	0.178	µg/L	—	—
Strontium	04/13/04	1200.3	NF	173	—	—	0.178	µg/L	—	—

Table A-45 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Sulfate	04/13/04	1200.3	F	565	—	—	193	µg/L	—	—
Thallium	04/13/04	1200.3	F	0.3	—	—	0.02	µg/L	B	—
Thallium	04/13/04	1200.3	NF	0.053	—	—	0.02	µg/L	B	U
Tin	04/13/04	1200.3	F	3.26	—	—	3.26	µg/L	U	—
Tin	04/13/04	1200.3	NF	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	04/13/04	1200.3	F	964	—	—	44	µg/L	—	—
Uranium	04/13/04	1200.3	F	0.053	—	—	0.02	µg/L	B	—
Uranium	04/13/04	1200.3	NF	0.055	—	—	0.02	µg/L	B	—
Vanadium	04/13/04	1200.3	F	0.66	—	—	0.606	µg/L	B	JN-
Vanadium	04/13/04	1200.3	NF	0.606	—	—	0.606	µg/L	U	UJ
Zinc	04/13/04	1200.3	F	2.4	—	—	0.883	µg/L	B	JN-
Zinc	04/13/04	1200.3	NF	5.2	—	—	0.883	µg/L	—	J-
Detected Inorganic Constituents										
Total Organic Carbon	04/13/04	1200.3	NF	4810	—	—	25	µg/L	—	—
Radiologic Constituents										
Tritium	04/13/04	1200.3	NF	0.41509	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-46

Well CdV-R-37-2 Screen 3 Ninth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-37-2 was 1195 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	04/14/04	1359.3	F[a]	65200	—[b]	—	1450	µg/L	—	—
Aluminum	04/13/04	1359.3	NF[c]	14.7	—	—	14.7	µg/L	U	R
Aluminum	04/14/04	1359.3	F	14.7	—	—	14.7	µg/L	U	R
Ammonia (as N)	04/14/04	1359.3	F	15.9	—	—	15.9	µg/L	U	UJ
Antimony	04/13/04	1359.3	NF	0.28	—	—	0.28	µg/L	U	—
Antimony	04/14/04	1359.3	F	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/13/04	1359.3	NF	2.6	—	—	2.24	µg/L	B	—
Arsenic	04/14/04	1359.3	F	2.24	—	—	2.24	µg/L	U	—
Barium	04/13/04	1359.3	NF	12	—	—	0.222	µg/L	—	—
Barium	04/14/04	1359.3	F	13.9	—	—	0.222	µg/L	—	—
Beryllium	04/13/04	1359.3	NF	0.158	—	—	0.158	µg/L	U	—
Beryllium	04/14/04	1359.3	F	0.158	—	—	0.158	µg/L	U	—
Boron	04/13/04	1359.3	NF	10.5	—	—	4.88	µg/L	B	—
Boron	04/14/04	1359.3	F	8.9	—	—	4.88	µg/L	B	—
Bromide	04/14/04	1359.3	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	04/13/04	1359.3	NF	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/14/04	1359.3	F	0.04	—	—	0.04	µg/L	U	—
Calcium	04/13/04	1359.3	NF	9930	—	—	5.54	µg/L	—	—
Calcium	04/14/04	1359.3	F	10400	—	—	5.54	µg/L	—	—
Chloride	04/14/04	1359.3	F	1650	—	—	32.2	µg/L	—	—
Chromium	04/13/04	1359.3	NF	2.8	—	—	0.503	µg/L	B	U
Chromium	04/14/04	1359.3	F	2.6	—	—	0.503	µg/L	B	U
Cobalt	04/13/04	1359.3	NF	0.541	—	—	0.541	µg/L	U	—
Cobalt	04/14/04	1359.3	F	0.541	—	—	0.541	µg/L	U	—
Copper	04/13/04	1359.3	NF	1.39	—	—	1.39	µg/L	U	—
Copper	04/14/04	1359.3	F	1.39	—	—	1.39	µg/L	U	—
Fluoride	04/14/04	1359.3	F	229	—	—	55.3	µg/L	—	—

Table A-46 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Hardness	04/13/04	1359.3	NF	36900	—	—	5.54	µg/L	—	—
Hardness	04/14/04	1359.3	F	38500	—	—	5.54	µg/L	—	—
Iron	04/13/04	1359.3	NF	21.1	—	—	12.6	µg/L	B	—
Iron	04/14/04	1359.3	F	12.6	—	—	12.6	µg/L	U	—
Lead	04/13/04	1359.3	NF	0.05	—	—	0.05	µg/L	U	—
Lead	04/14/04	1359.3	F	0.05	—	—	0.05	µg/L	U	—
Magnesium	04/13/04	1359.3	NF	2940	—	—	5.18	µg/L	—	—
Magnesium	04/14/04	1359.3	F	3080	—	—	5.18	µg/L	—	—
Manganese	04/13/04	1359.3	NF	6.8	—	—	0.296	µg/L	B	—
Manganese	04/14/04	1359.3	F	10.2	—	—	0.296	µg/L	—	—
Molybdenum	04/13/04	1359.3	NF	1.43	—	—	1.43	µg/L	U	—
Molybdenum	04/14/04	1359.3	F	2.1	—	—	1.43	µg/L	B	—
Nickel	04/13/04	1359.3	NF	0.69	—	—	0.69	µg/L	U	—
Nickel	04/14/04	1359.3	F	0.69	—	—	0.69	µg/L	U	—
Nitrate+Nitrite (as N)	04/14/04	1359.3	F	360	—	—	10	µg/L	—	—
Perchlorate	04/13/04	1359.3	NF	0.262	—	—	—	µg/L	—	J+
Phosphorus (as PO_4)	04/14/04	1359.3	F	151	—	—	151	µg/L	UH	R
Phosphorus (as P)	04/14/04	1359.3	F	11	—	—	11	µg/L	U	—
Potassium	04/13/04	1359.3	NF	1310	—	—	16.5	µg/L	—	—
Potassium	04/14/04	1359.3	F	1400	—	—	16.5	µg/L	—	—
Silicon Dioxide	04/13/04	1359.3	NF	63700	—	—	21.2	µg/L	—	—
Silicon Dioxide	04/14/04	1359.3	F	65600	—	—	21.2	µg/L	—	—
Silver	04/13/04	1359.3	NF	0.835	—	—	0.835	µg/L	U	—
Silver	04/14/04	1359.3	F	0.835	—	—	0.835	µg/L	U	—
Sodium	04/13/04	1359.3	NF	11000	—	—	14.4	µg/L	—	—
Sodium	04/14/04	1359.3	F	11300	—	—	14.4	µg/L	—	—
Strontium	04/13/04	1359.3	NF	55.8	—	—	0.178	µg/L	—	—
Strontium	04/14/04	1359.3	F	58.4	—	—	0.178	µg/L	—	—
Sulfate	04/14/04	1359.3	F	1930	—	—	193	µg/L	—	—
Thallium	04/13/04	1359.3	NF	0.035	—	—	0.02	µg/L	B	U
Thallium	04/14/04	1359.3	F	0.092	—	—	0.02	µg/L	B	U

Table A-46 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tin	04/13/04	1359.3	NF	3.26	—	—	3.26	µg/L	U	—
Tin	04/14/04	1359.3	F	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	04/14/04	1359.3	F	335	—	—	44	µg/L	—	—
Uranium	04/13/04	1359.3	NF	0.43	—	—	0.02	µg/L	—	—
Uranium	04/14/04	1359.3	F	0.43	—	—	0.02	µg/L	—	—
Vanadium	04/13/04	1359.3	NF	8.7	—	—	0.606	µg/L	—	—
Vanadium	04/14/04	1359.3	F	8.9	—	—	0.606	µg/L	—	—
Zinc	04/13/04	1359.3	NF	0.883	—	—	0.883	µg/L	U	R
Zinc	04/14/04	1359.3	F	1.6	—	—	0.883	µg/L	B	JN-
Detected Inorganic Constituents										
Total Organic Carbon	04/13/04	1359.3	NF	267	—	—	25	µg/L	—	UJ
Radiologic Constituents										
Tritium	04/13/04	1359.3	NF	-0.12772	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-47

Well CdV-R-37-2 Screen 4 Ninth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-37-2 was 1195 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inorganic Constituents										
Alkalinity (CO_3+HCO_3)	04/15/04	1550.6	F[a]	51900	—[b]	—	1450	µg/L	—	—
Aluminum	04/15/04	1550.6	F	21	—	—	14.7	µg/L	B	J-
Aluminum	04/15/04	1550.6	NF[c]	26.1	—	—	14.7	µg/L	B	J-
Ammonia (as N)	04/15/04	1550.6	F	118	—	—	15.9	µg/L	—	J+
Antimony	04/15/04	1550.6	F	0.28	—	—	0.28	µg/L	U	—
Antimony	04/15/04	1550.6	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	04/15/04	1550.6	F	4.1	—	—	2.24	µg/L	B	—
Arsenic	04/15/04	1550.6	NF	2.24	—	—	2.24	µg/L	U	—
Barium	04/15/04	1550.6	F	17.6	—	—	0.222	µg/L	—	—
Barium	04/15/04	1550.6	NF	18.9	—	—	0.222	µg/L	—	—
Beryllium	04/15/04	1550.6	F	0.158	—	—	0.158	µg/L	U	—
Beryllium	04/15/04	1550.6	NF	0.158	—	—	0.158	µg/L	U	—
Boron	04/15/04	1550.6	F	11.1	—	—	4.88	µg/L	B	—
Boron	04/15/04	1550.6	NF	10.8	—	—	4.88	µg/L	B	—
Bromide	04/15/04	1550.6	F	97.8	—	—	97.8	µg/L	—	—
Cadmium	04/15/04	1550.6	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	04/15/04	1550.6	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	04/15/04	1550.6	F	9110	—	—	5.54	µg/L	—	—
Calcium	04/15/04	1550.6	NF	9320	—	—	5.54	µg/L	—	—
Chloride	04/15/04	1550.6	F	1990	—	—	32.2	µg/L	—	—
Chromium	04/15/04	1550.6	F	1.4	—	—	0.503	µg/L	B	U
Chromium	04/15/04	1550.6	NF	2.2	—	—	0.503	µg/L	B	U
Cobalt	04/15/04	1550.6	F	0.541	—	—	0.541	µg/L	U	UJ
Cobalt	04/15/04	1550.6	NF	0.541	—	—	0.541	µg/L	U	UJ
Copper	04/15/04	1550.6	F	1.39	—	—	1.39	µg/L	U	—
Copper	04/15/04	1550.6	NF	1.39	—	—	1.39	µg/L	U	—
Fluoride	04/15/04	1550.6	F	269	—	—	55.3	µg/L	—	—

Table A-47 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Hardness	04/15/04	1550.6	F	35100	—	—	5.54	µg/L	—	—
Hardness	04/15/04	1550.6	NF	35900	—	—	5.54	µg/L	—	—
Iron	04/15/04	1550.6	F	3660	—	—	12.6	µg/L	—	—
Iron	04/15/04	1550.6	NF	3990	—	—	12.6	µg/L	—	—
Lead	04/15/04	1550.6	F	0.05	—	—	0.05	µg/L	U	—
Lead	04/15/04	1550.6	NF	0.087	—	—	0.05	µg/L	B	—
Magnesium	04/15/04	1550.6	F	3000	—	—	5.18	µg/L	—	—
Magnesium	04/15/04	1550.6	NF	3080	—	—	5.18	µg/L	—	—
Manganese	04/15/04	1550.6	F	113	—	—	0.296	µg/L	—	—
Manganese	04/15/04	1550.6	NF	116	—	—	0.296	µg/L	—	—
Molybdenum	04/15/04	1550.6	F	2	—	—	1.43	µg/L	B	—
Molybdenum	04/15/04	1550.6	NF	1.6	—	—	1.43	µg/L	B	—
Nickel	04/15/04	1550.6	F	1.7	—	—	0.69	µg/L	B	—
Nickel	04/15/04	1550.6	NF	2.1	—	—	0.69	µg/L	B	—
Nitrate+Nitrite (as N)	04/15/04	1550.6	F	10	—	—	10	µg/L	U	R
Perchlorate	04/15/04	1550.6	NF	0.561	—	—	—	µg/L	—	—
Phosphorus (as P)	04/15/04	1550.6	F	33	—	—	11	µg/L	J	J+
Phosphorus (as PO_4)	04/15/04	1550.6	F	151	—	—	151	µg/L	H	UJ
Potassium	04/15/04	1550.6	F	1920	—	—	16.5	µg/L	—	J
Potassium	04/15/04	1550.6	NF	1960	—	—	16.5	µg/L	—	J
Silicon Dioxide	04/15/04	1550.6	F	64900	—	—	21.2	µg/L	—	—
Silicon Dioxide	04/15/04	1550.6	NF	67100	—	—	21.2	µg/L	—	—
Silver	04/15/04	1550.6	F	0.835	—	—	0.835	µg/L	U	—
Silver	04/15/04	1550.6	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	04/15/04	1550.6	F	11100	—	—	14.4	µg/L	—	—
Sodium	04/15/04	1550.6	NF	11400	—	—	14.4	µg/L	—	—
Strontium	04/15/04	1550.6	F	46	—	—	0.178	µg/L	—	—
Strontium	04/15/04	1550.6	NF	47.3	—	—	0.178	µg/L	—	—
Sulfate	04/15/04	1550.6	F	2770	—	—	193	µg/L	—	—
Thallium	04/15/04	1550.6	F	0.34	—	—	0.02	µg/L	B	—
Thallium	04/15/04	1550.6	NF	0.029	—	—	0.02	µg/L	B	U

Table A-47 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tin	04/15/04	1550.6	F	3.26	—	—	3.26	µg/L	U	—
Tin	04/15/04	1550.6	NF	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	04/15/04	1550.6	F	483	—	—	44	µg/L	—	J-
Uranium	04/15/04	1550.6	F	0.044	—	—	0.02	µg/L	B	—
Uranium	04/15/04	1550.6	NF	0.052	—	—	0.02	µg/L	B	—
Vanadium	04/15/04	1550.6	F	0.606	—	—	0.606	µg/L	U	UJ
Vanadium	04/15/04	1550.6	NF	0.606	—	—	0.606	µg/L	U	UJ
Zinc	04/15/04	1550.6	F	2.9	—	—	0.883	µg/L	B	—
Zinc	04/15/04	1550.6	NF	11.2	—	—	0.883	µg/L	—	—
Detected Inorganic Constituents										
Total Organic Carbon	04/15/04	1550.6	NF	1640	—	—	25	ug/L	—	J
Radiologic Constituents										
Tritium	04/15/04	1550.6	NF	-0.09579	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-48

Well CdV-R-37-2 Screen 2 Tenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-37-2 was 1195 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inoganic Constituents										
Alkalinity (CO_3+HCO_3)	10/26/04	1200.3	F[a]	121000	—[b]	—	1450	µg/L	—	—
Aluminum	10/26/04	1200.3	F	35.1	—	—	14.7	µg/L	J	—
Aluminum	10/26/04	1200.3	NF[c]	19.5	—	—	14.7	µg/L	J	—
Ammonia (as N)	10/26/04	1200.3	F	537	—	—	15.9	µg/L	—	—
Antimony	10/26/04	1200.3	F	0.28	—	—	0.28	µg/L	U	—
Antimony	10/26/04	1200.3	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	10/26/04	1200.3	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	10/26/04	1200.3	NF	6.2	—	—	2.24	µg/L	—	—
Barium	10/26/04	1200.3	F	249	—	—	0.222	µg/L	—	—
Barium	10/26/04	1200.3	NF	276	—	—	0.222	µg/L	—	—
Beryllium	10/26/04	1200.3	F	0.158	—	—	0.158	µg/L	U	—
Beryllium	10/26/04	1200.3	NF	0.158	—	—	0.158	µg/L	U	—
Boron	10/26/04	1200.3	F	19.6	—	—	4.88	µg/L	J	—
Boron	10/26/04	1200.3	NF	23	—	—	4.88	µg/L	J	—
Bromide	10/26/04	1200.3	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	10/26/04	1200.3	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	10/26/04	1200.3	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	10/26/04	1200.3	F	22900	—	—	5.54	µg/L	—	—
Calcium	10/26/04	1200.3	NF	23100	—	—	5.54	µg/L	—	—
Chloride	10/26/04	1200.3	F	2420	—	—	32.2	µg/L	—	—
Chromium	10/26/04	1200.3	F	0.503	—	—	0.503	µg/L	U	—
Chromium	10/26/04	1200.3	NF	0.503	—	—	0.503	µg/L	U	—
Cobalt	10/26/04	1200.3	F	1.9	—	—	0.541	µg/L	J	—
Cobalt	10/26/04	1200.3	NF	1.3	—	—	0.541	µg/L	J	—
Copper	10/26/04	1200.3	F	1.39	—	—	1.39	µg/L	U	—
Copper	10/26/04	1200.3	NF	1.39	—	—	1.39	µg/L	U	—

Table A-48 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	10/26/04	1200.3	F	207	—	—	55.3	µg/L	—	—
Hardness	10/26/04	1200.3	F	86200	—	—	5.54	µg/L	—	—
Hardness	10/26/04	1200.3	NF	86600	—	—	5.54	µg/L	—	—
Iron	10/26/04	1200.3	F	7910	—	—	12.6	µg/L	EN	—
Iron	10/26/04	1200.3	NF	13000	—	—	12.6	µg/L	EN	—
Lead	10/26/04	1200.3	F	0.05	—	—	0.05	µg/L	U	—
Lead	10/26/04	1200.3	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	10/26/04	1200.3	F	7050	—	—	5.18	µg/L	—	—
Magnesium	10/26/04	1200.3	NF	7030	—	—	5.18	µg/L	—	—
Manganese	10/26/04	1200.3	F	2930	—	—	0.296	µg/L	—	—
Manganese	10/26/04	1200.3	NF	3040	—	—	0.296	µg/L	—	—
Molybdenum	10/26/04	1200.3	F	15.5	—	—	1.43	µg/L	—	—
Molybdenum	10/26/04	1200.3	NF	14.8	—	—	1.43	µg/L	—	—
Nickel	10/26/04	1200.3	F	4.9	—	—	0.69	µg/L	J	—
Nickel	10/26/04	1200.3	NF	3.7	—	—	0.69	µg/L	J	—
Nitrate+Nitrite (as N)	10/26/04	1200.3	F	3	—	—	3	µg/L	U	—
Perchlorate	10/26/04	1200.3	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	10/26/04	1200.3	F	151	—	—	151	µg/L	UH	—
Phosphorus (as P)	10/26/04	1200.3	F	15	—	—	11	µg/L	J	—
Potassium	10/26/04	1200.3	F	2960	—	—	16.5	µg/L	—	—
Potassium	10/26/04	1200.3	NF	2940	—	—	16.5	µg/L	—	—
Silver	10/26/04	1200.3	F	0.835	—	—	0.835	µg/L	U	—
Silver	10/26/04	1200.3	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	10/26/04	1200.3	F	19900	—	—	14.4	µg/L	—	—
Sodium	10/26/04	1200.3	NF	20000	—	—	14.4	µg/L	—	—
Strontium	10/26/04	1200.3	F	164	—	—	0.178	µg/L	—	—
Strontium	10/26/04	1200.3	NF	166	—	—	0.178	µg/L	—	—
Sulfate	10/26/04	1200.3	F	476	—	—	193	µg/L	—	—
Thallium	10/26/04	1200.3	F	0.34	—	—	0.02	µg/L	J	—
Thallium	10/26/04	1200.3	NF	0.02	—	—	0.02	µg/L	U	—

Table A-48 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tin	10/26/04	1200.3	F	3.26	—	—	3.26	µg/L	U	—
Tin	10/26/04	1200.3	NF	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	10/26/04	1200.3	F	593	—	—	44	µg/L	—	—
Vanadium	10/26/04	1200.3	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	10/26/04	1200.3	NF	0.7	—	—	0.606	µg/L	J	—
Zinc	10/26/04	1200.3	F	4	—	—	0.883	µg/L	J	—
Zinc	10/26/04	1200.3	NF	6.6	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	10/26/04	1200.3	NF	4570	—	—	25	µg/L	—	—
Radiologic Constituents										
Tritium	10/26/04	1200.3	NF	0.44702	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-49

Well CdV-R-37-2 Screen 3 Tenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-37-2 was 1195 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inoganic Constituents										
Alkalinity (CO_3+HCO_3)	10/27/04	1359.3	F[a]	55400	—[b]	—	1450	µg/L	—	—
Aluminum	10/27/04	1359.3	F	14.8	—	—	14.7	µg/L	J	—
Aluminum	10/27/04	1359.3	NF[c]	14.7	—	—	14.7	µg/L	J	—
Ammonia (as N)	10/27/04	1359.3	F	15.9	—	—	15.9	µg/L	U	—
Antimony	10/27/04	1359.3	F	0.28	—	—	0.28	µg/L	U	—
Antimony	10/27/04	1359.3	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	10/27/04	1359.3	F	4.2	—	—	2.24	µg/L	J	—
Arsenic	10/27/04	1359.3	NF	4.3	—	—	2.24	µg/L	J	—
Barium	10/27/04	1359.3	F	11.9	—	—	0.222	µg/L	—	—
Barium	10/27/04	1359.3	NF	11.6	—	—	0.222	µg/L	—	—
Beryllium	10/27/04	1359.3	F	0.158	—	—	0.158	µg/L	U	—
Beryllium	10/27/04	1359.3	NF	0.158	—	—	0.158	µg/L	U	—
Boron	10/27/04	1359.3	F	9.7	—	—	4.88	µg/L	J	—
Boron	10/27/04	1359.3	NF	6.2	—	—	4.88	µg/L	J	—
Bromide	10/27/04	1359.3	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	10/27/04	1359.3	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	10/27/04	1359.3	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	10/27/04	1359.3	F	9600	—	—	5.54	µg/L	—	—
Calcium	10/27/04	1359.3	NF	9700	—	—	5.54	µg/L	—	—
Chloride	10/27/04	1359.3	F	1740	—	—	32.2	µg/L	—	—
Chromium	10/27/04	1359.3	F	2.6	—	—	0.503	µg/L	J	—
Chromium	10/27/04	1359.3	NF	7.2	—	—	0.503	µg/L	—	—
Cobalt	10/27/04	1359.3	F	1.4	—	—	0.541	µg/L	J	—
Cobalt	10/27/04	1359.3	NF	0.541	—	—	0.541	µg/L	U	—
Copper	10/27/04	1359.3	F	1.39	—	—	1.39	µg/L	U	—
Copper	10/27/04	1359.3	NF	1.39	—	—	1.39	µg/L	U	—
Fluoride	10/27/04	1359.3	F	232	—	—	55.3	µg/L	—	—

