Report

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Date: August 15, 2001
Refer to: ER2001-0669

HSWA LANL G/m/2001

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 APRIL THROUGH JUNE 2001

Dear Mr. Young:

Enclosed are three copies of the Environmental Restoration Project's Quarterly Technical Report, April Through June 2001. The Quarterly Technical Report presents information from each focus area on the quarter's activities, including regulatory meetings, sampling, cleanups, report writing, and fire recovery activities. Also enclosed is a certification statement signed by the designee owner and operator for the Los Alamos National Laboratory. This report is available on the Environmental Restoration Project Web site at http://erproject.lanl.gov.

If you have questions regarding this report, please contact Dave McInroy at (505) 667–0819 or Gene Turner at (505) 667–5794.

Sincerely,

Julie A. Canepa, Program Manager
Los Alamos National Laboratory
Environmental Restoration

Sincerely,

Mat Johansen, Project Manager
Department of Energy
Los Alamos Area Office

JC/MJ/MB/vn

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Enclosures: (1) Quarterly Technical Report, April Through June 2001 (ER2001-0593)
(2) Certification

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CERTIFICATION

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 assure 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.

Document Title: Quarterly Technical Report, April through June 2001

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Julie A. Canepa, Program Manager
Los Alamos National Laboratory
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or

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RPT

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LA-UR-01-4323
August 14, 2001
ER2001-0593

environmental restoration project

A Department of Energy
Environmental Cleanup Program

HSWA LANL 6/M/2001

Quarterly Technical Report April-June 2001

Los Alamos
NATIONAL LABORATORY
Los Alamos, NM 87545

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Produced by the Regulatory Compliance Focus Area

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LIST OF ACRONYMS AND ABBREVIATIONS

BMP	best management practice
CAB	Citizens Advisory Board
CMS	corrective measures study
COPC	chemical of potential concern
CST	Chemical Science and Technology (Division)
D&D	decontamination and decommissioning
DOE	US Department of Energy
DOE-AL	US Department of Energy-Albuquerque Operations Office
DOE-LAAO	US Department of Energy-Los Alamos Area Office
E	Environmental Science and Waste Technology (Division)
EES	Earth and Environmental Science (Division)
EES-6	Hydrology, Geochemistry, and Geology Group
EPA	US Environmental Protection Agency
ER	environmental restoration
ESH	Environment, Safety, and Health (Division)
ESH-18	Water Quality and Hydrology Group
ESH-19	Hazardous and Solid Waste Group
ESH-20	Ecology Group
FIMAD	Facility for Information Management, Analysis, and Display
FY	fiscal year
HPT	high-performing team
HWB	Hazardous Waste Bureau
HSWA	Hazardous and Solid Waste Amendments
IFRAT	Interagency Flood and Risk Assessment Team
IIMS	Integrated Information Management System
IM	interim measure
LANL	Los Alamos National Laboratory
MDA	material disposal area
NEPA	National Environmental Policy Act
NFA	no further action
NMED	New Mexico Environment Department
NTISV	nontraditional in situ vitrification
PCB	polychlorinated biphenyl
PRS	potential release site
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
SAP	sampling and analysis plan
SMO	Sample Management Office
SQL	standard query language
SWMU	solid waste management unit
SWQB	Surface Water Quality Bureau
TA	technical area
TRV	toxicity reference value
VCA	voluntary corrective action
VCM	voluntary corrective measure
VOC	volatile organic compound

QUARTERLY TECHNICAL REPORT

APRIL–JUNE 2001

LOS ALAMOS NATIONAL LABORATORY

ENVIRONMENTAL RESTORATION PROJECT

ALBUQUERQUE OPERATIONS OFFICE

CONTRACTOR: University of California

PROJECT MANAGER: Julie Canepa

NUMBER OF POTENTIAL RELEASE SITES: Approximately 2,000

POTENTIAL WASTE: Radionuclides, High Explosives, Metals, Organic Chemicals

1.0 INTRODUCTION

This quarterly report describes the technical status of activities in the Los Alamos National Laboratory (the Laboratory) Environmental Restoration (ER) Project. The activities are divided according to the current focus area 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, Task 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, report-writing, and Cerro Grande fire recovery activities performed this quarter in the ER Project.

2.0 FOCUS AREAS

2.1 Canyon Investigations — Focus Area Leader: Allyn Pratt

2.1.1 Ongoing Reach Investigations

2.1.1.1 Acid Canyon (within the Pueblo Canyon watershed)

Phase II analytical data from Acid Canyon sediment samples were authenticated and assessed to identify remaining data needs. Twelve Phase III samples were collected to provide additional data on sediment deposits that will be left following an interim action in reach ACS and to provide data on mercury speciation for use in ecological risk assessments. Analyses of these samples are pending.

2.1.1.2 Pueblo Canyon

Assessment of analytical data from Phase I sediment samples in reach P-1 was completed. The speciation of the mercury was identified as a key data need for completing ecological risk assessments, and four sediment samples were collected to provide data on mercury speciation. Analyses of these samples are pending.

2.1.1.3 Los Alamos Canyon

Geomorphic characterization in preparation for Phase I sampling between reaches LA-2 and LA-3 was completed, and 73 sediment samples were collected for full-suite and limited-suite analyses. The limited suite consisted of gamma spectroscopy radionuclides, strontium-90, and isotopic plutonium, which are key contaminants in Los Alamos Canyon downstream of DP Canyon. These data will allow improved estimates of potential risk in this part of Los Alamos Canyon and a revised inventory of contaminants for the watershed. Analyses of these samples are pending.

Additional sediment sampling in Los Alamos Canyon consisted of 42 samples for organic compounds along the length of upper Los Alamos Canyon between the Skating Rink and the White Rock Wye (reaches LA-0, LA-1, LA-2, and LA-3). These samples were collected to fill data gaps concerning the sources and concentrations of organic compounds in the canyon, in part replicating previous sample layers where data were rejected because of elevated detection limits. Analyses of these samples are pending.

2.1.1.4 Mortandad Canyon

Initial geomorphic mapping and characterization was performed in reach M-5, spanning the San Ildefonso Pueblo boundary, and in reach TS-3, in Ten-site Canyon above the confluence with Mortandad Canyon. Twenty-four Phase I sediment samples were collected in these reaches, predominantly for full-suite analyses, to determine which analytes are present as chemicals of potential concern (COPCs) in these reaches and their general concentrations and distributions. Analyses of these samples are pending.

Phase I investigations began in reach M-2 East, downstream of the eastern-most TA-35 outfall into Mortandad Canyon, to evaluate possible contributions from TA-35. Geomorphic mapping is in progress, and will be used to select Phase I sample sites.

2.1.2 Surface Water and Alluvial Groundwater Activities

The first and second rounds of surface and alluvial groundwater sampling activities have been completed. The first round of sampling captured high water levels associated with spring snowmelt runoff. The second round of sampling captured low water levels characteristic of the period immediately before the monsoon season.

2.1.3 North Canyons Work Plan

Development of a work plan for future Canyons Focus Area investigations continued. The work plan will include plans for the investigation of potential contamination in sediment and surface water in Bayo, Barrancas, Guaje, and Rendija Canyons. The revised document is currently undergoing editing in preparation for submittal to the US Department of Energy (DOE).

2.1.4 Acid Canyon Voluntary Corrective Action

Presentations on planned cleanup activities in the South Fork of Acid Canyon were made to the Los Alamos County Council in April and in a public meeting in May. A subcontract modification was approved, allowing preparation of the plan to proceed. A corrective action analysis, prepared for a decision peer review, supports use of vacuum technology to conduct the cleanup. This method would both minimize physical disturbance to Los Alamos County lands and minimize removal of excess sediment, consequently minimizing waste. A decision peer review of the plan was completed at the end of June. Partly because of

time constraints imposed by guidance to begin cleanup in FY 2001, the reviewers recommended making this an interim action focused on reduction of potential radiation dose instead of a VCA.

2.2 Material Disposal Areas — Focus Area Leader: John Hopkins

2.2.1 General Information for Material Disposal Areas Focus Area

During the third quarter of FY 2001, the Material Disposal Areas (MDAs) Focus Area submitted the Resource Conservation and Recovery Act (RCRA) facilities investigation (RFI) report and corrective measures study (CMS) plan for MDA H to the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB). The MDA team made progress on the scope and methodology of the alternatives assessment to support remedy selection for MDA H. The fieldwork for the DP Tank Farm RFI was completed.

During April and May, the focus area provided support for the response to an NMED data request.

2.2.2 Technical Area Activities

2.2.2.1 TA-21

PRS 21-027(d)-99, NTISV Cold Demonstration VCM. The draft voluntary corrective measures (VCM) report proposing no further action (NFA) for Potential Release Site (PRS) 21-027(d)-99, the nontraditional in situ vitrification (NTISV) cold demonstration, was reviewed and comments are being incorporated. The NMED underground storage tank regulations risk approach was followed to address residual hydrocarbon contamination at the site. Results show no unacceptable risk for industrial or residential land use.

PRS 21-018(a)-99, NTISV Hot Demonstration at MDA V. Site restoration activities, including reseeding and watering, were accomplished during this quarter. A visit to the site, conducted on June 19, 2001, indicated that these restoration efforts have been successful.

The field phase of the hot demonstration was completed on April 28, 2000, and glass samples will be collected from the vitrified product and analyzed to determine the success of the demonstration. However, sample collection will not be attempted until surface temperatures of the glass have cooled to near ambient temperatures. Monthly temperature monitoring indicates that the current surface temperature of the vitrified product is approximately 230° F, and it is estimated that ambient temperatures may not be reached for six to nine months.

PRS 21-011(k), VCM Activities. Additional sampling and analytical data were needed to better define the nature and extent of contamination at the PRS 21-011(k) outfall and to supplement risk screening data for the site. The data from these activities were used during the decision peer review, which was conducted on May 31, 2001, to identify remedial alternatives for the outfall. Recommendations resulting from the peer review will be presented to NMED on July 25, 2001. If an agreement can be reached with NMED on these recommendations, the voluntary corrective measure (VCM) plan will be completed and submitted to the state during the first quarter of FY 2002.

PRS 21-024(f), VCA Activities. Procurement activities for the voluntary corrective action (VCA) at PRS 21-024(f), a septic system, were completed in April 2001. The readiness review for this work is scheduled for July 23, 2001, with fieldwork scheduled to begin the following day.

PRS 21-024(i), VCM Activities. During the third quarter of FY 2001, a proposal was submitted to DOE and the Waste Control Specialists landfill in Texas. This proposal shows that the septic tank from PRS 21-024(i) meets the authorized limits for tritium and can therefore be disposed of at the Texas facility. The tank will remain in the ground, pending acceptance by the landfill facility and the state of Texas.

A facility tenant agreement has been drafted to document an agreement between the ER Project and D&D and facility personnel regarding the ER Project's responsibility to remove the inlet line to the fence, approximately 15 ft to the north of the tank, thus allowing for the completion of the VCM. Removal of the tank and inlet line, as well as confirmation sampling beneath the tank, is planned for the fourth quarter of FY 2001, pending approval of the facility tenant agreement.

PRS 21-029, DP Tank Farm. Monthly site inspections of the two hydrocarbon sheen areas in DP Canyon were conducted in April, May, and June. The inspection reports are included as Appendix A of this document. The DP Tank Farm rework was started on May 1, 2001, and was completed on June 26, 2001. The RFI report is on schedule for submittal to the NMED-HWB by the end of September 2001.

2.2.2.2 TA-49

PRSs 49-001(a)-00, MDA AB, Areas 2, 2A, and 2B. Monthly moisture monitoring continued at this site during the third quarter of FY 2001. A review of the data is presented in Appendix B of this report. Erosion control best management practices (BMPs) were inspected following precipitation events and remain in good condition.

2.2.2.3 TA-50

Borehole 50-9100 was monitored for pore gas to measure the vertical extent of a potential volatile organic compound (VOC) plume at MDA C. The field-screening results for the third quarter of FY 2001 and the fixed-laboratory results for the second and third quarters are presented in Appendix C of this report.

A second borehole was constructed for pore-gas monitoring to determine the vertical and horizontal extent of the vapor-phase VOC plume.

2.2.2.4 TA-51

PRS 51-007(a). Preparations are under way for VCA activities for removing the septic tank at PRS 51-007(a).

2.2.2.5 TA-54

MDA H. The RFI report and CMS plan for MDA H were submitted to NMED. The CMS alternatives analysis was started, and a public workshop was held on June 27, 2001, to discuss possible remediation alternatives. Two boreholes were constructed, and samples were collected to fill data gaps on the extent of the VOC and tritium plumes.

Pore-gas Monitoring. The quarterly pore-gas monitoring at MDAs G and L was completed as required by Module VIII of the Laboratory's Hazardous Waste Facility Permit. The field-screening results for the third quarter of FY 2001 are provided in Appendix C of this report and continue to show consistent constituent detection and concentration distribution. The fixed-laboratory analytical results for the second and third quarters are also provided in Appendix C. A letter was submitted to NMED requesting the Hazardous and Solid Waste Facility Permit be modified to reduce pore-gas monitoring from quarterly to semi-annual monitoring.

PRSs 54-007(c,d,e) and 51-001. Analytical data validation has been completed and the two VCA reports for these septic systems are in preparation. The VCA reports will be submitted to DOE and NMED in August 2001, as scheduled.

2.3 RCRA Corrective Actions — Focus Area Leader: Warren Neff

2.3.1 High Explosives Production Sites Team

The High Explosives Production Sites Team continued fieldwork, data analysis, and report-writing activities in support of the CMS at PRS 16-021(c) (the 260 outfall). The team continued the work associated with well CdV-R-15-3, including the second round of quarterly sampling, and initiated work on the CdV-R-37-2 deep well. Hydrogeology studies, including stream profiles, were completed. The stormwater management system was installed in Martin Spring Canyon. High-performing team (HPT) activities continued.

The High Explosives Production Sites Team continued post-fire recovery activities. In particular, the wastes associated with the post-fire interim action cleanup at the silver outfall (PRS 16-020) were disposed of at Area J.

2.3.1.1 TA-16

Hydrogeology. The field team continued to monitor water levels in the Cañon de Valle alluvial wells and in the intermediate-depth wells. All five of the alluvial wells in Cañon de Valle contained water this quarter. The intermediate-depth boreholes at the head of Martin Spring Canyon and all three alluvial wells in Martin Spring Canyon contained water, although the farthest-upgradient alluvial well dried up by the end of the quarter. Water levels during spring runoff appear to be as high as ever observed. Quarterly sampling locations were sampled during April. Total dissolved solids (as measured via conductivity) were elevated in alluvial waters and surface waters in Cañon de Valle, presumably because of the effects of the Cerro Grande fire.

Stable isotope samples were collected at precipitation events. Every-other-day samples were collected and archived for eventual stable isotope analysis. Flow-integrated samples were collected in SWSC, Burning Ground, and Martin Springs. Stream profiles that included analytical laboratory sampling were completed during April and May. These events sampled the peak and declining limb of the Cañon de Valle hydrograph. All third-quarter analytical results are pending.

Analysis of spring and alluvial well time-series data suggested that the Cerro Grande fire has had minimal effects on the contaminant chemistry. Principal effects appear to be for calcium, sodium, and bicarbonate, all of which have increased slightly in concentration at several locations. However, field parameters indicate that significant effects may not be observed until the winter quarterly sampling data are analyzed. These results were presented at a session on the Cerro Grande fire at the Geological Society of America meeting in Albuquerque.

The second round of quarterly sampling was completed at deep groundwater well CdV-R-15-3. Laboratory analysis of cuttings by x-ray diffraction was completed.

Preparations for drilling the CDV-R-37-2 deep groundwater well were accelerated. Pre-field work activities were completed, the readiness review was held, and initial site preparations began.

PRS 16-021(c) CMS. The stormwater management system pilot was deployed in Martin Spring Canyon. This barrier unit is designed to remove high explosives and barium from spring waters. Phytoremediation studies were continued.

The 260 HPT met several times with the Ecological Risk HPT to plan and implement ecological sampling in Cañon de Valle. Terrestrial biota in both Cañon de Valle and a hydrogeologically similar reference canyon (Pajarito Canyon) were sampled to evaluate whether the contaminants in Cañon de Valle were impacting ecological receptors. Both population studies and contaminant analyses were completed. The

HPT determined that limited sampling within the aquatic ecosystem was required. This will include aquatic invertebrate population studies and sediment toxicity studies.

PRS 16-021(c) Interim Measure. The HPT decided to proceed with off-site shipping of wastes, because permitting costs and permitting time frames for on-site treatment appear to be prohibitive. Laboratory waste samples were collected from rolloff bins. Site restoration activities are complete except for the final stabilization of the zero-discharge dam.

MDA R. Analytical data from MDA R were validated, authenticated, evaluated, and assembled. This data set was provided to NMED as part of the Laboratory's response to the NMED data request.

Silver Outfall. The silver outfall (PRS 16-020) was burned in the Cerro Grande fire, and much of the PRS lies within the floodplain of Cañon de Valle. Hence, an accelerated ER activity was completed at the site to remove high levels of silver, chromium, and polyaromatic hydrocarbons known to be present at the PRS. The wastes were disposed of at Area J during this quarter.

Surface Water. BMPs were inspected and maintained.

2.3.2 Firing Sites Team

The ER Project submitted a notification for a newly identified solid waste management unit (SWMU) at TA-39 (PRS 39-010). The SWMU was initially identified as an "excavated soil dump" in the RFI work plan for Operable Unit 1132.

The Firing Sites Team provided information, as requested, to the NMED RCRA inspection team for PRS 39-004(e), a firing site; PRS 39-008, the gas gun site; PRS 39-006(a), the chemical seepage pit; and PRS 39-010, the newly identified SWMU.

2.3.3 Industrial Sites Team

This quarter, team members worked with Regulatory Compliance Focus Area personnel on the draft (SWMU) report, which is a compilation of the latest, most up to date information on SWMUs that are currently under investigation by the ER Project. Review and corrections of the descriptions for SWMUs in TA-55 were completed.

Industrial Sites Team members completed document searches and compiled information for the NMED data request. Information was compiled for PRSs from TA-46 [PRSs 46-004(g, h, m, q, s, u, v, x, z, a2, b2, c2)] and TA-35 [PRSs 35-001, 35-002, 35-003(d,r), 35-010(a, b, c, d, e)]. Documentation collected for the response included sample collection logs, daily activity logs, field notebooks, field-screening data, borehole logs, hard copy and electronic versions of field data (where available), and old Chemical Science and Technology (CST) Division data packages. The Industrial Sites Team supported the Analysis and Assessments Focus Area in the analytical data and maps portion of the NMED data request and supported Regulatory Compliance Focus Area with responses to the list of items (1 through 17) in the request.

The Industrial Sites Team made a presentation at the Health Physics Society conference in June. The subject of the poster session was the corrective action performed at the southern impoundment, PRS 53-002(b), last summer. The presentation focused on the radiation protection for the workers during the cleanup effort.

2.3.3.1 TA-3

PRS 03-056(c). A VCA at PRS 03-056(c), started during FY 2000, continued this quarter. PRS 03-056(c), a storage area located northeast of the Johnson Controls Utility Shop in TA-3, was found to be

contaminated with polychlorinated biphenyls (PCBs). The purpose of the VCA was to remove from the site any soil that contained greater than 1 ppm PCBs. Approximately 2400 yd^3 of soil were removed from the site, including all sediments from the stream banks on the west slope area. The west slope, mesa top, and the north slope have been excavated down to bedrock, and all sediment has been removed from two drainages in the north area.

Additional excavation occurred this quarter to remove soil from four grid nodes where concentrations of PCBs were found to be 76, 19, 17, and 8.2 ppm during a January 2001 confirmation sampling campaign. Confirmation samples collected from the four grid nodes in April, following the additional excavation, yielded two nondetects, one concentration at 0.23 ppm, and one at 2.6 ppm. These data will replace the previous sampling results for the reexcavated grid nodes and will be used to recalculate the 95% upper confidence limit of the mean for the site. Two confirmation samples from the two rolloff bins filled with soil from the additional excavation activities had less than 50 ppm PCBs. This remediation waste was disposed of at a Toxic Substances Control Act (TSCA)-approved industrial landfill.

Site restoration activities started this quarter included bringing approximately 1000 yd^3 of fill to the site to restore the mesa top. The mesa top was recontoured, drainage to the west slope was established, and gabion baskets were installed in the area where the drainage was redirected to the west slope. The north slope was stabilized, and the exposed sewage line was covered. Several areas were reseeded, and jute matting was installed in the north slope. The fill in the mesa top was compacted to engineering specifications, and the area is ready for repaving and fencing, which will be completed in July.

2.3.3.2 TA-35

Work on the TA-35 integrated sampling and analysis plan (SAP) was delayed in April and May because Laboratory personnel were dedicated to responding to the NMED data request, and in June because NMED high-performing team (HPT) members were working on the Laboratory's Hazardous Waste Facility Permit. There were no HPT meetings held this quarter.

2.3.3.3 TA-53

PRS 53-002(a)-99, Northern and Southern Surface Impoundments. During the third quarter of FY 2001, focused validation and assessment activities were completed for the two northern impoundments. The purpose of the assessment was to

- determine whether nature and extent have been defined for contaminants within the impoundments [PRS 53-002(a)];
- identify COPCs located within the two impoundments that will be carried further to a risk assessment phase; and
- determine whether a corrective action is necessary at the impoundments.

The COPCs identified were those that have data points above background and/or industrial screening values, and those with preliminary risk assessment calculations yielding doses and risk values that are above standard acceptable levels. Based on these assessments, planning for a corrective action to reduce risk was initiated this quarter. A baseline change proposal and preparation of an interim action plan were started.

PRSs 53-002(a,b). Activities began in preparation for the site characterization effort scheduled for the last quarter of the fiscal year in the tributary to Los Alamos Canyon, below the impoundment at TA-53 PRSs 53-002(a,b). Team members began preparations for the readiness review. The site characterization effort will include geomorphic mapping, surveys, and sampling; this effort is being conducted in collaboration with the Canyons Focus Area.

2.3.4 Townsites Team

The Townsites Team worked to resolve issues related to land transfer, private property, Los Alamos community development, post-Cerro Grande community rebuilding, and other non-DOE property-related issues this quarter.

The airport landfill project, including the interim measure (IM) strategy for hillside debris removal, and the HPT and their efforts to date were presented to the public at two different venues as an introduction to the project and to solicit public participation.

2.3.4.1 TA-0

PRS 00-003-99 [00-003, 00-012, and 00-030(i)]. The VCA completion report for the DOE Los Alamos Area Office (LAAO) Land Transfer Tract is ready for submission to the NMED, pending final edits.

PRS 00-019. The VCA completion report for the Central Wastewater Treatment Plant (PRS 00-019) is resuming. Work was suspended during the NMED data request effort, which also delayed pending analytical results. Once all data become available, the report will be revised to reflect additional remedial work accomplished in March and April, and the report will be finalized.

PRSs 00-004, 00-010(a,b), 00-027, 00-030(a,b,l,m), and 00-033], DP Road Land Transfer Tract. Preliminary planning continued for a VCA/VCM on the land transfer tract.

2.3.4.2 TA-73

PRSs 73-001(a)-99 [73-001(a), 73-004(d)] and PRS 73-001(b)-99 [73-001(b,c,d)]. The IM plan for removal of debris on the hillside and in drainages associated with the airport landfill PRSs has been drafted and reviewed internally and is in final editing before submission to DOE for review. Additional health and safety concerns have arisen, and steps are being taken to adequately evaluate and mitigate those concerns before requesting authorization from Environmental Science and Waste Technology (E) Division management to proceed.

A supplemental SAP to support the conceptual design of the landfill cap is being drafted. Members of the Airport Landfill HPT met with members of the Los Alamos County Aviation Subcommittee of the Transportation Board to discuss their desired future use of the site and how to accommodate those interests. The team continues to develop cost figures that reflect an end-state cap that is adequate for the future land use. This cost will be used for comparison against cost for installation of the minimum required solution so that DOE can make an informed funding decision for cap installation.

2.3.5 MDA P Closure

The MDA P closure project completed Phase I (excavation and disposal) this quarter. Waste shipments were completed on June 15, 2001. After an audit of excavation records, the total volume of soil excavated from both lobes of the MDA P landfill during the project has been adjusted to 50,837 yd^3. This is a slight decrease from the volume previously reported in quarterly technical reports. Waste disposal totaled 56,430 yd^3. The discrepancy between the excavated volume and total disposal results from variance in soil lot sizes shipped offsite and extra soil shipped from storage pads as they were decommissioned.

Disposal included 22,240 yd^3 of hazardous waste, 28,790 yd^3 of soil, 3200 yd^3 of concrete, and 2200 yd^3 (820 tons) of scrap metal, mostly steel. The steel and about half of the concrete were recycled. Most of the remaining concrete and 5280 yd^3 of soil were sent to MDA J for use as fill. The remainder of the soil was disposed of as solid waste. Other disposal included

- 6280 lb of barium nitrate,
- 387 lb of detonable high explosives,
- 200 lb of mixed waste,
- 235 ft^3 of low-level radioactive waste,
- 888 containers requiring characterization, and
- 93 miscellaneous metal items.

Material generated during the closure of the 387 Burn Pad and the VCA at Burning Ground–North is included in these volumes.

NMED approved the MDA P Phase II SAP this quarter. Sampling for the 387 Burn Pad Closure and the Burning Ground–North VCA is integrated into the Phase II SAP. A drilling subcontractor was mobilized, and Phase II fieldwork began on June 19, 2001. Phase II confirmatory sampling is expected to be completed next quarter.

2.4 Groundwater Investigations — Focus Area Leader: John McCann

2.4.1 General Information for Groundwater Investigations Focus Area

The Groundwater Investigations Focus Area completed subcontract modifications to transfer quality assurance responsibilities to the prime contractor in April. Drilling activity was resumed in May at the R-5 well and the Mortandad intermediate well locations. Specific activities included the following:

- **R-5 Well**. Drilling at this location was completed to a depth of 902 ft on May 20, 2001. Geophysical logging was completed on May 22, 2001. Four screens were installed in the borehole on May 31, 2001, with well development completed by June 21, 2001. Westbay well materials are scheduled for installation in July 2001.
- **Mortandad Intermediate Well MCOBT-4.4**. Drilling at this location was completed to a depth of 767 ft on June 15, 2001. Geophysical logging was completed on June 16, 2001. One 50-ft screened interval is planned for this well. Well installation and development is scheduled for July 2001.
- **Mortandad Intermediate Well MCOBT-8.5**. Drilling at this location was completed to a depth of 740 ft on June 22, 2001. Geophysical logging was completed on June 25, 2001. On June 26, 2001, it was decided to plug and abandon this well because of its inability to produce water.

The status of well sampling and reporting activity is provided in Table 2.4-1. Sampling was conducted this quarter at R-7, R-9, R-9i, R-12, R-15, R-22, and R-25.

Water quality data for the first round of groundwater samples from wells CdV-R-15-3 (Tables D-1 through D-3) and R-25 (Tables D-4 through D-27) are included in Appendix D of this document. Data for CdV-R-15-3 includes inorganic constituents; data for R-25 includes inorganic, organic and radioactive constituents.