Table A-49 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Hardness	10/27/04	1359.3	F	35700	—	—	5.54	µg/L	—	—
Hardness	10/27/04	1359.3	NF	36000	—	—	5.54	µg/L	—	—
Iron	10/27/04	1359.3	F	12.6	—	—	12.6	µg/L	U	—
Iron	10/27/04	1359.3	NF	49	—	—	12.6	µg/L	J	—
Lead	10/27/04	1359.3	F	0.05	—	—	0.05	µg/L	U	—
Lead	10/27/04	1359.3	NF	0.05	—	—	0.05	µg/L	U	—
Magnesium	10/27/04	1359.3	F	2840	—	—	5.18	µg/L	—	—
Magnesium	10/27/04	1359.3	NF	2860	—	—	5.18	µg/L	—	—
Manganese	10/27/04	1359.3	F	4.6	—	—	0.296	µg/L	J	—
Manganese	10/27/04	1359.3	NF	5.9	—	—	0.296	µg/L	J	—
Molybdenum	10/27/04	1359.3	F	1.43	—	—	1.43	µg/L	U	—
Molybdenum	10/27/04	1359.3	NF	1.9	—	—	1.43	µg/L	J	—
Nickel	10/27/04	1359.3	F	0.69	—	—	0.69	µg/L	U	—
Nickel	10/27/04	1359.3	NF	1.1	—	—	0.69	µg/L	J	—
Nitrate+Nitrite (as N)	10/27/04	1359.3	F	362	—	—	3	µg/L	—	—
Perchlorate	10/27/04	1359.3	NF	0.277	—	—	0.05	µg/L	—	—
Phosphorus (as PO_4)	10/27/04	1359.3	F	151	—	—	151	µg/L	UH	—
Phosphorus (as P)	10/27/04	1359.3	F	36	—	—	11	µg/L	J	—
Potassium	10/27/04	1359.3	F	1370	—	—	16.5	µg/L	—	—
Potassium	10/27/04	1359.3	NF	1380	—	—	16.5	µg/L	—	—
Silver	10/27/04	1359.3	F	0.835	—	—	0.835	µg/L	U	—
Silver	10/27/04	1359.3	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	10/27/04	1359.3	F	11100	—	—	14.4	µg/L	—	—
Sodium	10/27/04	1359.3	NF	11200	—	—	14.4	µg/L	—	—
Strontium	10/27/04	1359.3	F	54.8	—	—	0.178	µg/L	—	—
Strontium	10/27/04	1359.3	NF	55.4	—	—	0.178	µg/L	—	—
Sulfate	10/27/04	1359.3	F	2020	—	—	193	µg/L	—	—
Thallium	10/27/04	1359.3	F	0.02	—	—	0.02	µg/L	J	—
Thallium	10/27/04	1359.3	NF	0.069	—	—	0.02	µg/L	J	—

Table A-49 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Tin	10/27/04	1359.3	F	3.26	—	—	3.26	µg/L	U	—
Tin	10/27/04	1359.3	NF	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	10/27/04	1359.3	F	44	—	—	44	µg/L	U	—
Vanadium	10/27/04	1359.3	F	7.4	—	—	0.606	µg/L	—	—
Vanadium	10/27/04	1359.3	NF	7.9	—	—	0.606	µg/L	—	—
Zinc	10/27/04	1359.3	F	2.6	—	—	0.883	µg/L	J	—
Zinc	10/27/04	1359.3	NF	3.7	—	—	0.883	µg/L	J	—
Detected Organic Constituents										
Total Organic Carbon	10/27/04	1359.3	NF	261	—	—	25	µg/L	—	—
Radiologic Constituents										
Tritium	10/27/04	1359.3	NF	0.70246	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Table A-50

Well CdV-R-37-2 Screen 4 Tenth Round Sample Results: Data Summary for Inorganic, Organic, and Radiologic Chemicals

The static water level for the regional aquifer at CdV-R-37-2 was 1195 ft when the well was drilled.

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Inoganic Constituents										
Alkalinity (CO_3+HCO_3)	10/27/04	1550.6	F[a]	55400	—[b]	—	1450	µg/L	—	—
Aluminum	10/27/04	1550.6	F	19.8	—	—	14.7	µg/L	J	—
Aluminum	10/27/04	1550.6	NF[c]	38.3	—	—	14.7	µg/L	J	—
Ammonia (as N)	10/27/04	1550.6	F	90	—	—	15.9	µg/L	—	—
Antimony	10/27/04	1550.6	F	0.28	—	—	0.28	µg/L	U	—
Antimony	10/27/04	1550.6	NF	0.28	—	—	0.28	µg/L	U	—
Arsenic	10/27/04	1550.6	F	2.24	—	—	2.24	µg/L	U	—
Arsenic	10/27/04	1550.6	NF	2.24	—	—	2.24	µg/L	U	—
Barium	10/27/04	1550.6	F	14.3	—	—	0.222	µg/L	—	—
Barium	10/27/04	1550.6	NF	14.4	—	—	0.222	µg/L	—	—
Beryllium	10/27/04	1550.6	F	0.18	—	—	0.158	µg/L	J	—
Beryllium	10/27/04	1550.6	NF	0.158	—	—	0.158	µg/L	U	—
Boron	10/27/04	1550.6	F	11	—	—	4.88	µg/L	J	—
Boron	10/27/04	1550.6	NF	10.1	—	—	4.88	µg/L	J	—
Bromide	10/27/04	1550.6	F	97.8	—	—	97.8	µg/L	U	—
Cadmium	10/27/04	1550.6	F	0.04	—	—	0.04	µg/L	U	—
Cadmium	10/27/04	1550.6	NF	0.04	—	—	0.04	µg/L	U	—
Calcium	10/27/04	1550.6	F	8060	—	—	5.54	µg/L	—	—
Calcium	10/27/04	1550.6	NF	8000	—	—	5.54	µg/L	—	—
Chloride	10/27/04	1550.6	F	1750	—	—	32.2	µg/L	—	—
Chromium	10/27/04	1550.6	F	1.4	—	—	0.503	µg/L	J	—
Chromium	10/27/04	1550.6	NF	3.9	—	—	0.503	µg/L	J	—
Cobalt	10/27/04	1550.6	F	0.541	—	—	0.541	µg/L	U	—
Cobalt	10/27/04	1550.6	NF	0.93	—	—	0.541	µg/L	J	—
Copper	10/27/04	1550.6	F	1.39	—	—	1.39	µg/L	U	—
Copper	10/27/04	1550.6	NF	1.39	—	—	1.39	µg/L	U	—

Table A-50 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Fluoride	10/27/04	1550.6	F	221	—	—	55.3	µg/L	—	—
Hardness	10/27/04	1550.6	F	31000	—	—	5.54	µg/L	—	—
Hardness	10/27/04	1550.6	NF	30800	—	—	5.54	µg/L	—	—
Iron	10/27/04	1550.6	F	2070	—	—	12.6	µg/L	—	—
Iron	10/27/04	1550.6	NF	2280	—	—	12.6	µg/L	—	—
Lead	10/27/04	1550.6	F	0.05	—	—	0.05	µg/L	U	—
Lead	10/27/04	1550.6	NF	0.068	—	—	0.05	µg/L	J	—
Magnesium	10/27/04	1550.6	F	2640	—	—	5.18	µg/L	—	—
Magnesium	10/27/04	1550.6	NF	2620	—	—	5.18	µg/L	—	—
Manganese	10/27/04	1550.6	F	71	—	—	0.296	µg/L	—	—
Manganese	10/27/04	1550.6	NF	70.5	—	—	0.296	µg/L	—	—
Molybdenum	10/27/04	1550.6	F	1.7	—	—	1.43	µg/L	J	—
Molybdenum	10/27/04	1550.6	NF	3.3	—	—	1.43	µg/L	J	—
Nickel	10/27/04	1550.6	F	0.89	—	—	0.69	µg/L	J	—
Nickel	10/27/04	1550.6	NF	2.2	—	—	0.69	µg/L	J	—
Nitrate+Nitrite (as N)	10/27/04	1550.6	F	3	—	—	3	µg/L	U	—
Perchlorate	10/27/04	1550.6	NF	0.05	—	—	0.05	µg/L	U	—
Phosphorus (as PO_4)	10/27/04	1550.6	F	151	—	—	151	µg/L	UH	—
Phosphorus (as P)	10/27/04	1550.6	F	35	—	—	11	µg/L	J	—
Potassium	10/27/04	1550.6	F	1700	—	—	16.5	µg/L	—	—
Potassium	10/27/04	1550.6	NF	1690	—	—	16.5	µg/L	—	—
Silver	10/27/04	1550.6	F	0.835	—	—	0.835	µg/L	U	—
Silver	10/27/04	1550.6	NF	0.835	—	—	0.835	µg/L	U	—
Sodium	10/27/04	1550.6	F	10400	—	—	14.4	µg/L	—	—
Sodium	10/27/04	1550.6	NF	10400	—	—	14.4	µg/L	—	—
Strontium	10/27/04	1550.6	F	39.7	—	—	0.178	µg/L	—	—
Strontium	10/27/04	1550.6	NF	39.3	—	—	0.178	µg/L	—	—
Sulfate	10/27/04	1550.6	F	1950	—	—	193	µg/L	—	—

Table A-50 (continued)

Analyte Description	Sample Date	Depth (ft)	Field Preparation	Result	Uncertainty	Minimum Detectible Activity	Method Detection Limit	Unit	Lab Qualifier Code	LANL Qualifier Code
Thallium	10/27/04	1550.6	F	0.091	—	—	0.02	µg/L	J	—
Thallium	10/27/04	1550.6	NF	0.02	—	—	0.02	µg/L	U	—
Tin	10/27/04	1550.6	F	3.26	—	—	3.26	µg/L	U	—
Tin	10/27/04	1550.6	NF	3.26	—	—	3.26	µg/L	U	—
Total Kjeldahl Nitrogen	10/27/04	1550.6	F	99	—	—	44	µg/L	J	—
Vanadium	10/27/04	1550.6	F	0.606	—	—	0.606	µg/L	U	—
Vanadium	10/27/04	1550.6	NF	0.606	—	—	0.606	µg/L	U	—
Zinc	10/27/04	1550.6	F	4	—	—	0.883	µg/L	J	—
Zinc	10/27/04	1550.6	NF	10.6	—	—	0.883	µg/L	—	—
Detected Organic Constituents										
Total Organic Carbon	10/27/04	1550.6	NF	821	—	—	25	µg/L	—	—
Radiologic Constituents										
Tritium	10/27/04	1550.6	NF	0.25544	0.28737	—	0.28737	pCi/L	—	—

[a] F = Filtered.
[b] — = Not available or not applicable.
[c] NF = Nonfiltered.

Appendix B

DP Canyon Quarterly Inspection Report,
First Quarter, Fiscal Year 2005

DP Canyon Quarterly Inspection Report
December 22, 2004

Introduction: Regular inspections are conducted to assess the status of two petroleum hydrocarbon seeps in DP Canyon. These seeps, which are downgradient from Solid Waste Management Unit 21-029 (DP Tank Farm), are referred to as the upstream and downstream seeps (Figure 1). The frequency of the inspections has been reduced to quarterly, following nearly four years of monthly or semimonthly inspections. The results of these inspections are used to document any changes in the petroleum hydrocarbon seep areas in relation to seasonal changes and recent precipitation.

Date: December 22, 2004

Time: 1:15 p.m.

Personnel: Becky Coel-Roback and Jared Lyman

Weather: 20°C, light snow, overcast

Precipitation: 4 in., approximate total since the September inspection (Source: Los Alamos National Laboratory Weather Machine).

Presence of standing or running water: At the time of the December inspection, there was abundant running water coming from both culverts at the head of DP Canyon and thick snow cover in the drainage. There was muddy, open water flowing at the upstream seep area, and ice-covered standing water at the downstream seep area. Most sediments were covered by running water or ice.

Location and intensity of odors, staining, or sheen (see Figure 1 for locations):

	Air	Water	Soil/Sediment
Upstream Location	No petroleum hydrocarbon odor in air	No hydrocarbon sheen on water	Faint petroleum hydrocarbon odor in disturbed sediments
Downstream Location	No petroleum hydrocarbon odor in air	Trace petroleum hydrocarbon sheen on standing water	No petroleum hydrocarbon odor in disturbed sediments

Photographs: The following photographs were taken during the site visit (see Figure 1 for locations).

Location 1, canyon head. There was abundant flow from both culverts during the December 2004 inspection.

Location 2, upstream location. There was no sheen on the rapidly-flowing water present during the December 2004 inspection.

Location 3, upstream location. During the December 2004 inspection, there was faint petroleum hydrocarbon odor in disturbed sediments at the upstream seep.

Location 4, upstream location. Stream channel, looking upstream from sample location 21-11136.

Location 5, downstream location. During the December 2004 inspection, there was no petroleum hydrocarbon odor in air or disturbed sediments at the downstream seep.

Location 6, downstream location. During the December 2004 inspection, ice had to be broken to reveal traces of petroleum hydrocarbon sheen on standing water.

Location 7, downstream location. During the December 2004 inspection, freshly downed trees were noted in the drainage downstream of sample location 21-11176.

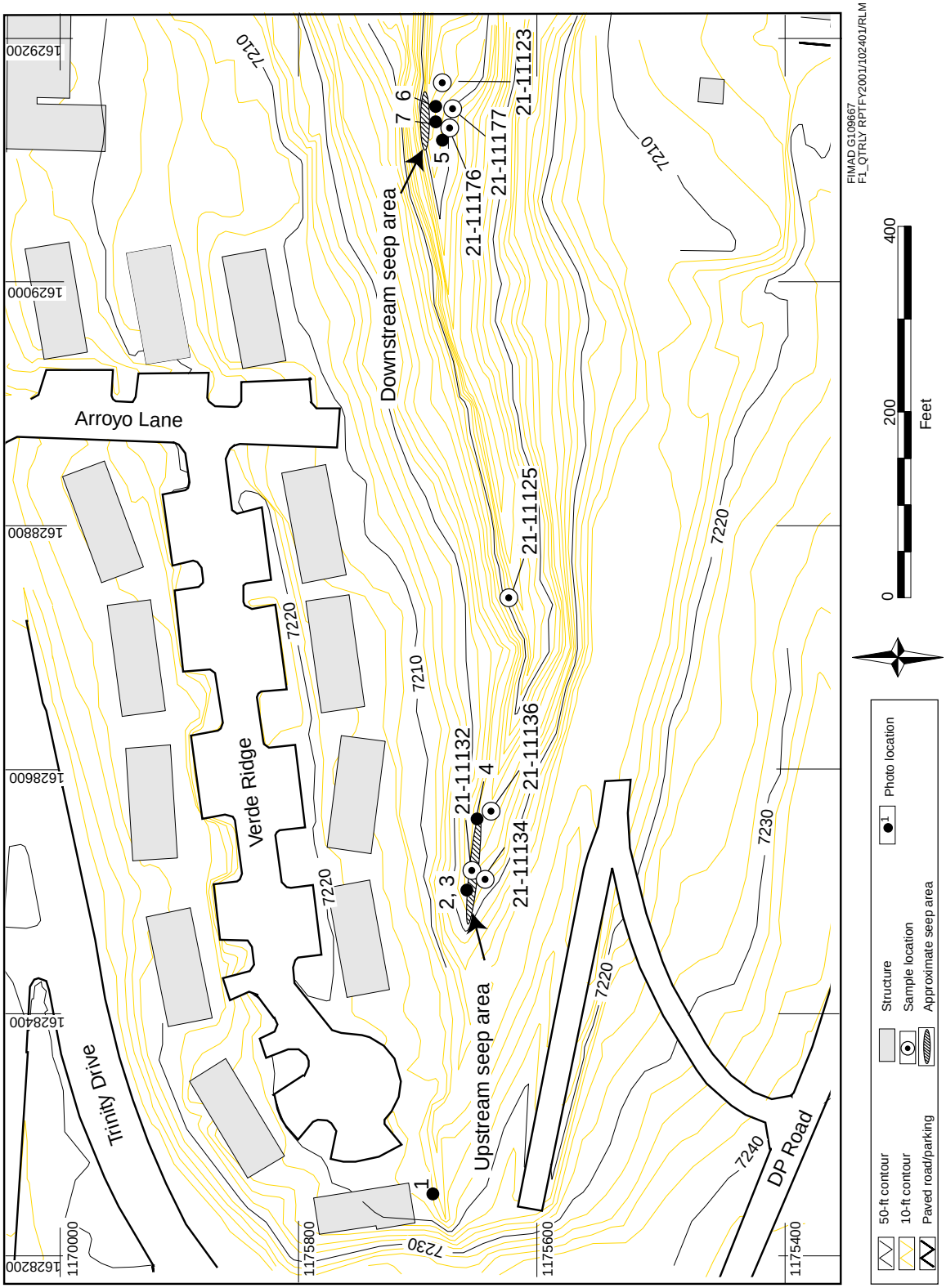

Figure 1. DP Tank Farm photo locations, seep areas, and sampling locations

Appendix C

Quarterly Moisture-Monitoring Report
First Quarter, Fiscal Year 2005,
Technical Area 49, Material Disposal Area AB

QUARTERLY MOISTURE-MONITORING REPORT
FIRST QUARTER, FISCAL YEAR 2005,
TECHNICAL AREA 49, MATERIAL DISPOSAL AREA AB

Environmental Stewardship–Environmental Characterization and Remediation
Los Alamos National Laboratory

February 2005

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Figure 3-2 ET cover from inside fence of Area 2 3-1

1.0 INTRODUCTION

The moisture-monitoring system at Technical Area (TA-) 49 began collecting data in March 2000 to assess the performance of the MDA AB Area 2 cover with respect to maintaining and/or reducing subsurface moisture content. The Area 2 cover was installed after the historical asphalt pad was removed during an interim measure (IM) implemented in 1998 at the direction of the New Mexico Environment Department Hazardous and Radioactive Materials Bureau (NMED-HRMB). The area was covered with soil, gravel, and a biobarrier as part of stabilization activities. The IM was conducted to address concerns about moisture accumulation beneath the asphalt pad.

In 1998–1999, the IM and associated best-management-practice (BMP) activities conducted at Area 2 included the following:

- installation of a run-on diversion channel to the west of Area 2;
- removal of the asphalt cover over Area 2;
- surface regrading of Area 2 to eliminate surface-water ponding;
- grouting and abandonment of CH-2 and the two 150-ft-deep Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) neutron access holes;
- installation of an evapotranspiration (ET) cover composed of crushed tuff monofill with topsoil and covered with a steel mesh biobarrier;
- installation of a silt fence surrounding the ET cover to control both erosion and contaminant transport; and
- seeding the ET cover with shallow-rooting grasses.

For details on the 1998–1999 BMP at Area 2, refer to documents produced by the former Environmental Restoration Project (LANL 1998, 59166; LANL 1998, 63041; and LANL 1999, 63919).

In February 2000, a moisture-monitoring system was installed to monitor the ET cover at Area 2. Three shallow neutron logging access tubes were installed through the ET cover, and time domain reflectometry (TDR) probes were installed at two depths and at two locations in the ET cover. The TDR probes were wired into a Campbell Scientific, Inc., datalogger for automated measurements. The moisture-monitoring system uses three neutron access holes, four TDR probes, and a rain gauge to evaluate moisture content and relative changes within and beneath the new cover material. Additionally, eight neutron access holes located in the surrounding area are monitored bimonthly (monthly until the first quarter of the fiscal year [FY] 2002) for moisture content. These neutron access holes characterize the moisture content of undisturbed areas immediately adjacent to the cover area. It is anticipated that the new cover material will behave similarly to native undisturbed areas by restoring the semiarid, moisture limited, near-surface environment. Six additional access holes located across the TA-49 site, where monitoring began in the fourth quarter of 2003, provide a more comprehensive data set of the moisture trends across TA-49.

Moisture monitoring began in March 2000. Monitoring is performed in accordance with standard operating procedure (SOP-) 7.05, Rev. 1, “Subsurface Moisture Measurements Using a Neutron Probe.” Neutron logging was performed with a dedicated CPN 503DR probe at the end of every other month (from March 2000 to November 2002) to provide a consistent data set for trend analysis. The TDR probes record moisture content measurements twice a day. The two TDR arrays are located adjacent to neutron access holes 49-10046 and 49-10048 for data comparison and confirmation. The TDR arrays consist of a shallow TDR probe positioned horizontally beneath the surface soil (approximately 6 in.), and a TDR probe positioned vertically beneath the cover materials at 10 ft and 6 ft, respectively. The shallow TDR probes

are positioned to detect infiltration through the topsoil. A rain gauge was located at the surface of the cover near neutron access hole 49-10046 to monitor levels of precipitation at the site. Continuous measurement of site precipitation and the 12-hr TDR data characterize infiltration response of the cover to rain events. Figure 1 shows the locations of neutron access holes, TDR probes, the cover, and the gopher barrier boundary. Table 1 gives the corresponding depths of the TDR probes.