Table 2.4-1
Groundwater Investigations Focus Area Well Status

Date Drilled	Well	Watershed	Total Depth. (ft)	Number of Screens	Sampling Activity	Reporting Activity
Feb 99	R-25	Water/Valle	1942	9	1st round complete Nov 00 2nd round complete May 01 3rd round 4th round	
Sep 99	R-15	Mortandad	1107	1	1st round complete Feb 00 2nd round complete Sep 00 3rd round complete Feb 01 4th round complete May 01	Well completion report Dec 00 Geochem report scheduled Oct 01
Sep 99	R-9	LA/Pueblo	771	1	1st round complete Feb 00 2nd round complete Sep 00 3rd round complete Feb 01 4th round complete May 01	Well completion report Dec 00 Geochem report scheduled Oct 01
Jan 00	R-12	Sandia	886	3	1st round complete Sep 00 2nd round complete Mar 01 3rd round complete Jun 01 4th round scheduled Sep 01	Well completion report Dec 00 Geochem report scheduled Jan 02
Feb 00	R-31	Ancho	1103	5	1st round complete Dec 00 2nd round scheduled Fall 01 3rd round 4th round	
Mar 00	R-9i	LA/Pueblo	323	2	1st round complete Sep 00 2nd round complete Feb 01 3rd round complete Jun 01 4th round scheduled Sep 01	Well completion report Dec 00 Geochem report scheduled Jan 02
Mar 00	R-19	Pajarito	1903	7	1st round complete Sep 00 2nd round complete Mar 01 3rd round complete July 01 4th round scheduled Sep 01	Well completion report Dec 00 Geochem report scheduled Jan 02
Apr 00	CdV-R-15-3	Water/Valle	1722	6	1st round complete Dec 00 2nd round complete Apr 01 3rd round scheduled Jul 01 4th round scheduled Oct 01	
Oct 00	R-22	Pajarito	1489	5	1st round complete Mar 01 2nd round complete Jun 01 3rd round scheduled Sep 01 4th round scheduled Dec 01	Well completion report scheduled Oct 01
Jan 01	R-7	LA/Pueblo	1097	3	1st round complete June 01 2nd round scheduled Oct 01 3rd round scheduled Jan 02 4th round scheduled Apr 02	Summary complete
May 01	R-5	LA/Pueblo	902	4	1st round 2nd round 3rd round 4th round	
June 01	MCOBT-8.5	Mortandad	740	Plugged and Abandoned	1st round 2nd round 3rd round 4th round	
June 01	MCOBT-4.4	Mortandad	767	1	1st round 2nd round 3rd round 4th round	
	CdV-R-37-2	Water/Valle			1st round 2nd round 3rd round 4th round	

2.5 Information Management — Focus Area Leader: Stephen Bolivar

2.5.1 Team Activities

2.5.1.1 Information Management

The main effort of Information Management personnel for the last two months was to support efforts to prepare data and maps for an NMED data request. This effort was completed at the end of June. Team members continue to work with the Laboratory's Water Quality and Hydrology Group (ESH-18) as part of a data-sharing agreement. Efforts continue to synchronize database changes, ensuring that both organizations can maintain identical structures, which facilitates data transfers.

2.5.1.2 ER Database

Reengineering of the ER database continues. Modules are being designed and reviewed in a prioritized sequence. Personnel continue to work with users to ensure the necessary fields (i.e., information) are captured within each module. This effort is being completed in concert with ESH-18 to ensure that data from the hydrogeologic work plan (LANL 1998, 59599) are captured and accessible to the ER Project as well as ESH-18. Current efforts focus on completing the PRS module and Sample Management Office (SMO) Phase 1 modules. The PRS module is in the final stages of review and testing, and the web access portion is nearing completion. A change to the SMO system from Access 95 to Access 2000 has started. Once complete, the new Access database will be integrated with the ER Project database (ERDB). A change-management team was formed to help personnel transition to the new processes.

2.5.1.3 Sample Management Office

Personnel from the SMO continued to accept field samples, create the necessary paperwork, contact the appropriate laboratories, ship the samples, and ensure the requested information is received. The SMO issued 161 field data groups (number of samples) and had 478 customers this quarter. Personnel handled 6195 containers (the average workload for this time of year is 3000 containers). Efforts to improve authentication rates, in order to reduce backlog, were successful as the weekly average went from 190 to about 300.

2.5.1.4 Facility for Information Management, Analysis, and Display

Personnel from the Facility for Information Management, Analysis, and Display (FIMAD) continued to maintain the present ER database, as well as the spatial data (such as elevation, orthophotographs, etc.). A long-term project is under way to evaluate and clean up all legacy spatial data to ensure that the information is current and correct. The Cartographic Laboratory completed 191 requests from the ER Project this quarter. Personnel produced 242 new maps and 628 copies of existing maps. Geographical Information System personnel recently completed 50 new maps for the NMED data request. Data for the flyover flights (photogrammetry, high- and low-resolution LIDAR, and AVIRIS) continue to be processed and entered into the database, as appropriate.

2.6 Analysis and Assessment — Focus Area Leader: Alison Dorries

2.6.1 Team Activities

2.6.1.1 Data Analysis and Assessment Team

Data Quality. Document preparation activities continued in the third quarter. Five technical documents are currently in preparation for publication. The seven routine data validation standard operating procedures underwent peer review; the authors are working to incorporate the comments. Revisions to the validation procedures are expected to be completed in fourth quarter.

The Data Quality Task Leader participated in four laboratory audits in conjunction with the DOE Albuquerque Operations Office (DOE-AL) audit team. Both audits were conducted as part of the analytical service procurement currently in process. These efforts are part of the integration of the Laboratory ER system into the DOE-AL system. This has saved significant amounts of resources by pooling the expertise available and has also increased the quality of the analytical services provided to the Laboratory.

Members of the Data Quality Team assisted the Groundwater Focus Area in the preparation of several memoranda of understanding with internal laboratories that are performing analyses of ER Project groundwater and core samples. The memoranda define the technical, quality control, and reporting requirements for the analytical measurements. Members of the Data Quality Team also worked with the DOE-AL field office to resolve technical and reporting issues with the analysis of high explosives in groundwater samples that have drilling mud present as an interference.

The Chemistry Team was involved in the resolution of several technical issues. The need for PCB congener analyses was addressed, and the Chemistry Team helped the technical teams define their data needs and also assisted the Sample Management Office in procuring the appropriate analytical services to meet this need.

Data Stewardship. Integrated Information Management System: The Data Stewardship Team continues to support and work with the Information Management Team to design and implement the Integrated Information Management System (IIMS). The IIMS consists in part of software tools intended to ensure consistency and accuracy in data and information management and to allow tracking and traceability of work products such as regulatory reports. Data stewards assisted in the definition of requirements for applications that are being designed specifically for the new database and participated in the review of beta versions of some of these applications.

The Data Stewardship Team is participating in several activities summarized below related to the IIMS. Progress on critical IIMS components continued to be delayed in the third quarter due to the diversion of Data Stewardship resources to support the February 12, 2001, NMED data request.

- Review of draft specifications and preliminary screens for the Mapping and Reporting Tool. The Mapping and Reporting Tool allows ER Project users to create and track "lists" of data types (e.g. PRSs, locations, samples, and/or results) using a Geographical Information System interface or a direct interface to the tabular database. These lists are stored and become the basis for data reporting in regulatory deliverables for a particular site or groups of sites.
- Review of specifications and preliminary screens for the Sample Planning Tool. The Sample Planning Tool provides software tools that interface with the ERDB Planning Module. The Sample Planning Tool provides tracking of the sample planning and analysis process, from planning and initiation of a sampling event, generating field paperwork, ordering sample analytics, sample

check-in at the Sample Management Office, sample shipping to analytical laboratories, and completion of a sampling event. It was decided to do a phased implementation of the Sample Planning Tool, with Phase I including the functionality to plan a sample event and generate the field paperwork.

- Development of the new Data Analysis Toolbox for data set preparation and assessment that will incorporate all the features of the new standard query language (SQL) data platform continued. The Toolbox will run Visual Basic code through a Microsoft Access front end.

Legacy Data Cleanup and Migration: No legacy data records were migrated to the new database structure in the third quarter due to the impact of the NMED data request on Data Stewardship resources.

Data Stewardship and Reporting:

Data Set Preparation. Data set preparation activities for the ER Project were postponed by the effort to respond to the NMED data request. In total, data stewards prepared only 13 electronic data sets for ER Project users in third quarter.

Data stewards also prepared a provisional fire boundary surface soil data set of approximately 200,000 records for use by the Air Quality Group (ESH-17) and the NMED independent contractor (Radiological Assessments Corp.) in evaluating the risks resulting from the Cerro Grande fire. The data set will undergo full validation and be finalized during fourth quarter.

NMED Data Request, dated February 12, 2001. The Data Stewardship Team prepared the March 16, 2001, data submittal for the 108 sites listed in Attachment A to Question 18 in the NMED letter dated February 12, 2001. The data set consists of environmental sampling data retrieved from the ERDB that currently resides on the UNIX/Oracle system at FIMAD.

The data set submitted on March 16 did not undergo the ER Project's routine quality checks before reporting. Subsequently, during the third quarter, the Data Stewardship Team was fully engaged in performing the required quality checks to validate data so that the data could be certified in accordance with the Laboratory's Hazardous Waste Facility Permit requirements. Three validated data sets replacing the March 16 unvalidated data submittal were delivered in three phases on May 1, June 1, and July 2, 2001.

In April, the first fully validated data set for the NMED data request was prepared. The data sets for PRSs 21-014 (MDA A), 21-015 (MDA B), 21-017(a)-99 (MDA U), 35-002 (MDA X), 35-003(d)-00 (Pratt Canyon), 35-010(a)-99 (Surface Impoundment), 46-004(a2) (Outfall), 46-004(b2) (Operational Release), PRS 46-004(c2) (Outfall), 46-004 (g, h) (Outfalls/Stack Emissions), and 46-004 (q, s, u, v, x, y, z) (Outfalls) were delivered to NMED on May 1. The deliverable consisted of 116,266 data records in 100 Excel files, and a 2434-page hardcopy report.

In May, the second fully validated data set for the NMED data request was prepared. The data sets for MDAs F, M, T, V, and AB, and PRSs 08-006(a), 16-003(o), and 16-008(a) were delivered to NMED on June 1. The deliverable consisted of 142,359 data records in 71 Excel files, and a 2971-page hardcopy report.

In June, the third (and final) fully validated data set for the NMED data request was prepared. The data sets for MDAs AA, C, D, E, K, N, P, R, Y, Z, PRS 21-011(k); Consolidated Townsite PRS 01-001(a)-99; PRS 01-003(d); TA-15 Firing Site PRSs 15-004(f)-99, 15-006(c)-99, 15-006(d)-99; TA-39 Firing Sites 39-004(a), 39-004(b), 39-004(c), 39-004(d), and 39-004(e); and the Bayo Canyon Sites, consolidated PRS 10-002(a)-00 will be delivered to NMED in early July. This final deliverable consists of more than 245,287 records in 161 Excel files, and a 5580-page hardcopy report.

The Data Stewardship Team also worked with the FIMAD Cartography Laboratory and focus area team leaders to prepare and deliver 50 maps depicting the 108 sites listed in the February NMED data request.

Data Stewardship for Groundwater Data. The data stewards for the Groundwater Investigations Focus Area (GWIFA) are working to transfer data for the existing R-wells to the Borehole Module of the new ERDB. Data categories include, but are not limited to, drilling, well construction, water levels, geology, field and laboratory hydrologic tests, field and analytical data for groundwater and geologic media, geophysics, and geodetic surveys.

In June, the complete drilling and construction data sets for deep well R-12 were loaded into the SQL database. Data from the Westbay sampling system was captured into Excel for eventual transfer into the ERDB. Work also continued on the borehole geophysical data set for transfer into the ERDB. There are 260,00 curve data records now ready for transfer to the ERDB. The data stewards for GWIFA prepared Look Up Tables for transfer of the Access data to the ERDB. Work on the data dictionary for the Borehole Module is ongoing.

In addition, the GWIFA data stewards worked to capture the as-built construction information for five more R-wells and create the necessary header records in the database. This approach will allow uploading of associated data type categories for these wells.

Data Validation. The Chemistry Validation Team validated 739 request number/suite combinations this quarter. Validation Team personnel are currently keeping up with incoming data packages. The data authentication team authenticated 1689 request number/suite combinations in the third quarter. (Data authentication is the comparison of electronic with hard-copy records). Additional authentication resources were added at the end of May to work on the backlog of electronic data. By the end of June, the backlog had been significantly reduced.

Integrated Data Sets. Data quality assessment of the ER Project site characterization data for inorganic chemicals relative to the ER Project background data set is ongoing. Work continued on the Pajarito Plateau (pre-fire) baseline groundwater data set and technical paper. Exploratory data analysis to look for variation by location, rock type, sample type, and sample date was completed, as were preliminary plots and data summaries. A technical report is in preparation.

Staff members from the Laboratory's Hydrology, Geochemistry, and Geology Group (EES-6) wrote computer codes to automatically associate media codes for all subsurface samples taken across the Pajarito Plateau. Documented and vetted geologic contact data were produced for digitized legacy data and new data. The data are being formatted for SQL tables for eventual input into the ER data repository.

2.6.1.2 Risk Assessment and Review Team

Human Health Risk. In the third quarter, the RFI report for MDA H was reviewed by the US Environmental Protection Agency (EPA) Region 6 risk assessor, and comments were incorporated into the final version of the document. The document was submitted to the NMED in mid-May. The human health risk team continued participating with the MDAs HPT to define a strategy for evaluating corrective measures alternatives for MDAs as part of the CMS at MDA H.

The team continued to interact with NMED on the state's new soil screening levels for human health. Discussions with the NMED risk assessor provided information on the problems and ways to minimize future issues/concerns.

The risk sub-team of the Interagency Flood and Risk Assessment Team (IFRAT) has finalized the human health exposure model for radiological and nonradiological contaminants. More realistic exposure

parameters and scenarios were formulated, and simulation runs of the models were done to determine if potential risk is present at relevant locations. Conclusions were formulated and provided to the IFRAT.

The IFRAT met to discuss a press release scheduled for mid-July, which will present the results of the risk sub-team risk assessment related to floods from the Cerro Grande fire. A public meeting is scheduled for July 25 to provide the public an opportunity for comment.

A public workshop on the MDA H RFI report was held on June 27. The human health risk team also provided the Regulatory Compliance Focus Area with comments on the Northern New Mexico Citizens Advisory Board recommendations on the DOE risk-based cleanup of ER sites.

Ecological Risk. The Cañon de Valle HPT, in collaboration with the Laboratory's Ecology Group (ESH-20), finalized ecological risk assessment activities for terrestrial resources for FY 2001. The study design was reviewed and approved by the NMED and Laboratory Ecorisk Subcommittee. Fieldwork on a small-mammal study began in May, with reconnaissance sampling in Cañon de Valle and selection of a reference site.

The reconnaissance sampling for the small-mammal study for Cañon de Valle was completed. Blood samples taken from 5 of 20 mice tested positive for hantavirus. There is still sufficient sample available to analyze for body toxicity burdens. The analytical laboratory is currently in the process of sample preparation and analyses to determine body toxicity burden rates of the mice sampled.

The Cañon de Valle HPT has incorporated an aquatic resource study into the ecological risk assessment pilot study for FY 2001. This study will involve a benthic macroinvertebrate survey by a representative from the DOE Oversight Bureau and toxicity tests of sediments using the midge *Chironomus tetans*. The toxicity tests will be conducted by an independent laboratory specializing in these types of tests.

An oral presentation of the aquatic study was presented to NMED on June 6, 2001. Comments from NMED as a result of the presentation as well as from ER personnel are being incorporated into a study design document. This document will be provided to NMED and the Laboratory's Ecorisk Subcommittee for further review.

The risk team continued to provide input for the institutional ecological risk assessment approach. The ER Project and the Laboratory's Environment, Safety, and Health (ESH), and Earth and Environmental Sciences (EES) Divisions are reviewing a final draft of the approach.

Ecological Risk Database. In the third quarter, revisions of 106 summaries of primary toxicity study evaluations were completed, equivalent to 45 chemical/organism group combinations. (These revisions are intended to standardize the content of the summaries, so that all the important points for providing a scientifically defensible toxicity reference value [TRV] are covered.) However, these summaries were not considered final because of revisions being made to coding of other toxicity data in the Ecorisk Database. Coding issues that are still being resolved include standardizing the designation of the age category of the test species during exposure, which is used to determine if an exposure occurred during a critical life stage and thus should be considered a chronic exposure. In addition, the statistical methods used to determine effect levels are also being reviewed and/or standardized, as is the categorization of effects measured into categories of reproduction/development, survival, growth, other categories, or a combination of these. Another issue being resolved is making it standard practice to select the dose rate parameters (i.e., body weight and ingestion rates) that will provide the most conservative dose rates on which to base TRVs. All calculations made during the TRV derivation process are being verified. These revisions will make the TRVs more defensible.

Further modifications were made to the toxicity data entry database code to facilitate and promote consistency in data entry, and to increase the ease of transfer of data to the main Ecorisk database. Modifications made included

- the addition of dose rate parameter tables and use hierarchy to promote consistency in dose rate calculations;
- the addition of data fields to clarify which effects are evaluated and are not evaluated from any particular reference (experiment) and the reason(s) why or why not;
- the addition of help screens and text boxes to facilitate proper coding of data based on revised age category definitions for plant, earthworm, bird, and mammal test species; and
- the addition of help screens and text boxes to facilitate proper coding of exposure duration with respect to actual length of exposure and critical life-stage designation.

Native American Risk. In the third quarter of FY 2001, a sampling and analysis plan to conduct limited vegetation and soil sampling in the area of TA-74 this summer was discussed with San Ildefonso Pueblo representatives. The risk team met with members of the Pueblo's Department of Environmental and Cultural Preservation to determine their needs and prioritize information and sampling areas. Work continues on a draft of the sampling and analysis plan, with the sampling by San Ildefonso Pueblo scheduled for early August.

The risk team presented a risk assessment seminar to members of the Department of Environmental and Cultural Preservation at San Ildefonso Pueblo on June 20.

Peer Review. Thirty-eight peer reviews were conducted in this quarter, including 29 read reviews, 2 panel reviews, 5 statement of work reviews, and 2 decision reviews.

2.6.1.3 Strategic Decision Analysis Team

During the third quarter, the team continued work on several tasks in the area of integrated modeling, focusing primarily on the modeling of contaminant transport in groundwater. These tasks were developed to identify the most significant uncertainties in groundwater pathway risk assessment, with the objective of supporting the data quality objectives processes for fieldwork and groundwater pathway risk modeling.

The Strategic Decision Analysis Team worked with internal Laboratory organizations to conduct the following tasks. The status of each task follows:

- Alternatives assessment for MDA H: Laboratory hydrology modelers are developing conceptual site model profiles for MDA H following the guidelines of the EPA Region 6 corrective action strategy. Simulations of the local climate and surface hydrology were completed for input into the probabilistic assessment of the baseline risk. Computational models for the other components of the MDA H probabilistic risk assessment are under construction, including erosion, vadose zone aqueous-phase and vapor-phase fate and transport, bioturbation, and human health risk models.
- Analysis of sensitivity of groundwater flow models to uncertainties in geology: Progress was made by the 3-D Geology Team in several areas: (1) identification of uncertainties in the current 3-D geologic model, (2) assessment of resources required to allow adequate definition of the appropriate conceptual model and spatial placement of hydrologically important units within this model, and (3) prioritization of activities to improve the model to the level of certainty required by the risk assessment process. Based on this work, a draft document was developed for the geologic model task. Activities outlined in this document include geologic mapping and acquisition of petrologic, chemical, and age data to characterize ancestral axial river (Totavi) gravels and other pre-Bandelier sedimentology.

- First-order groundwater pathway assessment of soluble residual contaminants at ER sites: Additional information was obtained on potential canyon source terms. An automated tool that couples ArcView output (one-dimensional stratigraphic columns) with one-dimensional FEHM vadose-zone calculations was developed. The tool can compute steady flow solutions and groundwater travel time for any number of pathways in the study area. This capability will eventually be used to develop contour maps of travel time of a potential contaminant versus location across the Pajarito Plateau.

  Vadose-zone recharge rates were defined for different lengths of major canyons on the Pajarito Plateau, from Guaje Canyon in the north to Chaquehui Canyon in the south. A recharge index was assigned to each canyon length. The index is based on watershed origination, observations of surface water and alluvial water, anthropogenic water sources, and published recharge studies. This information was incorporated into the ArcView drainage data files, which in turn will be used to set infiltration rates in the one-dimensional FEHM vadose-zone calculations.

- Geostatistical analysis of regional groundwater flow and contaminant transport conceptual model to support placement of sentry groundwater wells: Proposed work was presented to the Groundwater Integration Team on April 18. A production version of the FEHM Pajarito Plateau sub-model developed by EES-6 was set up on the D-1 computers. The input space (several permeability parameters, two parameters related to infiltration from the surface, and some porosity parameters) is under investigation in order to identify the region within which acceptable simulation runs can be obtained. Criteria include matches to the pre-development water levels in 28 wells; discharges along the Rio Grande and Santa Clara boundaries of the model; reasonable calculations for the drop in water levels in 14 wells between 1950 and 2000; and some numerical convergence requirements.

- Airborne electromagnetic survey of the Laboratory to characterize subsurface geologic features relevant to site-wide hydrology: The proposed survey using this remote-sensing technology was determined to require a larger plane than anticipated in earlier planning. The plans are being revised to account for this change.

Long-Term Monitoring Task. The long-term monitoring task leader has participated in multiple complex-wide discussions regarding the long-term environmental stewardship guidance being developed by DOE Headquarters. In particular, the task leader has initiated discussions regarding the applicability of performance assessment and composite analysis in supporting stewardship planning.

2.7 Regulatory Compliance — Focus Area Leader: Dave McInroy

2.7.1 General Information for Regulatory Compliance Focus Area

Monthly meetings with NMED continued this quarter, as well as meetings regarding special topics such as permit modification, ongoing RFIs, IMs, VCAs/VCMs, RFI reports, CMS plans, and responses to requests for supplemental information and the NMED data request.

The team continues to work on data requests received from both the Attorney General's office and the NMED. Information is being gathered for the NMED-HWB for the purpose of supporting a corrective action schedule associated with the rewrite of Module VIII of the Laboratory's Hazardous Waste Facility Permit.

Team members performed the following miscellaneous tasks:

- participated as members of high-performing teams for the TA-54 MDA H CMS, permit modification/Annual Unit Audit, airport landfill remedial actions, and the 260 outfall;
- submitted additional draft reports to address DOE's procedure for the release of real property containing residual radioactive material for PRSs proposed for NFA with a radionuclide component;
- provided additional information on the status of ER Project activities on land parcels proposed by Los Alamos County for temporary access as of February 2001;
- continued reviewing and revising information in the PRS database;
- provided continued regulatory support for planning and implementation of the final cleanup of several PRSs at TA-21, TA-51, and TA-54 West;
- conducted operations and waste management inspections of ER field operations;
- completed investigations for a Comprehensive Environmental Assessment and Response Program (CERCLA) 120(h) report to support DOE's lease of the Isotopic Carbon, Oxygen, and Nitrogen (ICON) Facility at TA-48 to an outside party;
- supported the conduct of land transfer property boundary surveys by the Corps of Engineers during April 2001; and
- supported development of the TA-74 North Canyons sampling and analysis plan (to support the land transfer to San Ildefonso and the Bureau of Indian Affairs).

2.7.2 Team Activities

2.7.2.1 Communications and Outreach Team

Outreach Activities. The Communications and Outreach Team coordinated various ER Project public meetings, workshops, and activities this quarter.

Staff coordinated two public meetings, held in April and May. The April meeting provided an update on the current activities scheduled for the inactive landfill located at the Los Alamos County Airport. The May public meeting provided an update on the current activities scheduled for the Acid Canyon cleanup. Mailers to the Laboratory's facility mailing list, and notices were placed in the local newspapers.

Staff also coordinated a workshop on MDA H. This workshop was co-sponsored by the Northern New Mexico Citizens Advisory Board and was held on June 27, 2001, at the DOE-LAAO building. The workshop was held to discuss the scope of the CMS for MDA H and to discuss the various alternatives for this site. This workshop is one of several public outreach mechanisms that are being used to encourage public participation in the corrective measures evaluation for MDA H.

In April, staff members prepared and distributed a "Dear Neighbor" letter for Los Alamos County residents and businesses located near the DP Tank Farm, on DP Road. This letter informed them of the cleanup activities that will take place at DP Tank Farm this summer.

This quarter, staff assisted with the annual household hazardous waste collection co-sponsored by GTS Durteck and the Laboratory by copying and delivering flyers to local businesses in the Española area. Staff assisted with the event by welcoming the participants and documenting what was brought in for disposal. Staff provided photographs of the event to the Newsbulletin and the local newspaper, the *Rio Grande Sun*.

The Communications and Outreach staff began planning two public meetings for July. The purpose of the first meeting, scheduled for July 18, 2001, is to discuss a Class III Permit Modification Request to remove 25 SWMUs from the Laboratory's Hazardous and Solid Waste Facility Permit. Staff members also cordinated the Interagency Flood Risk Assessment Team public meeting scheduled for July 25, 2001. Staff prepared mailers and notices for both of these meetings.

Virtual Library Activities. Staff members continued work on the Virtual Library, which is located on the Laboratory's external Web site at http//erproject.lanl.gov/. Files for six Requests for Permit Modification, as well as the ER Project's quarterly technical report for January through March 2001, were uploaded to the Web site this quarter.

Northern New Mexico Citizens Advisory Board (CAB) Activities. The Communications and Outreach staff attended the monthly CAB meetings throughout the quarter.

Tours. Communications and Outreach staff coordinated the following ER Project tours this quarter:

- Tour of Los Alamos Canyon for representatives from the Four Accord Pueblos.
- Tour of various ER Project sites for 10 University of Mississippi geology students.
- Tour for the Director of Site Operations for the DOE Office of EM-3. The tour, and associated meeting, involved personnel from E Division, DOE-LAAO, and DOE-AL.

Staff also attended a tour of TA-70 with San Ildefonso Pueblo members and the ER Project.

2.7.2.2 Closeout, Tracking, and Contracts Team

PRS Database. Work continued on the effort to update and validate information in the PRS database and to populate a new database "container" (information holder) with current and accurate PRS information. The new database has moved into production mode.

SWMU Report. Team members began work on a draft SWMU report in May. To date, approximately 35% of the unit descriptions and supporting information has been developed. New maps and photographs are being produced to support the report.

2.7.2.3 Regulatory Compliance and Facility Integration Team

Team members continued to provide assistance with regulatory compliance issues for activities within the ER Project this quarter. Staff provided regulatory reviews of documents prepared by the ER Project and participated in peer reviews. Deployed personnel from the Laboratory's Hazardous and Solid Waste Group (ESH-19) and Water Quality and Hydrology Group (ESH-18) participated in the reviews as subject matter experts regarding hazardous and solid waste issues and water issues, respectively.

Clean Water Compliance. Staff participated in various meetings addressing clean water compliance issues: (1) Surface Water Assessment Team meetings were held to discuss recommendations for BMPs needed at ER/facility management sites. Team members reevaluated PRS 01-002, in Acid Canyon, and recommended and implemented BMPs, based on new analytical information for the site. At this meeting, team members also completed a review of a 1999 ER Project memorandum that summarizes existing PCB information for all PRSs. (2) Staff met with representatives at the CMR Building to discuss a potable water release believed to have impacted an adjacent PRS [03-034(a)]; it was determined that the potable water had not impacted the PRS. (3) The TA-73 HPT met to discuss NMED's concern regarding refuse in a watercourse at PRS 73-001(a), the airport landfill site, and modifications to the Stormwater Pollution Prevention Plan for the site.

Staff participated in a two-day field visit with EPA Region 6 personnel to see the impacts of the Cerro Grande fire and the mitigation efforts that have been conducted as a result of the fire. The sites visited included the Los Alamos Reservoir, Highway 501 road-hardening projects, Pajarito Canyon flood-retention structure, Los Alamos Canyon low-head weir, TA-46 BMP installation, TA-11 drop tower, MDA R, and the 260 outfall at TA-16. EPA personnel were impressed with the amount of fire damage as well as the mitigation efforts completed throughout the Laboratory.

The NMED Surface Water Quality Bureau (SWQB) conducted an unannounced field inspection at PRS 01-002 in Acid Canyon on April 26, 2001. A follow-up compliance inspection report was submitted to the Laboratory on May 15, 2001. Staff began the response to the inspection report.

Other clean water compliance activities included the folllowing:

- Initiated discussions with the Army Corps of Engineers and the NMED-SWQB on 401/404 dredge and fill permits for Acid Canyon and the TA-73 airport landfill debris removal.
- Participated in the readiness review for the 260 outfall-related work and in the decision review for PRS 21-011(k) outfall.
- Participated in a field trip with graduate students from the University of Mississippi. Students were taken to the TA-46 BMP site and around the eastern portion of the Laboratory for a geology presentation.
- Participated in a field trip with the John Till Team, from Risk Assessment Corporation, to assess the damage from the Cerro Grande fire. The team toured TA-5, TA-46, Mortandad Canyon, and the Pajarito Canyon flood retention structure. Photographs were taken and provided to the team to support the independent risk assessment.

Waste Management Activities. Team members reviewed and provided comments on six waste characterization strategy forms this quarter. Team members coordinated on-site waste management, characterization, transportation, and disposal for waste generated at PRSs 21-029, 21-024(i), 51-001, 54-007(c,d,e), 50-009 (MDA C), and 54-006 (MDA H). Team members also provided regulatory support for waste management for a diesel spill from the R-5 drill rig; for Mortandad Canyon intermediate wells MCOBT 4.4 and 8.5; for disposal of New Mexico Special Waste from the R-9 drilling site and the Los Alamos Canyon Weir Drilling Project; and for disposal of radioactive waste from TA-2. Regulatory support continued for the MDA P project.

2.7.2.4 Special Projects and Deployed Generalist Team

A letter approving 30 PRSs for removal from the Laboratory's Hazardous Waste Facility Permit was received May 2, 2001. Team members continued to work with NMED personnel to address questions and to provide additional support information for the nine PRSs proposed for permit modification in June of 2000. Another permit modification request for 25 proposals (including assembling all supporting documentation) was completed and submitted to NMED on June 4, 2001. The team is currently reviewing candidates for inclusion in a future request. Team members have been reviewing proposals from the March 1995, September 1995, and September 1996 requests for permit modification to determine which of those proposals should be withdrawn from those requests. Team members continued drafting sampling plans for approximately 40 PRSs requiring between two and five confirmation samples to confirm the NFA proposal for those sites.

Authorized derivative classifiers from the team provided classification reviews of ER Project documents, as needed.

Natural Resource Management Activities. A team representative attended the East Jemez Resource Council meeting. Of significance to the ER Project are the large number of studies being initiated in the Valles Caldera in the coming years which will help provide significant upstream, and "LANL-adjacent" baseline data relevant to our Ecorisk analyses. These studies include water quality sampling by NMED; terrestrial community surveys; and high-resolution vegetation maps, as well as specific surveys and studies of fish, raptors, bats, prairie dogs, butterflies, salamanders, and flora. Elk and Cerro Grande fire rehabilitation were also discussed.

The Natural Resource Trustees met again this quarter to discuss future interaction and funding options. Submittals defining member's trust responsibilities and proposed budgets were requested, and a meeting was scheduled to review these and discuss how best to proceed.

The team representative continued to participate in meetings of the Pajarito Plateau Watershed Partnership. The plateau watershed assessment is progressing with work by ESH-18 and assistance from the United States Forest Service. The 319 grant was awarded, but awaits an administrative body. A draft Watershed Restoration Strategy is available, and the group continues to work on a watershed management plan.

As the authorized National Environmental Policy Act (NEPA), Cultural, Biological Resources reviewer for the ER Project, the representative completed screening checklists/reviews for MDAs C and H, the airport debris removal, two intermediate-zone characterization wells, a TA-21 septic system/sump/waste-oil trench, and the mesa-top R-37 deep well. The team member also provided input to ESH-20 Appendix-F self-assessment process for their NEPA request and served as point-of-contact to help resolve on-site NEPA issues for proposed projects in Mortandad Canyon.

The team member continues to be the ER Project point of contact for the Interagency Wildfire Management Team working to mitigate wildfire on Laboratory property. This quarter, the Interagency Wildfire Management team focused on current fire hazard, interagency mitigation plans, and the proposed Laboratory-wide tree-thinning projects. The team member also participated in the Natural Resources Science Team's discussion of potential impacts of this Laboratory-wide thinning effort proceeding without proper analysis for long-term effects, soil disturbance by mechanized vehicles, and possible impacts on on-going ER studies such as the blue bird analysis. The project managers have begun consulting with US Fish and Game, ER Project staff, and other entities.

The team member has joined the new wetlands working group to assist with issues surrounding the management, study, and mitigation of Laboratory wetlands consistent with the institution's goals of compliance, BMPs, and long-term stewardship and ER Project's interest in wetland/contaminant issues.

The team member continues to represent the ER Project at the subject-matter-experts working group, organized by the Laboratory's Site Planning and Development Group (PM-1), to encourage closer Laboratory-wide integration and involvement with future planning and land use issues.

Closeout for PRSs. Team members continued progress on a quality review for existing PRS closeout files, developed new PRS closeout files, and coordinated with the ER Project's Records Processing Facility on closeout issues and submittal of closeout information.

Support to Focus Areas. Personnel from the Special Projects and Deployed Generalist Team are deployed to the operational focus areas to provide support regarding regulatory issues. Staff provided general regulatory compliance assistance this quarter, such as reviewing documents; attending operational focus area meetings, high-performing team meetings, meetings with DOE and NMED, and NNMCAB ER Subcommittee meetings; and participating in peer reviews for operational focus area documents. The deployed members of the team also assisted with the following tasks in the operational focus areas.

Canyons Investigations Activities. Staff reviewed seven excavation permit requests. Sampling notifications were completed for sediment sampling in Mortandad and Acid Canyons and for surface-water sampling in Los Alamos and Pueblo Canyons.

Groundwater Investigations Activities. Staff provided regulatory support for discharge of purge and development water from well R-5 and performed site inspections for Field Site Closeout Checklists for wells R-22 and R-31. Sampling notifications were completed for drilling wells CdV-R-37-2, MCOBT 4.4, MCOBT 8.5, and R-5 and for quarterly sampling at wells R-7, R-9, R-15, R-19, R-22, R-25, and CdV-R-15.

MDA Activities. Staff assisted with numerous MDA projects this quarter, including the following:

- Provided comments and assisted with peer review comment resolution on the draft VCM report proposing NFA for PRS 21-027(d)-99, the NTISV cold demonstration.
- Began review of the draft IM report for PRS 21-018(a)-99, the NTISV Hot Demonstration at MDA V, and updated NMED staff regarding the sampling schedule for the glass product once it has cooled to near ambient temperatures.
- Participated in the decision peer review in May 2001 for new data collected during the second quarter for the PRS 21-011(k) outfall. The deployed generalist worked with MDA Focus Area staff to identify remedial alternatives for the site and communicated potential remedial actions to NMED staff.
- Reviewed the proposal submitted to DOE and the Waste Control Specialists landfill in Texas for the disposal of the septic tank at PRS 21-024(i). Upon receipt of approval for disposal, the tank will be removed and the remaining confirmation samples collected..
- Drafted a facility tenant agreement to document an agreement between the ER Project and D&D and facility personnel to address the inlet lines to PRSs 21-024(i) and 21-011(k).
- Continued to review daily contractor reports documenting the rework of the Phase II investigation of DP Tank Farm (PRS 21-029). The team member continued to work with NMED staff, sharing investigation results, status of the data and subcontractor activity reports, and RFI report content.
- Reviewed and commented on the confirmation sampling approach in the VCA plan for PRS 21-024(f) and discussed the revised approach with NMED. The team member drafted a 10-day notification and Record of Communication documenting the revised confirmation sampling approach, which is based on waste characterization results.
- Assisted with the resolution of final comments received from NMED on the RFI report and CMS plan for MDA H. The staff member participated in the initial CMS alternatives analysis and the public workshop held on June 27 to discuss possible remediation alternatives; negotiated location and depth of the two additional boreholes installed at MDA H to confirm nature and extent; and documented agreements in a Record of Communication. The staff member also assisted in the preparation of the SAP for the additional boreholes.
- Provided review comments on the waste characterization strategy and waste profiles for the management of wastes generated during the installation of an additional vapor-monitoring borehole at MDA C, two additional boreholes at MDA H, the VCA of PRS 21-024(f), and the management of transuranic waste remaining from the RFI of MDA AB at TA-49.
- Continued review of RFI data for MDA C to determine if nature and extent have been determined, and if not, what information is required to complete the RFI.

- Reviewed and commented on preliminary screening assessment results and sections of the draft VCA reports for PRSs 51-001 and 54-007(c,d,e).
- Drafted a letter, which was submitted to NMED, requesting the Hazardous and Solid Waste Facility Permit be modified to reduce pore-gas monitoring from quarterly to semi-annual monitoring, based on consistent constituent detection and concentration distribution, and discussed that proposal with NMED staff.
- Continued to participate in/facilitate the MDA/TA-54 HPT meetings with NMED-HWB and DOE representatives on the implementation of the CMS plan, public involvement plan, RFI report for MDA H, and the planning of future public meetings for the CMS of MDA H. The staff member attended two Citizens Advisory Board ER Subcommittee meetings at which MDAs in general, and public participation during the CMS at MDA H were on the agenda.

The deployed generalist provided additional support to the focus area by preparing, reviewing, and/or resolving peer review comments received on various sampling notifications, RFI reports, a CMS Plan, and other submittals. Sampling notifications were prepared for ER activities at the TA-21 DP Tank Farm and for MDA H at TA-54.

RCRA Corrective Actions Activities. A sampling notification was prepared for small-mammal sampling at PRS 16-021(c), the 260 outfall.

3.0 REFERENCE

LANL (Los Alamos National Laboratory), 1998. "Hydrogeologic Workplan," Los Alamos National Laboratory report, Los Alamos, New Mexico. (LANL 1998, 59599)

Appendix A

DP Canyon Monthly Inspection Reports,
Third Quarter, Fiscal Year 2001

DP Canyon Monthly Inspection Report
April 2001

Introduction: Monthly inspections are conducted to assess the status of oil seeps in DP Canyon; the seeps are downgradient from Potential Release Site 21-029 (DP Tank Farm). These inspections will help document any changes in the hydrocarbon sheen area and relate them to seasonal changes and recent precipitation.

Date: April 25, 2001
Time: 2:25 p.m.
Personnel: Becky Coel-Roback and Rick Kelley
Weather: 65° F, sunny, breezy
Precipitation: 0.69 in., approximate total since last month's inspection (source: LANL Weather Machine).

Presence of standing or running water: At the time of the inspection, there was very little flow in the drainage, but there was standing water in most pools. There was abundant algal growth in the standing water. No snow remained in the canyon.

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

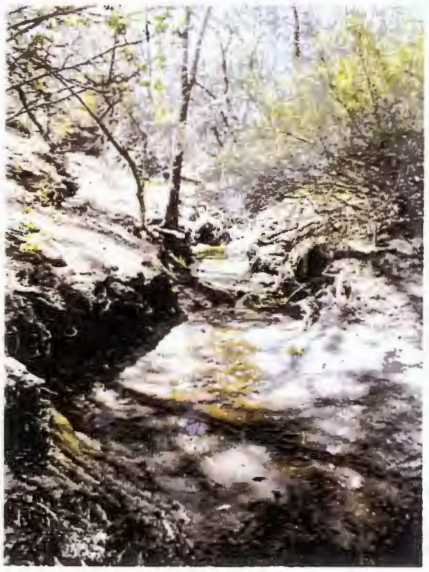
	Air	Water	Soil/Sediment
Upstream Location	No noticeable fuel odor	Slight sheen near the banks, abundant algae	No sheen or staining, slight odor more pronounced when sediments are disturbed
Downstream Location	No noticeable fuel odor	No sheen on the water	No sheen or staining, slight odor more pronounced when sediments are disturbed

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

Location 1. Culverts at the head of DP Canyon, showing very little water flow

Location 2. Small pool of water with abundant algal growth. This pool is located immediately downstream of the upstream sheen area.

Location 3. Streambed in the area of the upstream sheen area. During the April inspection, a slight sheen was observed on standing water, and petroleum odor was noted in disturbed sediments.



Location 4. Streambed in the area of previous sample locations, looking upstream from sample location 21-11136

Location 5. Standing water in downstream location. No sheen was noted on the water during the April inspection.

Location 6. Downstream sheen area near sample location 21-11177. No sheen or staining was observed during the April inspection; faint petroleum odor was observed in disturbed sediments.

DP Canyon Monthly Inspection Report
May 2001

Introduction: Monthly inspections are conducted to assess the status of oil seeps in DP Canyon; the seeps are downgradient from Potential Release Site 21-029 (DP Tank Farm). These inspections will help document any changes in the hydrocarbon sheen area and relate them to seasonal changes and recent precipitation.

Date: May 31, 2001
Time: 6:30 a.m.
Personnel: Dan Holmquist and Michelle Benak
Weather: 60°F
Precipitation: 1.09 in., approximate total since last month's inspection (source: Los Alamos National Laboratory Weather Machine).

Presence of standing or running water: At the time of the inspection, there was slight flow in the drainage and standing water in most pools.

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

	Air	Water	Soil/Sediment
Upstream Location	No hydrocarbon odors	No hydrocarbon odors or sheen	Slight hydrocarbon odor
Downstream Location	No hydrocarbon odors	No hydrocarbon odors or sheen	No hydrocarbon odors, staining, or sheen

Photographs: The following photographs were taken during the site visit (see Figure 1 for locations). No photograph was taken at location 2.

Location 1. Culverts at the head of DP Canyon, showing little water flow

Location 3. Streambed in the area of the upstream sheen area. During the May inspection, a slight petroleum odor was noted in disturbed sediments, but no sheen was observed on standing water.

Location 4. Streambed in the area of previous sample locations, looking upstream from sample location 21-11136

Location 5. Standing water in downstream location. No sheen was noted on the water during the May inspection.

Location 6. Downstream sheen area near sample location 21-11177. No sheen, staining, or odors were observed during the May inspection.

Location 7. Streambed in the area of sample location 21-11176, looking downstream

DP Canyon Monthly Inspection Report
June 2001

Introduction: Monthly inspections are conducted to assess the status of oil seeps in DP Canyon; the seeps are downgradient from Potential Release Site 21-029 (DP Tank Farm). These inspections will help document any changes in the hydrocarbon sheen area and relate them to seasonal changes and recent precipitation.

Date: June 27, 2001
Time: 1:10 p.m.
Personnel: Becky Coel-Roback and Rick Kelley
Weather: 65°F, overcast, intermittent rain showers
Precipitation: 0.94 in., approximate total since last month's inspection (source: Los Alamos National Laboratory Weather Machine).

Presence of standing or running water: At the time of the inspection, there was high water flow in the drainage from recent rain showers.

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

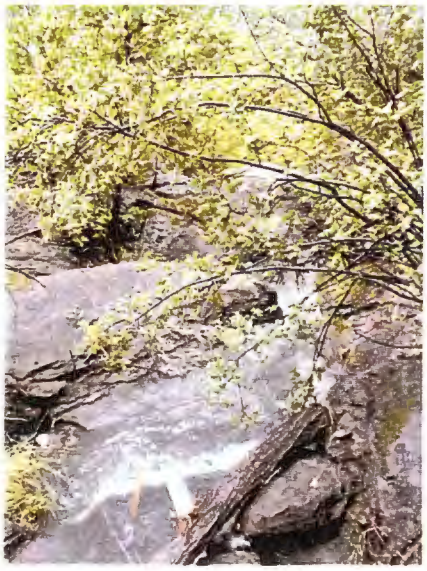
	Air	Water	Soil/Sediment
Upstream Location	No hydrocarbon odor	No hydrocarbon odor or sheen	No sheen or staining, slight odor when sediments are disturbed
Downstream Location	Faint hydrocarbon odor	No hydrocarbon odor or sheen	No sheen or staining, slight odor when sediments are disturbed

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

Location 1. Culverts at the head of DP Canyon, showing high water flow

Location 2. Small pool of water just downstream of the upstream sheen area. During the June inspection, a slight petroleum odor was noted in disturbed sediments but no sheen was observed on the water.

Location 3. Streambed in the area of the upstream sheen area. During the June inspection, water was running rapidly through this area.



Location 4. Streambed in the area of upstream location, looking downstream from sample location 21-11136

Location 5. Running water in downstream location. No sheen was noted on the water in this location during the June inspection.

Location 6. Downstream sheen area near sample location 21-11177. No sheen or staining was observed during the June inspection; faint petroleum odor was observed in disturbed sediments.

Location 7. Streambed in the downstream location, near sample location 21-11176, looking downstream

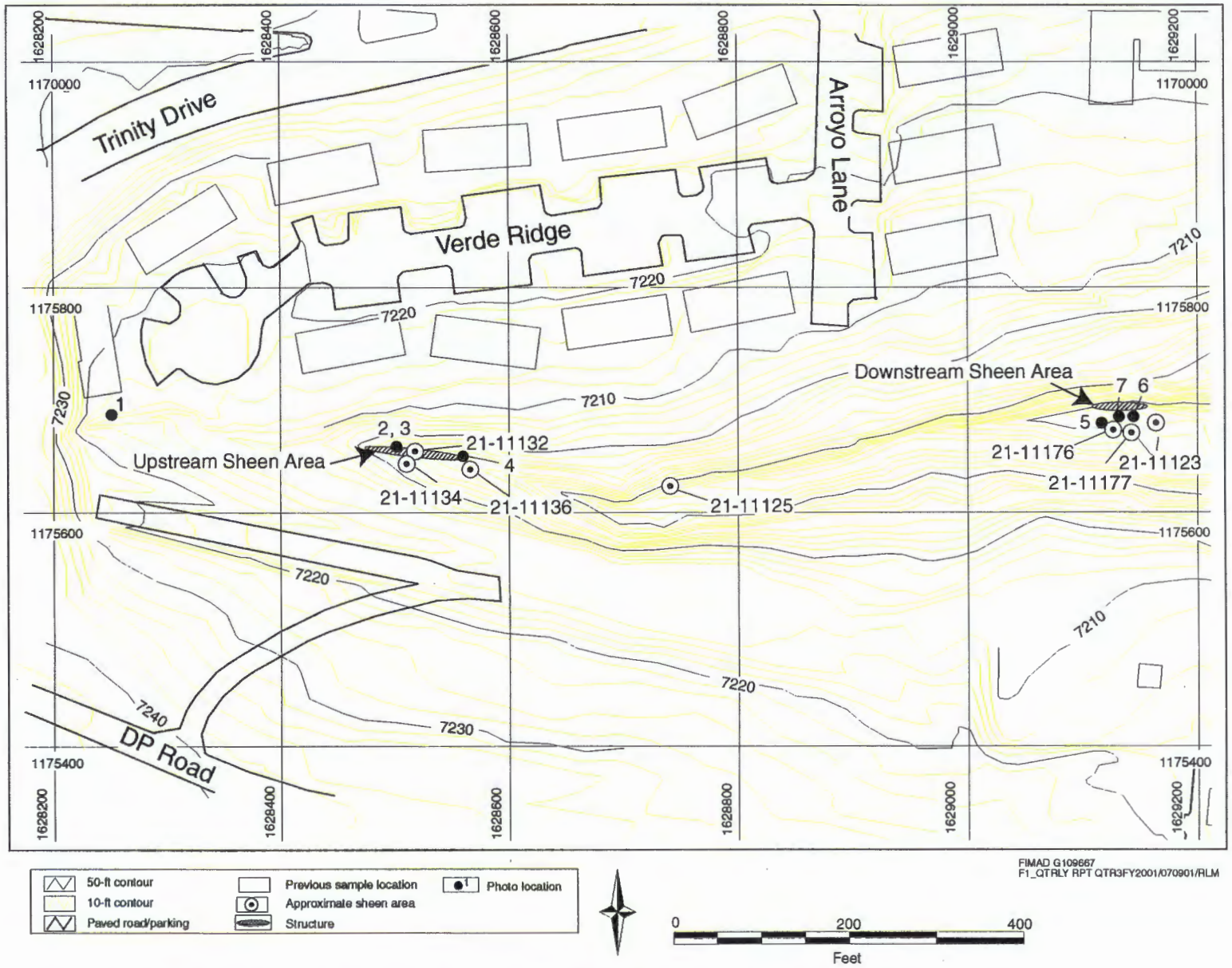


Figure 1. DP Tank Farm photo locations, sheen areas, and sampling locations

Appendix B

Quarterly Moisture-Monitoring Report
Third Quarter, Fiscal Year 2001
Technical Area 49, Material Disposal Area AB

QUARTERLY MOISTURE-MONITORING REPORT
THIRD QUARTER, FISCAL YEAR 2001
TECHNICAL AREA 49
MATERIAL DISPOSAL AREA AB

MDA Focus Area
Environmental Restoration Project
Los Alamos National Laboratory

August 2001

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1. INTRODUCTION

This report documents the results of moisture monitoring at Material Disposal Area (MDA) AB, Technical Area (TA) 49, at Los Alamos National Laboratory (the Laboratory) during the third quarter of Fiscal Year (FY) 2001. The moisture-monitoring system was installed in March 2000 to determine whether or not the evapotranspirative cover at MDA AB was maintaining and/or reducing subsurface moisture. It is anticipated that the cover material will behave similarly to native undisturbed areas and restore the semiarid conditions at the site. Monitoring was performed in accordance with ER-SOP-7.05, Rev. 1, "Subsurface Moisture Measurements Using a Neutron Probe."

The moisture-monitoring project utilizes three neutron access holes (49-10046, 49-10047, and 49-10048), eight boreholes (TH-1, TH-2, TH-3, TH-4, TH-5, 2A-O, 2A-Y, and 2B-Y), four time domain reflectometry (TDR) probes (TDR1, TDR2, TDR3, and TDR4), and a rain gauge to evaluate changes in moisture beneath the cover (Figure 1). The eight boreholes are 4 in. in diameter, and the three access holes have a 2-in. aluminum casing that extends to the bottom of the hole. Adjacent to each of two access holes (49-10046 and 49-10048) are two TDR arrays; they consist of a shallow TDR probe positioned horizontally just beneath the surface soil (approximately 6 in.) and a deeper TDR probe positioned vertically beneath the cover materials at 6 ft (TDR1) and 10 ft (TDR3). The TDR probes are positioned to detect infiltration through the topsoil. A rain gauge is located at the surface of the cover near access hole 49-10046 to monitor levels of precipitation at the site. Figure 1 gives locations of access holes, boreholes, TDR probes, the rain gauge, the cover, and the silt fence. Table 1 gives the depths of the TDR probes.

This report will include a discussion of moisture trends over time, a comparison of moisture results from the neutron probes and the TDR probes, and a discussion of the relationship between precipitation and moisture content.

2. MOISTURE-MONITORING EVENT

2.1 Neutron Logging

During the third quarter of FY 2001, neutron-logging events occurred on April 27 and 30, May 31 and June 1, and June 27 and 28. Logging was performed with a dedicated CPN 503 probe at all access holes and boreholes. The neutron counts from each of the eleven monitoring holes were recorded into a spreadsheet, and a corresponding volumetric moisture content was calculated for each. Plots of volumetric moisture content for each sampling period and all of the holes are shown in Appendix A.

2.2 TDR and Precipitation Measurements

TDR measurements and precipitation quantities were recorded twice a day to a Campbell Scientific datalogger. The Campbell Scientific datalogger was programmed to record a timestamp, temperature, TDR raw frequencies, and precipitation (in.). The program converts raw frequency to volumetric moisture content and then records the data (both raw and converted) to a *.dat file. Figures 2 and 3 display moisture measurements and precipitation from January 2000 through July 28, 2001. The cumulative precipitation was calculated from the on-site rain gauge from August 2000 to April 30, 2001. On May 1, it became apparent that the rain gauge had become clogged with debris, so from May 1 to June 28, 2001, precipitation data were obtained from the Laboratory TA-49 weather station. Data from the weather station will continue to be reported through the year to maintain consistency.