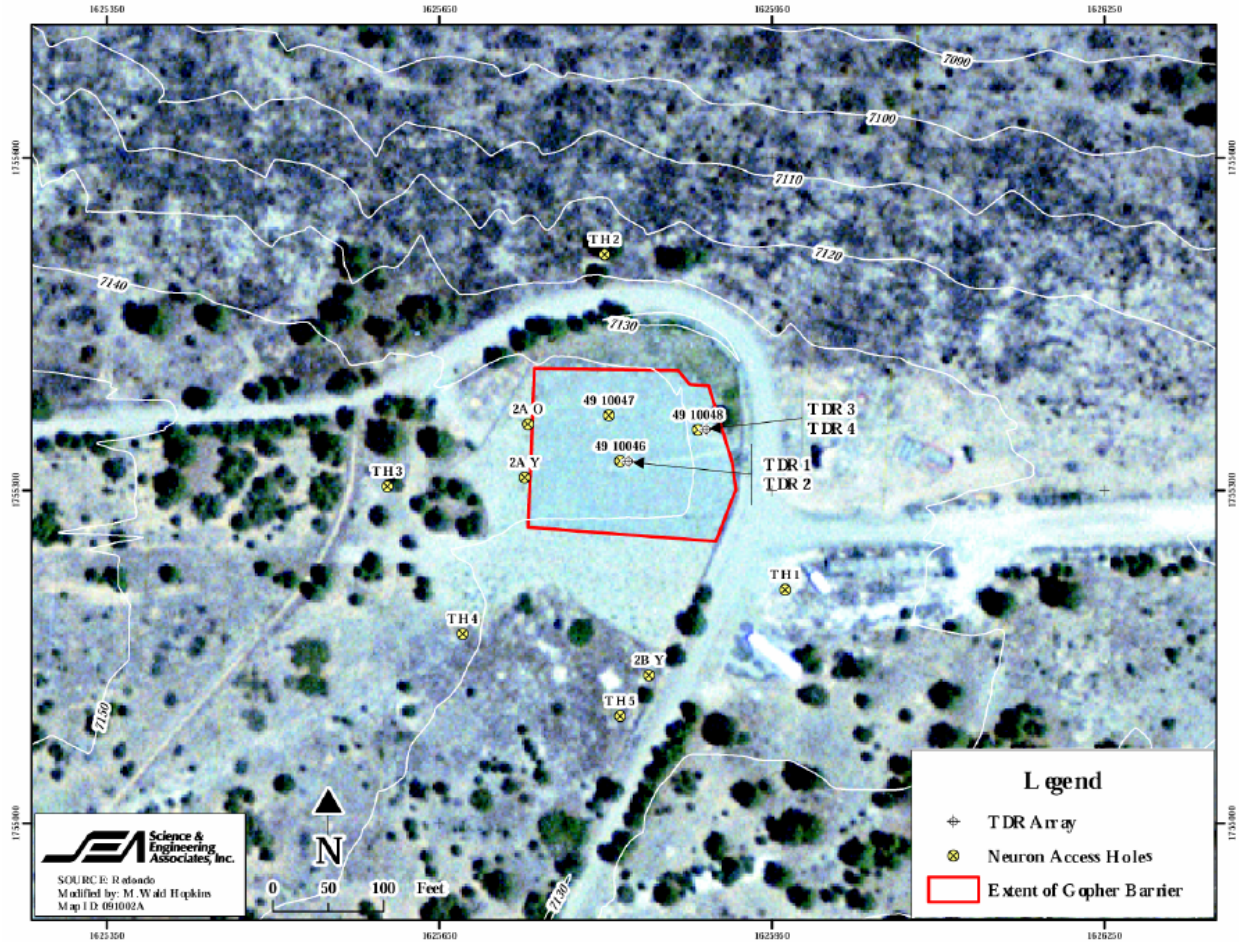

Figure 1. Location of instrumentation and neutron access holes on *XY* plane at TA-49, MDA AB Area 2

Table 1
TDR Array Descriptions

TDR Number	Array Type	Depth (ft)
TDR1	Vertical, within soil overlying Bandelier Tuff	6
TDR2	Horizontal, at bottom of topsoil	0.5
TDR3	Vertical, within El Cajete pumice formation	10
TDR4	Horizontal, at bottom of topsoil	0.5

In December 2004, one incomplete event of neutron moisture measurements was performed at neutron access holes TH-1, TH-2, 1M-3, 1M-3A, 5M-1, 4M-4, and 4M-3. TDR measurements and precipitation quantities were recorded twice a day to a Campbell Scientific datalogger over the same period. This report discusses moisture trends over time, compares moisture results from the neutron probe with the TDR instruments, and discusses the relationship between precipitation and moisture content.

2.0 MOISTURE-MONITORING RESULTS

2.1 Neutron Logging

The neutron-logging event occurred on December 21, 2004. The sampling event was incomplete because of inclement weather, delays in revising safety documents, and the malfunction of the CPN 503DR probe during the first quarter. Results for the access holes sampled on December 21, 2004, were compared to the average from April 2000 to September 2004. The ten access holes not sampled are shown as averages from April 2000 to September 2004. Logging was performed with a dedicated CPN 503DR probe at seven of the neutron access holes. The neutron counts from each of the seven monitoring holes were recorded in a spreadsheet, and the corresponding volumetric moisture content was calculated for each. Plots of volumetric moisture content for each sampling period and all of the access holes are shown in Attachment 1.

The 700-ft-deep neutron access hole, 49-02901, is located near TH-1 (Figure 2). Psychrometers and the positive pressure membrane were removed from the hole during second quarter 2004, after which the hole was neutron logged and capped. The hole is 8 in. in diameter with a 3-ft steel stickup. Access hole 49-2901 has been neutron logged down to 130 ft for three quarters as part of the TA-49 moisture monitoring program. Data from this borehole is presented in Attachment 1.

2.2 TDR and Precipitation Measurements

TDR measurements and precipitation quantities were collected uninterrupted (except between February 11 and 19, 2004, when the datalogger program malfunctioned) twice a day through the first quarter and recorded to a Campbell Scientific datalogger programmed to record a timestamp, temperature, TDR raw frequencies, and precipitation in inches. The program converts raw frequency to volumetric moisture content and then records the data (both raw and converted) to a *.dat file. Figures 3 and 4 present the moisture content and precipitation measurements from April 2000, when the datalogger was installed, through December 2004. At the end of fourth quarter 2004, it was discovered that since September 3, 2004, TDR 1 had shorted out as a result of damage by gophers. It will be repaired in the second quarter after the ground thaws, and required safety documents have been revised. Precipitation data were obtained from a Laboratory weather station at TA-49.

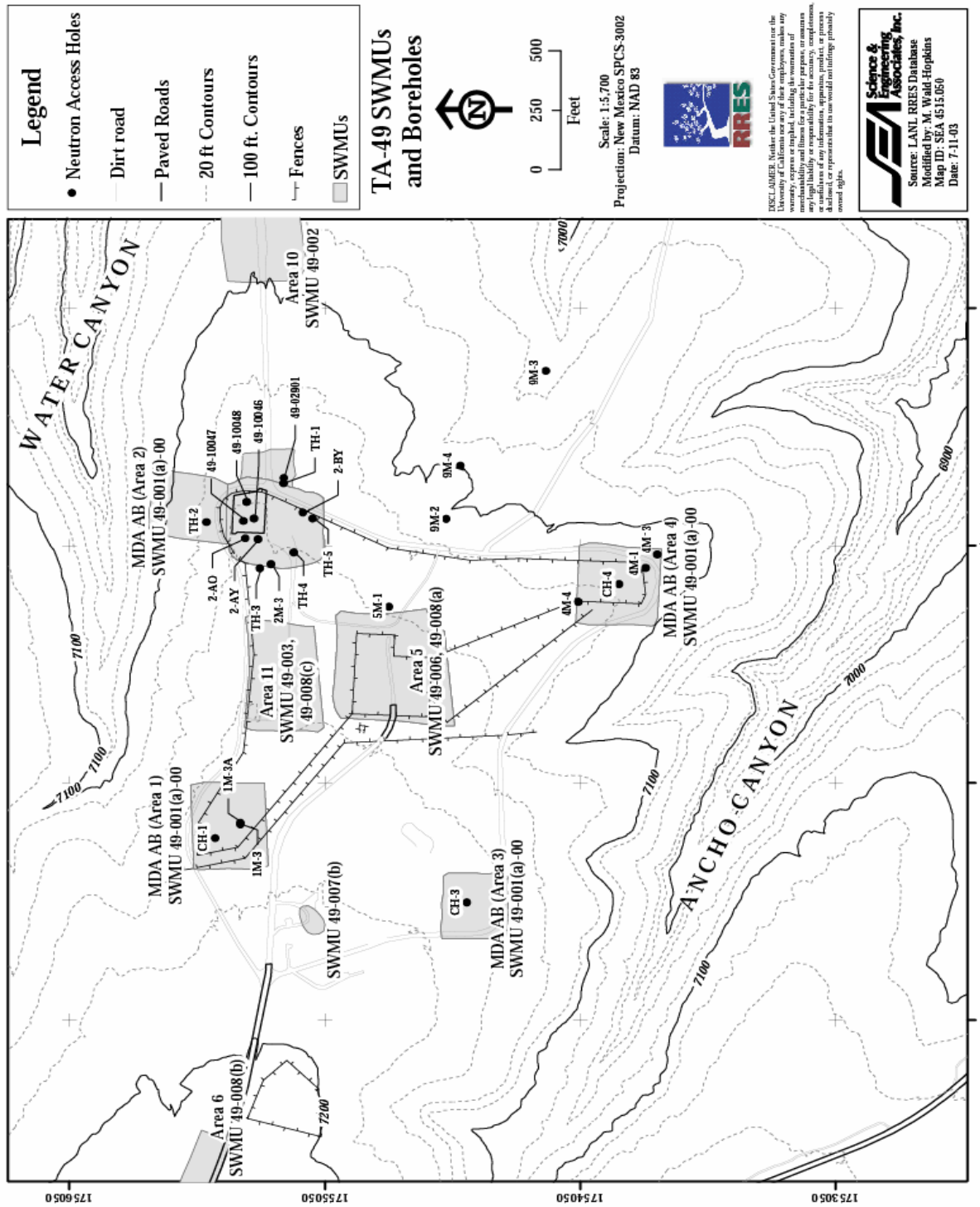

Figure 2. TA-49 neutron access holes

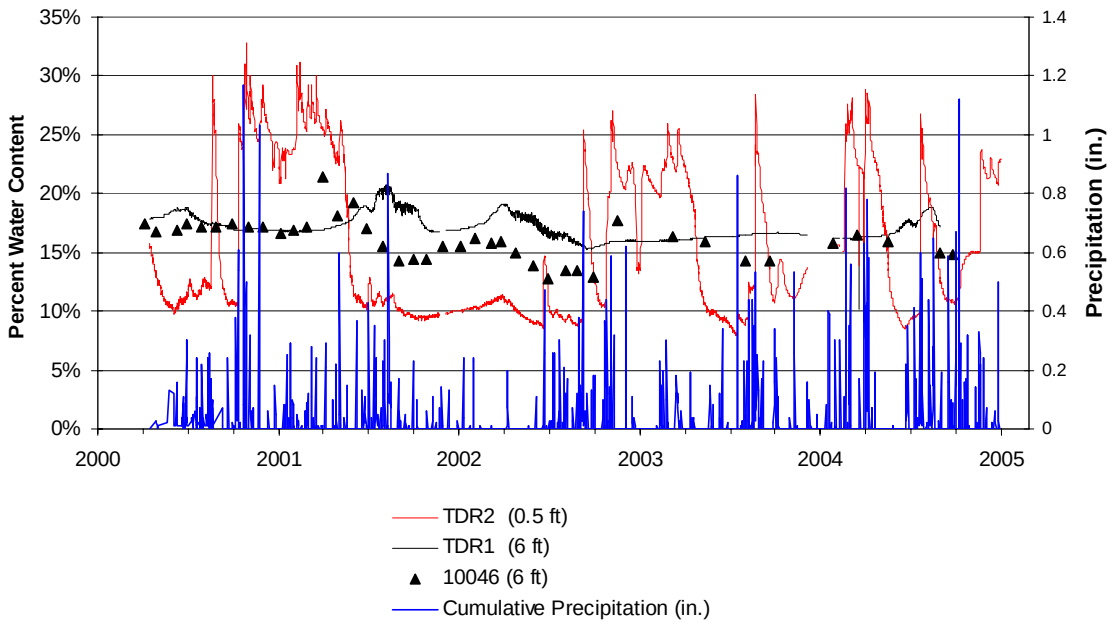

Figure 3. TDR measurements compared with neutron measurements at neutron access hole 49-10046, which is in close proximity and at the same corresponding depth as TDR1

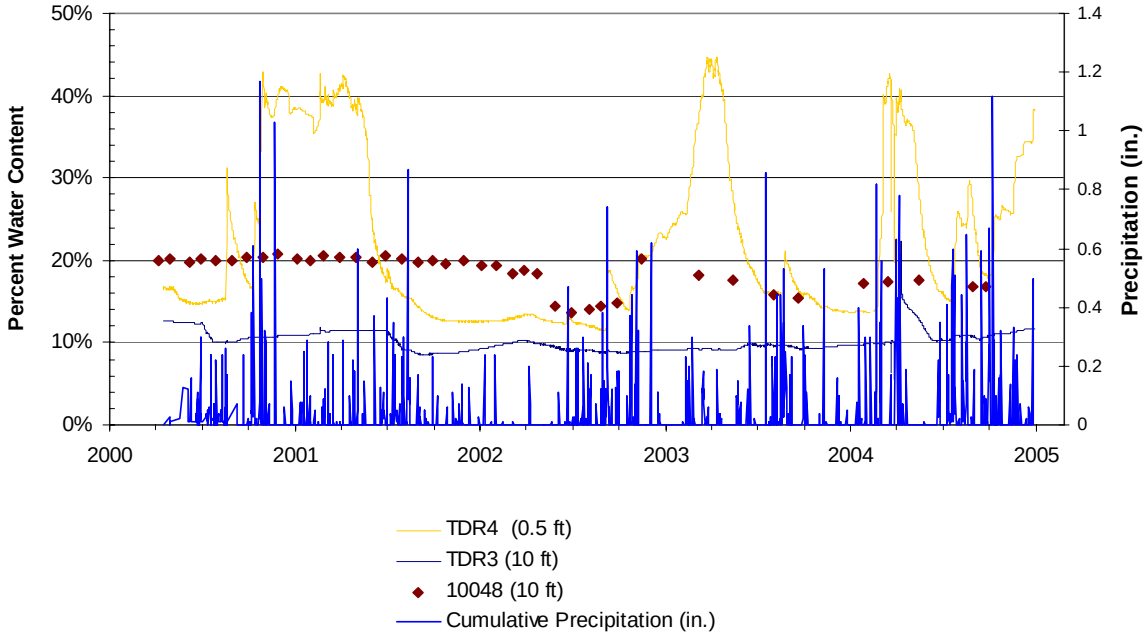

Figure 4. TDR measurements compared with neutron measurements at neutron access hole 49-10048, which is in close proximity and at the same corresponding depth as TDR3

3.0 MOISTURE-MONITORING RESULTS AND DATA ANALYSIS

TDR data from April 2000 to December 2004 and neutron data from April 2000 to September 2004 show fluctuations in volumetric moisture content near the surface. Measurements below the surface indicate that most of the moisture trends are relatively steady, while a few trends have decreased (Attachment 1). Table 2 shows the Student t-test tracking these trends. Trend plots of time versus moisture content were created for specific depth intervals (Attachment 2).

3.1 Correlation between TDR Measurements and Precipitation Events

The results of the shallow TDR probes at 0.5 ft have ranged from between 8% and 28% (TDR 2) and 10% to 45% (TDR 4) moisture content from moisture infiltrating the first few feet of soil during and after precipitation events. In contrast, the results of deeper TDR probes have remained constant through the quarter ranging from between 15% and 20% for TDR 1 (6 ft) and 8% to 15% for TDR 3 (10 ft).

3.2.1 TDR and Neutron Comparisons

The moisture-monitoring system is performing as expected with consistent results between TDR arrays and neutron logging. Figures 3 and 4 show the deep TDR data associated with neutron access holes 49-10046 and 49-10048, respectively. The neutron probe data from the same depth as the deep TDR probes are also shown. The measurements are in agreement, differing by less than 2%.

3.3 Student t-Test of Neutron Data

A Student t-test analysis was performed to ascertain trends in moisture over time for each of the neutron access holes. The Student t-test evaluates the significance of an apparent trend based on a selected confidence interval. For the purpose of this analysis, a 95% confidence interval was selected.

As of December 2004, 43 months of data events were available for statistical analysis for two monitoring holes (TH-1 and TH-2) and 42 months of data events for nine monitoring holes (TH-3, TH-4, TH-5, 2B-Y, 2A-Y, 2A-O, 49-10046, 49-10047, and 49-10048) in Area 2. Table 2 presents the results of the Student t-test analyses for each of these neutron access holes. The trending analysis results show that moisture levels have decreased since measurements were first taken in April 2000. The five “M” neutron access holes spread across TA-49, for which logging began in the fourth quarter of 2003, and 4M-3 for which logging began in the third quarter of 2004, are included in this table. Eight months of data for statistical analysis are available for the four holes 1M-3, 1M-3A, 4M-4, and 5M-1, seven months for 2M-3, and four months for statistical analysis for 4M-3.

In addition to the Student t-test analyses, trend plots of time vs moisture content for specific depth intervals in neutron access holes are shown in Figures 2-1 through 2-17 in Attachment 2.

Table 2
Results of the Student T-test Analysis, Based on a 95% Confidence Interval

Neutron Access Hole Number	Moisture Trending Results * Results as of 4th Quarter 2004
TH-1	Analysis shows a decreasing moisture trend from 1 to 111 ft.
TH-2	Analysis shows a decreasing moisture trend from 6 to 104 ft.
TH-3	Analysis shows a decreasing moisture trend from 1 to 5 ft, 41 to 108 ft. *
TH-4	Analysis shows a decreasing moisture trend from 1 to 10 ft, and 16 to 90 ft.*
TH-5	Analysis shows a decreasing moisture trend from 1 to 114 ft. *
2B-Y	Analysis shows a increasing moisture trend from 21 to 29 ft. *
2A-Y	Analysis shows no significant change in moisture trends.*
2A-O	Analysis shows a decreasing moisture trend from 6 to 20 ft, and increasing moisture trend from 46 to 59 ft. *
49-10046	Analysis shows a decreasing moisture trend from 5 to 13 ft.*
49-10047	Analysis shows a decreasing moisture trend from 7 to 12 ft.*
49-10048	Analysis shows a decreasing moisture trend from 3 to 12 ft. *
1M-3	Analysis shows a decreasing moisture trend from 16 to 18 ft.
1M-3A	Analysis shows no significant change in moisture trends.
2M-3	Analysis shows a decreasing moisture trend from 6 to 15 ft. *
4M-3	Analysis shows no significant change in moisture trends.
4M-4	Analysis shows no significant change in moisture trends.
5M-1	Analysis shows a decreasing moisture trend from 16 to 20 ft, and 26 to 30 ft.

4.0 CONCLUSIONS

Analysis of the moisture monitoring data collected over the past year has resulted in the following conclusions:

- The neutron log and TDR data indicate that subsurface moisture levels fluctuate in the near surface (<10 ft) and remain constant at greater depth as expected for a moisture-limited, semi-arid climate.
- The precipitation at TA-49 has been above average, 5.21 in. from October through December 2004 (source: www.weather.com).
- The moisture levels within the cover at the majority of the locations have decreased when compared to the average moisture levels from third quarter 2000 to fourth quarter 2004. The shallow TDR probes have shown moisture content responses to relatively small rainfall events, while the deeper probes (>6 ft) have remained constant. This finding can be attributed to precipitation events detected in the near-surface with no deep infiltration.
- The data from neutron access holes 49-10046, 49-10047, and 49-10048 show that the moisture content of the cover has decreased from the surface to the bottom of each neutron access hole.
- In neutron access holes adjacent to the cover (TH-3, TH-4, TH-5), the moisture levels have decreased from the surface to the bottom.

- The data from the moderate depth neutron access hole (<60 ft) bordering the cover (2A-Y) do not indicate a significant change in moisture content.
- The cover over Area 2 has shown substantial growth of undesirable (deep-rooted, radionuclide-scavenging) plants. Photographs of the Area 2 cover during the first quarter of FY2005 are presented in Attachment 3.
- Damage to the TDR data collection system indicates that gophers are still present and active within Area 2.

5.0 RECOMMENDATIONS

Routine moisture monitoring and site inspections conducted since March 2000 have shown the 1998 IM to be successful in eliminating run-on, reducing surface-water ponding, and promoting ET. This finding is supported by the reduction in and/or stabilization of the subsurface moisture content within the covered area. The increased vegetation, site BMPs, and steel-mesh biobarrier have controlled runoff, erosion, and, to a large degree, biointrusion (with the exception of the continued gopher activity at borehole 49-10046 during the first quarter of FY2005), thus reducing the potential for contaminant migration and cover degradation. However, because of the increasing age of the cover and the erosion control measures at Area 2, their physical condition should be monitored more closely and maintenance projects implemented to prevent significant deterioration.

Statistical analysis of the moisture monitoring data over the past four years indicates stable and decreasing moisture trends in the deep boreholes surrounding the Area 2 cover. Significant variability in subsurface moisture content has only been observed in the TDR data and reflected the neutron measurements at shallow depths in boreholes through, or directly adjacent to, the cover. These results indicate that the cover's performance is best monitored through continuous TDR data collection, coupled with periodic collection of neutron probe data to provide a correlation for TDR data, and allow for analysis of the deep hydrogeological stability of Area 2.

Therefore, the following activities are recommended for the continued stewardship of Area 2 at TA-49:

- acquisition of TDR data to monitor infiltration through the ET cover.
- quarterly neutron logging of the current suite of boreholes to ensure the deep hydrogeological stability of Area 2.
- quarterly inspections and maintenance of the ET cover, biobarrier, and erosion control measures at Area 2, including monitoring and repairing the gopher barrier when weather conditions permit to prevent further biointrusion, routine cutting back of undesirable plants to limit growth, and repair any other deficiencies noted in Area 2.

6.0 REFERENCES

LANL (Los Alamos National Laboratory), June 1998. "Stabilization Plan for Implementing Interim Measures and Best Management Practices at Potential Release Sites 49-001 (b, c, d, and g)," Los Alamos National Laboratory document LA-UR-98-1534, Los Alamos, New Mexico. (LANL 1998, 59166)

LANL (Los Alamos National Laboratory), September 1998. "Best Management Practices Report for Installation of Stabilization Measures at Potential Release Sites 49-001(b, c, d, and g)," Los Alamos National Laboratory document LA-UR-98-4170, Los Alamos, New Mexico. (LANL 1998, 63041)

LANL (Los Alamos National Laboratory), August 1999. “Interim Measures Report for Potential Release Sites 49-001(b), 49-001(c), 49-001(d), 49-001(g),” Los Alamos National Laboratory document LA-UR-99-2169, Los Alamos, New Mexico. (LANL 1999, 63919)

Attachment 1

Neutron Moisture Measurements

ATTACHMENT 1 NEUTRON MOISTURE MEASUREMENTS

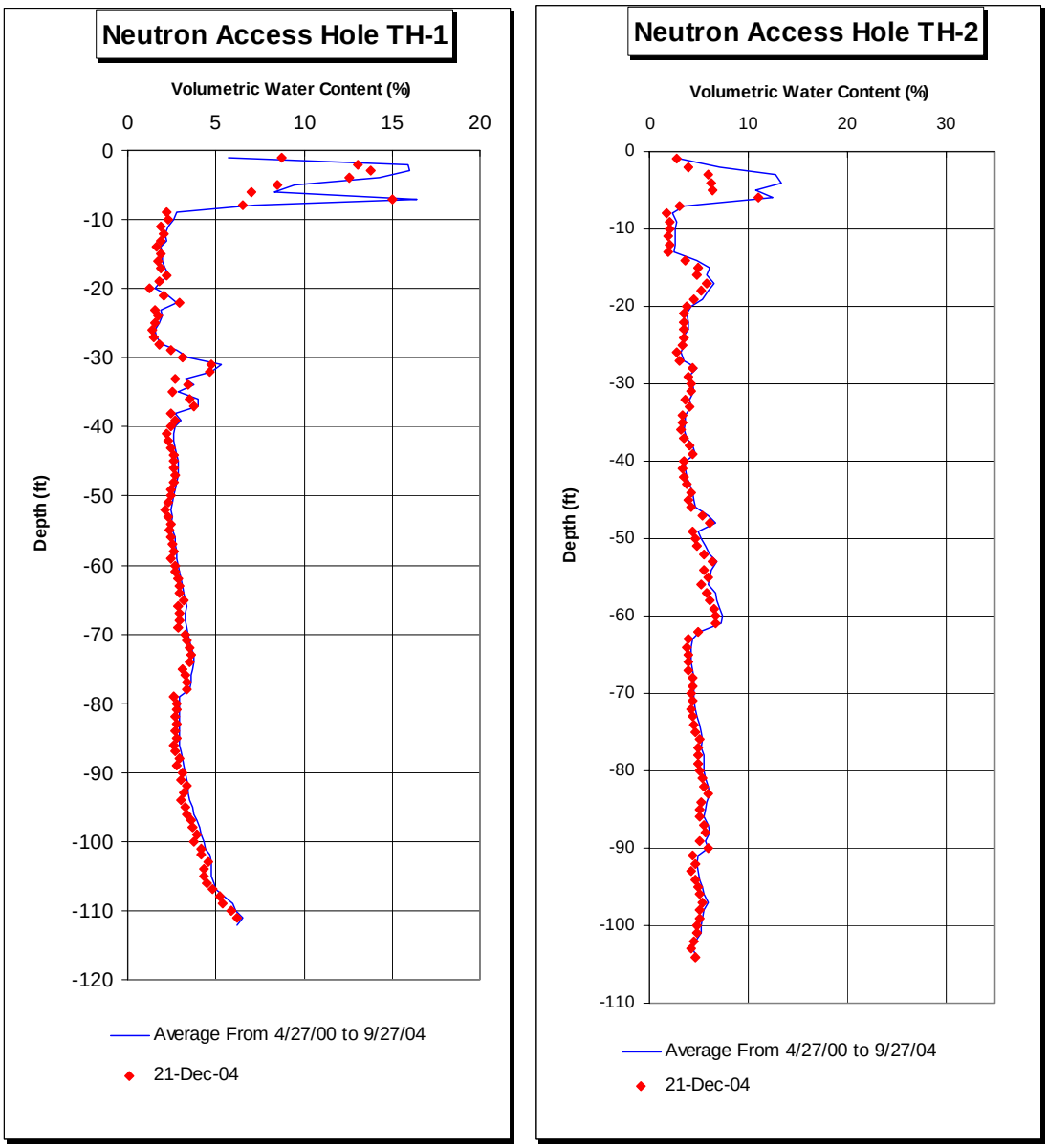

Figure 1-1. Neutron probe moisture measurements for neutron access holes TH-1 and TH-2

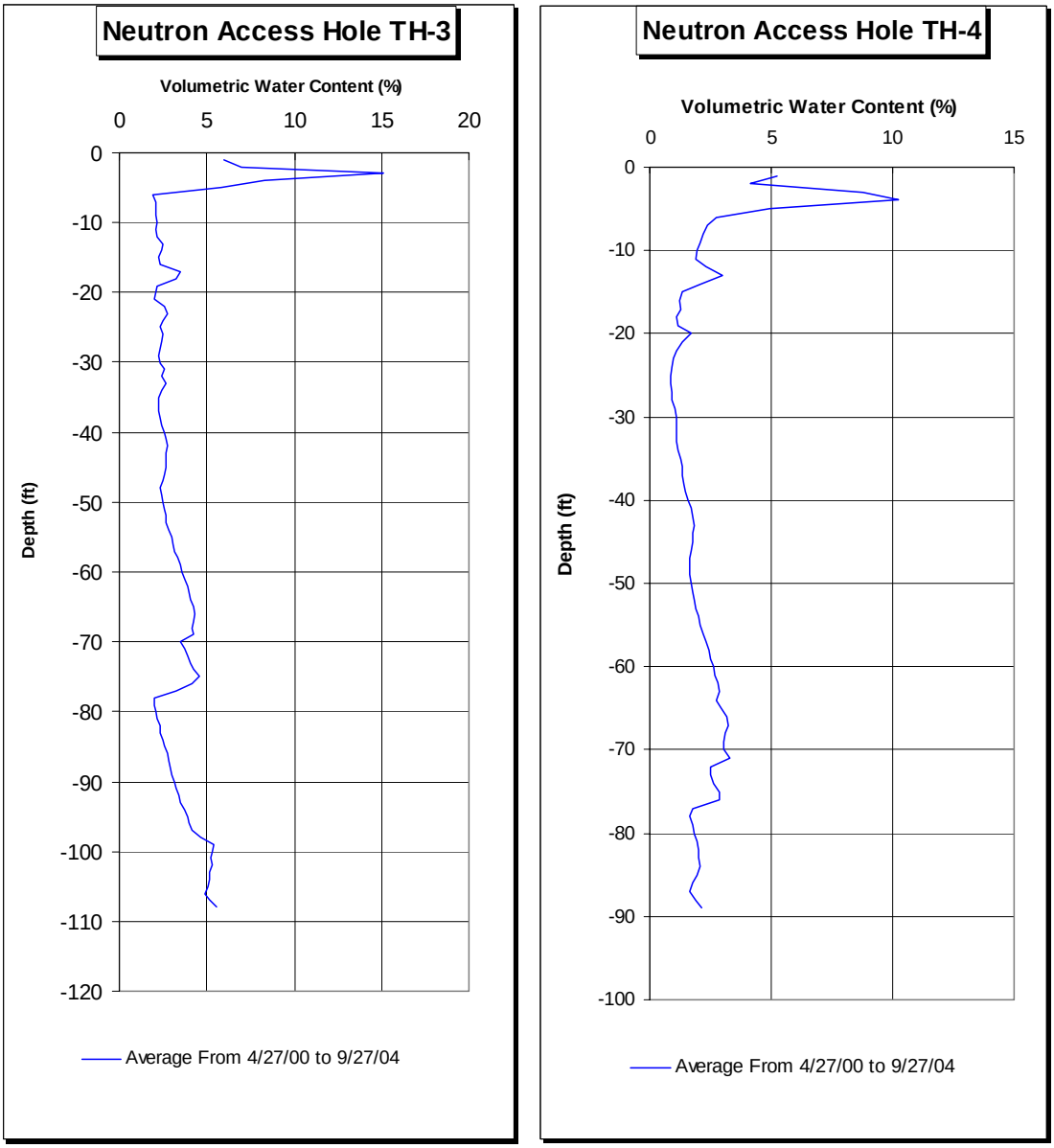

Figure 1-2. Neutron probe moisture measurements for neutron access holes TH-3 and TH-4

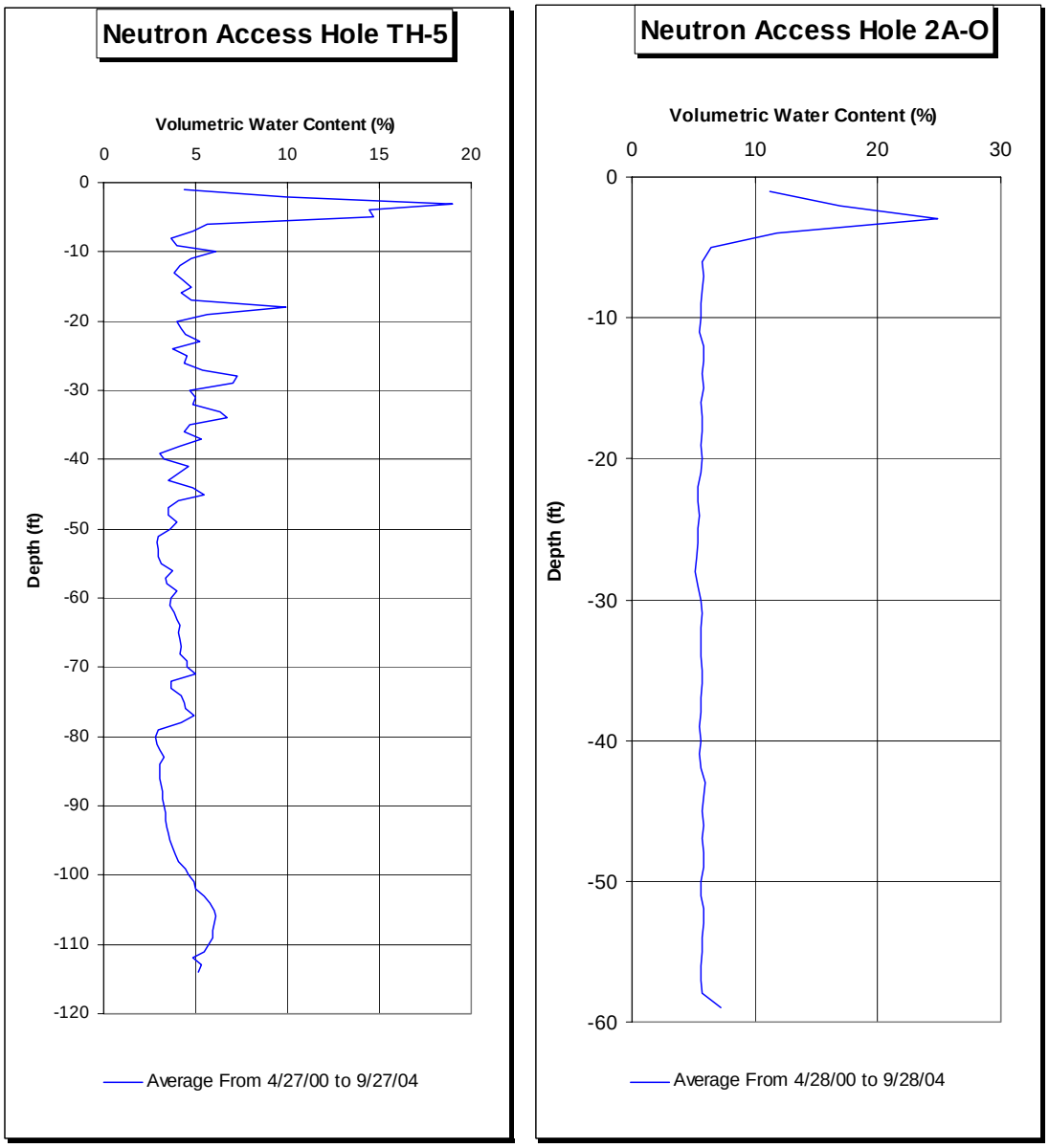

Figure 1-3. Neutron probe moisture measurements for neutron access holes TH-5 and 2A-0

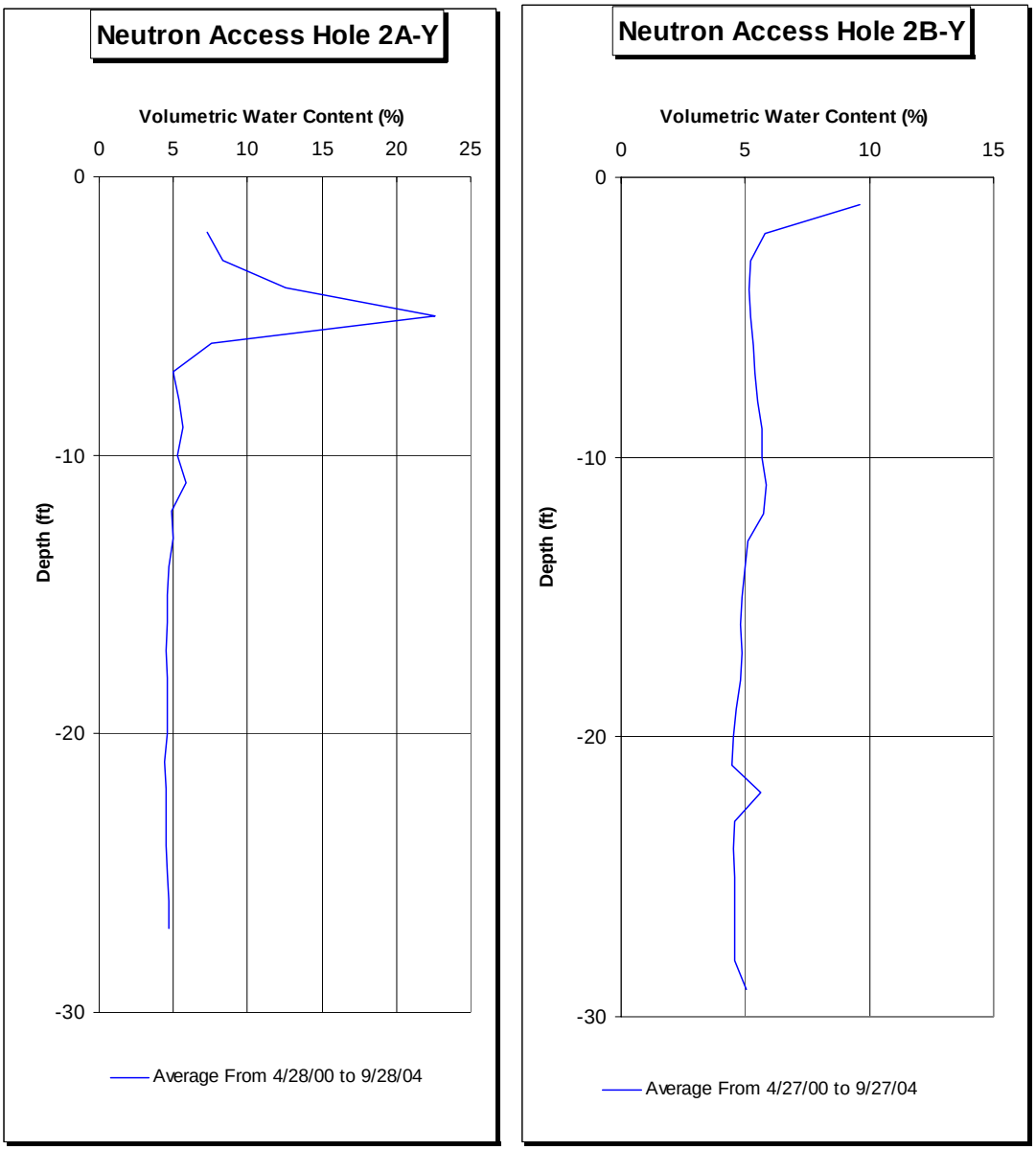

Figure 1-4. Neutron probe moisture measurements for neutron access holes 2A-Y and 2B-Y

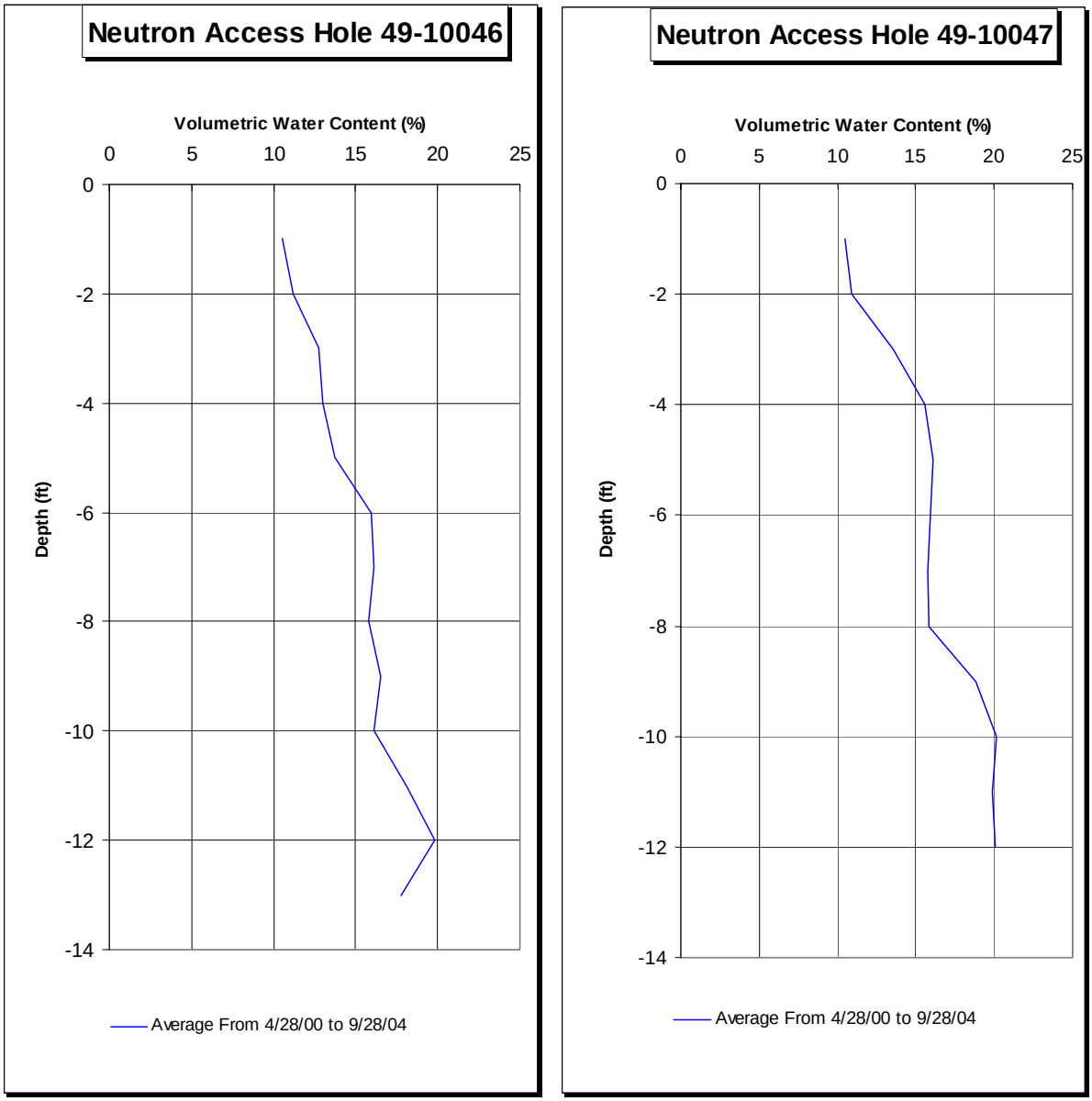

Figure 1-5. Neutron probe moisture measurements for neutron access holes 49-10046 and 49-10047

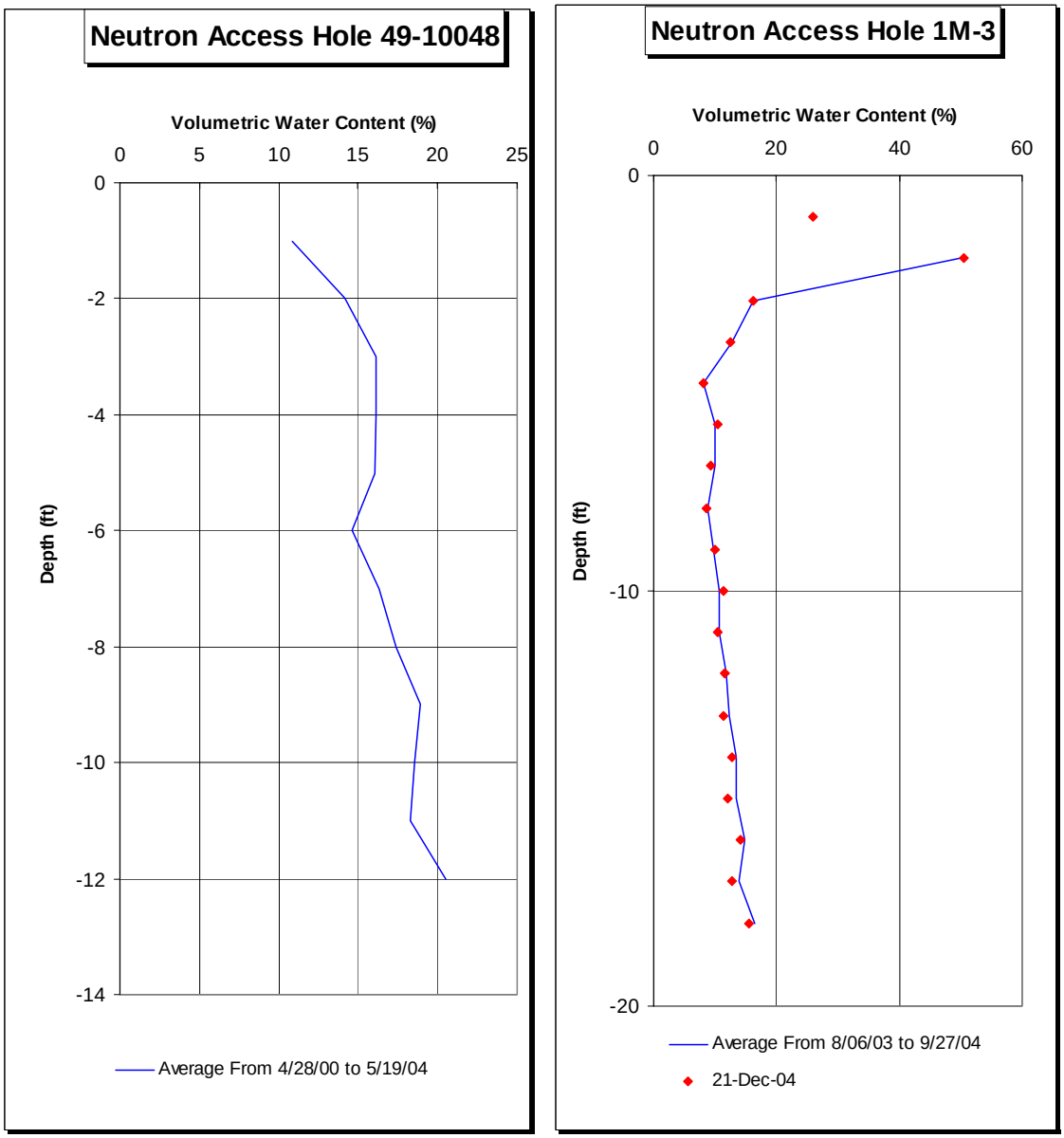

Figure 1-6. Neutron probe moisture measurements for neutron access holes 49-10048 and 1M-3