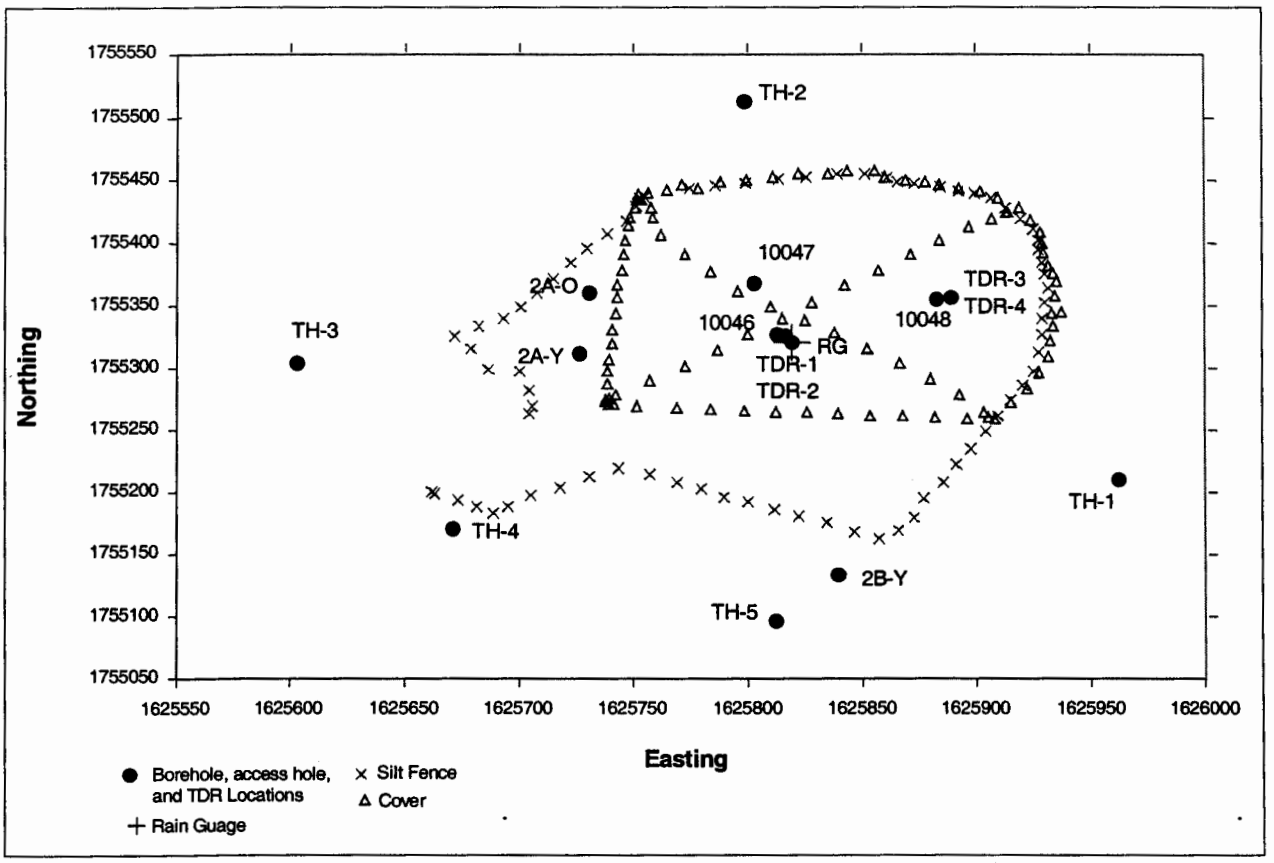

Figure 1. Location of instrumentation, access holes, and boreholes on XY plane at TA-49

Table 1. TDR array descriptions

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

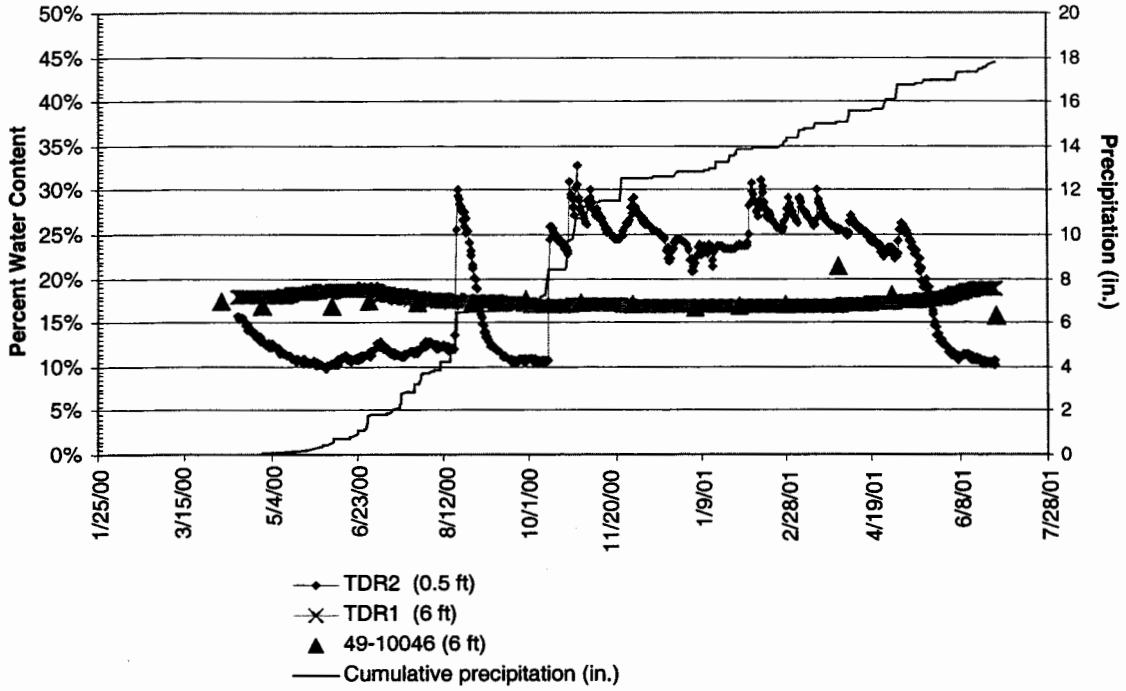

Figure 2. TDR measurements compared with neutron measurements at access hole 49-10046, which is in close proximity and at the same corresponding depths as TDR1

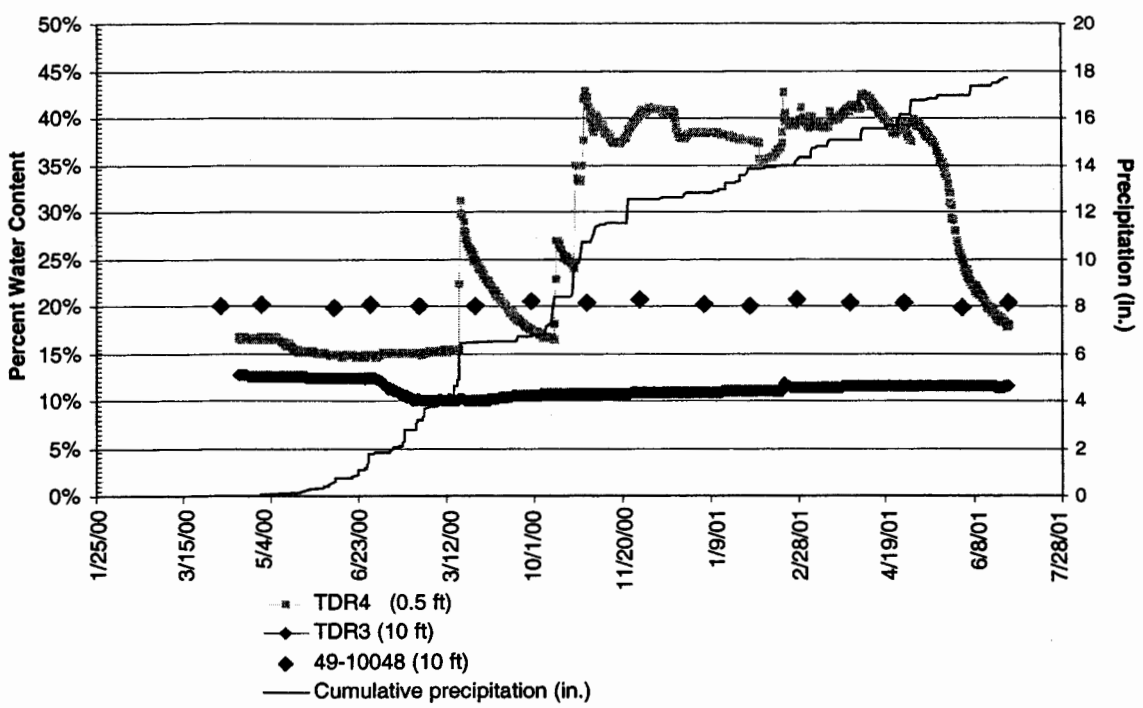

Figure 3. TDR measurements compared with neutron measurements at access hole 49-10048, which is in close proximity and at the same corresponding depth as TDR3

3. MOISTURE-MONITORING RESULTS AND DATA ANALYSIS

3.1 Introduction

During the last quarter, all neutron access holes and boreholes have shown a decrease in moisture in the first 5 ft. Two holes have shown an increase at depths just below 5 ft: 2B-Y and 49-10046. Trend plots of time versus moisture content were created for specific depth intervals (Appendix B). These plots exhibit the impact of spring rainstorms in the near-surface depth (1 ft to 5 ft) for the boreholes and neutron access holes for the months of April through June of 2001. They also show the seasonal variation in moisture over the past 15 months.

3.2 Correlation between TDR Measurements and Precipitation Events

In addition to several light rain storms during the April to July 2001 period, the weather station recorded one multiple-day storm from May 2 through May 5. The shallow TDRs (TDR2 and TDR4) recorded a moderate increase (4%) in moisture levels during the multiple-day storm. The light storms, which produced less than 0.5 in. of rain had no noticeable affect on the TDR probes. This indicates that the vegetative cover is working as designed by taking up moisture through evapotranspiration. The deep probe at 6 ft (TDR1) has shown a minor increase (2%) in moisture content from April to July, which is possibly a delayed response to the snowmelt and precipitation events from February through March. TDR3, located at 10 ft, detected virtually no increase or decrease in volumetric moisture content from April to July.

3.3 TDR and Neutron Comparisons

The moisture-monitoring system is producing similar results from the TDR arrays and the neutron logging. Figures 2 and 3 display the deep TDR data associated with access holes 49-10046 and 49-10048; neutron probe data from the same depth are also shown. Only a few statistically significant increasing trends were identified with the neutron measurements, predominately in the near-surface depths (1 ft to 5 ft) where moisture fluctuations are expected. At 49-10046, the neutron probe data differ from the TDR results by approximately 3%, and the reported moisture trends differ slightly (Figure 2). Although the apparent deviation between the TDR and neutron probe data does not appear significant, the data will be watched closely over the next several quarters to ensure that the instrumentation is operating correctly. At 49-10048, the TDR and neutron probe measurements differ by approximately 13%; the neutron probe reading is lower than the TDR probe. Neither the TDR nor neutron probe measurements have shown much moisture change in the last three months. The difference in 49-10048 is due to the placement of the TDR probe in the El Cajete pumice. The neutron probe is calibrated for materials with densities closer to crushed tuff; the El Cajete pumice has a much lower bulk density. Therefore, the difference is an artifact of the neutron probe calibration. The TDR probe is accurate for all densities of material found at the site and, thus, returns more realistic moisture content values for the El Cajete pumice. The correlation between the two moisture-monitoring methods will become more meaningful as further data are collected and further seasonal inputs occur.

3.4 Student T-test of Neutron Data

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

As of June 2001, 15 months of data events were available for statistical analysis. Table 2 presents the results of the student t-test analyses for each of the boreholes and neutron access holes. The trending analysis results show that moisture levels have increased only in the near-surface area (from 1 ft to 5 ft) and have predominately remained stable or decreased at depths below that interval. Only borehole 2B-Y indicated an increasing moisture trend at a lower depth: 6 ft to 15 ft. No significant trends were identified at any other depths in any other monitoring holes. It is possible that many of the identified increasing trends will not be considered significant once additional data have been acquired that better represent annual moisture fluctuations. The 1-ft to 5-ft interval is most impacted by seasonal fluctuation in precipitation, and variations in this interval are expected. During the spring and summer of 2000, the Los Alamos area experienced a drought. Precipitation levels for the spring of this year have been closer to average; therefore, the moisture levels at the 1-ft to 5-ft interval are greater than those last year. This difference could bias the trend analysis results at the near surface towards a false positive trend. It will be important to observe how the student t-test results respond once more data are incorporated.

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

Borehole/Neutron Access Hole Number	Moisture Trending Results
TH-1	Analysis shows an increasing moisture trend from 1 ft to 5 ft and a decreasing moisture trend from 11 ft to 15 ft, 21 ft to 30 ft, and 106 ft to 110 ft
TH-2	Analysis shows an increasing moisture trend from 1 ft to 5 ft and a decreasing moisture trend from 11 ft to 25 ft, 31 ft to 35 ft, and 76 ft to 80 ft
TH-3	Analysis shows a decreasing moisture trend from 6 ft to 10 ft and 61 ft to 65 ft
TH-4	Analysis shows a decreasing moisture trend from 6 ft to 10 ft
TH-5	Analysis shows an increasing moisture trend from 1 ft to 5 ft and a decreasing moisture trend from 6 ft to 20 ft
2B-Y	Analysis shows an increasing moisture trend from 1 ft to 15 ft
2A-Y	Analysis shows an increasing moisture trend from 1 ft to 5 ft and a decreasing moisture trend from 6 ft to 15 ft
2A-O	Analysis shows an increasing moisture trend from 1 ft to 5 ft and a decreasing moisture trend from 16 ft to 20 ft
49-10046	Analysis shows an increasing moisture trend from 1 ft to 6 ft and a decreasing moisture trend from 11 ft to 13 ft
49-10047	Analysis shows an increasing moisture trend from 1 ft to 4 ft and a decreasing moisture trend from 9 ft to 12 ft
49-10048	Analysis shows an increasing moisture trend from 1 ft to 4 ft

4. CONCLUSIONS AND RECOMMENDATIONS

The neutron probe and TDR data indicate that subsurface moisture levels have been consistent with the site conceptual model. Infiltration was detected in the near-surface material (<5 ft) in response to moderate local precipitation events. At greater depths, moisture content remained stable in the majority of boreholes. Only one borehole, 2B-Y, showed increased moisture at depths from 6 ft to 15 ft.

Fifteen months of neutron data were available to run a student t-test, which identifies statistically significant moisture trends. TH-1, TH-2, and TH-5 showed increasing moisture trends from 1 ft to 5 ft. Boreholes 2B-Y, 2A-Y, 2A-O, and the three neutron access holes also showed increasing trends from 1 ft

to 5 ft. Because the majority of boreholes reported an increase in moisture content from 1 ft to 5 ft, it is an indication that the cover is performing like adjacent areas with native vegetation. The identification of increasing moisture trends in the near-surface material is not a surprise because the moisture data spanned from a spring and summer with below average rainfall to a spring with average precipitation. Additionally, the near surface is expected to show greater responses to seasonal fluctuations in precipitation than greater depths. Generally, moisture content remained constant or slightly decreased across the site below the unconsolidated surface material (below 5 ft) during the third quarter of 2001. This was expected given the warmer spring days that promote evaporation and plant transpiration, thereby, limiting infiltration below the rooting depth. The shallow TDR probes detected only the multiple-day storm, which produced precipitation greater than 0.5 in. The deep TDR array detected a small 0.1% to 0.3% change in the third quarter of 2001, which indicates that the cover is performing as designed with regard to infiltration.

Further collection of continuous TDR and neutron probe data will enable the quantification of the cover performance with respect to moisture content. It is anticipated that the increased moisture content in the near surface will diminish as evapotranspiration is maximized in the coming months. However, the drying of the near surface will be depend on the intensity of the current monsoon season. The higher moisture content in near-surface soils will benefit the vegetative cover, which will enhance transpiration and reduce potential erosion.

APPENDIX A NEUTRON MOISTURE MEASUREMENTS

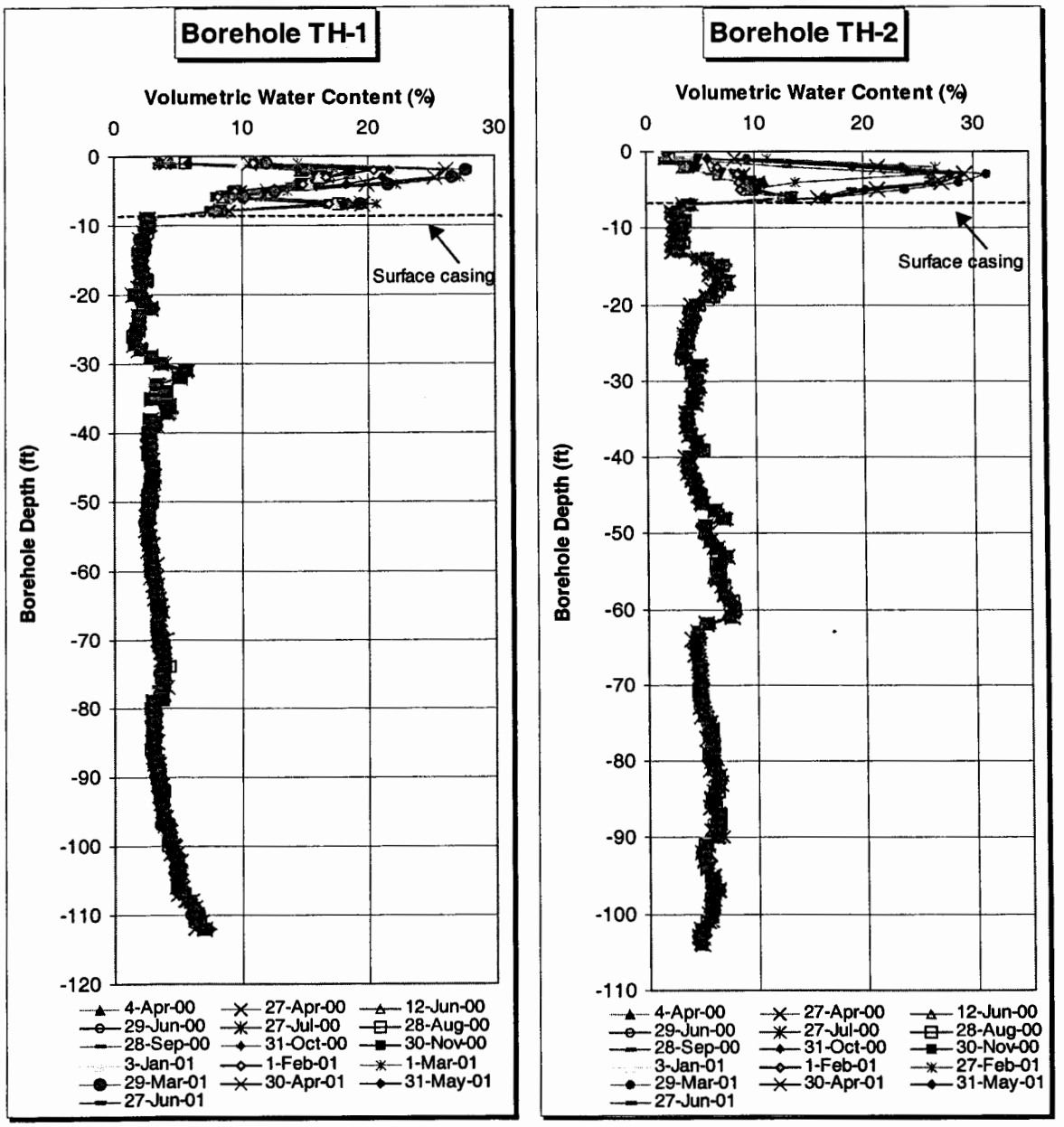

Figure A-1. Neutron probe moisture measurements for boreholes TH-1 and TH-2

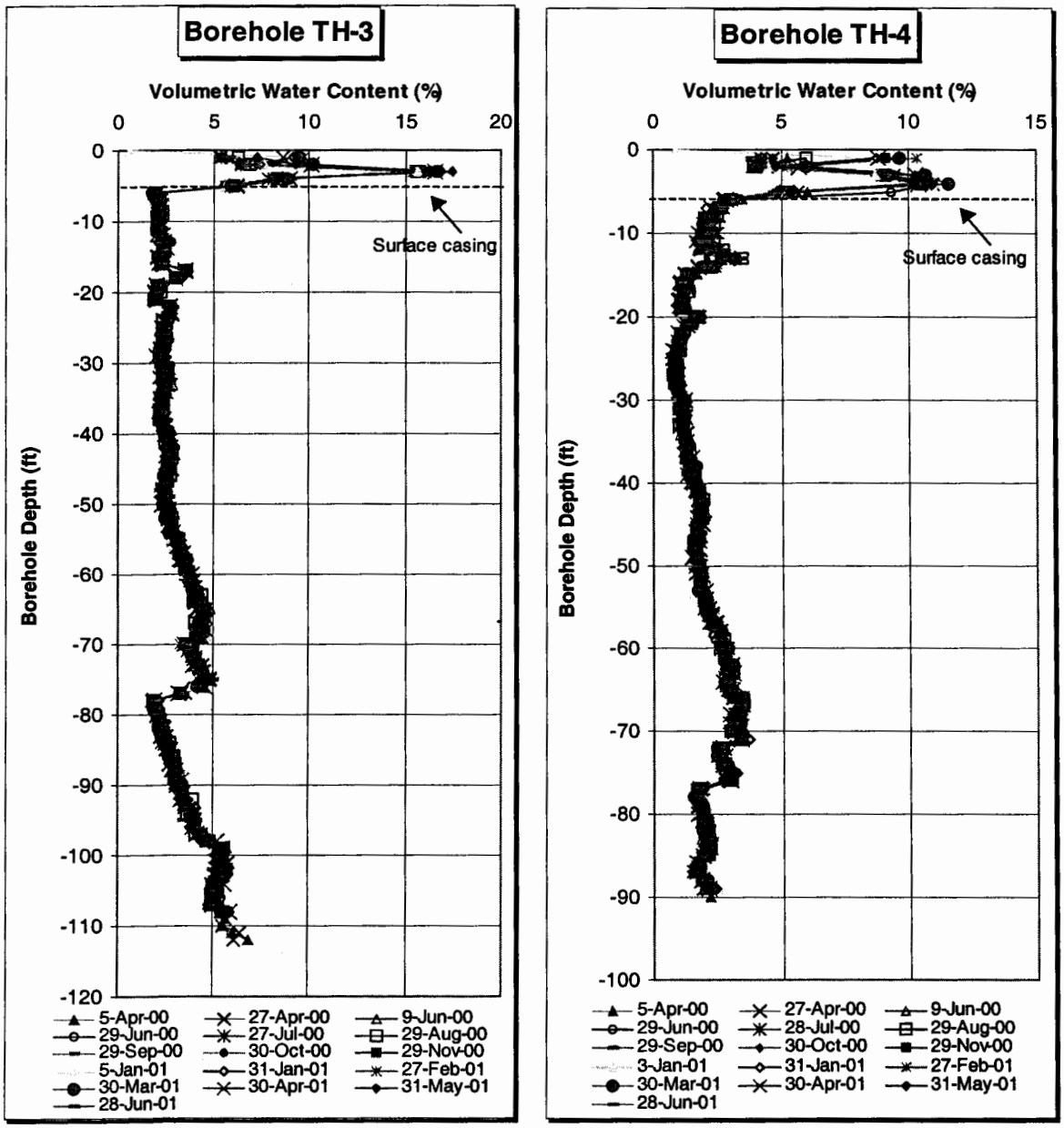

Figure A-2. Neutron probe moisture measurements for boreholes TH-3 and TH-4

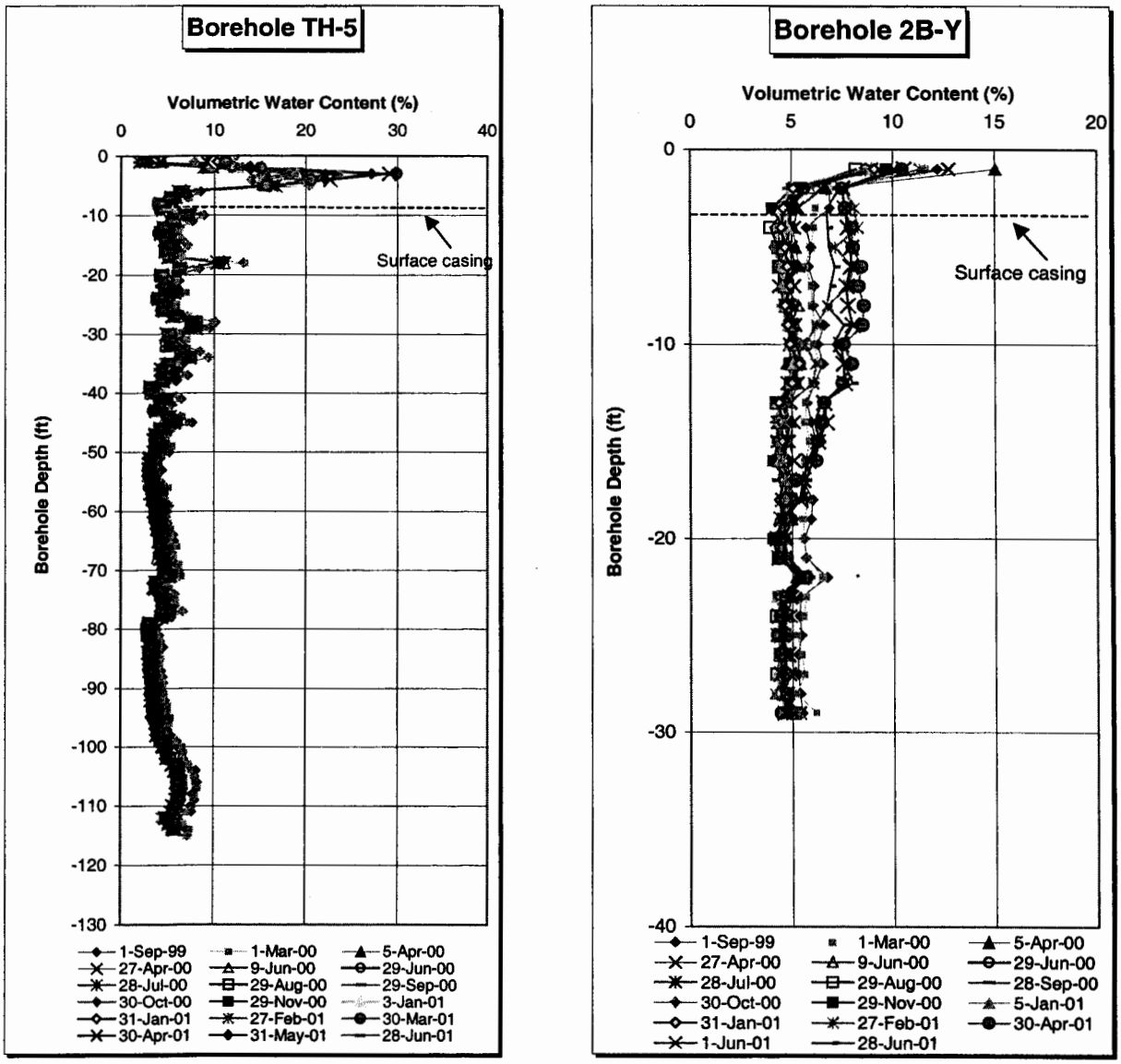

Figure A-3. Neutron probe moisture measurements for boreholes TH-5 and 2B-Y

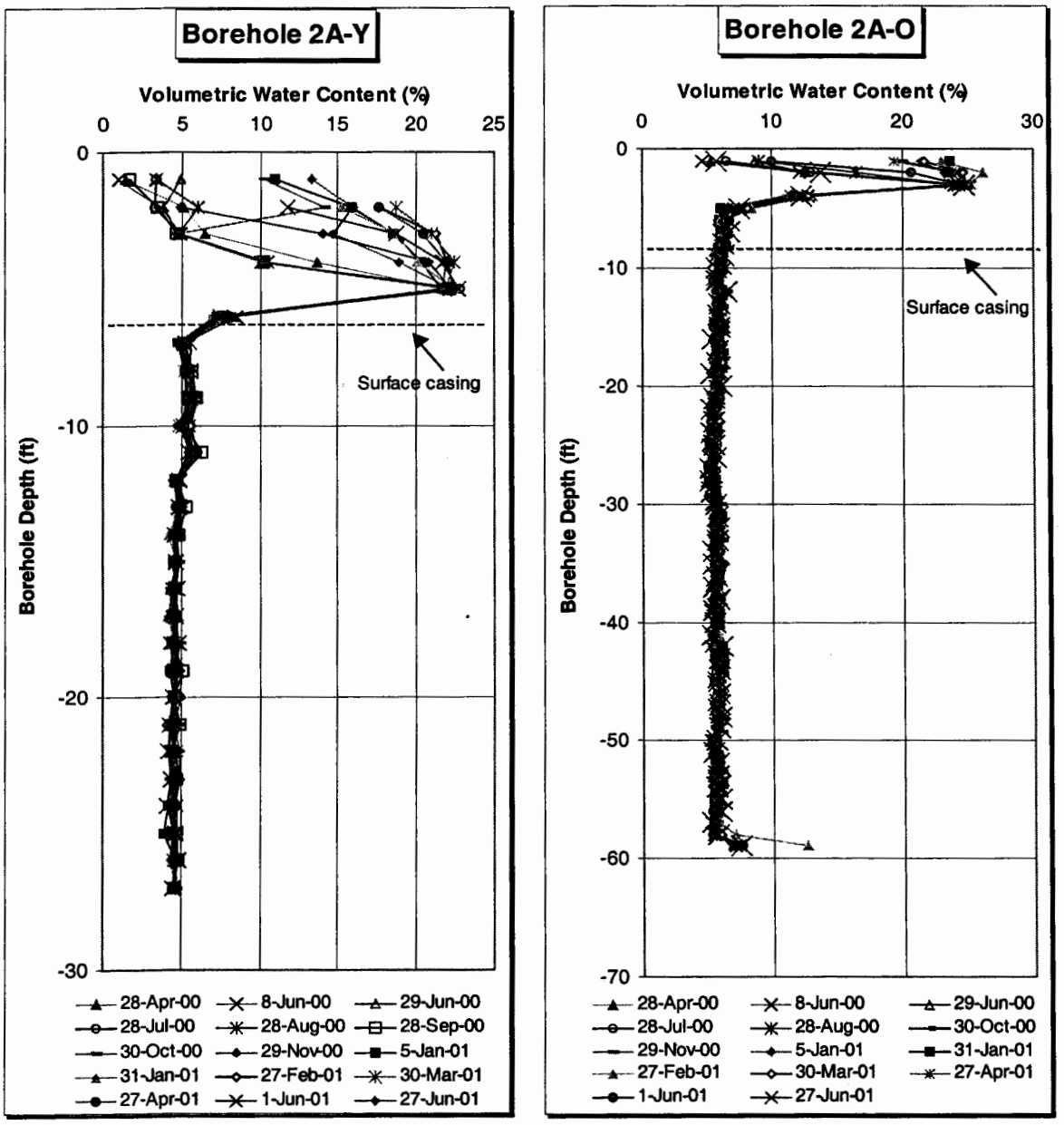

Figure A-4. Neutron probe moisture measurements boreholes 2A-Y and 2A-O

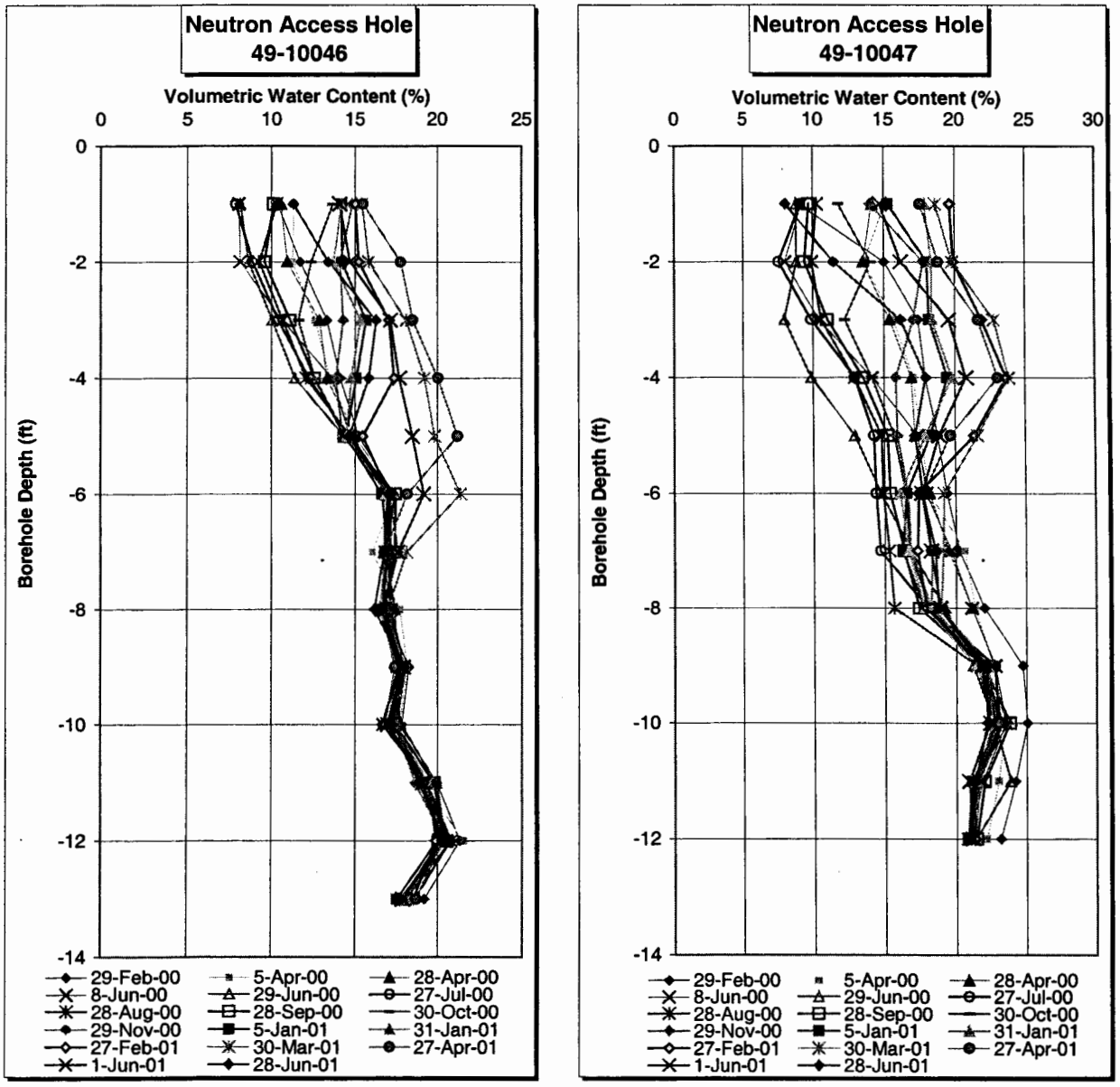

Figure A-5. Neutron probe moisture measurements for neutron access holes 49-10046 and 49-10047