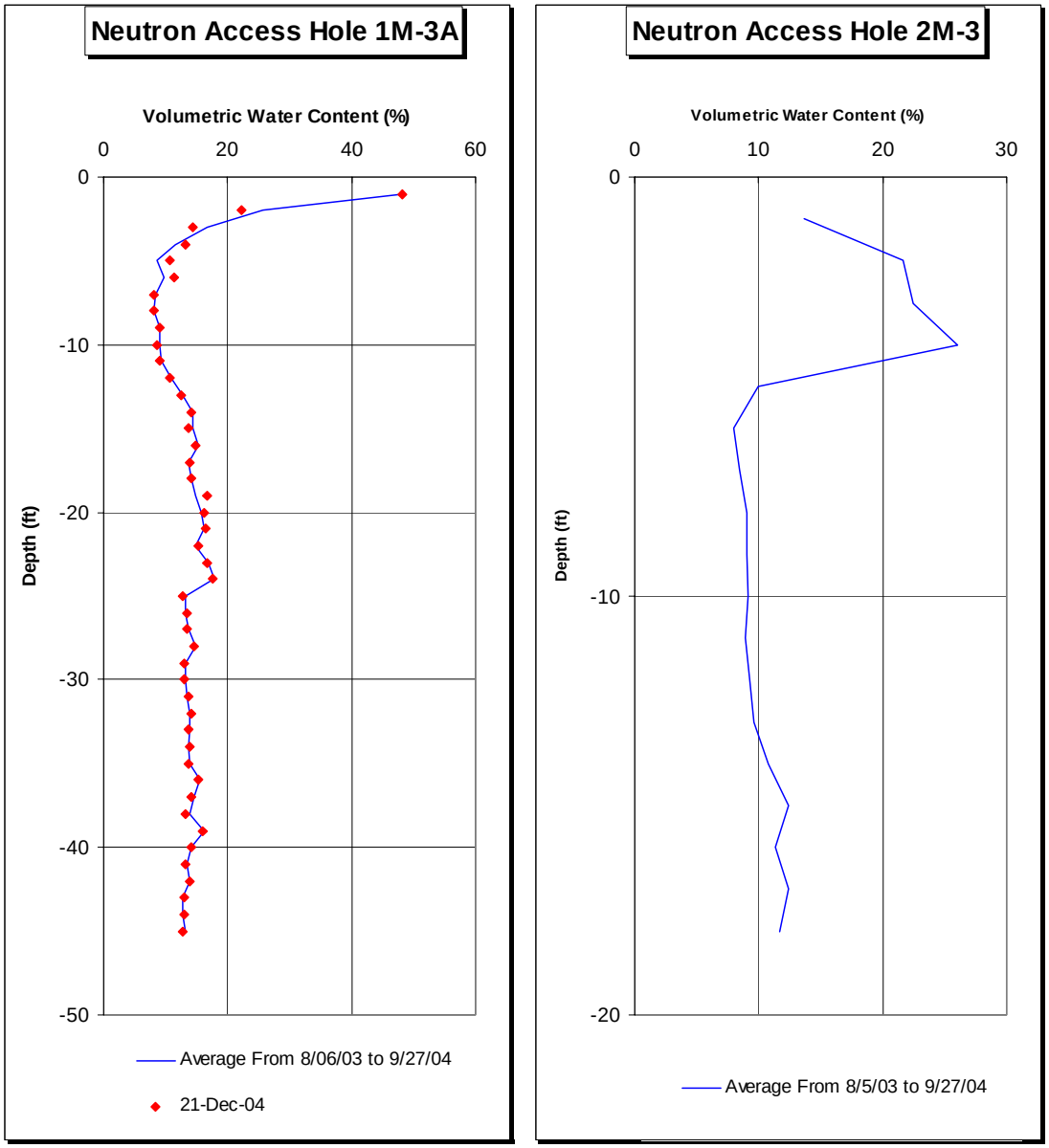

Figure 1-7. Neutron probe moisture measurements for neutron access holes 1M-3A and 2M-3

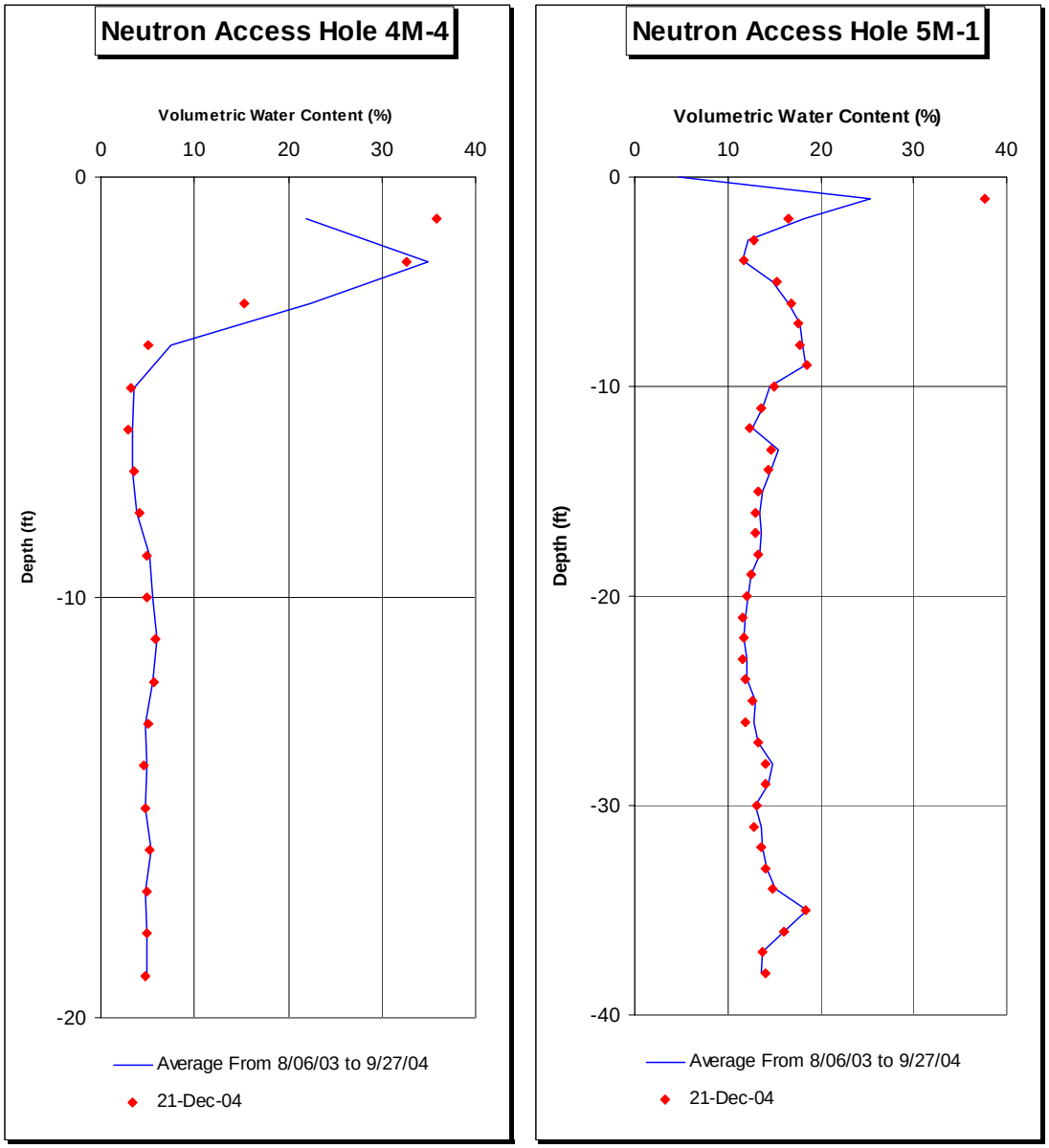

Figure 1-8. Neutron probe moisture measurements for neutron access holes 4M-4 and 5M-1

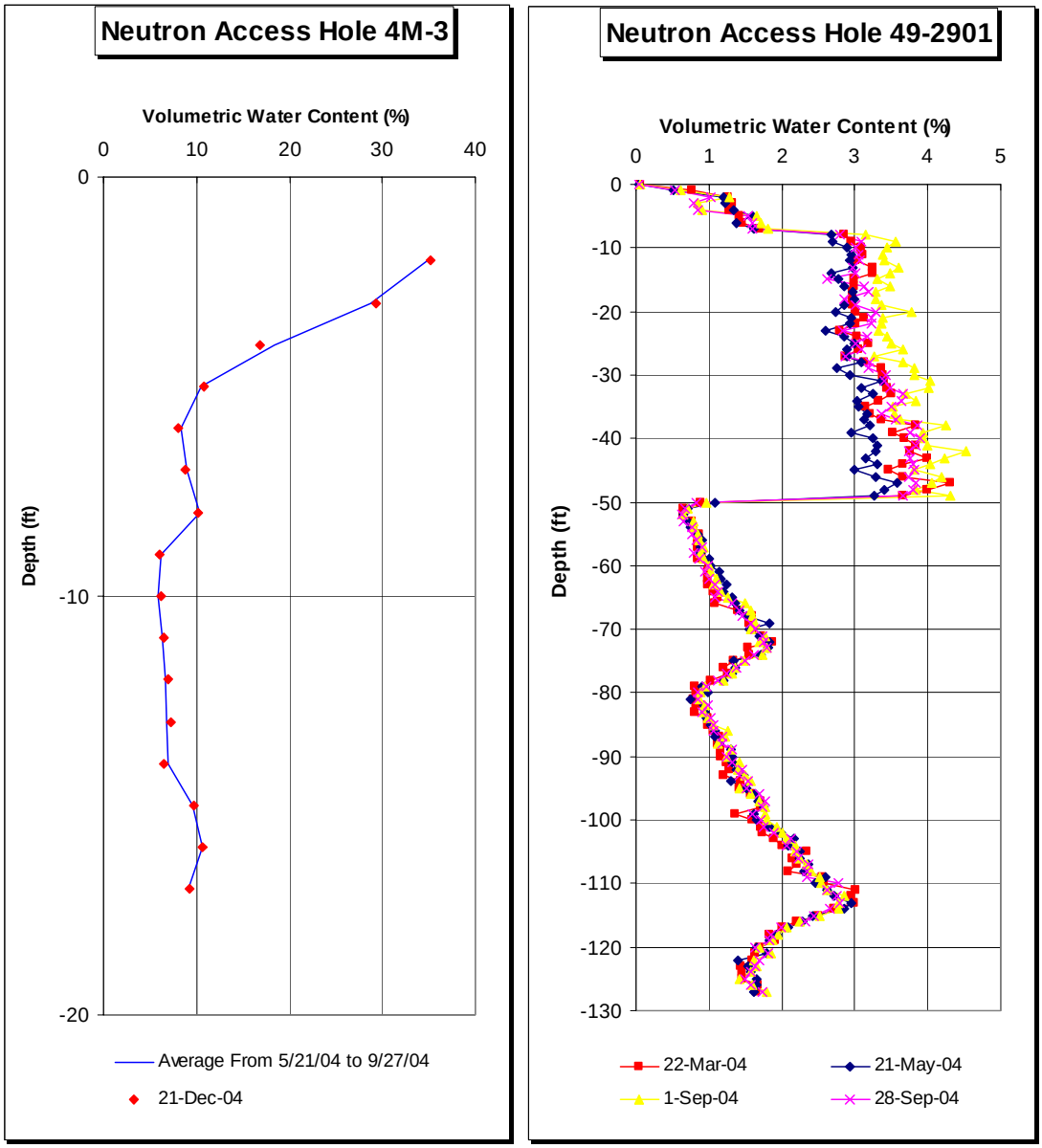

Figure 1-9. Neutron probe moisture measurements for neutron access holes 4M-3 and 49-2901

Attachment 2

Time Versus Moisture Content Plots

ATTACHMENT 2 TIME VERSUS MOISTURE CONTENT PLOTS

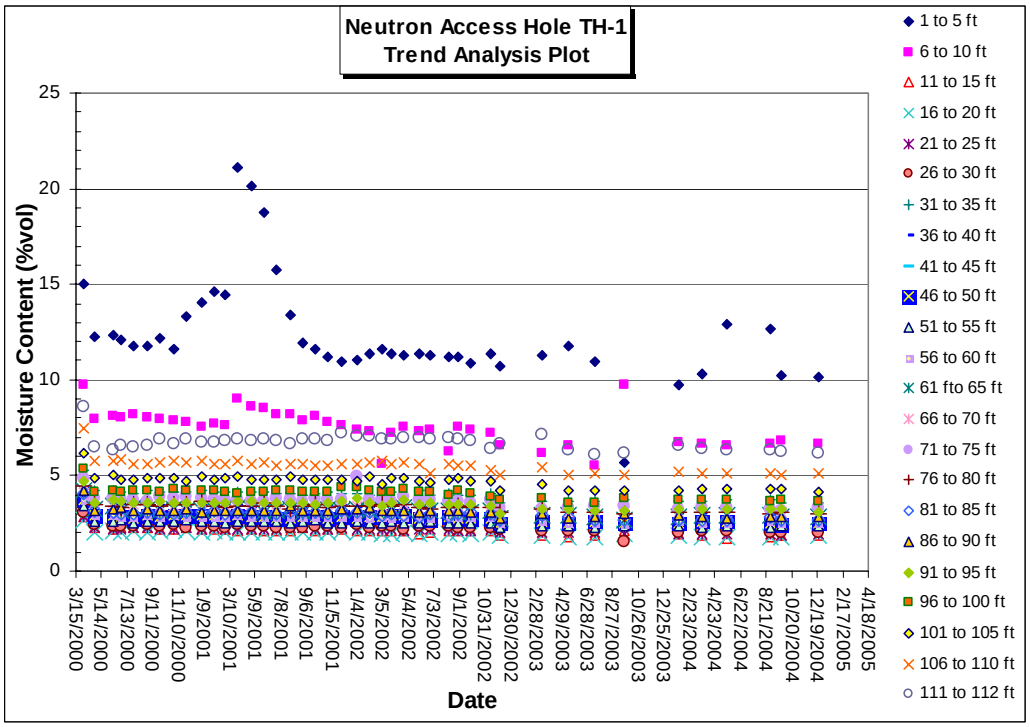

Figure 2-1. Trend plot of neutron moisture measurements, neutron access hole TH-1

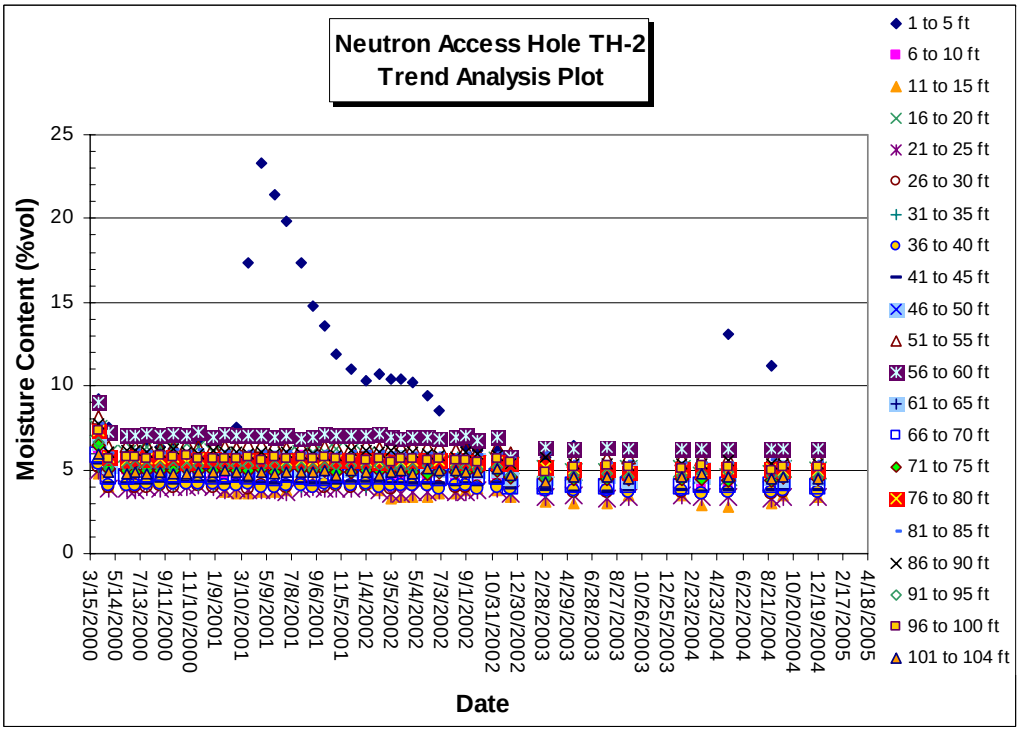

Figure 2-2. Trend plot of neutron moisture measurements, neutron access hole TH-2

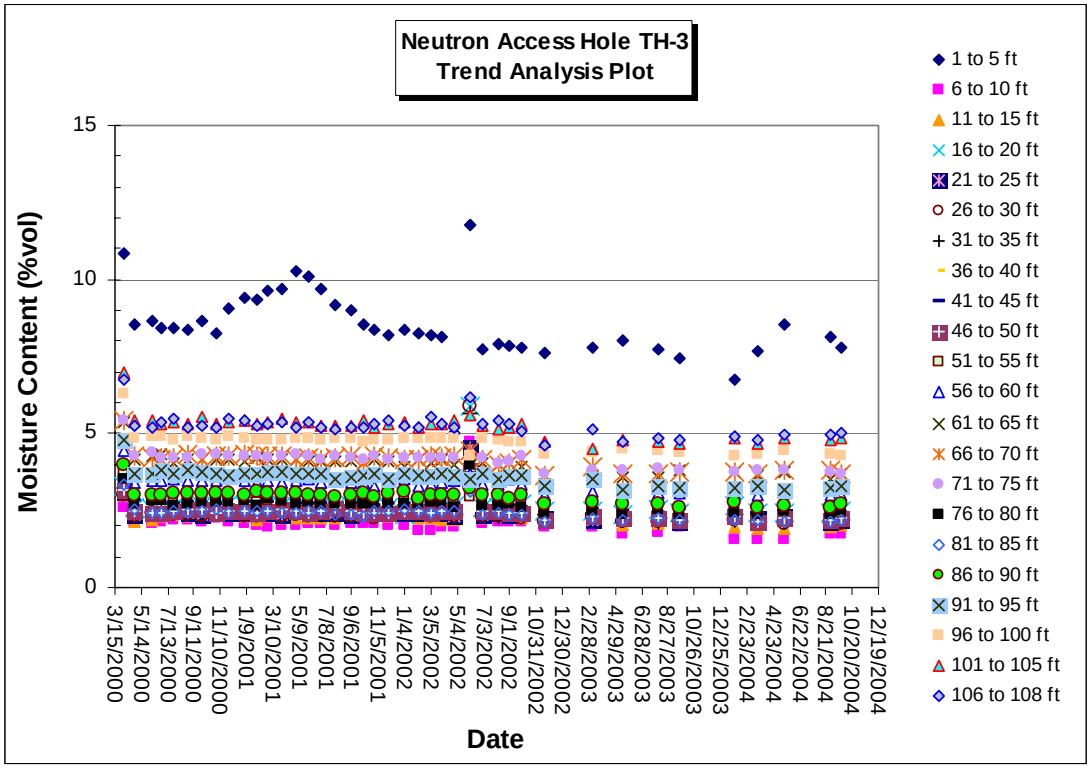

Figure 2-3. Trend plot of neutron moisture measurements, neutron access hole TH-3

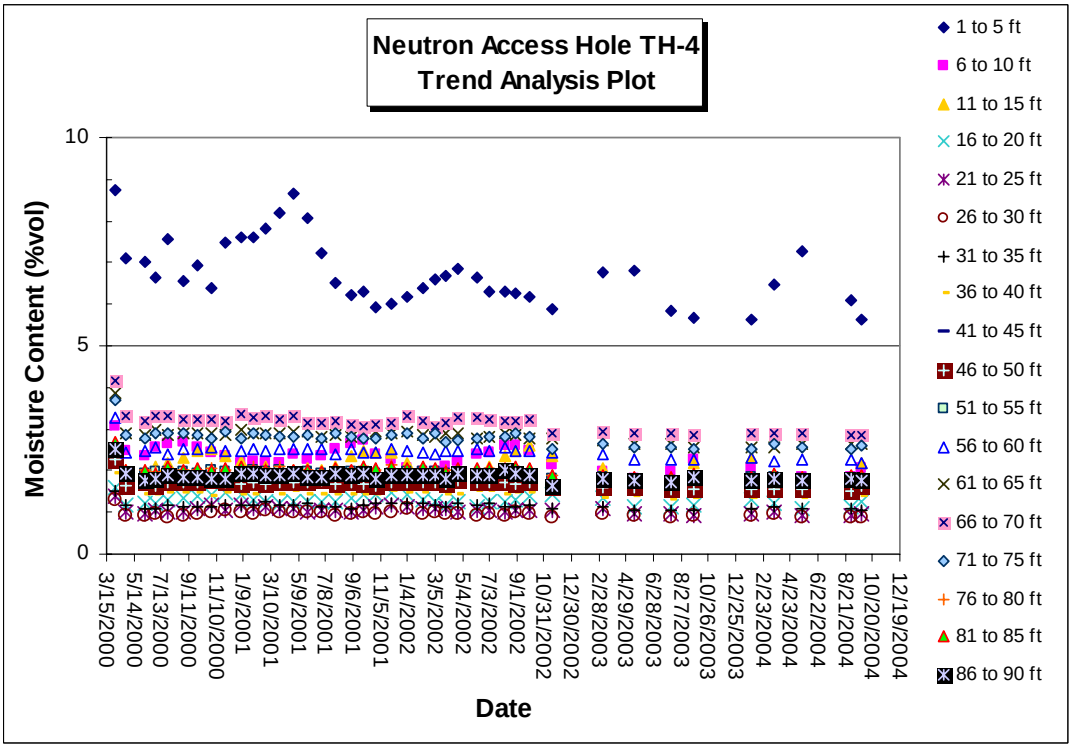

Figure 2-4. Trend plot of neutron moisture measurements, neutron access hole TH-4

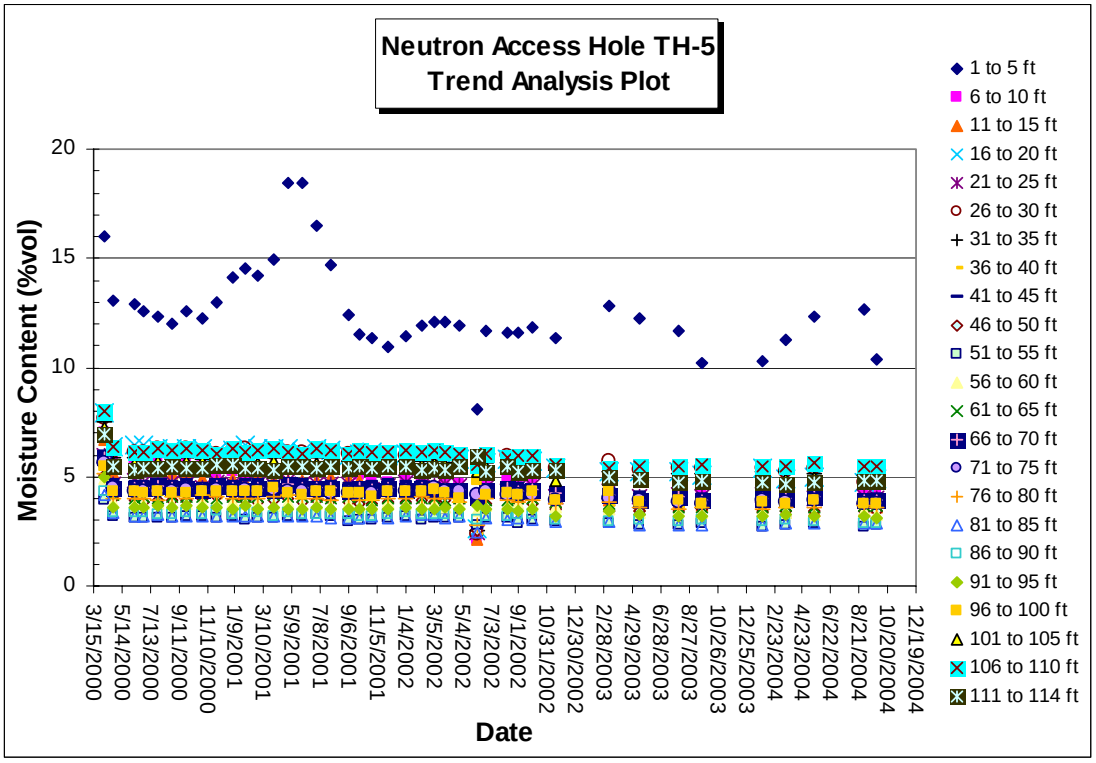

Figure 2-5. Trend plot of neutron moisture measurements, neutron access hole TH-5