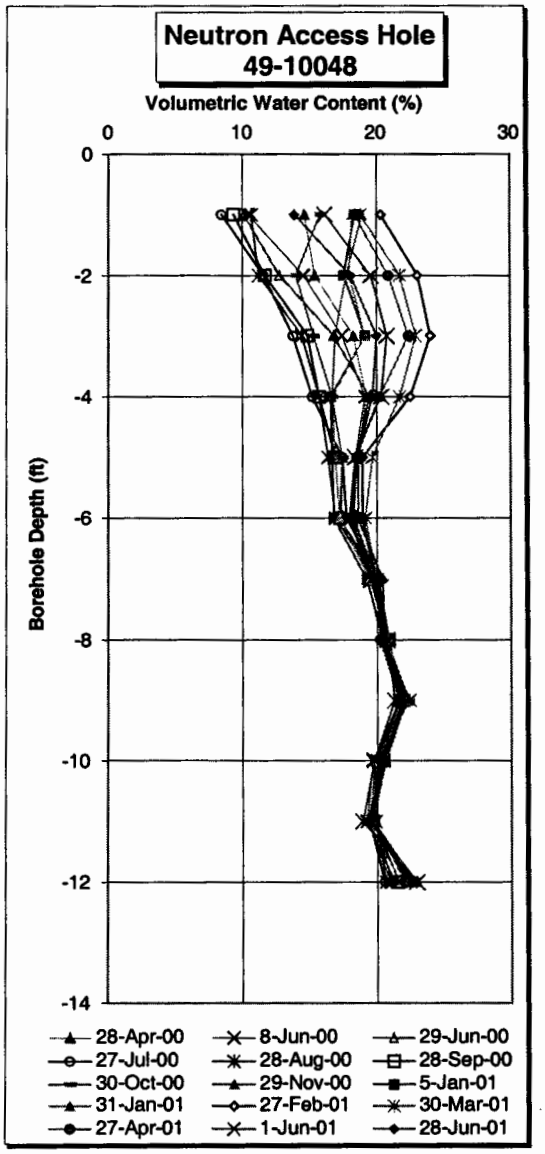

Figure A-6. Neutron probe moisture measurements for neutron access hole 49-10048

APPENDIX B TIME VERSUS MOISTURE CONTENT PLOTS

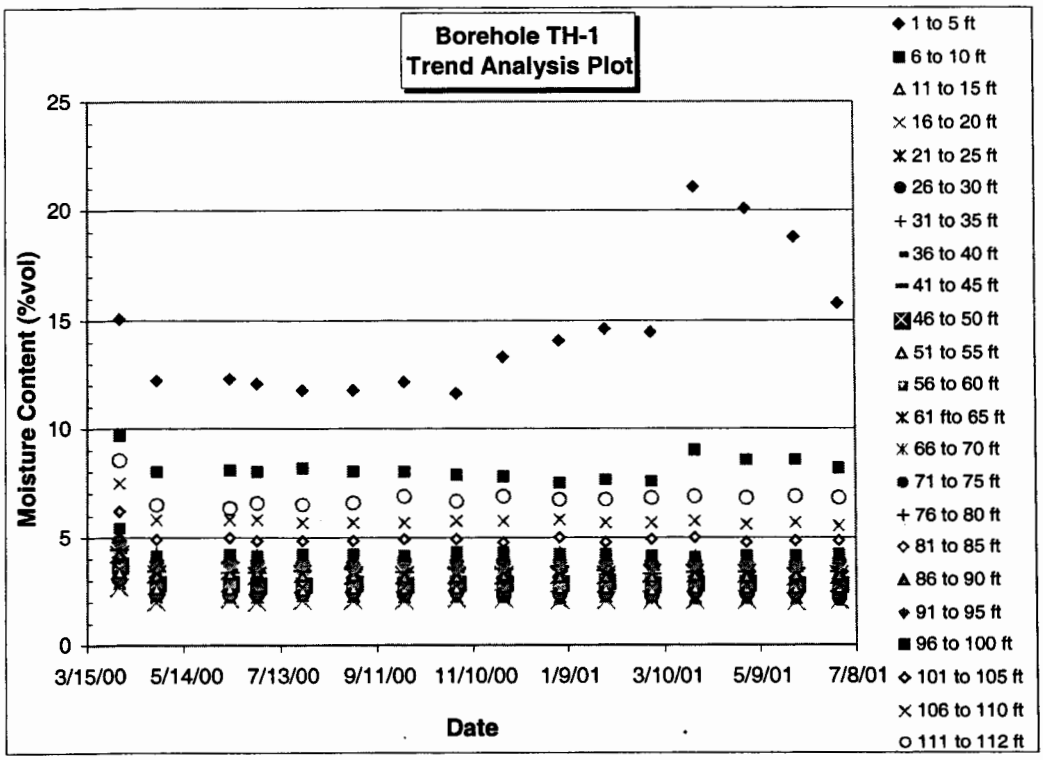

Figure B-1. Trend plot of neutron moisture measurements, borehole TH-1

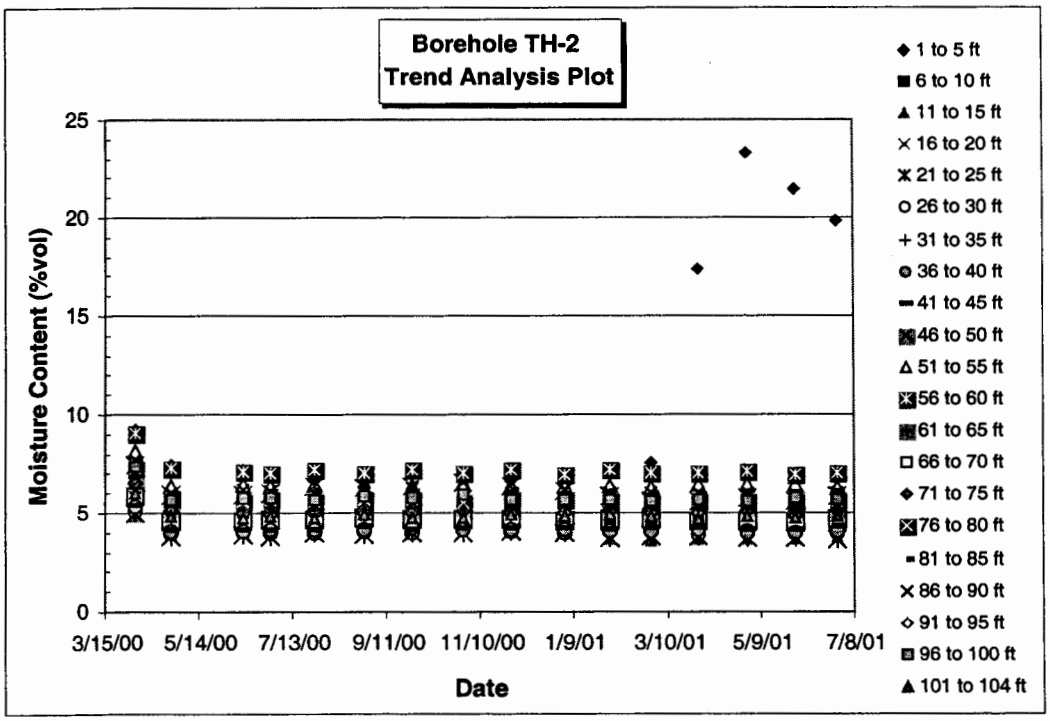

Figure B-2. Trend plot of neutron moisture measurements, borehole TH-2

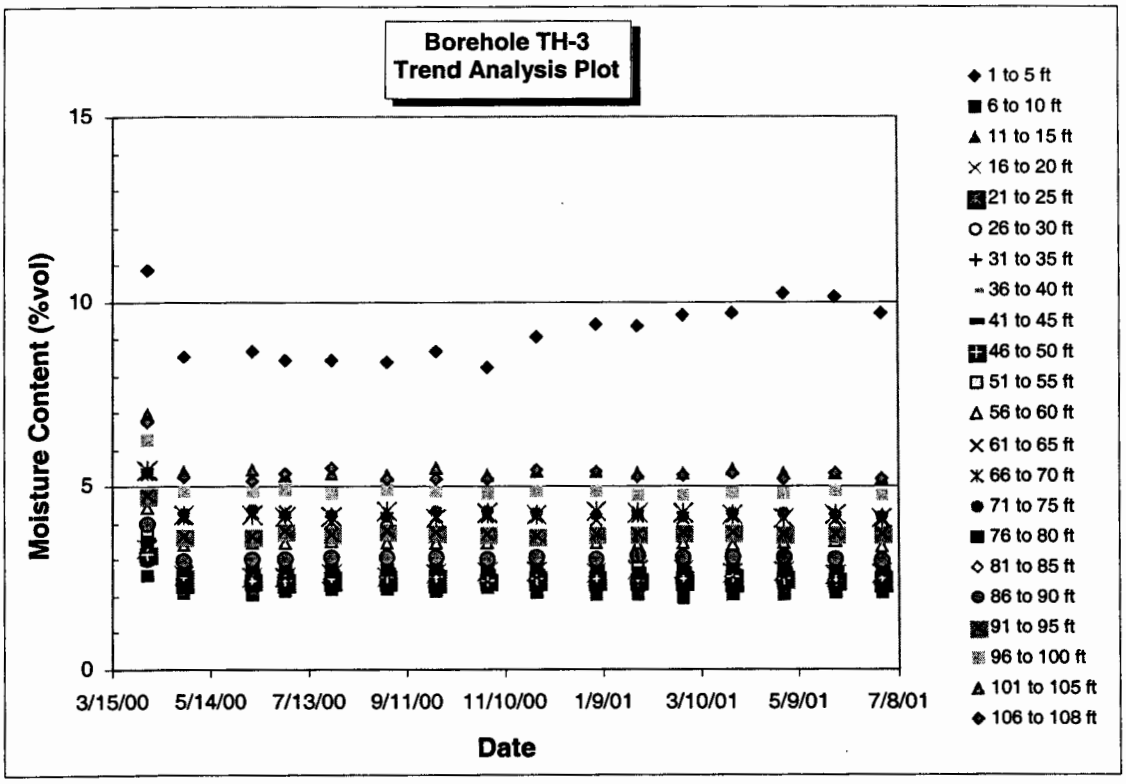

Figure B-3. Trend plot of neutron moisture measurements, borehole TH-3

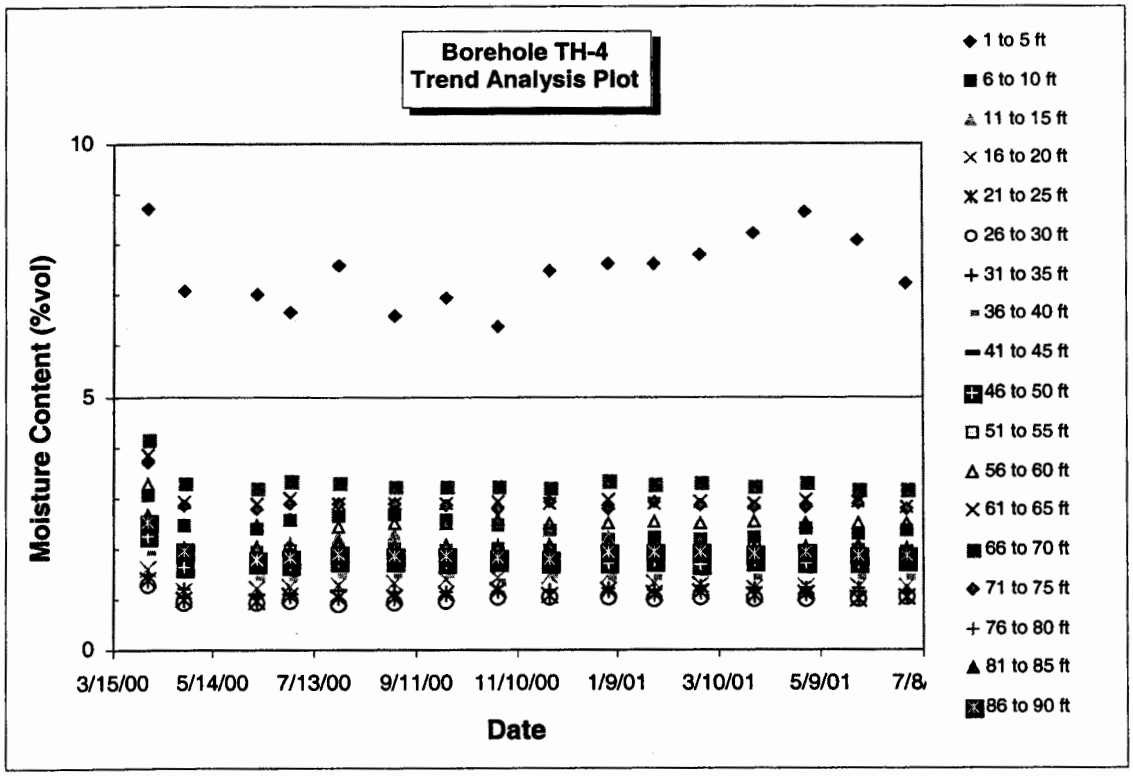

Figure B-4. Trend plot of neutron moisture measurements, borehole TH-4

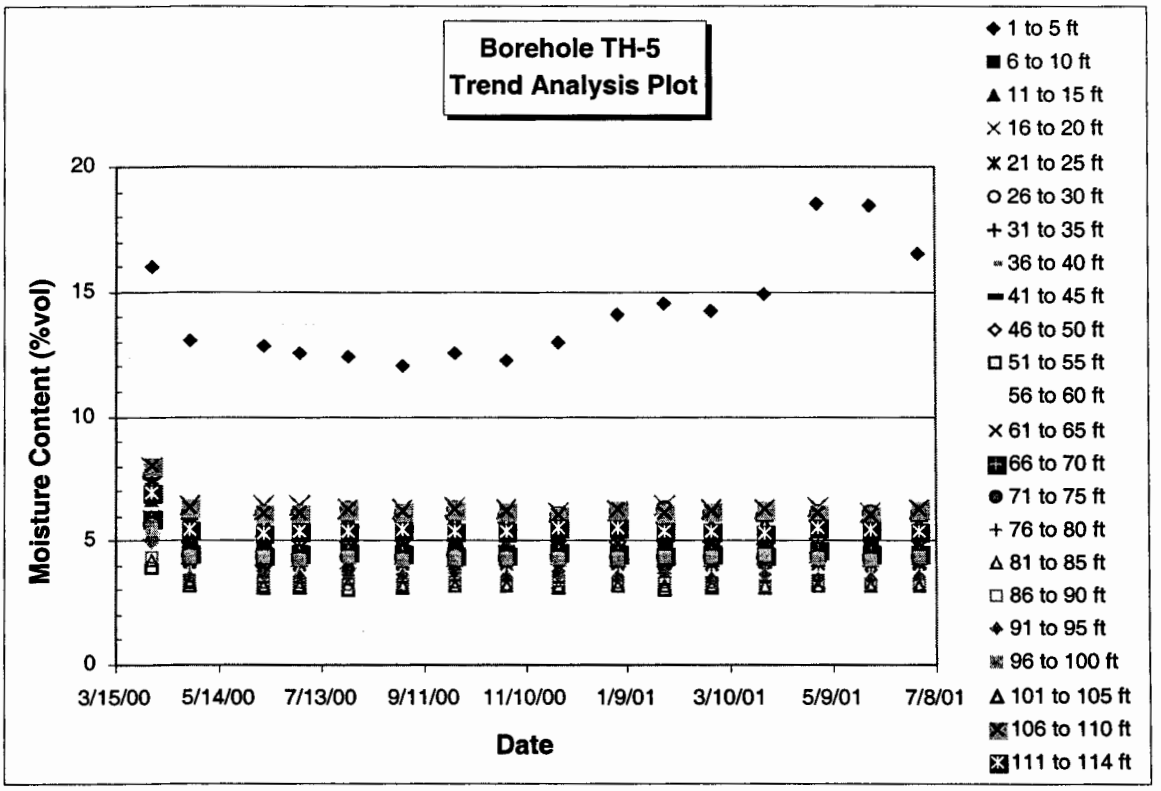

Figure B-5. Trend plot of neutron moisture measurements, borehole TH-5

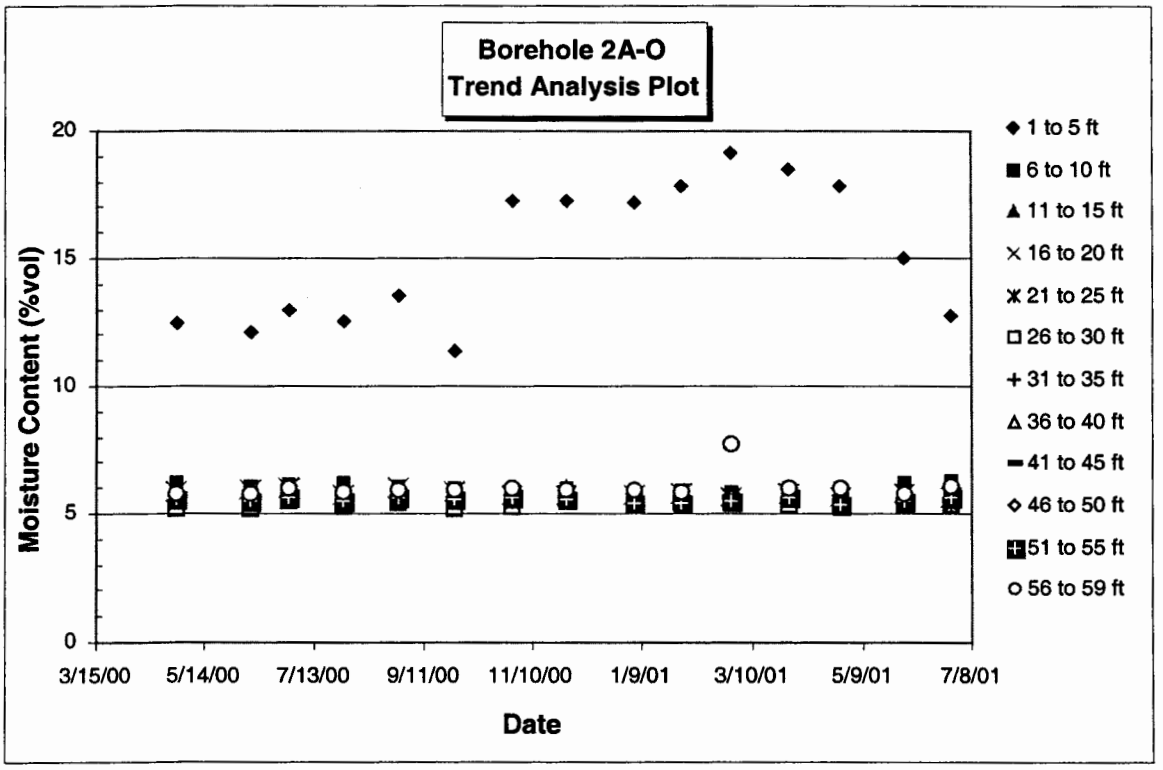

Figure B-6. Trend plot of neutron moisture measurements, borehole 2A-O

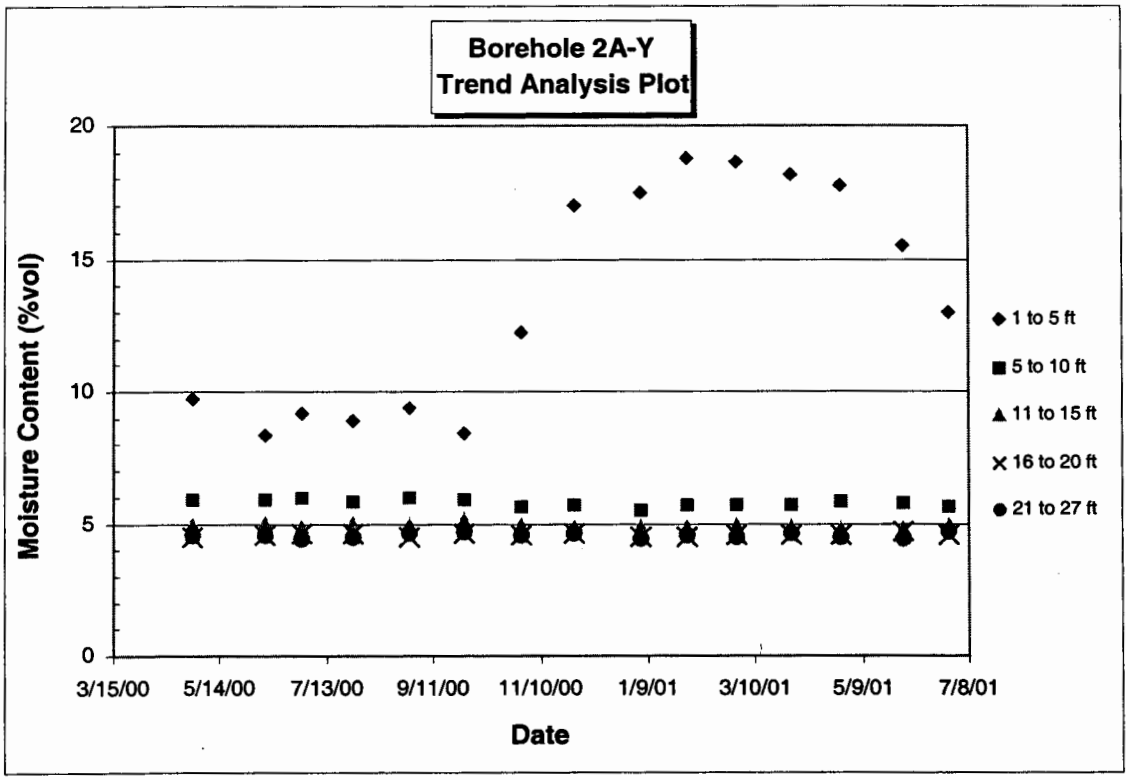

Figure B-7. Trend plot of neutron moisture measurements, borehole 2A-Y.

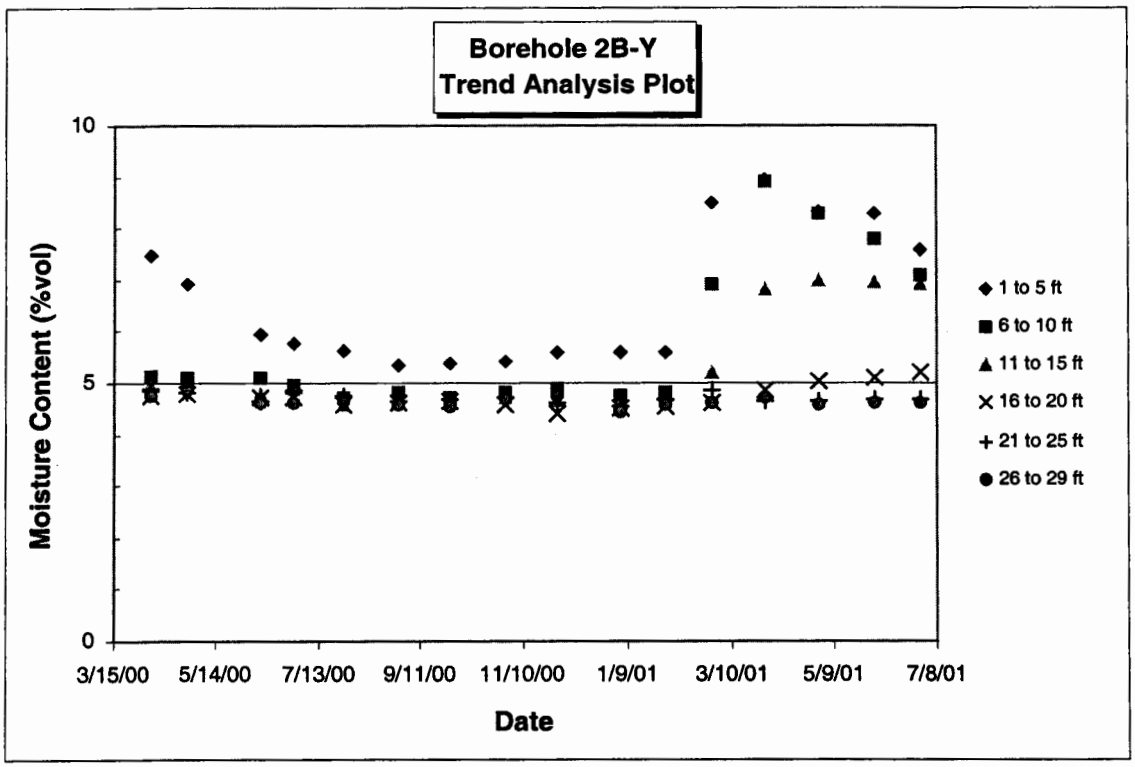

Figure B-8. Trend plot of neutron moisture measurements, borehole 2B-Y

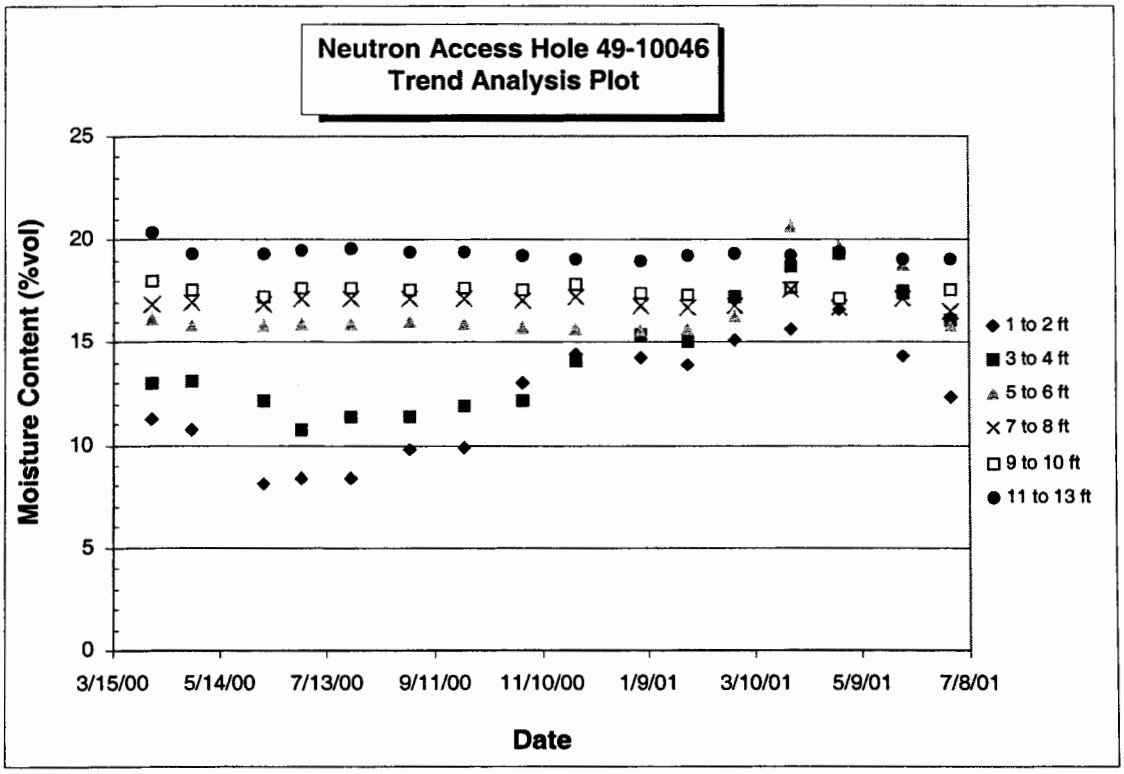

Figure B-9. Trend plot of neutron moisture measurements, neutron access hole 49-10046

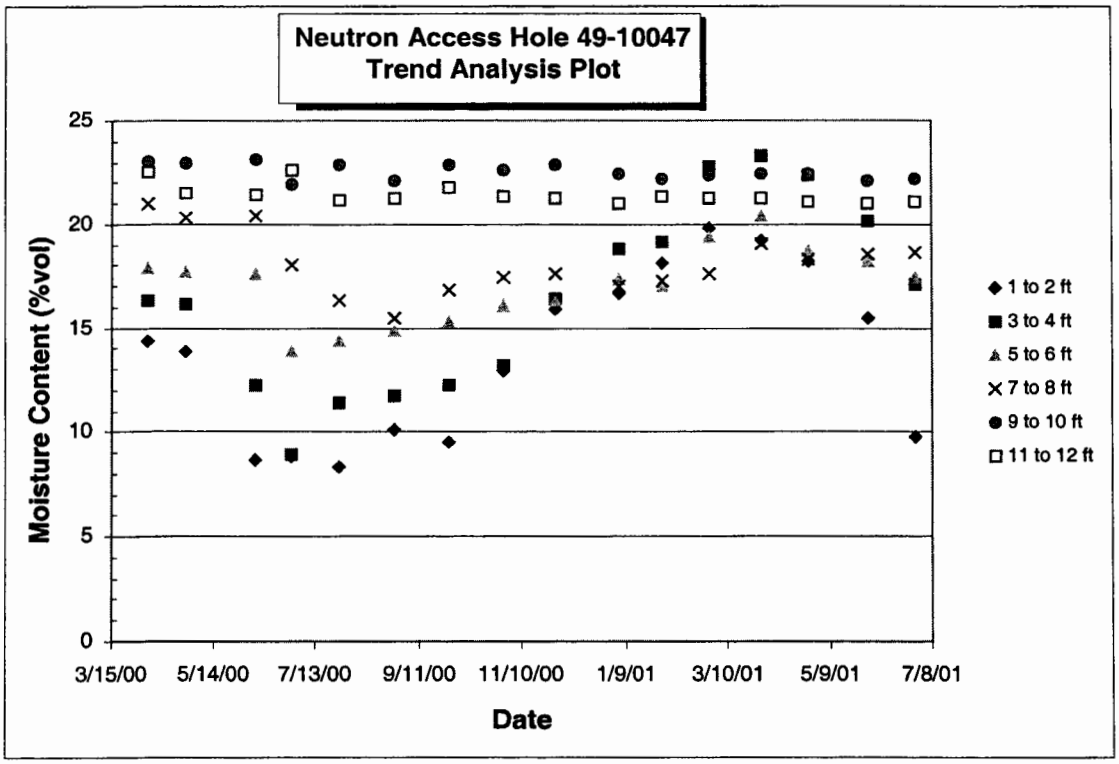

Figure B-10. Trend plot of neutron moisture measurements, neutron access hole 49-10047

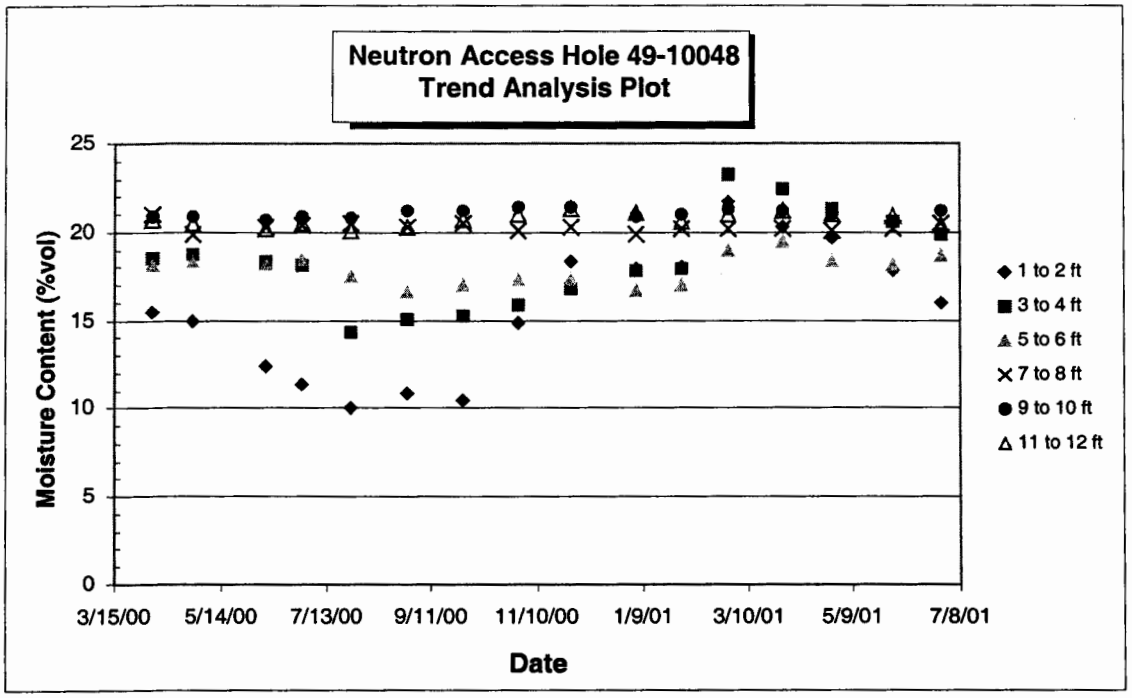

Figure B-11. Trend plot of neutron moisture measurements, neutron access hole 49-10048

Appendix C

Quarterly Pore-Gas Sampling at Technical Area 54
Material Disposal Areas L and G,
and Technical Area 50, Borehole 50-9100
Third Quarter, Fiscal Year 2001

QUARTERLY PORE-GAS SAMPLING AT TECHNICAL AREA 54, MATERIAL DISPOSAL AREAS L AND G, AND TECHNICAL AREA 50, BOREHOLE 50-9100 THIRD QUARTER FISCAL YEAR 2001

MDA Focus Area
Environmental Restoration Project
Los Alamos National Laboratory

August 2001

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1. INTRODUCTION

This report discusses second-quarter and third-quarter subsurface pore-gas sampling at Los Alamos National Laboratory (the Laboratory), Technical Areas (TAs) 54 and 50. 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, 1585). 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, 7669). Monitoring at TA-50 is being performed to gather RFI data.

1.1 Sampling Plan Requirements

Twenty-eight Environmental Restoration (ER) Project wells are available for pore-gas sampling at TA-54. The sampling and analysis plan requires the collection of samples from 12 wells each quarter. These 12 samples are collected for analysis of volatile organic compounds (VOCs). Of these 12 samples, seven are to be selected from a list of 10 wells located at Material Disposal Area (MDA) L, and two are to be selected from a list of four wells located at MDA G. Thus, nine of the 12 samples collected each quarter are constrained to a defined set of 14 wells. This leaves three samples per quarter that may be distributed among the remaining 14 available ER Project 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 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. Table 4 in Appendix F of the fourth-quarter report for Fiscal Year (FY) 2000 (Environmental Restoration Project 2000, 70064) lists the reasons for selecting ports to be sampled during FY 2001.

Before the required sampling is performed, all available wells (ER Project wells and PAMG wells) are screened with the Brüel and Kjaer multigas monitor, Type 1302. Each port is purged and monitored with field instruments until CO_2 levels have stabilized at values representative of subsurface pore-gas conditions and is then screened for four VOCs (1,1,1-trichloroethane, trichloroethene, perchloroethene, and Freon-11).

Three types of field quality assurance (QA) samples are collected and analyzed. These three samples include a duplicate sample, 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 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 three-fold:

- 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.

The purpose of pore-gas sampling at TA-50 is to gather data on the nature and extent of a potential VOC plume.

2.0 SECOND-QUARTER SAMPLING

2.1 Sampling Event

Sampling for the second quarter of FY 2001 (January through March) was not conducted until the period from February 26 to March 30 because access was limited by snow and mud. Analytical results for that quarter were therefore not available for the second-quarter report and are discussed here.

Table 2-1 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 in accordance with the approved sampling plan. Eight wells at MDA L were sampled, two of the MDA G wells were sampled, and two samples were taken from PAMG wells. Two samples were also taken from well 50-9100. The three QA samples (field duplicate, equipment blank, and performance evaluation) were collected as planned. In total, 17 samples were collected for laboratory analysis.

2.2 Sampling Results

Field-screening results for the second quarter are available on request. Analytical results are reported in Appendix A. The following issues were noted:

- Results for Freon 11 and m&p-xylene were above the laboratory control standard. The results are therefore qualified as estimated and biased high (J+).
- The continuing calibration standard for n-butanol and ethanol exceeded the method-required percent difference of 30%. All results and/or reporting limits are qualified as estimated (UJ/J).
- Results for several compounds were above the equipment blank sample. The individual sample results for these compounds might be slightly elevated because of the equipment blank results. Therefore, the results are biased high.
- The result for vinyl acetate was below the laboratory control standard. The reporting limits are therefore qualified as estimated (UJ).

Table 2-1 Summary of Sampling Event, Second Quarter of FY 2001

Well ID	Site	On Defined Sampling List (Y/N)	Number of Ports Screened	Depths of Screened Ports (ft)	Depth of Port Sampled (ft)	Sample ID
54-1015	MDA L	N	7	45, 187, 350, 385, 435, 485, 525	—[a]	n/a[b]
54-1016	MDA L	Y	7	36, 188, 318, 390, 481, 533, 601	390	MD54-01-0090
54-1018	MDA L	N	n/a	Well needs repair[c]	—	n/a
54-1107	PAMG	N	n/a	Well needs repair[c]	—	n/a
54-1111	PAMG	N	7	20, 40, 50, 70, 78, 100, 139	—	n/a
54-1117	PAMG	Y	6	20, 32, 55, 73, 82, 85	20	MD54-01-0103
54-1121	PAMG	Y	7	20, 26, 62, 70, 76, 98, 121	76	MD54-01-0102
54-2002	MDA L	Y	10	20, 40, 60, 80, 100, 120, 140, 157, 180, 200	180	MD54-01-0094
54-2009	MDA G	Y	4	37, 62, 79, 92	62	MD54-01-0098
54-2010	MDA G	N	3	30, 53, 95	—	n/a
54-2012	MDA L	Y	3	8, 28, 42	28	MD54-01-0096
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	3	18, 31, 82	—	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	MD54-01-0097
54-2022	MDA L	Y	10	20, 40, 60, 80, 100, 120, 140, 160, 180, 200	80	MD54-01-0099
54-2023	MDA L	N	9	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	5	20, 60, 100, 160, 180	—	n/a
54-2026	MDA L	Y	6	20, 60, 100, 160, 200, 215	160	MD54-01-0093
54-2027	MDA L	N	6	20, 60, 100, 160, 200, 220	—	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	100	MD54-01-0092
54-2030	MDA L	N	7	20, 60, 100, 160, 200, 220, 243	—	n/a
54-2031	MDA L	Y	7	20, 60, 100, 160, 200, 220, 260	100	MD54-01-0095
54-2032	MDA G	Y	5	20, 60, 100, 130, 156	156	MD54-01-0091
54-2033	MDA G	N	8	20, 60, 100, 160, 200, 220, 260, 277	—	n/a
54-2034	MDA L	N	7	20, 40, 60, 80, 100, 160, 200, 220, 260	—	n/a
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	—	n/a
50-9100	MDA C	Y Y	10	20, 50, 90, 103, 129, 160, 200, 233, 260, 315	20 and 200	MD50-01-0001 and MD50-01-0002
Total wells sampled					13	
MDA L defined list wells sampled (7 expected)					8	
MDA G defined list wells sampled (2 expected)					2	
PAMG wells sampled					2	
QA samples taken					1 field duplicate 1 performance evaluation 1 equipment blank	

[a] A dash indicates that the port was not sampled.

[b] n/a = not applicable.

[c] This well has been taken out of service because of failure of positive pressure membranes or irreparable damage to ports.

3.0 THIRD-QUARTER SAMPLING

3.1 Sampling Event

Sampling for the third quarter of FY 2001 (April through June 2001) was conducted during the period from April 18 to May 9, 2001. Table 3-1 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 as planned in accordance with the approved sampling plan (Glatzmaier 1993, 30987). Eight wells at MDA L were sampled, two of the MDA G wells were sampled, and two samples were taken from the PAMG wells. Two samples were also taken from well 50-9100. The three QA samples (field duplicate, equipment blank, and performance evaluation) were collected as planned. In total, 17 samples were collected for laboratory analysis.

3.2 Sampling Results

Field-screening results for the second quarter are available on request. Analytical results are reported in Appendix B. The following issues were noted:

- Results for Freon 11 were above the laboratory control standard. The results are therefore qualified as estimated and biased high (J+).
- The continuing calibration standard for n-butanol and ethanol exceeded the method-required percent difference of 30%. All results and/or reporting limits are qualified as estimated (UJ/J).
- Results for several compounds were above the equipment blank sample. The individual sample results for these compounds might be slightly elevated because of the equipment blank results. Therefore, the results are biased high.

Table 3-1 Summary of Sampling Event, Third Quarter of FY 2001

Well ID	Site	On Defined Sampling List (Y/N)	Number of Ports Screened	Depths of Screened Ports (ft)	Depth of Port Sampled (ft)	Sample ID
54-1015	MDA L	Y	7	45, 187, 350, 385, 435, 485, 525	385	MD54-01-0130
54-1016	MDA L	N	7	36, 188, 318, 390, 481, 533, 601	—[a]	n/a[b]
54-1018	MDA L	N	n/a	Well needs repair[c]	—	n/a
54-1107	PAMG	N	n/a	Well needs repair[c]	—	n/a
54-1111	PAMG	N	7	20, 40, 50, 70, 78, 100, 139	—	n/a
54-1117	PAMG	N	6	20, 32, 55, 73, 82, 85	—	n/a
54-1121	PAMG	Y	7	20, 26, 62, 70, 76, 98, 121	121	MD54-01-0134
54-2002	MDA L	Y	10	20, 40, 60, 80, 100, 120, 140, 157, 180, 200	100	MD54-01-0133
54-2009	MDA G	Y	4	37, 62, 79, 92	62	MD54-01-0129
54-2010	MDA G	N	3	30, 53, 95	—	n/a
54-2012	MDA L	N	3	8, 28, 42	—	n/a
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	3	18, 31, 82	—	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	MD54-01-0135
54-2022	MDA L	N	10	20, 40, 60, 80, 100, 120, 140, 160, 180, 200	—	n/a
54-2023	MDA L	Y	9	20, 40, 60, 80, 100, 120, 140, 159, 180, 200	159	MD540-10-127
54-2024	MDA L	N	10	20, 40, 60, 80, 100, 120, 140, 160, 180, 200	—	n/a
54-2025	MDA L	N	5	20, 60, 100, 160, 180	—	n/a
54-2026	MDA L	Y	6	20, 60, 100, 160, 200, 215	160	MD54-01-0125
54-2027	MDA L	N	6	20, 60, 100, 160, 200, 220	—	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	100	MD54-01-0123
54-2030	MDA L	Y	7	20, 60, 100, 160, 200, 220, 243	100	MD54-01-0126
54-2031	MDA L	N	7	20, 60, 100, 160, 200, 220, 260	—	n/a
54-2032	MDA G	N	5	20, 60, 100, 130, 156	—	n/a
54-2033	MDA G	Y	8	20, 60, 100, 160, 200, 220, 260, 277	100	MD54-01-0128
54-2034	MDA L	Y	7	20, 40, 60, 80, 100, 160, 200, 220, 260	60	MD54-01-0124
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	—	n/a
54-HorCtr	PAMG	Y	15	n/a	190[d]	MD54-01-0138
50-9100	MDA C	Y Y	10	20, 50, 90, 103, 129, 160, 200, 233, 260, 315	120 and 260	MD50-01-0131 and MD50-01-0132
Total wells sampled					13	
MDA L defined list wells sampled (7 expected)					8	
MDA G defined list wells sampled (2 expected)					2	
PAMG wells sampled					2	
QA samples taken					1 field duplicate 1 equipment blank 1 performance evaluation	

[a] A dash indicates that the port was not sampled.

[b] n/a = not applicable.

[c] This well has been taken out of service because of failure of positive pressure membranes or irreparable damage to ports.

[d] Distance in from wellhead.

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APPENDIX A SECOND-QUARTER ANALYTICAL RESULTS FOR FISCAL YEAR 2001

Well:	**54-1016, MDA L**
Depth:	**390 ft**
Date:	**3/15/01**
Sample ID:	**MD54-01-0090**

CAS* Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.0011	0.00082
75-35-4	Dichloroethene[1,1-]	0.0034	0.00082
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.0015	0.00082
75-09-2	Methylene chloride	0.0012	0.00082
71-55-6	Trichloroethane[1,1,1-]	0.0072	0.00082
79-01-6	Trichloroethene	0.0036	0.00082
127-18-4	Tetrachloroethene	0.00095	0.00082
67-64-1	Acetone	0.0042	0.0033

Well:	**54-2032, MDA G**
Depth:	**156 ft**
Date:	**3/16/01**
Sample ID:	**MD54-01-0091**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.051	0.034
75-35-4	Dichloroethene[1,1-]	2	0.034
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.07	0.034
75-34-3	Dichloroethane[1,1-]	0.92	0.034
71-55-6	Trichloroethane[1,1,1-]	9.9	0.034
79-01-6	Trichloroethene	0.16	0.034
127-18-4	Tetrachloroethene	0.51	0.034

* CAS = Chemical Abstract Service (number).

Well:	**54-2029, MDA L**		
Depth:	**100 ft**		
Date:	**3/16/01**		
Sample ID:	**MD54-01-0092**		
CAS Analyte Code	**Compound Analyte Code Description**	**Result (ppmv)**	**Reporting Limit (ppmv)**
75-71-8	Dichlorodifluoromethane	0.014	0.0043
75-69-4	Trichlorofluoromethane	0.042	0.0043
75-35-4	Dichloroethene[1,1-]	0.04	0.0043
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.23	0.0043
75-09-2	Methylene chloride	0.0061	0.0043
75-34-3	Dichloroethane[1,1-]	0.0074	0.0043
67-66-3	Chloroform	0.026	0.0043
71-55-6	Trichloroethane[1,1,1-]	1.1	0.0043
56-23-5	Carbon tetrachloride	0.0077	0.0043
79-01-6	Trichloroethene	0.2	0.0043
127-18-4	Tetrachloroethene	0.018	0.0043

Well:	**54-2026, MDA L**		
Depth:	**160 ft**		
Date:	**3/19/01**		
Sample ID:	**MD54-01-0093**		
CAS Analyte Code	**Compound Analyte Code Description**	**Result (ppmv)**	**Reporting Limit (ppmv)**
75-71-8	Dichlorodifluoromethane	0.042	0.017
75-69-4	Trichlorofluoromethane	0.13	0.017
75-35-4	Dichloroethene[1,1-]	0.16	0.017
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.69	0.017
75-09-2	Methylene chloride	0.044	0.017
67-66-3	Chloroform	0.075	0.017
71-55-6	Trichloroethane[1,1,1-]	2.7	0.017
56-23-5	Carbon tetrachloride	0.022	0.017
79-01-6	Trichloroethene	0.52	0.017
127-18-4	Tetrachloroethene	0.056	0.017

Well:	**54-2002, MDA L**
Depth:	**180 ft**
Date:	**3/19/01**
Sample ID:	**MD54-01-0094**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-69-4	Trichlorofluoromethane	15	1.6
75-35-4	Dichloroethene[1,1-]	6.8	1.6
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	35	1.6
75-09-2	Methylene chloride	23	1.6
75-34-3	Dichloroethane[1,1-]	4	1.6
67-66-3	Chloroform	7.7	1.6
71-55-6	Trichloroethane[1,1,1-]	260	1.6
107-06-2	Dichloroethane[1,2-]	7.2	1.6
79-01-6	Trichloroethene	59	1.6
78-87-5	1,2-Dichloropropane	9.6	1.6
108-88-3	Toluene	3.7	1.6
127-18-4	Tetrachloroethene	5.2	1.6

Well:	**54-2031, MDA L**
Depth:	**100 ft**
Date:	**3/19/01**
Sample ID:	**MD54-01-0095**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.0019	0.00084
75-69-4	Trichlorofluoromethane	0.0026	0.00084
75-35-4	Dichloroethene[1,1-]	0.0068	0.00084
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.014	0.00084
75-09-2	Methylene chloride	0.0032	0.00084
75-34-3	Dichloroethane[1,1-]	0.0045	0.00084
67-66-3	Chloroform	0.0025	0.00084
71-55-6	Trichloroethane[1,1,1-]	0.26	0.00084
56-23-5	Carbon tetrachloride	0.00086	0.00084
107-06-2	Dichloroethane[1,2-]	0.0024	0.00084
79-01-6	Trichloroethene	0.055	0.00084
127-18-4	Tetrachloroethene	0.0067	0.00084

Well:	**54-2012, MDA L**
Depth:	**28 ft**
Date:	**3/20/01**
Sample ID:	**MD54-01-0096**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	8.7	6.6
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	14	6.6
75-09-2	Methylene chloride	63	6.6
75-34-3	Dichloroethane[1,1-]	71	6.6
71-55-6	Trichloroethane[1,1,1-]	2200	6.6
107-06-2	Dichloroethane[1,2-]	240	6.6
79-01-6	Trichloroethene	660	6.6
78-87-5	1,2-Dichloropropane	20	6.6
108-88-3	Toluene	13	6.6
127-18-4	Tetrachloroethene	48	6.6
67-63-0	Propanol[2-]	48	26

Well:	**54-2021, MDA L**
Depth:	**100 ft**
Date:	**3/20/01**
Sample ID:	**MD54-01-0097**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.33	0.17
75-69-4	Trichlorofluoromethane	0.23	0.17
75-35-4	Dichloroethene[1,1-]	0.69	0.17
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.79	0.17
75-09-2	Methylene chloride	0.99	0.17
75-34-3	Dichloroethane[1,1-]	1.2	0.17
67-66-3	Chloroform	0.24	0.17
71-55-6	Trichloroethane[1,1,1-]	58	0.17
107-06-2	Dichloroethane[1,2-]	1.2	0.17
79-01-6	Trichloroethene	12	0.17
127-18-4	Tetrachloroethene	0.64	0.17

Well:	**54-2009, MDA G**
Depth:	**62 ft**
Date:	**3/16/01**
Sample ID:	**MD54-01-0098**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	2.8	0.36
75-34-3	Dichloroethane[1,1-]	2.5	0.36
71-55-6	Trichloroethane[1,1,1-]	74	0.36
127-18-4	Tetrachloroethene	0.57	0.36

Well:	**54-2022, MDA L**
Depth:	**80 ft**
Date:	**3/22/01**
Sample ID:	**MD54-01-0099**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.39	0.34
75-35-4	Dichloroethene[1,1-]	0.95	0.34
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.88	0.34
75-09-2	Methylene chloride	1.5	0.34
75-34-3	Dichloroethane[1,1-]	2.4	0.34
67-66-3	Chloroform	0.37	0.34
71-55-6	Trichloroethane[1,1,1-]	110	0.34
107-06-2	Dichloroethane[1,2-]	2.2	0.34
79-01-6	Trichloroethene	23	0.34
78-87-5	1,2-Dichloropropane	0.34	0.34
127-18-4	Tetrachloroethene	1.1	0.34

Well:	**Equipment Blank**
Depth:	**n/a**
Date:	**3/22/01**
Sample ID:	**MD54-01-0100**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-09-2	Methylene chloride	0.00086	0.00082
71-55-6	Trichloroethane[1,1,1-]	0.023	0.00082
79-01-6	Trichloroethene	0.0088	0.00082
127-18-4	Tetrachloroethene	0.0025	0.00082

Well:	**Calibration Gas**
Depth:	**n/a**
Date:	**3/23/01**
Sample ID:	**MD54-01-0101**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
71-55-6	Trichloroethane[1,1,1-]	43	0.16
79-01-6	Trichloroethene	6.7	0.16
127-18-4	Tetrachloroethene	3.2	0.16