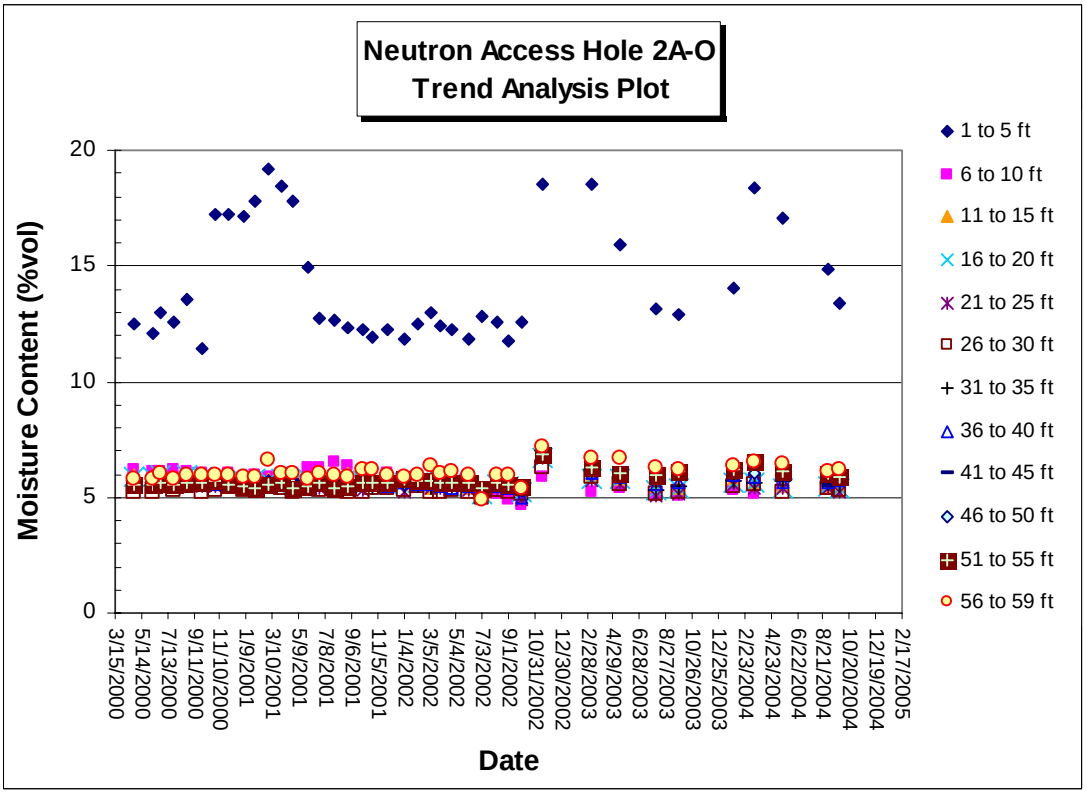

Figure 2-6. Trend plot of neutron moisture measurements, neutron access hole 2A-O

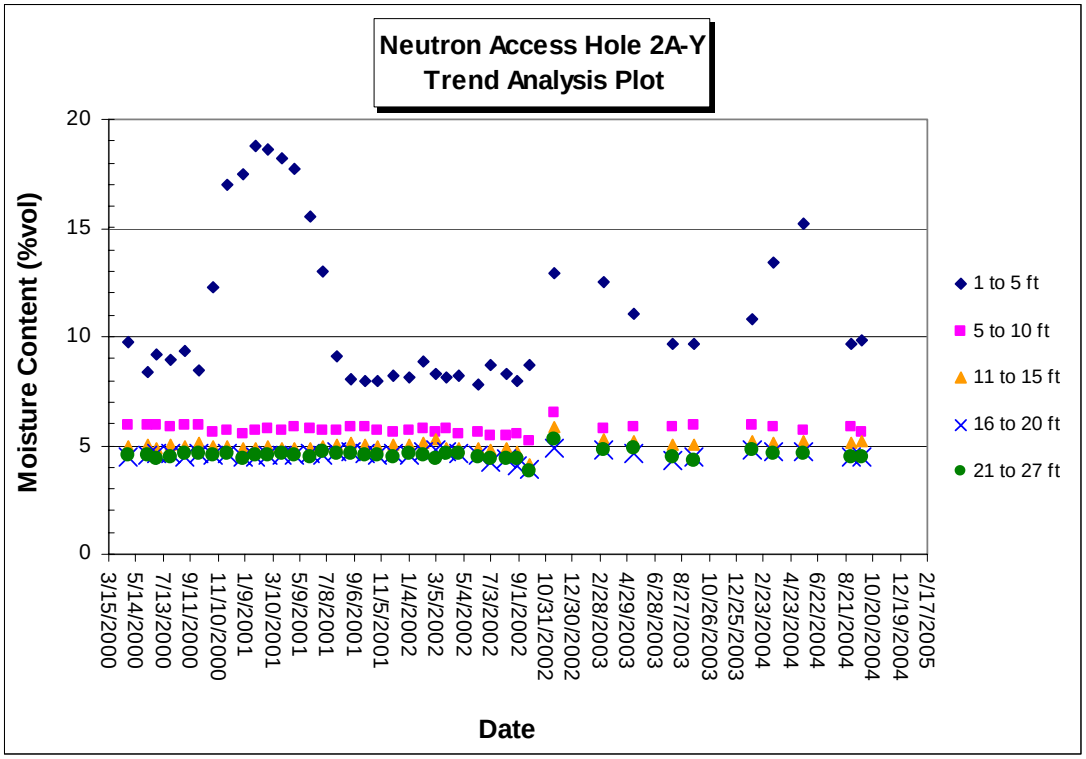

Figure 2-7. Trend plot of neutron moisture measurements, neutron access hole 2A-Y

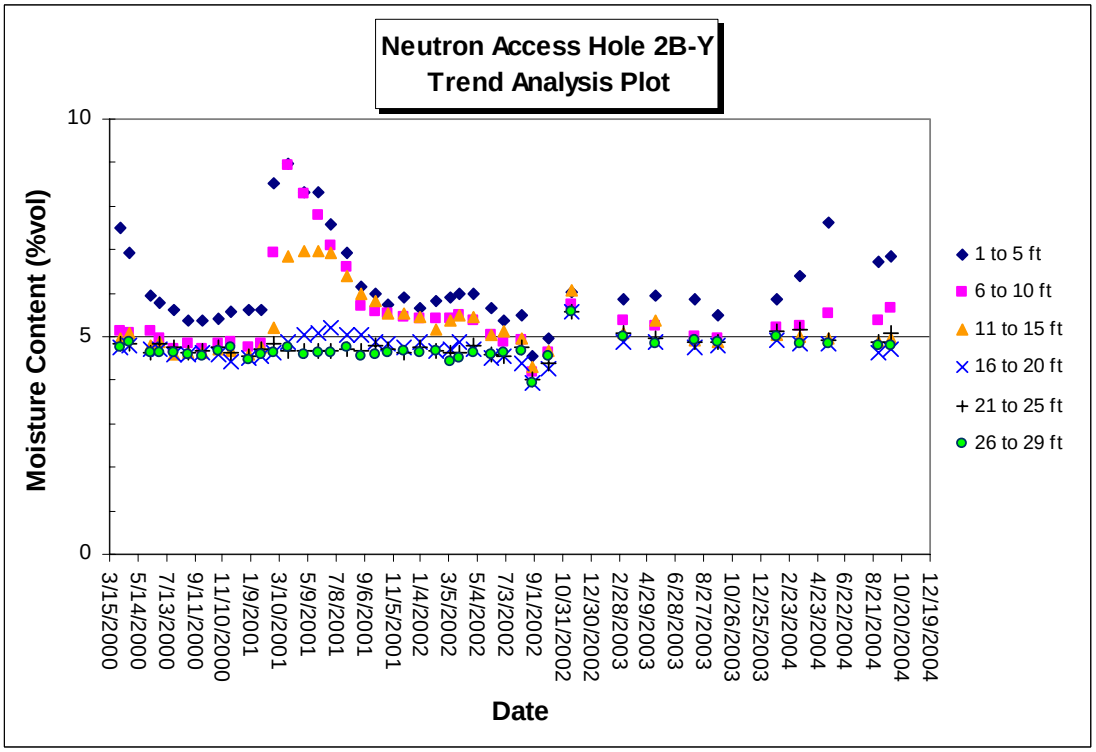

Figure 2-8. Trend plot of neutron moisture measurements, neutron access hole 2B-Y

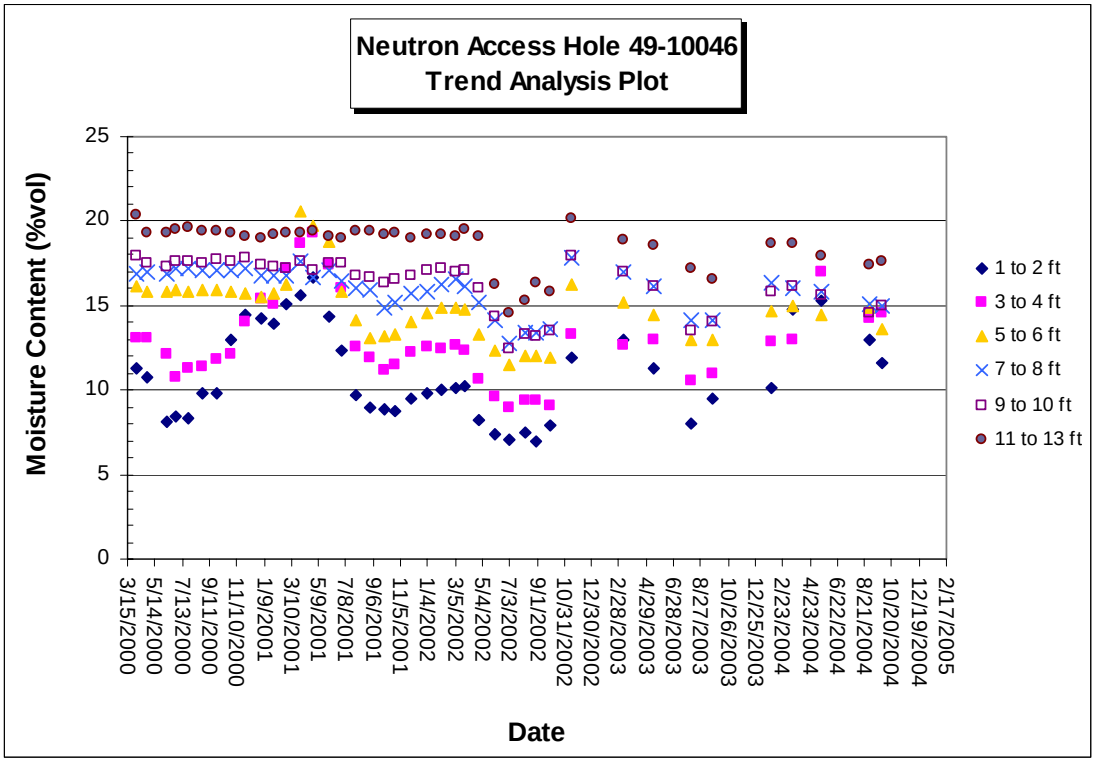

Figure 2-9. Trend plot of neutron moisture measurements, neutron access hole 49-10046

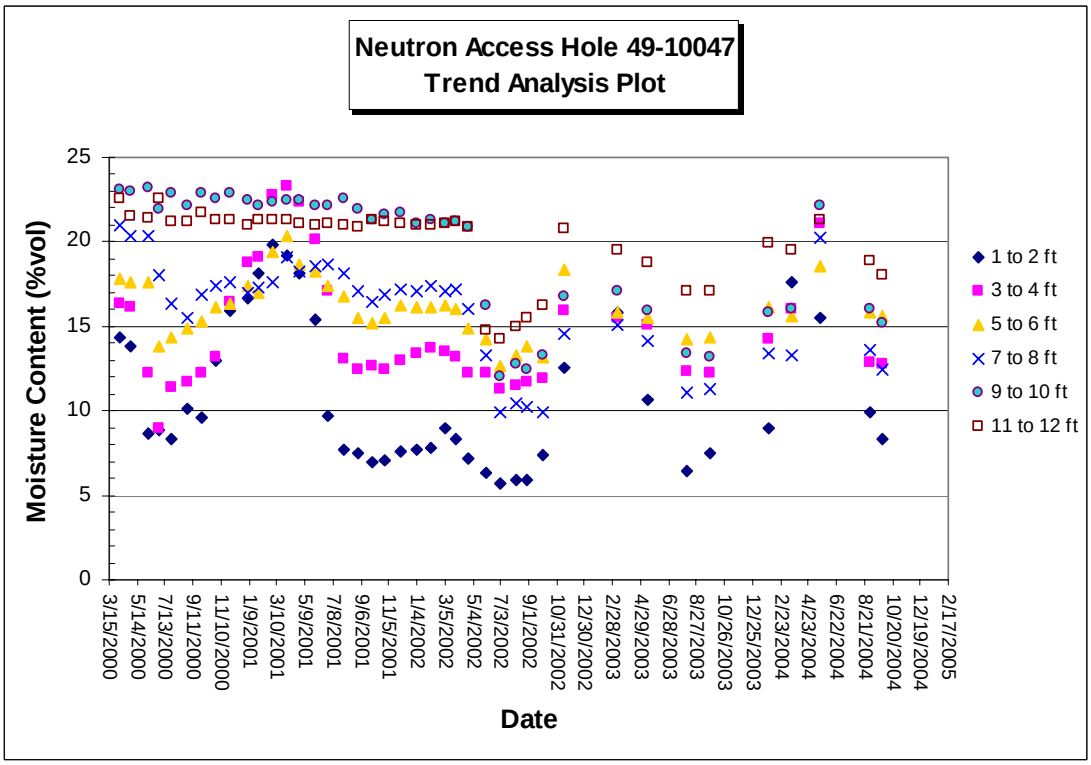

Figure 2-10. Trend plot of neutron moisture measurements, neutron access hole 49-10047

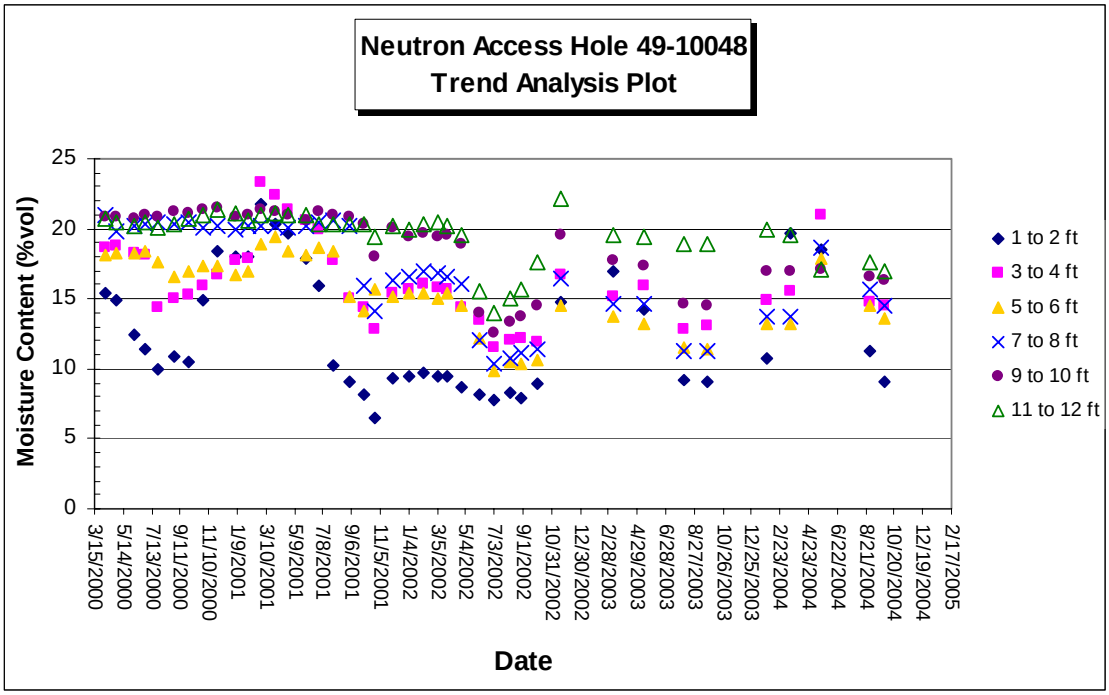

Figure 2-11. Trend plot of neutron moisture measurements, neutron access hole 49-10048

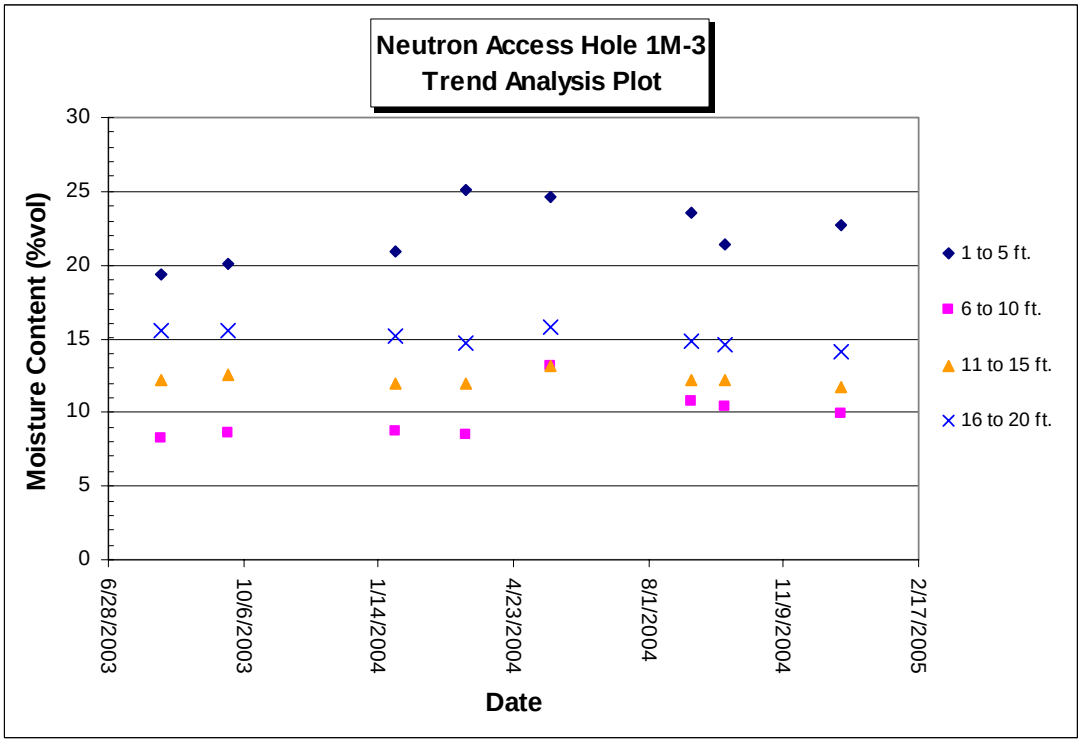

Figure 2-12. Trend plot of neutron moisture measurements, neutron access hole 1M-3

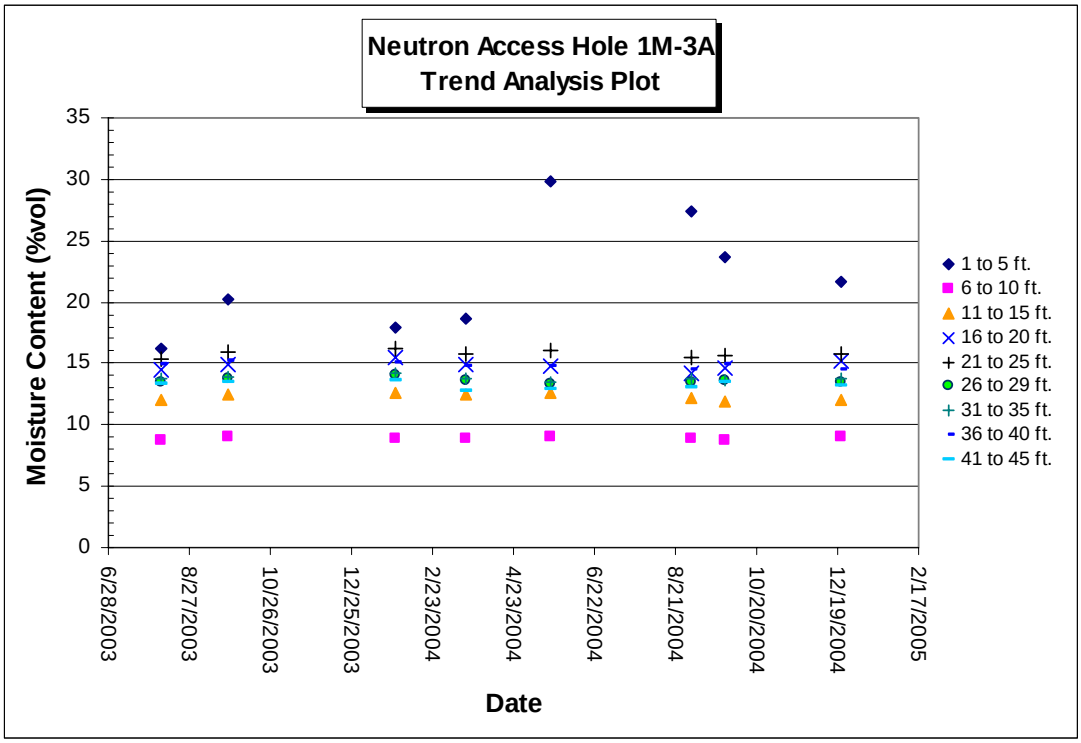

Figure 2-13. Trend plot of neutron moisture measurements, neutron access hole 1M-3A