Well:	**54-1121, PAMG**
Depth:	**76 ft**
Date:	**3/23/01**
Sample ID:	**MD54-01-0102**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	4.8	0.17
75-34-3	Dichloroethane[1,1-]	2.6	0.17
71-55-6	Trichloroethane[1,1,1-]	40	0.17
79-01-6	Trichloroethene	1.2	0.17
127-18-4	Tetrachloroethene	0.51	0.17

Well:	**54-1117, PAMG**
Depth:	**20 ft**
Date:	**3/23/01**
Sample ID:	**MD54-01-0103**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	0.69	0.17
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.77	0.17
75-34-3	Dichloroethane[1,1-]	1	0.17
71-55-6	Trichloroethane[1,1,1-]	51	0.17
79-01-6	Trichloroethene	1.2	0.17
127-18-4	Tetrachloroethene	0.23	0.17

Well:	**54-1117 Duplicate, PAMG**
Depth:	**20 ft**
Date:	**3/23/01**
Sample ID:	**MD54-01-0104**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	0.68	0.17
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.84	0.17
75-34-3	Dichloroethane[1,1-]	1.1	0.17
71-55-6	Trichloroethane[1,1,1-]	52	0.17
79-01-6	Trichloroethene	1.3	0.17
127-18-4	Tetrachloroethene	0.18	0.17

Well:	**50-9100, MDA C**
Depth:	**20 ft**
Date:	**3/26/01**
Sample ID:	**MD50-01-0001**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.11	0.0068
75-69-4	Trichlorofluoromethane	0.0083	0.0068
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.26	0.0068
156-59-2	Dichloroethane[cis-1,2-]	0.018	0.0068
67-66-3	Chloroform	0.13	0.0068
71-55-6	Trichloroethane[1,1,1-]	0.052	0.0068
56-23-5	Carbon tetrachloride	0.023	0.0068
79-01-6	Trichloroethene	1.6	0.0068
127-18-4	Tetrachloroethene	0.07	0.0068
75-45-6	Chlorodifluoromethane	0.049	0.027

Well:	**50-9100, MDA C**		
Depth:	**200 ft**		
Date:	**3/26/01**		
Sample ID:	**MD50-01-0002**		
CAS Analyte Code	**Compound Analyte Code Description**	**Result (ppmv)**	**Reporting Limit (ppmv)**
75-71-8	Dichlorodifluoromethane	0.2	0.042
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.19	0.042
75-09-2	Methylene chloride	0.27	0.042
156-59-2	Dichloroethane[cis-1,2-]	0.1	0.042
67-66-3	Chloroform	0.3	0.042
71-55-6	Trichloroethane[1,1,1-]	0.062	0.042
56-23-5	Carbon tetrachloride	0.1	0.042
79-01-6	Trichloroethene	9.1	0.042
127-18-4	Tetrachloroethene	0.27	0.042

APPENDIX B THIRD-QUARTER ANALYTICAL RESULTS FOR FISCAL YEAR 2001

Well:	**54-2029, MDA L**
Depth:	**100 ft**
Date:	**4/18/01**
Sample ID:	**MD54-01-0123**

CAS* Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.014	0.0033
75-69-4	Trichlorofluoromethane	0.046	0.0033
75-35-4	Dichloroethene[1,1-]	0.039	0.0033
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.24	0.0033
75-09-2	Methylene chloride	0.0046	0.0033
75-34-3	Dichloroethane[1,1-]	0.0064	0.0033
67-66-3	Chloroform	0.025	0.0033
71-55-6	Trichloroethane[1,1,1-]	0.89	0.0033
56-23-5	Carbon tetrachloride	0.0071	0.0033
79-01-6	Trichloroethene	0.2	0.0033
127-18-4	Tetrachloroethene	0.021	0.0033

Well:	**54-2034, MDA L**
Depth:	**60 ft**
Date:	**4/18/01**
Sample ID:	**MD54-01-0124**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.033	0.017
75-69-4	Trichlorofluoromethane	0.04	0.017
75-35-4	Dichloroethene[1,1-]	0.078	0.017
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.062	0.017
75-09-2	Methylene chloride	0.034	0.017
75-34-3	Dichloroethane[1,1-]	0.071	0.017
67-66-3	Chloroform	0.022	0.017
71-55-6	Trichloroethane[1,1,1-]	4.1	0.017
107-06-2	Dichloroethane[1,2-]	0.028	0.017
79-01-6	Trichloroethene	0.72	0.017
127-18-4	Tetrachloroethene	0.03	0.017

* CAS = Chemical Abstract Service (number).

Well:	**54-2026, MDA L**
Depth:	**160 ft**
Date:	**4/23/01**
Sample ID:	**MD54-01-0125**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.025	0.0034
75-69-4	Trichlorofluoromethane	0.071	0.0034
75-35-4	Dichloroethene[1,1-]	0.089	0.0034
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.34	0.0034
75-09-2	Methylene chloride	0.021	0.0034
75-34-3	Dichloroethane[1,1-]	0.0076	0.0034
67-66-3	Chloroform	0.033	0.0034
71-55-6	Trichloroethane[1,1,1-]	1.1	0.0034
56-23-5	Carbon tetrachloride	0.013	0.0034
79-01-6	Trichloroethene	0.26	0.0034
127-18-4	Tetrachloroethene	0.032	0.0034

Well:	**54-2030, MDA L**
Depth:	**100 ft**
Date:	**4/23/01**
Sample ID:	**MD54-01-0126**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.037	0.0068
75-69-4	Trichlorofluoromethane	0.12	0.0068
75-35-4	Dichloroethene[1,1-]	0.11	0.0068
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.61	0.0068
75-09-2	Methylene chloride	0.0073	0.0068
75-34-3	Dichloroethane[1,1-]	0.015	0.0068
67-66-3	Chloroform	0.09	0.0068
71-55-6	Trichloroethane[1,1,1-]	2.4	0.0068
56-23-5	Carbon tetrachloride	0.02	0.0068
79-01-6	Trichloroethene	0.5	0.0068
127-18-4	Tetrachloroethene	0.071	0.0068

Well:	**54-2023, MDA L**
Depth:	**159 ft**
Date:	**4/24/01**
Sample ID:	**MD54-01-0127**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.16	0.057
75-69-4	Trichlorofluoromethane	0.6	0.057
75-35-4	Dichloroethene[1,1-]	0.92	0.057
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	3.5	0.057
75-09-2	Methylene chloride	0.1	0.057
75-34-3	Dichloroethane[1,1-]	0.12	0.057
67-66-3	Chloroform	0.38	0.057
71-55-6	Trichloroethane[1,1,1-]	14	0.057
56-23-5	Carbon Tetrachloride	0.12	0.057
79-01-6	Trichloroethene	3.5	0.057
127-18-4	Tetrachloroethene	0.24	0.057

Well:	**54-2033, MDA G**
Depth:	**100 ft**
Date:	**4/24/01**
Sample ID:	**MD54-01-0128**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.036	0.00084
75-69-4	Trichlorofluoromethane	0.052	0.00084
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.015	0.00084
75-09-2	Methylene chloride	0.0015	0.00084
67-66-3	Chloroform	0.0011	0.00084
71-55-6	Trichloroethane[1,1,1-]	0.023	0.00084
79-01-6	Trichloroethene	0.002	0.00084
127-18-4	Tetrachloroethene	0.014	0.00084

Well:	**54-2009, MDA G**
Depth:	**62 ft**
Date:	**4/24/01**
Sample ID:	**MD54-01-0129**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	2.6	0.34
75-34-3	Dichloroethane[1,1-]	2.2	0.34
71-55-6	Trichloroethane[1,1,1-]	58	0.34
127-18-4	Tetrachloroethene	0.67	0.34

Well:	**54-1015, MDA L**
Depth:	**385 ft**
Date:	**4/25/01**
Sample ID:	**MD54-01-0130**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.0036	0.00086
75-69-4	Trichlorofluoromethane	0.0026	0.00086
75-35-4	Dichloroethene[1,1-]	0.013	0.00086
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.0071	0.00086
75-34-3	Dichloroethane[1,1-]	0.0015	0.00086
71-55-6	Trichloroethane[1,1,1-]	0.044	0.00086
79-01-6	Trichloroethene	0.0024	0.00086
127-18-4	Tetrachloroethene	0.0015	0.00086
67-64-1	Acetone	0.0038	0.0034

Well:	**50-9100, MDA C**
Depth:	**120 ft**
Date:	**4/25/01**
Sample ID:	**MD50-01-0131**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.2	0.037
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.27	0.037
75-09-2	Methylene chloride	0.11	0.037
156-59-2	Dichloroethane[cis-1,2-]	0.1	0.037
67-66-3	Chloroform	0.42	0.037
71-55-6	Trichloroethane[1,1,1-]	0.08	0.037
56-23-5	Carbon tetrachloride	0.1	0.037
79-01-6	Trichloroethene	7.6	0.037
127-18-4	Tetrachloroethene	0.28	0.037

Well:	**50-9100, MDA C**
Depth:	**260 ft**
Date:	**4/25/01**
Sample ID:	**MD50-01-0132**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.17	0.035
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.11	0.035
75-09-2	Methylene chloride	0.26	0.035
156-59-2	Dichloroethane[cis-1,2-]	0.088	0.035
67-66-3	Chloroform	0.2	0.035
56-23-5	Carbon tetrachloride	0.094	0.035
79-01-6	Trichloroethene	7.8	0.035
127-18-4	Tetrachloroethene	0.22	0.035

Well:	**54-2002, MDA L**
Depth:	**100 ft**
Date:	**4/30/01**
Sample ID:	**MD54-01-0133**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-69-4	Trichlorofluoromethane	22	1.8
75-35-4	Dichloroethene[1,1-]	7.7	1.8
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	53	1.8
75-09-2	Methylene chloride	25	1.8
75-34-3	Dichloroethane[1,1-]	6.1	1.8
67-66-3	Chloroform	9	1.8
71-55-6	Trichloroethane[1,1,1-]	330	1.8
107-06-2	Dichloroethane[1,2-]	8.6	1.8
79-01-6	Trichloroethene	77	1.8
78-87-5	1,2-Dichloropropane	13	1.8
108-88-3	Toluene	7.5	1.8
127-18-4	Tetrachloroethene	8	1.8
95-47-6	Xylene[m&p-]	2.6	1.8
67-63-0	Propanol[2-]	27	7.2

Well:	**54-1121, PAMG**
Depth:	**121 ft**
Date:	**4/30/01**
Sample ID:	**MD54-01-0134**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	8.1	0.18
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.2	0.18
75-34-3	Dichloroethane[1,1-]	3.6	0.18
71-55-6	Trichloroethane[1,1,1-]	44	0.18
79-01-6	Trichloroethene	2	0.18
127-18-4	Tetrachloroethene	0.76	0.18

Well:	**54-2021, MDA L**
Depth:	**100 ft**
Date:	**5/1/01**
Sample ID:	**MD54-01-0135**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.32	0.18
75-69-4	Trichlorofluoromethane	0.23	0.18
75-35-4	Dichloroethene[1,1-]	0.8	0.18
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.84	0.18
75-09-2	Methylene chloride	0.91	0.18
75-34-3	Dichloroethane[1,1-]	1.1	0.18
67-66-3	Chloroform	0.2	0.18
71-55-6	Trichloroethane[1,1,1-]	45	0.18
107-06-2	Dichloroethane[1,2-]	1	0.18
79-01-6	Trichloroethene	10	0.18
127-18-4	Tetrachloroethene	0.73	0.18

Well:	**54-2021 Duplicate, MDA L**
Depth:	**100 ft**
Date:	**5/1/01**
Sample ID:	**MD54-01-0136**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-71-8	Dichlorodifluoromethane	0.32	0.18
75-69-4	Trichlorofluoromethane	0.24	0.18
75-35-4	Dichloroethene[1,1-]	0.93	0.18
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.95	0.18
75-09-2	Methylene chloride	1	0.18
75-34-3	Dichloroethane[1,1-]	1.2	0.18
67-66-3	Chloroform	0.24	0.18
71-55-6	Trichloroethane[1,1,1-]	52	0.18
107-06-2	Dichloroethane[1,2-]	1.2	0.18
79-01-6	Trichloroethene	13	0.18
127-18-4	Tetrachloroethene	0.81	0.18

Well:	**Calibration Gas**
Depth:	**n/a**
Date:	**5/2/01**
Sample ID:	**MD54-01-0137**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
71-55-6	Trichloroethane[1,1,1-]	37	0.16
79-01-6	Trichloroethene	7.1	0.16
127-18-4	Tetrachloroethene	3.8	0.16

Well:	**54 Horizontal Well, PAMG (New available PAMG horizontal well)**
Depth:	**190 ft**
Date:	**5/2/01**
Sample ID:	**MD54-01-0138**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	8.7	1.8
75-09-2	Methylene chloride	2.4	1.8
75-34-3	Dichloroethane[1,1-]	15	1.8
71-55-6	Trichloroethane[1,1,1-]	340	1.8
79-01-6	Trichloroethene	2.9	1.8
127-18-4	Tetrachloroethene	5.1	1.8

Well:	**Equipment Blank**
Depth:	**n/a**
Date:	**5/2/01**
Sample ID:	**MD54-01-0139**

CAS Analyte Code	Compound Analyte Code Description	Result (ppmv)	Reporting Limit (ppmv)
75-35-4	Dichloroethene[1,1-]	0.0032	0.00088
75-34-3	Dichloroethane[1,1-]	0.0058	0.00088
71-55-6	Trichloroethane[1,1,1-]	0.16	0.00088
79-01-6	Trichloroethene	0.0032	0.00088
127-18-4	Tetrachloroethene	0.0066	0.00088

Appendix D

Groundwater Sampling Results,
Regional Wells CdV-R-15-3 and R-25
November and December 2000
and January 2001

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Table D-1
Regional Well CdV-R-15-3 Screen 4 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Field Parameter												
pH	4	1254	01/03/01	NF[e]	1	1	8.22	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	4	1254	01/03/01	NF	1	1	119	—	—	0/1	—	0/1
Temperature (°C)	4	1254	01/03/01	NF	1	1	14.2	—	—	0/1	—	0/1
Turbidity (NTU)[g]	4	1254	01/03/01	NF	1	1	1.6	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	4	1254	01/03/01	F[h]	1	1	60000	—	—	—	—	—
Aluminum	4	1254	01/03/01	F	1	0	—	[96]	50	0/1	5000	0/1
Aluminum	4	1254	01/03/01	NF	1	0	—	[140]	—	—	—	—
Antimony	4	1254	01/03/01	F	1	0	—	[0.24]	6	0/1	—	—
Antimony	4	1254	01/03/01	NF	1	0	—	[0.346]	—	—	—	—
Arsenic	4	1254	01/03/01	F	1	0	—	[2.6]	50	0/1	100	0/1
Arsenic	4	1254	01/03/01	NF	1	0	—	[2]	—	—	—	—
Barium	4	1254	01/03/01	F	1	1	21	—	2000	0/1	1000	0/1
Barium	4	1254	01/03/01	NF	1	1	22	—	—	—	—	—
Beryllium	4	1254	01/03/01	F	1	0	—	[0.01]	4	0/1	—	—
Beryllium	4	1254	01/03/01	NF	1	0	—	[0.01]	—	—	—	—
Boron	4	1254	01/03/01	F	1	0	—	[5.9]	—	—	750	0/1
Boron	4	1254	01/03/01	NF	1	1	7.1	—	—	—	—	—
Cadmium	4	1254	01/03/01	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	4	1254	01/03/01	NF	1	0	—	[0.059]	—	—	—	—

Table D-1 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non-detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard
Calcium	4	1254	01/03/01	F	1	1	8400	—	—	—	—	—
Calcium	4	1254	01/03/01	NF	1	1	8500	—	—	—	—	—
Chloride	4	1254	01/03/01	F	1	1	1900	—	250000	0/1	250000	0/1
Chromium	4	1254	01/03/01	F	1	1	0.96	—	100	0/1	50	0/1
Chromium	4	1254	01/03/01	NF	1	1	6.8	—	—	—	—	—
Cobalt	4	1254	01/03/01	F	1	0	—	[0.52]	—	—	50	0/1
Cobalt	4	1254	01/03/01	NF	1	0	—	[0.52]	—	—	—	—
Copper	4	1254	01/03/01	F	1	0	—	[0.45]	1300	0/1	1000	0/1
Copper	4	1254	01/03/01	NF	1	0	—	[0.45]	—	—	—	—
Fluoride	4	1254	01/03/01	F	1	0	—	[100]	4000	0/1	1600	0/1
Iron	4	1254	01/03/01	F	1	0	—	[36]	300	0/1	1000	0/1
Iron	4	1254	01/03/01	NF	1	0	—	[88]	—	—	—	—
Lead	4	1254	01/03/01	F	1	0	—	[0.014]	15	0/1	50	0/1
Lead	4	1254	01/03/01	NF	1	0	—	[0.014]	—	—	—	—
Magnesium	4	1254	01/03/01	F	1	1	2700	—	—	—	—	—
Magnesium	4	1254	01/03/01	NF	1	1	2700	—	—	—	—	—
Manganese	4	1254	01/03/01	F	1	1	9.5	—	50	0/1	200	0/1
Manganese	4	1254	01/03/01	NF	1	1	15	—	—	—	—	—
Mercury	4	1254	01/03/01	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	4	1254	01/03/01	NF	1	0	—	[0.014]	—	—	2	0/1
Nickel	4	1254	01/03/01	F	1	1	1.1	—	100	0/1	200	0/1
Nickel	4	1254	01/03/01	NF	1	1	5.1	—	—	—	—	—
Nitrate + Nitrite (as N)	4	1254	01/03/01	F	1	1	290	—	10000	0/1	—	—

Table D-1 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non-detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard
Potassium	4	1254	01/03/01	F	1	1	1300	—	—	—	—	—
Potassium	4	1254	01/03/01	NF	1	1	1400	—	—	—	—	—
Selenium	4	1254	01/03/01	F	1	1	2.6	—	50	0/1	50	0/1
Selenium	4	1254	01/03/01	NF	1	0	—	[1.7]	—	—	—	—
Silver	4	1254	01/03/01	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	4	1254	01/03/01	NF	1	0	—	[0.78]	—	—	—	—
Sodium	4	1254	01/03/01	F	1	1	7900	—	—	—	—	—
Sodium	4	1254	01/03/01	NF	1	1	7900	—	—	—	—	—
Sulfate	4	1254	01/03/01	F	1	1	1500	—	250000	0/1	600000	0/1
Thallium	4	1254	01/03/01	F	1	0	—	[0.149]	2	0/1	—	—
Thallium	4	1254	01/03/01	NF	1	1	0.127	—	—	—	—	—
Uranium	4	1254	01/03/01	F	1	1	0.493	—	20	—	5000	—
Uranium	4	1254	01/03/01	NF	1	1	0.483	—	—	—	—	—
Vanadium	4	1254	01/03/01	F	1	1	3.6	—	—	—	—	—
Vanadium	4	1254	01/03/01	NF	1	1	4	—	—	—	—	—
Zinc	4	1254	01/03/01	F	1	0	—	[4.3]	5000	0/1	10000	0/1
Zinc	4	1254	01/03/01	NF	1	1	12	—	—	—	—	—

Note: Units are μg/L except as otherwise noted in first column.

[a] Puye formation, regional aquifer, static water level at time of well installation was 1245 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-2
Regional Well CdV-R-15-3 Screen 5 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Field Parameter												
pH	5	1350	01/04/01	NF[e]	1	1	7.45	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	5	1350	01/04/01	NF	1	1	325	—	—	0/1	—	0/1
Temperature (°C)	5	1350	01/04/01	NF	1	1	14.6	—	—	0/1	—	0/1
Turbidity (NTU)[g]	5	1350	01/04/01	NF	1	1	3.4	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	5	1350	01/04/01	F[h]	1	1	170000	—	—	—	—	—
Aluminum	5	1350	01/04/01	F	1	0	—	[92]	50	0/1	5000	0/1
Aluminum	5	1350	01/04/01	NF	1	0	—	[98]	—	—	—	—
Antimony	5	1350	01/04/01	F	1	0	—	[0.29]	6	0/1	—	—
Antimony	5	1350	01/04/01	NF	1	0	—	[0.285]	—	—	—	—
Arsenic	5	1350	01/04/01	F	1	0	—	[3.8]	50	0/1	100	0/1
Arsenic	5	1350	01/04/01	NF	1	0	—	[4.1]	—	—	—	—
Barium	5	1350	01/04/01	F	1	1	130	—	2000	0/1	1000	0/1
Barium	5	1350	01/04/01	NF	1	1	130	—	—	—	—	—
Beryllium	5	1350	01/04/01	F	1	1	0.013	—	4	0/1	—	—
Beryllium	5	1350	01/04/01	NF	1	1	0.01	—	—	—	—	—
Boron	5	1350	01/04/01	F	1	1	32	—	—	—	750	0/1
Boron	5	1350	01/04/01	NF	1	1	37	—	—	—	—	—
Cadmium	5	1350	01/04/01	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	5	1350	01/04/01	NF	1	0	—	[0.059]	—	—	—	—

Table D-2 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non-detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard
Calcium	5	1350	01/04/01	F	1	1	20000	—	—	—	—	—
Calcium	5	1350	01/04/01	NF	1	1	20000	—	—	—	—	—
Chloride	5	1350	01/04/01	F	1	1	3800	—	250000	0/1	250000	0/1
Chromium	5	1350	01/04/01	F	1	0	—	[0.52]	100	0/1	50	0/1
Chromium	5	1350	01/04/01	NF	1	1	1.5	—	—	—	—	—
Cobalt	5	1350	01/04/01	F	1	1	0.59	—	—	—	50	0/1
Cobalt	5	1350	01/04/01	NF	1	0	—	[0.52]	—	—	—	—
Copper	5	1350	01/04/01	F	1	0	—	[0.45]	1300	0/1	1000	0/1
Copper	5	1350	01/04/01	NF	1	0	—	[0.45]	—	—	—	—
Fluoride	5	1350	01/04/01	F	1	1	240	—	4000	0/1	1600	0/1
Iron	5	1350	01/04/01	F	1	1	390	—	300	1/1	1000	0/1
Iron	5	1350	01/04/01	NF	1	1	480	—	—	—	—	—
Lead	5	1350	01/04/01	F	1	1	0.124	—	15	0/1	50	0/1
Lead	5	1350	01/04/01	NF	1	1	0.085	—	—	—	—	—
Magnesium	5	1350	01/04/01	F	1	1	2500	—	—	—	—	—
Magnesium	5	1350	01/04/01	NF	1	1	2400	—	—	—	—	—
Manganese	5	1350	01/04/01	F	1	1	270	—	50	1/1	200	1/1
Manganese	5	1350	01/04/01	NF	1	1	260	—	—	—	—	—
Mercury	5	1350	01/04/01	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	5	1350	01/04/01	NF	1	0	—	[0.014]	—	—	2	0/1
Nickel	5	1350	01/04/01	F	1	1	1.3	—	100	0/1	200	0/1
Nickel	5	1350	01/04/01	NF	1	1	2.4	—	—	—	—	—
Nitrate + Nitrite (as N)	5	1350	01/04/01	F	1	0	—	[100]	10000	0/1	—	—

Table D-2 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Potassium	5	1350	01/04/01	F	1	1	2600	—	—	—	—	—
Potassium	5	1350	01/04/01	NF	1	1	2600	—	—	—	—	—
Selenium	5	1350	01/04/01	F	1	1	3	—	50	0/1	50	0/1
Selenium	5	1350	01/04/01	NF	1	1	2.3	—	—	—	—	—
Silver	5	1350	01/04/01	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	5	1350	01/04/01	NF	1	0	—	[0.78]	—	—	—	—
Sodium	5	1350	01/04/01	F	1	1	37000	—	—	—	—	—
Sodium	5	1350	01/04/01	NF	1	1	39000	—	—	—	—	—
Sulfate	5	1350	01/04/01	F	1	0	—	[1000]	250000	0/1	600000	0/1
Thallium	5	1350	01/04/01	F	1	0	—	[0.019]	2	0/1	—	—
Thallium	5	1350	01/04/01	NF	1	0	—	[0.019]	—	—	—	—
Uranium	5	1350	01/04/01	F	1	1	0.118	—	20	—	5000	—
Uranium	5	1350	01/04/01	NF	1	1	0.11	—	—	—	—	—
Vanadium	5	1350	01/04/01	F	1	0	—	[0.48]	—	—	—	—
Vanadium	5	1350	01/04/01	NF	1	0	—	[0.48]	—	—	—	—
Zinc	5	1350	01/04/01	F	1	0	—	[4]	5000	0/1	10000	0/1
Zinc	5	1350	01/04/01	NF	1	0	—	[7.6]	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Puye formation, regional aquifer, static water level at time of well installation was 1245 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-3
Regional Well CdV-R-15-3 Screen 6 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Field Parameter												
pH	6	1640	01/04/01	NF[e]	1	1	7.48	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	6	1640	01/04/01	NF	1	1	234	—	—	0/1	—	0/1
Temperature (°C)	6	1640	01/04/01	NF	1	1	16	—	—	0/1	—	0/1
Turbidity (NTU)[g]	6	1640	01/04/01	NF	1	1	0.5	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	6	1640	01/04/01	F[h]	1	1	110000	—	—	—	—	—
Aluminum	6	1640	01/04/01	F	1	0	—	[91]	50	0/1	5000	0/1
Aluminum	6	1640	01/04/01	NF	1	0	—	[91]	—	—	—	—
Antimony	6	1640	01/04/01	F	1	0	—	[0.173]	6	0/1	—	—
Antimony	6	1640	01/04/01	NF	1	0	—	[0.202]	—	—	—	—
Arsenic	6	1640	01/04/01	F	1	0	—	[1.5]	50	0/1	100	0/1
Arsenic	6	1640	01/04/01	NF	1	0	—	[2.7]	—	—	—	—
Barium	6	1640	01/04/01	F	1	1	38	—	2000	0/1	1000	0/1
Barium	6	1640	01/04/01	NF	1	1	39	—	—	—	—	—
Beryllium	6	1640	01/04/01	F	1	0	—	[0.01]	4	0/1	—	—
Beryllium	6	1640	01/04/01	NF	1	0	—	[0.01]	—	—	—	—
Boron	6	1640	01/04/01	F	1	1	12	—	—	—	750	0/1
Boron	6	1640	01/04/01	NF	1	1	13	—	—	—	—	—
Cadmium	6	1640	01/04/01	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	6	1640	01/04/01	NF	1	0	—	[0.059]	—	—	—	—

Table D-3 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Calcium	6	1640	01/04/01	F	1	1	13000	—	—	—	—	—
Calcium	6	1640	01/04/01	NF	1	1	13000	—	—	—	—	—
Chloride	6	1640	01/04/01	F	1	1	2900	—	250000	0/1	250000	0/1
Chromium	6	1640	01/04/01	F	1	1	0.59	—	100	0/1	50	0/1
Chromium	6	1640	01/04/01	NF	1	1	7.2	—	—	—	—	—
Cobalt	6	1640	01/04/01	F	1	0	—	[0.52]	—	—	50	0/1
Cobalt	6	1640	01/04/01	NF	1	1	0.54	—	—	—	—	—
Copper	6	1640	01/04/01	F	1	0	—	[0.45]	1300	0/1	1000	0/1
Copper	6	1640	01/04/01	NF	1	0	—	[0.45]	—	—	—	—
Fluoride	6	1640	01/04/01	F	1	0	—	[100]	4000	0/1	1600	0/1
Iron	6	1640	01/04/01	F	1	1	2300	—	300	1/1	1000	1/1
Iron	6	1640	01/04/01	NF	1	1	2500	—	—	—	—	—
Lead	6	1640	01/04/01	F	1	0	—	[0.014]	15	0/1	50	0/1
Lead	6	1640	01/04/01	NF	1	0	—	[0.014]	—	—	—	—
Magnesium	6	1640	01/04/01	F	1	1	3700	—	—	—	—	—
Magnesium	6	1640	01/04/01	NF	1	1	3700	—	—	—	—	—
Manganese	6	1640	01/04/01	F	1	1	380	—	50	1/1	200	1/1
Manganese	6	1640	01/04/01	NF	1	1	390	—	—	—	—	—
Mercury	6	1640	01/04/01	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	6	1640	01/04/01	NF	1	0	—	[0.014]	—	—	2	0/1
Nickel	6	1640	01/04/01	F	1	1	1.9	—	100	0/1	200	0/1
Nickel	6	1640	01/04/01	NF	1	1	6.9	—	—	—	—	—
Nitrate + Nitrite (as N)	6	1640	01/04/01	F	1	1	1000	—	10000	0/1	—	—

Table D-3 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non-detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard
Potassium	6	1640	01/04/01	F	1	1	2600	—	—	—	—	—
Potassium	6	1640	01/04/01	NF	1	1	2600	—	—	—	—	—
Selenium	6	1640	01/04/01	F	1	1	3.1	—	50	0/1	50	0/1
Selenium	6	1640	01/04/01	NF	1	1	2.6	—	—	—	—	—
Silver	6	1640	01/04/01	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	6	1640	01/04/01	NF	1	0	—	[0.78]	—	—	—	—
Sodium	6	1640	01/04/01	F	1	1	20000	—	—	—	—	—
Sodium	6	1640	01/04/01	NF	1	1	20000	—	—	—	—	—
Sulfate	6	1640	01/04/01	F	1	0	—	[1000]	250000	0/1	600000	0/1
Thallium	6	1640	01/04/01	F	1	0	—	[0.019]	2	0/1	—	—
Thallium	6	1640	01/04/01	NF	1	0	—	[0.019]	—	—	—	—
Uranium	6	1640	01/04/01	F	1	1	0.019	—	20	—	5000	—
Uranium	6	1640	01/04/01	NF	1	1	0.023	—	—	—	—	—
Vanadium	6	1640	01/04/01	F	1	0	—	[0.48]	—	—	—	—
Vanadium	6	1640	01/04/01	NF	1	0	—	[0.48]	—	—	—	—
Zinc	6	1640	01/04/01	F	1	0	—	[6.9]	5000	0/1	10000	0/1
Zinc	6	1640	01/04/01	NF	1	0	—	[5.5]	—	—	—	—

Note: Units are μg/L except as otherwise noted in first column.