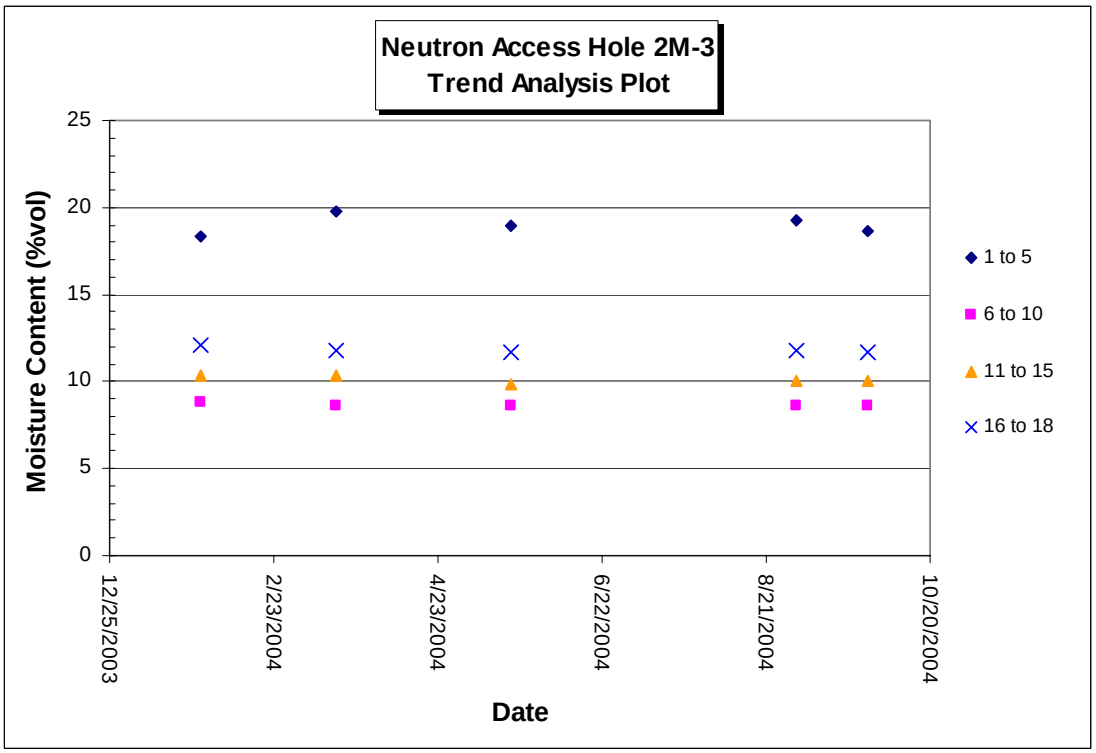

Figure 2-14. Trend plot of neutron moisture measurements, neutron access hole 2M-3

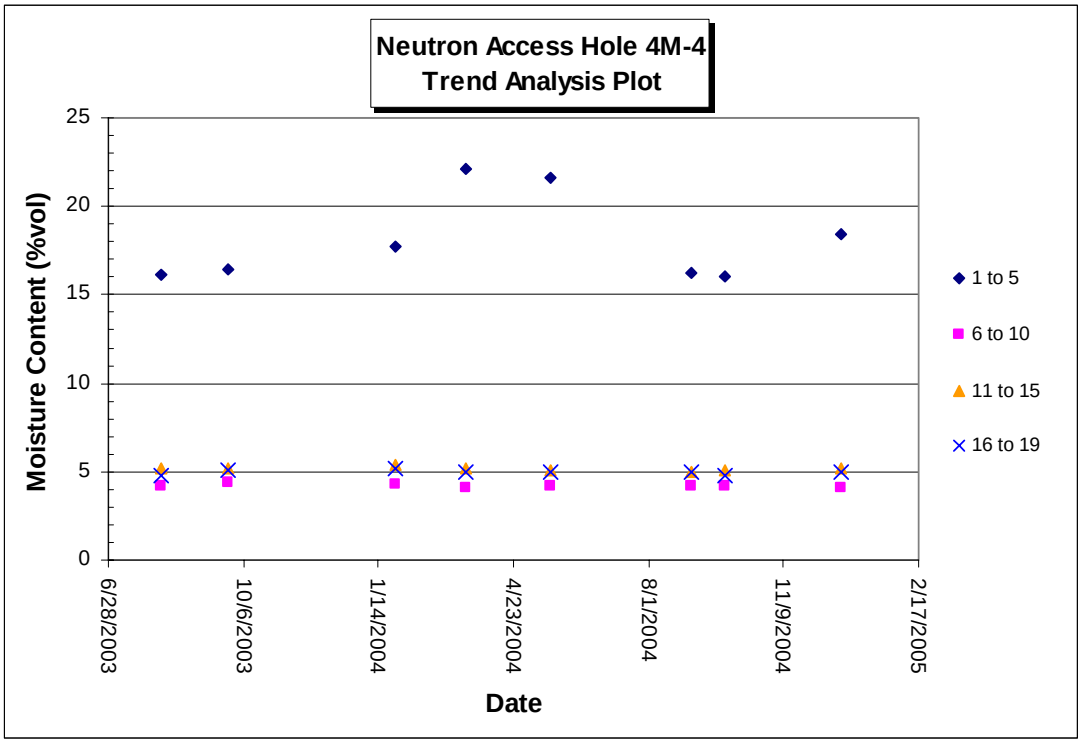

Figure 2-15. Trend plot of neutron moisture measurements, neutron access hole 4M-4

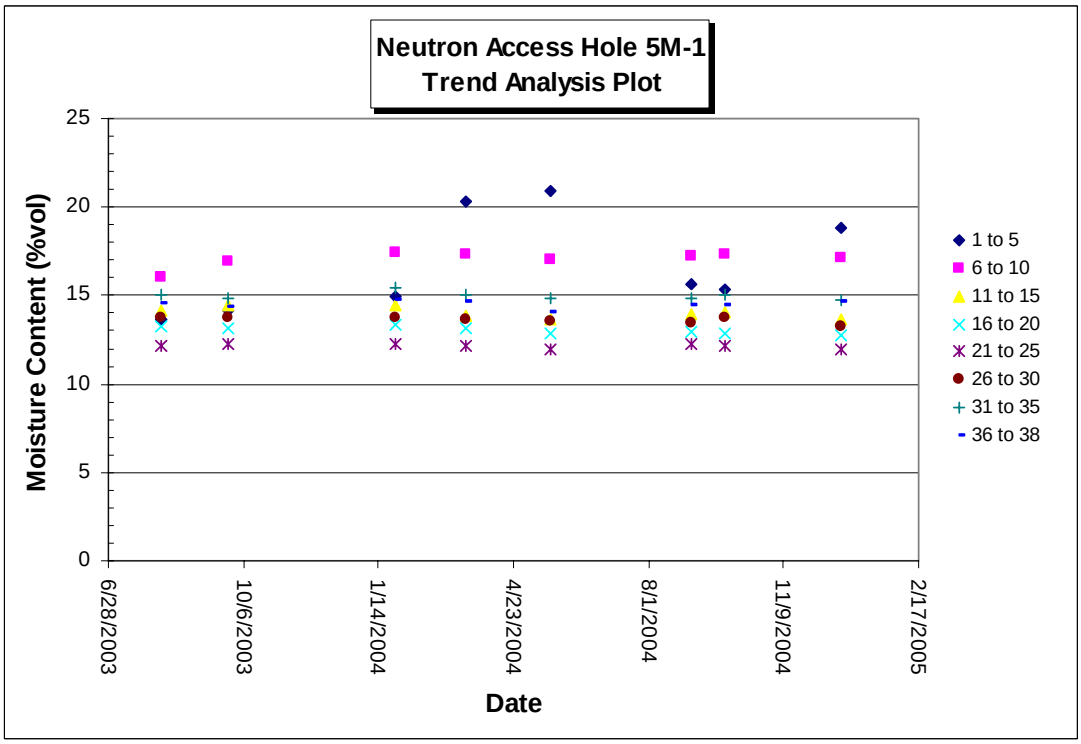

Figure 2-16. Trend plot of neutron moisture measurements, neutron access hole 5M-1

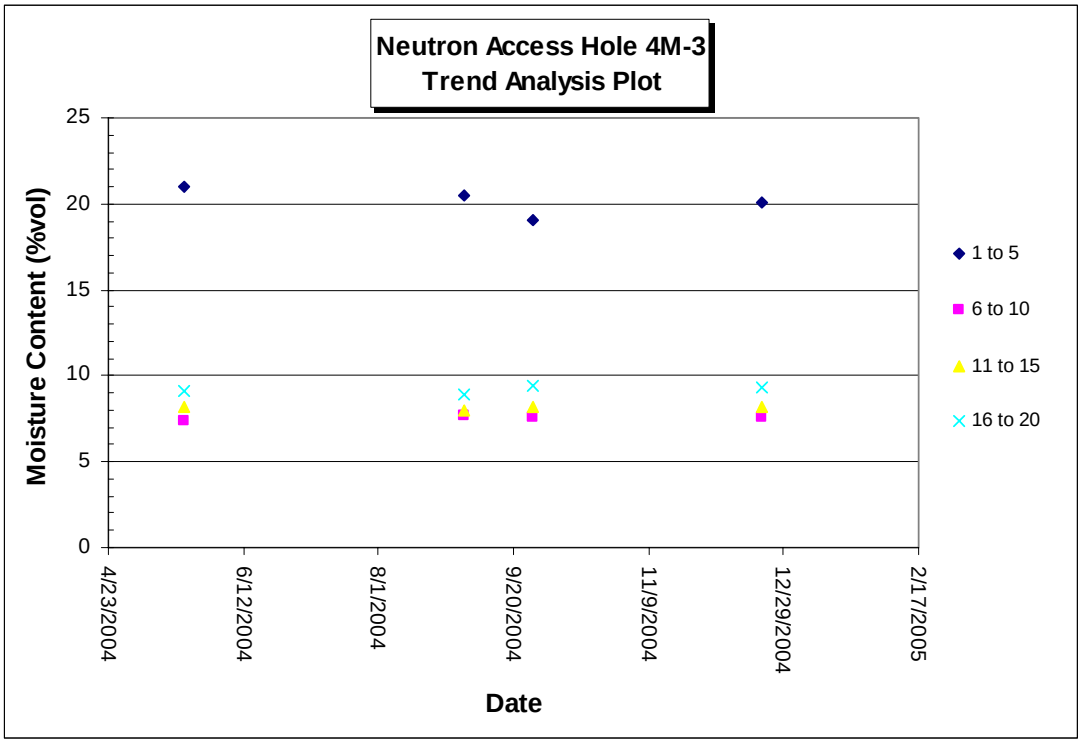

Figure 2-17. Trend plot of neutron moisture measurements, neutron access hole 4M-3

Attachment 3

Condition of Evapotranspiration Cover

Figure 3.1. Evapotranspiration (ET) cover from outside Area 2

Figure 3.2. ET cover from inside fence of Area 2

Appendix D

Quarterly Pore-Gas Sampling Report
First Quarter, Fiscal Year 2005,
Technical Area 54, Material Disposal Areas L and G

QUARTERLY PORE-GAS SAMPLING REPORT
FIRST QUARTER, FISCAL YEAR 2005,
TECHNICAL AREA 54, MATERIAL DISPOSAL AREAS L AND G

Environmental Stewardship–Remediation Services
Los Alamos National Laboratory

February 2005

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1.0 INTRODUCTION

This report discusses first quarter 2005 subsurface pore-gas sampling at Los Alamos National Laboratory (the Laboratory), Technical Area (TA-) 54. Monitoring at TA-54 is required by Module VIII of the Laboratory's Hazardous Waste Facility Permit in Section C.5, "Unsaturated Zone Monitoring" (EPA 1990, 01585). The approved plan (Davis 1993, 38812) for pore-gas sampling at TA-54 is described in the Laboratory's response (Glatzmaier 1993, 30987) to an Environmental Protection Agency (EPA) notice of deficiency (Driscoll 1992, 3849.3) addressing the Laboratory's Resource Conservation and Recovery Act facility investigation (RFI) work plan for TA-54 (LANL 1992, 07669).

1.1 Sampling Plan Requirements

Twenty-eight Environmental Stewardship–Remediation Services (ENV–RS) project wells are available for pore-gas sampling at TA-54. The sampling and analysis plan requires collecting samples from 12 wells each quarter to analyze volatile organic compounds (VOCs). Of these 12 samples, 7 are selected from a list of 10 wells located at Material Disposal Area (MDA) L, and 2 are selected from a list of 4 wells located at MDA G. Thus, 9 of the 12 samples collected each quarter are constrained to a defined set of 14 wells. The remaining three samples per quarter may be collected from the remaining pore-gas sampling wells or the boreholes provided by the TA-54 Area G Performance Assessment Maintenance Group (PAMG) wells.

The SUMMA canister sampling method is currently being used with analysis by EPA Method TO-14 (gas chromatography/mass spectrometry) (EPA 1999, 70063). SUMMA canister samples are drawn from one of the several sampling ports available at each well per standard operating procedure (SOP-) 06.31, Sampling of Subatmospheric Air. Table 4 in Appendix F of the fourth quarter report for fiscal year (FY) 2000 (LANL 2000, 70064) lists the ports to be sampled to establish trends near the source and at the plume boundaries. Results from these locations are evaluated in Section 5.0. All results for SUMMA canister samples are reported in parts per billion by volume (ppbv).

Before the required sampling is performed, all available wells (ENV-RS project wells and PAMG wells) are screened with a Brüel and Kjaer (B&K) multigas monitor, Type 1302. Each port is purged and monitored with field instruments until carbon dioxide levels have stabilized at values representative of subsurface pore-gas conditions and is then screened for four VOCs: 1,1,1-trichloroethane (TCA); trichloroethene (TCE); perchloroethene; and Freon-11. The multigas monitor measures concentrations down to one part per million by volume (ppmv). All results and data analysis of multigas monitor data are reported in ppmv.

Three types of field quality assurance (QA) samples are collected and analyzed. These three samples include (1) a duplicate sample; (2) an equipment blank of zero-grade air (zero-grade air is a common term for air that is certified to be free from VOC contamination) or nitrogen drawn through the sampling apparatus in the working area; and (3) a performance evaluation sample/calibration gas sample taken from a tank of a certified gas mixture. Laboratory QA for EPA Method TO-14 includes internal standards, surrogates, replicates, blanks, laboratory control samples, and reference standards.

1.2 Sampling Purpose

The purpose of the pore-gas sampling at TA-54 MDAs L and G is threefold:

- to identify changes in contaminant concentrations at the perimeter of the relatively well-characterized plume at MDA L as an indicator of outward plume expansion (i.e., extent);

- to monitor for contaminants and changes in contaminant concentration distributions within the plumes at MDAs L and G as an indicator of changes warranting further attention (i.e., nature); and
- to monitor wells for data-gap needs for future modeling and trend analyses.

2.0 FIRST-QUARTER SAMPLING

2.1 Sampling Event

Sampling for the first quarter of FY2005 (October through December) was conducted from October 4 through October 21, 2004.

Table 1 identifies the wells sampled (from the list of all wells available) and lists the port at each well from which the SUMMA canister sample was drawn. Twelve wells were sampled according to the approved sampling plan. Nine wells at MDA L were sampled, including seven from the above-defined list. Three wells at MDA G were sampled, including two from the defined list of wells. The two QA samples (field duplicate and equipment blank) were collected as planned. In total, fifteen samples were collected for laboratory analysis. These analytical results are reported in Table 2.

A total of 36 wells were screened with the B&K (226 ports). These are listed in Table 1. Field-screening results are available upon request.

2.2 Sampling Results

SUMMA samples collected during the first quarter of FY2005 show VOC concentrations consistent with those measured over the previous 16 quarters (Table 2). During the fourth quarter of 2004 sampling, VOC measurements from well 54-02002 at 100 ft bgs were twice as high as anticipated based on historical trends. These anomalous results were not repeated during the first quarter of FY2005 sampling event.

2.3 Evaluation of Quality Assurance Samples

Field duplicate sample. A field duplicate sample is drawn from the same port on a well immediately after the original sample. The field duplicate was collected from well 54-02002 at the 100-ft sampling port. Table 3 presents the field duplicate results.

Field equipment blank. A field equipment blank sample documents the effectiveness of equipment purges between samples. A sample was collected by drawing zero-grade air through the sample train after the normal purge performed before each sample. The field equipment blank was taken in the immediate vicinity of 54-02002 at ground level.

Calibration gas sample (performance evaluation sample). A calibration gas sample was drawn into a SUMMA canister and submitted to the analytical laboratory for analysis. The calibration gas contained 101.8 ppmv of TCA, 50.9 ppmv of TCE, and 10.1 ppmv of tetrachloroethene (PCE). The results of the analysis for sample MD54-04-55790 were 97 ppmv (95%) for TCA, 48 ppmv (94%) for TCE, and 9.3 ppmv (92%) for PCE.

Table 1
Summary of Sampling Event, First Quarter FY 2005

Well ID	Site	On Defined Sampling List	# of Ports Screened	Depths of Screened Ports (ft)	Depth of Port Sampled (ft)	Sample ID
54-1015	MDA L	N	6	39.5, 164.3, 307.6, 338.3, 382.3, 426.2	—[a]	n/a[b]
54-1016	MDA L	N	4	31, 162, 274, 336	—	n/a
54-1107	PAMG	N	6	20, 44.5, 56.5, 74, 91, 100	—	n/a
54-1110	PAM G	N	6	20, 48, 60, 70, 85, 90	—	n/a
54-1111	PAMG	N	7	20, 39.5, 50, 70, 78, 100, 139	—	n/a
54-1115	PAMG	N	6	7.9, 26.5, 40.8, 53, 63.6, 68.9	—	n/a
54-1117	PAMG	N	6	20, 31.5, 55, 73, 82, 85	—	n/a
54-1121	PAMG	N	7	20, 26, 61.5, 70, 76, 98, 121	—	n/a
54-2002	MDA L	Y	9	40, 60, 80, 100, 120, 140, 157, 180, 200	100 100	MD54-04-55788 MD54-04-55789
54-1126	MDA G	N	6	7.5, 17.5, 28.5, 35, 42.5, 49.5	—	n/a
54-1128	MDA G	N	5	7.5, 15, 20, 30, 39	39	MD54-04-55801
54-2009	MDA G	Y	3	37, 62, 92	62	MD54-04-55799
54-2010	MDA G	Y	3	30, 53, 95	95	MD54-04-55800
54-2012	MDA L	Y	3	8, 28, 42	28	MD54-04-55791
54-2013	MDA L	N	3	20, 43, 63	—	n/a
54-2014	MDA L	N	4	13, 31, 46, 86	—	n/a
54-2016	MDA L	N	1	31	—	n/a
54-2020	MDA L	N	10	20, 40, 60, 80, 95, 120, 140, 160, 180, 200	—	n/a
54-2021	MDA L	Y	10	20, 40, 60, 80, 100, 120 140, 160, 180, 200	100	MD54-04-55796
54-2022	MDA L	Y	10	20, 40, 60, 80, 100, 120, 140, 160, 180, 200	80	MD54-04-55792
54-2023	MDA L	Y	10	20, 40, 60, 80, 100, 120, 140, 159, 180, 200	—	n/a
54-2024	MDA L	N	10	20, 40, 60, 80, 100, 120, 140, 160, 180, 200	—	n/a
54-2025	MDA L	N	4	20, 100, 160, 190	100	MD54-04-55798
54-2026	MDA L	Y	6	20, 60, 100, 160, 200, 215	160	MD54-04-55793
54-2027	MDA L	N	6	20, 60, 100, 200, 220, 250	—	n/a
54-2028	MDA L	N	7	20, 60, 100, 160, 200, 220, 250	—	n/a
54-2029	MDA L	Y	8	20, 60, 100, 160, 200, 220, 260, 288	—	n/a
54-2030	MDA L	Y	6	20, 60, 100, 160, 200, 220	100	MD54-04-55794
54-2031	MDA L	Y	7	20, 60, 100, 160, 200, 220, 260	—	n/a
54-2032	MDA G	Y	5	20, 60, 100, 130, 156	—	n/a
54-2033	MDA G	Y	8	20, 60, 100, 160, 200, 220, 260, 277	—	n/a
54-2034	MDA L	Y	7	20, 60, 100, 160, 200, 220, 260	60	MD54-04-55795
54-2087	MDA L	N	4	13, 31, 46, 86	—	n/a
54-2088	MDA L	N	4	13, 31, 46, 86	—	n/a
54-2089	MDA L	N	4	13, 31, 46, 86	46	MD54-04-55797
54-22116	MDA G	N	15	28, 46, 64, 82, 100, 118, 136, 154, 172, 190, 208, 226, 244, 262, 280[c]	—	n/a
Total wells sampled					12	
MDA L defined list wells sampled (7 expected)					7	
MDA G defined list wells sampled (2 expected)					2	
QA samples taken					1 field duplicate	1 equipment blank

[a] — = Not sampled.

[b] n/a = Not analyzed.

[c] Distance from well head, horizontal well.

Table 2
Summary of Sampling Event, First Quarter FY2005

Location ID	Sample ID	Sample Concentration (ppbv)	Depth (ft)	Analyte	Analyte Code
54-01128	MD54-04-55801	3200	39	Dichloroethane[1,1-]	75-34-3
54-01128	MD54-04-55801	4800	39	Dichloroethene[1,1-]	75-35-4
54-01128	MD54-04-55801	910	39	Tetrachloroethene	127-18-4
54-01128	MD54-04-55801	65000	39	Trichloroethane[1,1,1-]	71-55-6
54-01128	MD54-04-55801	350	39	Trichloroethene	79-01-6
54-02002	MD54-04-55788	7600	100	Chloroform	67-66-3
54-02002	MD54-04-55788	6200	100	Dichloroethane[1,1-]	75-34-3
54-02002	MD54-04-55788	8100	100	Dichloroethane[1,2-]	107-06-2
54-02002	MD54-04-55788	18000	100	Dichloroethene[1,1-]	75-35-4
54-02002	MD54-04-55788	16000	100	Dichloropropane[1,2-]	78-87-5
54-02002	MD54-04-55788	22000	100	Methylene Chloride	75-09-2
54-02002	MD54-04-55788	7300	100	Tetrachloroethene	127-18-4
54-02002	MD54-04-55788	4400	100	Toluene	108-88-3
54-02002	MD54-04-55788	36000	100	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02002	MD54-04-55788	350000	100	Trichloroethane[1,1,1-]	71-55-6
54-02002	MD54-04-55788	75000	100	Trichloroethene	79-01-6
54-02002	MD54-04-55788	11000	100	Trichlorofluoromethane	75-69-4
54-02002	MD54-04-55789	7200	100	Chloroform	67-66-3
54-02002	MD54-04-55789	6000	100	Dichloroethane[1,1-]	75-34-3
54-02002	MD54-04-55789	7600	100	Dichloroethane[1,2-]	107-06-2
54-02002	MD54-04-55789	17000	100	Dichloroethene[1,1-]	75-35-4
54-02002	MD54-04-55789	15000	100	Dichloropropane[1,2-]	78-87-5
54-02002	MD54-04-55789	20000	100	Methylene Chloride	75-09-2
54-02002	MD54-04-55789	6300	100	Tetrachloroethene	127-18-4
54-02002	MD54-04-55789	3900	100	Toluene	108-88-3
54-02002	MD54-04-55789	34000	100	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02002	MD54-04-55789	330000	100	Trichloroethane[1,1,1-]	71-55-6
54-02002	MD54-04-55789	71000	100	Trichloroethene	79-01-6
54-02002	MD54-04-55789	10000	100	Trichlorofluoromethane	75-69-4
54-02009	MD54-04-55799	2600	62	Dichloroethane[1,1-]	75-34-3
54-02009	MD54-04-55799	4500	62	Dichloroethene[1,1-]	75-35-4
54-02009	MD54-04-55799	680	62	Tetrachloroethene	127-18-4
54-02009	MD54-04-55799	54000	62	Trichloroethane[1,1,1-]	71-55-6
54-02009	MD54-04-55799	360	62	Trichloroethene	79-01-6
54-02010	MD54-04-55800	320	95	Dichloroethane[1,1-]	75-34-3
54-02010	MD54-04-55800	410	95	Dichloroethene[1,1-]	75-35-4
54-02010	MD54-04-55800	78	95	Tetrachloroethene	127-18-4
54-02010	MD54-04-55800	450	95	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02010	MD54-04-55800	6400	95	Trichloroethane[1,1,1-]	71-55-6
54-02010	MD54-04-55800	110	95	Trichloroethene	79-01-6
54-02010	MD54-04-55800	180	95	Trichlorofluoromethane	75-69-4
54-02012	MD54-04-55791	92000	28	Dichloroethane[1,1-]	75-34-3
54-02012	MD54-04-55791	110000	28	Dichloroethane[1,2-]	107-06-2
54-02012	MD54-04-55791	72000	28	Dichloroethene[1,1-]	75-35-4
54-02012	MD54-04-55791	100000	28	Methylene Chloride	75-09-2
54-02012	MD54-04-55791	64000	28	Tetrachloroethene	127-18-4
54-02012	MD54-04-55791	17000	28	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02012	MD54-04-55791	2000000	28	Trichloroethane[1,1,1-]	71-55-6
54-02012	MD54-04-55791	660000	28	Trichloroethene	79-01-6
54-02021	MD54-04-55796	1700	100	Dichloroethane[1,1-]	75-34-3
54-02021	MD54-04-55796	1700	100	Dichloroethane[1,2-]	107-06-2
54-02021	MD54-04-55796	3600	100	Dichloroethene[1,1-]	75-35-4
54-02021	MD54-04-55796	1800	100	Methylene Chloride	75-09-2
54-02021	MD54-04-55796	1000	100	Tetrachloroethene	127-18-4
54-02021	MD54-04-55796	870	100	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02021	MD54-04-55796	80000	100	Trichloroethane[1,1,1-]	71-55-6
54-02021	MD54-04-55796	14000	100	Trichloroethene	79-01-6

Location ID	Sample ID	Sample Concentration (ppbv)	Depth (ft)	Analyte	Analyte Code
54-02022	MD54-04-55792	3900	80	Dichloroethane[1,1-]	75-34-3
54-02022	MD54-04-55792	5200	80	Dichloroethane[1,2-]	107-06-2
54-02022	MD54-04-55792	3900	80	Dichloroethene[1,1-]	75-35-4
54-02022	MD54-04-55792	4200	80	Methylene Chloride	75-09-2
54-02022	MD54-04-55792	2200	80	Tetrachloroethene	127-18-4
54-02022	MD54-04-55792	1200	80	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02022	MD54-04-55792	220000	80	Trichloroethane[1,1,1-]	71-55-6
54-02022	MD54-04-55792	29000	80	Trichloroethene	79-01-6
54-02025	MD54-04-55798	460	100	Carbon Tetrachloride	56-23-5
54-02025	MD54-04-55798	3300	100	Chloroform	67-66-3
54-02025	MD54-04-55798	1500	100	Dichloroethane[1,1-]	75-34-3
54-02025	MD54-04-55798	2300	100	Dichloroethane[1,2-]	107-06-2
54-02025	MD54-04-55798	5900	100	Dichloroethene[1,1-]	75-35-4
54-02025	MD54-04-55798	4400	100	Dichloropropane[1,2-]	78-87-5
54-02025	MD54-04-55798	7100	100	Methylene Chloride	75-09-2
54-02025	MD54-04-55798	2800	100	Tetrachloroethene	127-18-4
54-02025	MD54-04-55798	12000	100	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02025	MD54-04-55798	94000	100	Trichloroethane[1,1,1-]	71-55-6
54-02025	MD54-04-55798	21000	100	Trichloroethene	79-01-6
54-02025	MD54-04-55798	3600	100	Trichlorofluoromethane	75-69-4
54-02025	MD54-04-55798	430	100	Xylene[1,2-]	95-47-6
54-02026	MD54-04-55793	31	160	Carbon Tetrachloride	56-23-5
54-02026	MD54-04-55793	110	160	Chloroform	67-66-3
54-02026	MD54-04-55793	27	160	Dichloroethane[1,1-]	75-34-3
54-02026	MD54-04-55793	440	160	Dichloroethene[1,1-]	75-35-4
54-02026	MD54-04-55793	56	160	Methylene Chloride	75-09-2
54-02026	MD54-04-55793	92	160	Tetrachloroethene	127-18-4
54-02026	MD54-04-55793	940	160	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02026	MD54-04-55793	3500	160	Trichloroethane[1,1,1-]	71-55-6
54-02026	MD54-04-55793	910	160	Trichloroethene	79-01-6
54-02026	MD54-04-55793	160	160	Trichlorofluoromethane	75-69-4
54-02030	MD54-04-55794	17	100	Carbon Tetrachloride	56-23-5
54-02030	MD54-04-55794	82	100	Chloroform	67-66-3
54-02030	MD54-04-55794	17	100	Dichloroethane[1,1-]	75-34-3
54-02030	MD54-04-55794	170	100	Dichloroethene[1,1-]	75-35-4
54-02030	MD54-04-55794	9	100	Dichloropropane[1,2-]	78-87-5
54-02030	MD54-04-55794	64	100	Tetrachloroethene	127-18-4
54-02030	MD54-04-55794	490	100	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02030	MD54-04-55794	2300	100	Trichloroethane[1,1,1-]	71-55-6
54-02030	MD54-04-55794	500	100	Trichloroethene	79-01-6
54-02030	MD54-04-55794	82	100	Trichlorofluoromethane	75-69-4
54-02034	MD54-04-55795	130	60	Dichloroethane[1,1-]	75-34-3
54-02034	MD54-04-55795	47	60	Dichloroethane[1,2-]	107-06-2
54-02034	MD54-04-55795	380	60	Dichloroethene[1,1-]	75-35-4
54-02034	MD54-04-55795	36	60	Methylene Chloride	75-09-2
54-02034	MD54-04-55795	70	60	Tetrachloroethene	127-18-4
54-02034	MD54-04-55795	87	60	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02034	MD54-04-55795	7200	60	Trichloroethane[1,1,1-]	71-55-6
54-02034	MD54-04-55795	1500	60	Trichloroethene	79-01-6
54-02034	MD54-04-55795	38	60	Trichlorofluoromethane	75-69-4
54-02089	MD54-04-55797	8500	46	Chloroform	67-66-3
54-02089	MD54-04-55797	28000	46	Dichloroethane[1,1-]	75-34-3
54-02089	MD54-04-55797	10000	46	Dichloroethane[1,2-]	107-06-2
54-02089	MD54-04-55797	42000	46	Dichloroethene[1,1-]	75-35-4
54-02089	MD54-04-55797	200000	46	Dichloropropane[1,2-]	78-87-5
54-02089	MD54-04-55797	5900	46	Tetrachloroethene	127-18-4
54-02089	MD54-04-55797	5500	46	Toluene	108-88-3
54-02089	MD54-04-55797	73000	46	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1
54-02089	MD54-04-55797	1400000	46	Trichloroethane[1,1,1-]	71-55-6
54-02089	MD54-04-55797	190000	46	Trichloroethene	79-01-6
54-02089	MD54-04-55797	8400	46	Trichlorofluoromethane	75-69-4

Table 3
Field Duplicate Sample Results Comparison (Well 54-02002, 100 ft)

Analyte	Sample MD54-04-55788[a] (ppbv)	Sample MD54-04-55789[b] (ppbv)	RPD[c]
Chloroform	7600	7200	5.4
Dichloroethane[1,1-]	6200	6000	3.3
Dichloroethane[1,2-]	8100	7600	6.4
Dichloroethene[1,1-]	18,000	17,000	5.7
Dichloropropane[1,2-]	16,000	15,000	6.5
Methylene chloride	22,000	20,000	9.5
Tetrachloroethene	7300	6300	14.7
Toluene	4400	3900	12.0
Trichloro-1,2,2-trifluoroethanel[1,1,2-1]	36,000	34,000	5.7
Trichloroethanel[1,1,1-]	350,000	330,000	5.9
Trichloroethene	75,000	71,000	5.5

[a] Detection limit = 1700 ppbv
[b] Detection limit = 1800 ppbv
[c] RPD = Relative percent difference

3.0 TRENDS ESTABLISHED USING ANALYTICAL RESULTS FROM SUMMA CANISTERS

Since 1997, wells 54-02002 and 54-02012 have been used to establish VOC trends in the MDA L source areas, and well 54-02009 has been used to establish VOC trends in the MDA G source area. These wells have been sampled more frequently than any other pore-gas wells. Well 54-02002 is located near the eastern MDA L disposal shaft field, and consistently has the highest detected TCA concentrations at 100 ft bgs. High TCA concentrations are also detected in well 54-02012, which is located near the disposal shafts in the northwestern corner of MDA L. Well 54-02009 is located just south of disposal Pits 1 and 3 in the southeast corner of MDA G.

Student t-test analyses based on a 95% confidence interval were performed on VOC measurements to establish trends in concentration:

- Wells 54-02002, 54-02012, and 54-02009 show decreasing TCA concentrations over time (Figures 1 and 2). The anomalous data from well 54-02002 measured during the fourth quarter of FY2004 are not considered to be reliable based on data collected in the first quarter of FY2005 and on historical data. The fourth quarter data were excluded from the analysis and are not shown in the trend graph.
- TCA degrades to 1,1-dichloroethene by elimination or to 1,1-dichloroethane by reductive dechlorination. Dichloroethene [1,1-), detected in well 54-02002, shows an increasing trend, while 1,1-dichloroethane shows little change in concentration (Figure 3). In well 54-02009, 1,1-dichloroethane shows a decreasing trend, while 1,1-dichloroethene shows a slightly increasing trend in concentration (Figure 4).
- TCE and PCE show slightly decreasing trends in concentration over time.

Wells 54-02002, 54-02012, and 54-02009 will continue to be monitored to establish trends. Other wells will continue to be sampled to develop a statistically meaningful data set for trend analysis.

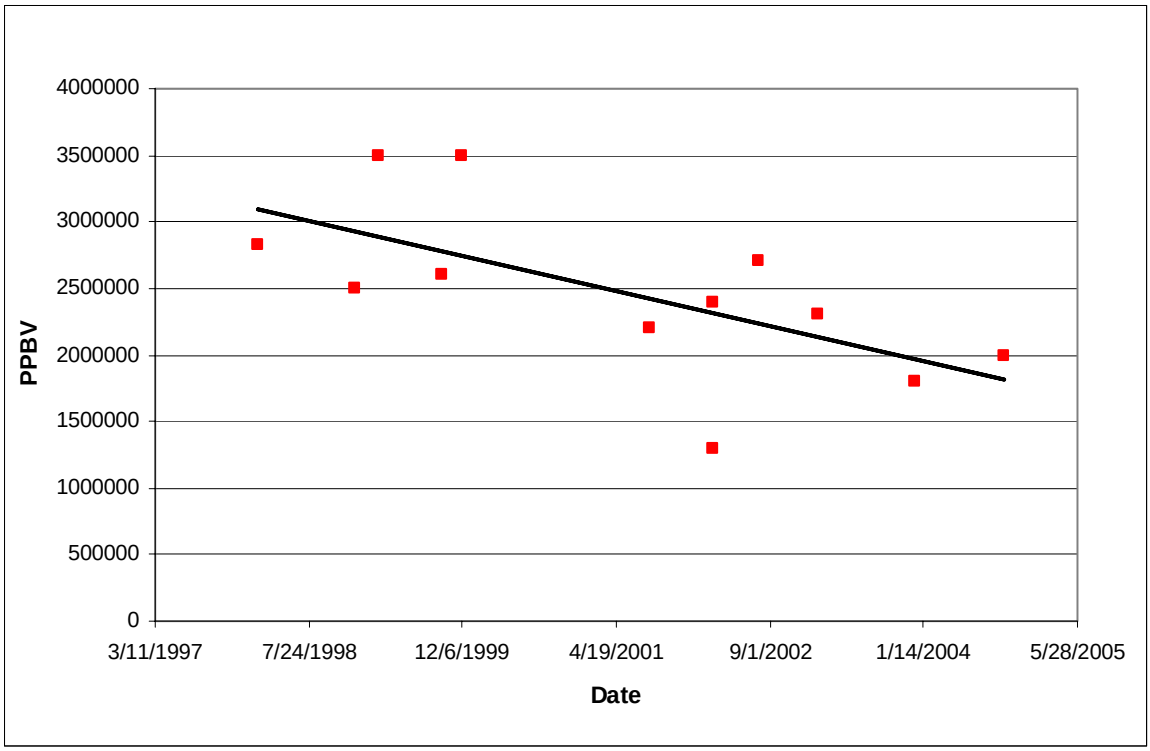

Figure 1. TCA trends in well 54-02012

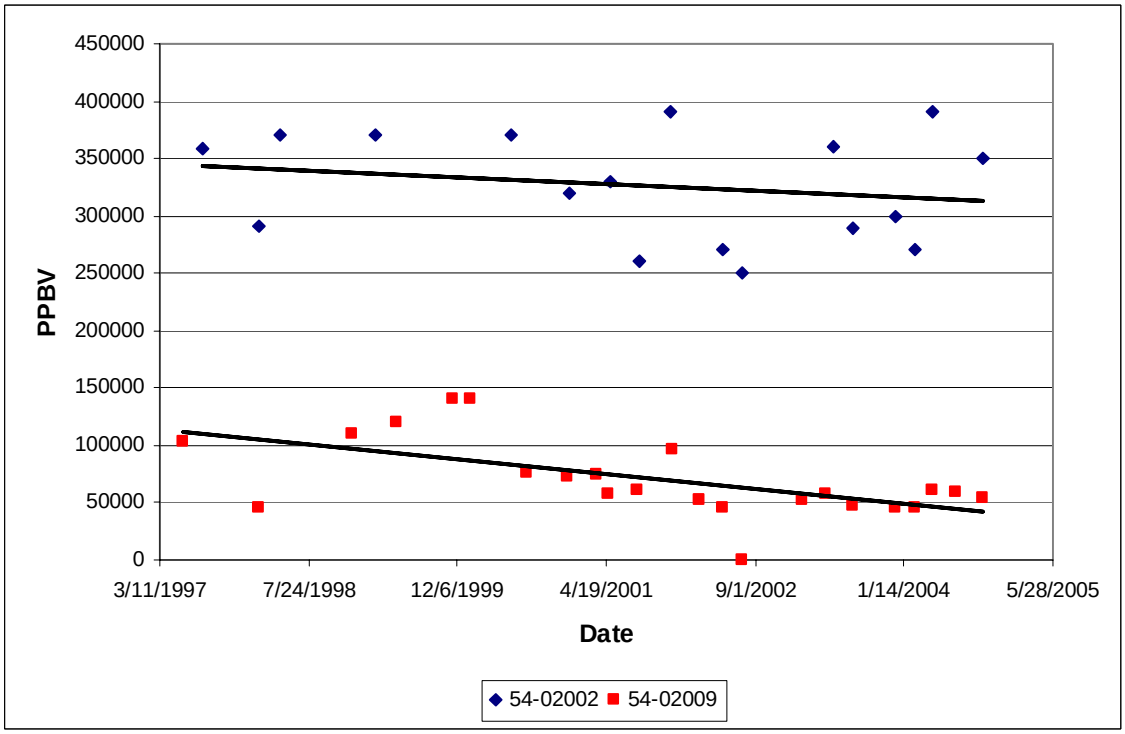

Figure 2. TCA trends in wells 54-02002 and 54-02009

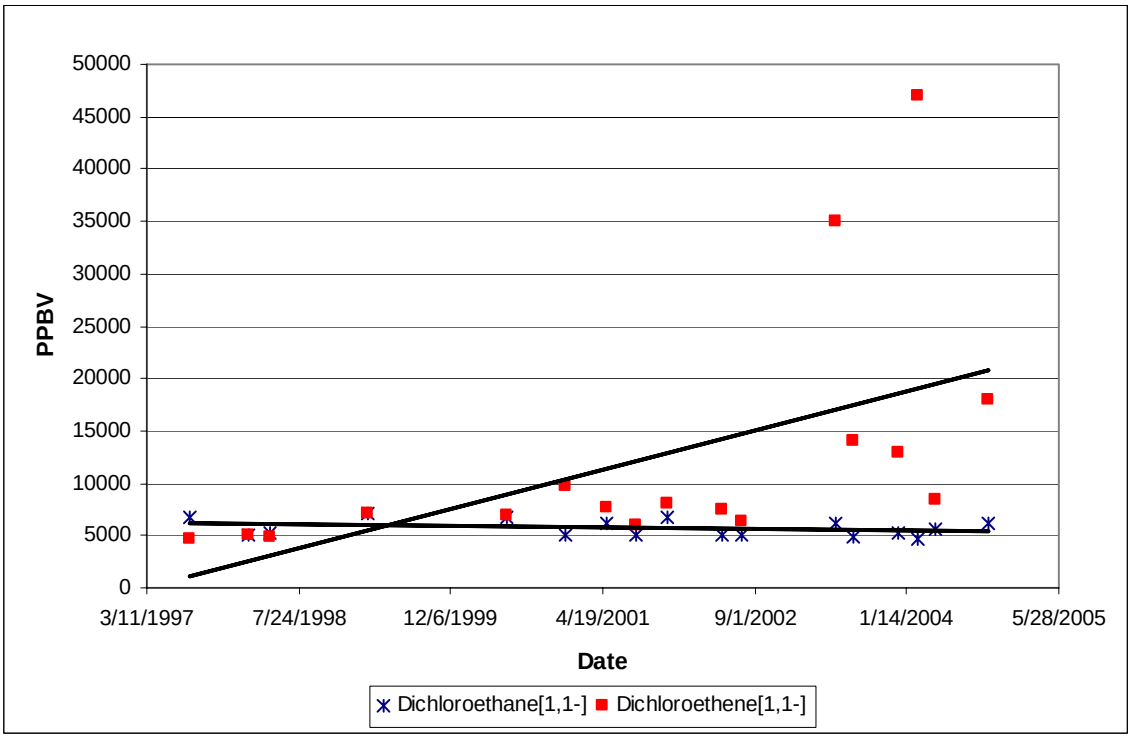

Figure 3. 1,1-dichloroethane and 1,1-dichloroethene trends in well 54-02002

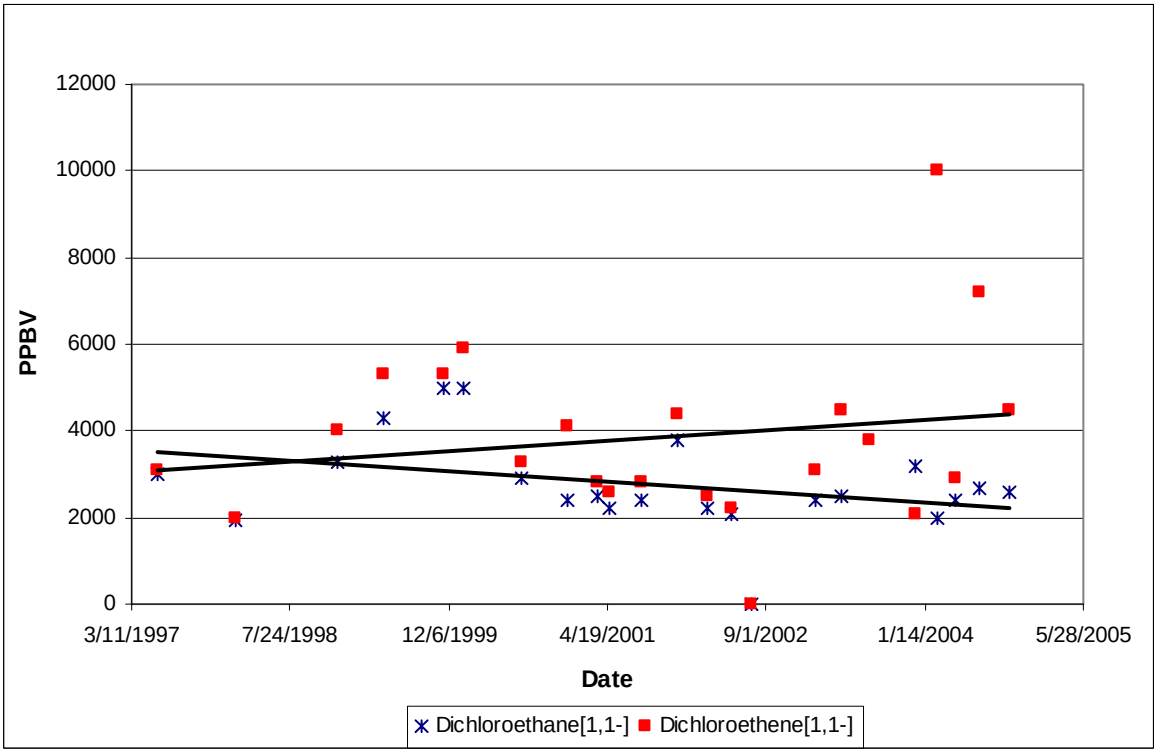

Figure 4. 1,1-dichloroethane and 1,1-dichloroethene trends in well 54-02009

4.0 REFERENCES

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