[a] Puye formation, regional aquifer, static water level at time of well installation was 1254 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-4
Regional Well R-25 Screen 1 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Field Parameter												
pH	1	755	11/14/00	NF[e]	1	1	7.65	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	1	755	11/14/00	NF	1	1	224	—	—	0/1	—	0/1
Temperature (°C)	1	755	11/14/00	NF	1	1	9	—	—	0/1	—	0/1
Turbidity (NTU)[g]	1	755	11/14/00	NF	1	1	1.6	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	1	755	11/14/00	F[h]	1	1	73000	—	—	—	—	—
Alkalinity (total as $CaCO_3$)	1	755	11/14/00	NF	1	1	86000	—	—	—	—	—
Aluminum	1	755	11/14/00	F	1	0	—	[4]	50	0/1	5000	0/1
Aluminum	1	755	11/14/00	NF	1	0	—	[12]	—	—	—	—
Ammonia (as N)	1	755	11/14/00	F	1	0	—	[500]	—	—	—	—
Ammonia (as N)	1	755	11/14/00	NF	1	0	—	[500]	—	—	—	—
Antimony	1	755	11/14/00	F	1	0	—	[0.173]	6	0/1	—	—
Antimony	1	755	11/14/00	NF	1	1	0.704	—	—	—	—	—
Arsenic	1	755	11/14/00	F	1	1	1.9	—	50	0/1	100	0/1
Arsenic	1	755	11/14/00	NF	1	0	—	[1.5]	—	—	—	—
Barium	1	755	11/14/00	F	1	1	7.4	—	2000	0/1	1000	0/1
Barium	1	755	11/14/00	NF	1	1	12	—	—	—	—	—
Beryllium	1	755	11/14/00	F	1	1	0.299	—	4	0/1	—	—
Beryllium	1	755	11/14/00	NF	1	1	0.27	—	—	—	—	—
Boron	1	755	11/14/00	F	1	1	200	—	—	—	750	0/1
Boron	1	755	11/14/00	NF	1	1	210	—	—	—	—	—

Table D-4 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non-detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard
Bromide	1	755	11/14/00	F	1	0	—	[200]	—	—	—	—
Bromide	1	755	11/14/00	NF	1	0	—	[200]	—	—	—	—
Cadmium	1	755	11/14/00	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	1	755	11/14/00	NF	1	1	0.083	—	—	—	—	—
Calcium	1	755	11/14/00	F	1	1	22000	—	—	—	—	—
Calcium	1	755	11/14/00	NF	1	1	23000	—	—	—	—	—
Chloride	1	755	11/14/00	F	1	1	11000	—	250000	0/1	250000	0/1
Chloride	1	755	11/14/00	NF	1	1	11000	—	—	—	—	—
Chromium	1	755	11/14/00	F	1	1	2.2	—	100	0/1	50	0/1
Chromium	1	755	11/14/00	NF	1	1	3.3	—	—	—	—	—
Cobalt	1	755	11/14/00	F	1	0	—	[0.87]	—	—	50	0/1
Cobalt	1	755	11/14/00	NF	1	0	—	[1.8]	—	—	—	—
Copper	1	755	11/14/00	F	1	0	—	[1.1]	1300	0/1	1000	0/1
Copper	1	755	11/14/00	NF	1	0	—	[1.9]	—	—	—	—
Cyanide, Total	1	755	11/14/00	NF	1	0	—	[10]	—	—	—	—
Fluoride	1	755	11/14/00	F	1	1	120	—	4000	0/1	1600	0/1
Fluoride	1	755	11/14/00	NF	1	1	110	—	—	—	—	—
Iron	1	755	11/14/00	F	1	0	—	[46]	300	0/1	1000	0/1
Iron	1	755	11/14/00	NF	1	0	—	[63]	—	—	—	—
Lead	1	755	11/14/00	F	1	0	—	[0.014]	15	0/1	50	0/1
Lead	1	755	11/14/00	NF	1	0	—	[0.014]	—	—	—	—
Magnesium	1	755	11/14/00	F	1	1	5900	—	—	—	—	—
Magnesium	1	755	11/14/00	NF	1	1	5900	—	—	—	—	—

Table D-4 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Manganese	1	755	11/14/00	F	1	1	6.9	—	50	0/1	200	0/1
Manganese	1	755	11/14/00	NF	1	1	9.1	—	—	—	—	—
Mercury	1	755	11/14/00	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	1	755	11/14/00	NF	1	0	—	[0.014]	—	—	2	0/1
Molybdenum	1	755	11/14/00	F	1	0	—	[3.1]	—	—	—	—
Molybdenum	1	755	11/14/00	NF	1	1	3.3	—	—	—	—	—
Nickel	1	755	11/14/00	F	1	1	9.5	—	100	0/1	200	0/1
Nickel	1	755	11/14/00	NF	1	1	10	—	—	—	—	—
Nitrate + Nitrite (as N)	1	755	11/14/00	F	1	1	1100	—	10000	0/1	—	—
Nitrate + Nitrite (as N)	1	755	11/14/00	NF	1	1	1100	—	—	—	—	—
Perchlorate	1	755	11/14/00	NF	1	0	—	[1.04]	—	—	—	—
Phosphorus (as P)	1	755	11/14/00	F	1	1	250	—	—	—	—	—
Phosphorus (as P)	1	755	11/14/00	NF	1	1	280	—	—	—	—	—
Potassium	1	755	11/14/00	F	1	1	1400	—	—	—	—	—
Potassium	1	755	11/14/00	NF	1	1	1400	—	—	—	—	—
Selenium	1	755	11/14/00	F	1	0	—	[1.7]	50	0/1	50	0/1
Selenium	1	755	11/14/00	NF	1	0	—	[1.7]	—	—	—	—
SiO_2	1	755	11/14/00	F	1	1	51360	—	—	—	—	—
SiO_2	1	755	11/14/00	NF	1	1	51360	—	—	—	—	—
Silver	1	755	11/14/00	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	1	755	11/14/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	1	755	11/14/00	F	1	1	9900	—	—	—	—	—
Sodium	1	755	11/14/00	NF	1	1	9900	—	—	—	—	—

Table D-4 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard
Strontium	1	755	11/14/00	F	1	1	120	—	—	—	—	—
Strontium	1	755	11/14/00	NF	1	1	120	—	—	—	—	—
Sulfate	1	755	11/14/00	F	1	1	10000	—	250000	0/1	600000	0/1
Sulfate	1	755	11/14/00	NF	1	1	10000	—	—	—	—	—
Thallium	1	755	11/14/00	F	1	0	—	[2]	2	0/1	—	—
Thallium	1	755	11/14/00	NF	1	0	—	[2]	—	—	—	—
Titanium	1	755	11/14/00	F	1	0	—	[0.485]	—	—	—	—
Titanium	1	755	11/14/00	NF	1	0	—	[0.125]	—	—	—	—
Uranium	1	755	11/14/00	F	1	1	1.3	—	20	—	5000	—
Uranium	1	755	11/14/00	NF	1	1	1.32	—	—	—	—	—
Vanadium	1	755	11/14/00	F	1	1	5.9	—	—	—	—	—
Vanadium	1	755	11/14/00	NF	1	1	7.3	—	—	—	—	—
Zinc	1	755	11/14/00	F	1	0	—	[6.3]	5000	0/1	10000	0/1
Zinc	1	755	11/14/00	NF	1	0	—	[5.5]	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	1	755	11/14/00	NF	1	1	-82	—	—	—	—	—
δ N15/N14	1	755	11/14/00	NF	1	1	2.1	—	—	—	—	—
δ O18/O16	1	755	11/14/00	NF	1	1	-11.6	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Upper saturated zone, Otowi Member, Bandelier Tuff.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-5
Regional Well R-25 Screen 2 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Field Parameter												
pH	2	892	11/15/00	NF[e]	1	1	8.83	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	2	892	11/15/00	NF	1	1	322	—	—	0/1	—	0/1
Temperature (°C)	2	892	11/15/00	NF	1	1	9	—	—	0/1	—	0/1
Turbidity (NTU)[g]	2	892	11/15/00	NF	1	1	41.7	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	2	892	11/15/00	F[h]	1	1	130000	—	—	—	—	—
Alkalinity (total as $CaCO_3$)	2	892	11/15/00	NF	1	1	120000	—	—	—	—	—
Aluminum	2	892	11/15/00	F	1	0	—	[82]	50	0/1	5000	0/1
Aluminum	2	892	11/15/00	NF	1	1	1200	—	—	—	—	—
Ammonia (as N)	2	892	11/15/00	F	1	0	—	[500]	—	—	—	—
Ammonia (as N)	2	892	11/15/00	NF	1	0	—	[500]	—	—	—	—
Antimony	2	892	11/15/00	F	1	1	1.91	—	6	0/1	—	—
Antimony	2	892	11/15/00	NF	1	1	1.43	—	—	—	—	—
Arsenic	2	892	11/15/00	F	1	1	8.8	—	50	0/1	100	0/1
Arsenic	2	892	11/15/00	NF	1	1	6.9	—	—	—	—	—
Barium	2	892	11/15/00	F	1	1	2.6	—	2000	0/1	1000	0/1
Barium	2	892	11/15/00	NF	1	1	8.9	—	—	—	—	—
Beryllium	2	892	11/15/00	F	1	1	0.16	—	4	0/1	—	—
Beryllium	2	892	11/15/00	NF	1	1	0.66	—	—	—	—	—
Boron	2	892	11/15/00	F	1	1	290	—	—	—	750	0/1
Boron	2	892	11/15/00	NF	1	1	300	—	—	—	—	—

Table D-5 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non-detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard (μg/L)
Bromide	2	892	11/15/00	F	1	0	—	[200]	—	—	—	—
Bromide	2	892	11/15/00	NF	1	0	—	[200]	—	—	—	—
Cadmium	2	892	11/15/00	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	2	892	11/15/00	NF	1	0	—	[0.059]	—	—	—	—
Calcium	2	892	11/15/00	F	1	1	8400	—	—	—	—	—
Calcium	2	892	11/15/00	NF	1	1	10000	—	—	—	—	—
Chloride	2	892	11/15/00	F	1	1	10000	—	250000	0/1	250000	0/1
Chloride	2	892	11/15/00	NF	1	1	10000	—	—	—	—	—
Chromium	2	892	11/15/00	F	1	1	0.71	—	100	0/1	50	0/1
Chromium	2	892	11/15/00	NF	1	1	26	—	—	—	—	—
Cobalt	2	892	11/15/00	F	1	0	—	[0.89]	—	—	50	0/1
Cobalt	2	892	11/15/00	NF	1	0	—	[1.3]	—	—	—	—
Copper	2	892	11/15/00	F	1	1	3.8	—	1300	0/1	1000	0/1
Copper	2	892	11/15/00	NF	1	1	9.4	—	—	—	—	—
Cyanide, Total	2	892	11/15/00	NF	1	0	—	[10]	—	—	—	—
Fluoride	2	892	11/15/00	F	1	1	180	—	4000	0/1	1600	0/1
Fluoride	2	892	11/15/00	NF	1	1	190	—	—	—	—	—
Iron	2	892	11/15/00	F	1	0	—	[99]	300	0/1	1000	0/1
Iron	2	892	11/15/00	NF	1	1	1000	—	—	—	—	—
Lead	2	892	11/15/00	F	1	1	0.107	—	15	0/1	50	0/1
Lead	2	892	11/15/00	NF	1	1	2.57	—	—	—	—	—
Magnesium	2	892	11/15/00	F	1	1	2300	—	—	—	—	—
Magnesium	2	892	11/15/00	NF	1	1	2900	—	—	—	—	—
Manganese	2	892	11/15/00	F	1	1	16	—	50	0/1	200	0/1
Manganese	2	892	11/15/00	NF	1	1	59	—	—	—	—	—

Table D-5 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Mercury	2	892	11/15/00	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	2	892	11/15/00	NF	1	0	—	[0.014]	—	—	2	0/1
Molybdenum	2	892	11/15/00	F	1	1	7.8	—	—	—	—	—
Molybdenum	2	892	11/15/00	NF	1	1	6.7	—	—	—	—	—
Nickel	2	892	11/15/00	F	1	1	2	—	100	0/1	200	0/1
Nickel	2	892	11/15/00	NF	1	1	20	—	—	—	—	—
Nitrate + Nitrite (as N)	2	892	11/15/00	F	1	0	—	[100]	10000	0/1	—	—
Nitrate + Nitrite (as N)	2	892	11/15/00	NF	1	0	—	[100]	—	—	—	—
Perchlorate	2	892	11/15/00	NF	1	0	—	[1.04]	—	—	—	—
Phosphorus (as P)	2	892	11/15/00	F	1	1	9700	—	—	—	—	—
Phosphorus (as P)	2	892	11/15/00	NF	1	1	10000	—	—	—	—	—
Potassium	2	892	11/15/00	F	1	1	2200	—	—	—	—	—
Potassium	2	892	11/15/00	NF	1	1	2300	—	—	—	—	—
Selenium	2	892	11/15/00	F	1	0	—	[1.7]	50	0/1	50	0/1
Selenium	2	892	11/15/00	NF	1	0	—	[1.7]	—	—	—	—
SiO_2	2	892	11/15/00	F	1	1	40660	—	—	—	—	—
SiO_2	2	892	11/15/00	NF	1	1	22000	—	—	—	—	—
Silver	2	892	11/15/00	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	2	892	11/15/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	2	892	11/15/00	F	1	1	52000	—	—	—	—	—
Sodium	2	892	11/15/00	NF	1	1	53000	—	—	—	—	—
Strontium	2	892	11/15/00	F	1	1	45	—	—	—	—	—
Strontium	2	892	11/15/00	NF	1	1	59	—	—	—	—	—
Sulfate	2	892	11/15/00	F	1	1	14000	—	250000	0/1	600000	0/1
Sulfate	2	892	11/15/00	NF	1	1	14000	—	—	—	—	—

Table D-5 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Thallium	2	892	11/15/00	F	1	0	—	[0.14]	2	0/1	—	—
Thallium	2	892	11/15/00	NF	1	0	—	[0.21]	—	—	—	—
Uranium	2	892	11/15/00	F	1	1	3.62	—	20	—	5000	—
Uranium	2	892	11/15/00	NF	1	1	4.69	—	—	—	—	—
Vanadium	2	892	11/15/00	F	1	1	9.1	—	—	—	—	—
Vanadium	2	892	11/15/00	NF	1	1	9.7	—	—	—	—	—
Zinc	2	892	11/15/00	F	1	0	—	[7.5]	5000	0/1	10000	0/1
Zinc	2	892	11/15/00	NF	1	0	—	[15]	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	2	892	11/15/00	NF	1	1	-80	—	—	—	—	—
δ N15/N14	2	892	11/15/00	NF	1	1	+1.8	—	—	—	—	—
δ O18/O16	2	892	11/15/00	NF	1	1	-11.6	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-6
Regional Well R-25 Screen 3 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Field Parameter												
pH	3	1063	12/01/00	NF[e]	1	1	11.67	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	3	1063	12/01/00	NF	1	1	534	—	—	0/1	—	0/1
Temperature (°C)	3	1063	12/01/00	NF	1	1	9.1	—	—	0/1	—	0/1
Turbidity (NTU)[g]	3	1063	12/01/00	NF	1	1	0.8	—	—	0/1	—	0/1
Analyte												
Aluminum	3	1063	12/01/00	NF	1	1	150	—	—	—	—	—
Ammonia (as N)	3	1063	12/01/00	NF	1	1	1200	—	—	—	—	—
Antimony	3	1063	12/01/00	NF	1	0	—	[2.5]	—	—	—	—
Arsenic	3	1063	12/01/00	NF	1	1	2.1	—	—	—	—	—
Barium	3	1063	12/01/00	NF	1	1	6.3	—	—	—	—	—
Beryllium	3	1063	12/01/00	NF	1	0	—	[1.3]	—	—	—	—
Boron	3	1063	12/01/00	NF	1	1	160	—	—	—	—	—
Cadmium	3	1063	12/01/00	NF	1	0	—	[0.15]	—	—	—	—
Calcium	3	1063	12/01/00	NF	1	1	50000	—	—	—	—	—
Chromium, Total	3	1063	12/01/00	NF	1	1	10	—	—	—	—	—
Cobalt	3	1063	12/01/00	NF	1	0	—	[2.2]	—	—	—	—
Copper	3	1063	12/01/00	NF	1	1	6.7	—	—	—	—	—
Iron	3	1063	12/01/00	NF	1	0	—	[120]	—	—	—	—
Lead	3	1063	12/01/00	NF	1	0	—	[1.1]	—	—	—	—
Magnesium	3	1063	12/01/00	NF	1	1	32	—	—	—	—	—
Manganese	3	1063	12/01/00	NF	1	1	2.2	—	—	—	—	—
Mercury	3	1063	12/01/00	NF	1	0	—	[0.014]	—	—	2	0/1

Table D-6 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Molybdenum	3	1063	12/01/00	NF	1	0	—	[3.1]	—	—	—	—
Nickel	3	1063	12/01/00	NF	1	1	9.5	—	—	—	—	—
Nitrate + Nitrite (as N)	3	1063	12/01/00	NF	1	0	—	[100]	—	—	—	—
Potassium	3	1063	12/01/00	NF	1	1	8200	—	—	—	—	—
Selenium	3	1063	12/01/00	NF	1	1	5.9	—	—	—	—	—
SiO_2	3	1063	12/01/00	NF	1	1	68480	—	—	—	—	—
Silver	3	1063	12/01/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	3	1063	12/01/00	NF	1	1	18000	—	—	—	—	—
Strontium	3	1063	12/01/00	NF	1	1	210	—	—	—	—	—
Thallium	3	1063	12/01/00	NF	1	1	5.1	—	—	—	—	—
Vanadium	3	1063	12/01/00	NF	1	1	28	—	—	—	—	—
Zinc	3	1063	12/01/00	NF	1	0	—	[5.5]	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	3	1063	12/01/00	NF	1	1	-81	—	—	—	—	—
δ O18/O16	3	1063	12/01/00	NF	1	1	-11.7	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

Table D-7
Regional Well R-25 Screen 4 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Field Parameter												
pH	4	1192	12/04/00	NF[e]	1	1	7.64	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	4	1192	12/04/00	NF	1	1	716	—	—	0/1	—	0/1
Temperature (°C)	4	1192	12/04/00	NF	1	1	8.8	—	—	0/1	—	0/1
Turbidity (NTU)[g]	4	1192	12/04/00	NF	1	1	5.3	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	4	1192	12/04/00	F[h]	1	1	69000	—	—	—	—	—
Alkalinity (total as $CaCO_3$)	4	1192	12/04/00	NF	1	1	70000	—	—	—	—	—
Aluminum	4	1192	12/04/00	F	1	1	35	—	50	0/1	5000	0/1
Aluminum	4	1192	12/04/00	NF	1	1	930	—	—	—	—	—
Ammonia (as N)	4	1192	12/04/00	F	1	0	—	[500]	—	—	—	—
Ammonia (as N)	4	1192	12/04/00	NF	1	0	—	[500]	—	—	—	—
Antimony	4	1192	12/04/00	F	1	1	0.326	—	6	0/1	—	—
Antimony	4	1192	12/04/00	NF	1	0	—	[0.203]	—	—	—	—
Arsenic	4	1192	12/04/00	F	1	0	—	[1.5]	50	0/1	100	0/1
Arsenic	4	1192	12/04/00	NF	1	1	3.5	—	—	—	—	—
Barium	4	1192	12/04/00	F	1	1	25	—	2000	0/1	1000	0/1
Barium	4	1192	12/04/00	NF	1	1	31	—	—	—	—	—
Beryllium	4	1192	12/04/00	F	1	1	0.033	—	4	0/1	—	—
Beryllium	4	1192	12/04/00	NF	1	1	0.061	—	—	—	—	—
Boron	4	1192	12/04/00	F	1	1	9.700001	—	—	—	750	0/1
Boron	4	1192	12/04/00	NF	1	1	17	—	—	—	—	—

Table D-7 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non—detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard (μg/L)
Bromide	4	1192	12/04/00	F	1	0	—	[200]	—	—	—	—
Bromide	4	1192	12/04/00	NF	1	0	—	[200]	—	—	—	—
Cadmium	4	1192	12/04/00	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	4	1192	12/04/00	NF	1	0	—	[0.059]	—	—	—	—
Calcium	4	1192	12/04/00	F	1	1	140000	—	—	—	—	—
Calcium	4	1192	12/04/00	NF	1	1	140000	—	—	—	—	—
Chloride	4	1192	12/04/00	F	1	1	5700	—	250000	0/1	250000	0/1
Chloride	4	1192	12/04/00	NF	1	1	5600	—	—	—	—	—
Chromium	4	1192	12/04/00	F	1	0	—	[0.52]	100	0/1	50	0/1
Chromium	4	1192	12/04/00	NF	1	1	28	—	—	—	—	—
Cobalt	4	1192	12/04/00	F	1	0	—	[1.5]	—	—	50	0/1
Cobalt	4	1192	12/04/00	NF	1	0	—	[2.3]	—	—	—	—
Copper	4	1192	12/04/00	F	1	0	—	[0.45]	1300	0/1	1000	0/1
Copper	4	1192	12/04/00	NF	1	1	5.4	—	—	—	—	—
Cyanide, Total	4	1192	12/04/00	NF	1	0	—	[10]	—	—	—	—
Fluoride	4	1192	12/04/00	F	1	0	—	[100]	4000	0/1	1600	0/1
Fluoride	4	1192	12/04/00	NF	1	0	—	[100]	—	—	—	—
Iron	4	1192	12/04/00	F	1	0	—	[58]	300	0/1	1000	0/1
Iron	4	1192	12/04/00	NF	1	1	1200	—	—	—	—	—
Lead	4	1192	12/04/00	F	1	0	—	[0.014]	15	0/1	50	0/1
Lead	4	1192	12/04/00	NF	1	1	0.184	—	—	—	—	—
Magnesium	4	1192	12/04/00	F	1	1	4800	—	—	—	—	—
Magnesium	4	1192	12/04/00	NF	1	1	5100	—	—	—	—	—
Manganese	4	1192	12/04/00	F	1	1	130	—	50	1/1	200	0/1
Manganese	4	1192	12/04/00	NF	1	1	160	—	—	—	—	—

Table D-7 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Mercury	4	1192	12/04/00	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	4	1192	12/04/00	NF	1	0	—	[0.014]	—	—	2	0/1
Molybdenum	4	1192	12/04/00	F	1	0	—	[3.1]	—	—	—	—
Molybdenum	4	1192	12/04/00	NF	1	1	3.1	—	—	—	—	—
Nickel	4	1192	12/04/00	F	1	1	3.6	—	100	0/1	200	0/1
Nickel	4	1192	12/04/00	NF	1	1	23	—	—	—	—	—
Nitrate + Nitrite (as N)	4	1192	12/04/00	F	1	1	610	—	10000	0/1	—	—
Nitrate + Nitrite (as N)	4	1192	12/04/00	NF	1	1	550	—	—	—	—	—
Perchlorate	4	1192	12/04/00	NF	1	0	—	[2.26]	—	—	—	—
Phosphorus (as P)	4	1192	12/04/00	F	1	1	800	—	—	—	—	—
Phosphorus (as P)	4	1192	12/04/00	NF	1	1	960	—	—	—	—	—
Potassium	4	1192	12/04/00	F	1	1	1200	—	—	—	—	—
Potassium	4	1192	12/04/00	NF	1	1	1300	—	—	—	—	—
Selenium	4	1192	12/04/00	F	1	0	—	[1.7]	50	0/1	50	0/1
Selenium	4	1192	12/04/00	NF	1	0	—	[1.7]	—	—	—	—
SiO_2	4	1192	12/04/00	F	1	1	53500	—	—	—	—	—
SiO_2	4	1192	12/04/00	NF	1	1	55640	—	—	—	—	—
Silver	4	1192	12/04/00	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	4	1192	12/04/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	4	1192	12/04/00	F	1	1	11000	—	—	—	—	—
Sodium	4	1192	12/04/00	NF	1	1	10000	—	—	—	—	—
Strontium	4	1192	12/04/00	F	1	1	440	—	—	—	—	—
Strontium	4	1192	12/04/00	NF	1	1	450	—	—	—	—	—
Sulfate	4	1192	12/04/00	F	1	1	280000	—	250000	1/1	600000	0/1
Sulfate	4	1192	12/04/00	NF	1	1	280000	—	—	—	—	—

Table D-7 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Thallium	4	1192	12/04/00	F	1	0	—	[0.019]	2	0/1	—	—
Thallium	4	1192	12/04/00	NF	1	0	—	[0.019]	—	—	—	—
Uranium	4	1192	12/04/00	F	1	1	0.693	—	20	—	5000	—
Uranium	4	1192	12/04/00	NF	1	1	0.729	—	—	—	—	—
Vanadium	4	1192	12/04/00	F	1	0	—	[0.75]	—	—	—	—
Vanadium	4	1192	12/04/00	NF	1	0	—	[2.6]	—	—	—	—
Zinc	4	1192	12/04/00	F	1	0	—	[4.2]	5000	0/1	10000	0/1
Zinc	4	1192	12/04/00	NF	1	0	—	[17]	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	4	1192	12/04/00	NF	1	1	-82	—	—	—	—	—
δ N15/N14	4	1192	12/04/00	NF	1	1	+5	—	—	—	—	—
δ O18/O16	4	1192	12/04/00	NF	1	1	-11.2	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-8
Regional Well R-25 Screen 5 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Field Parameter												
pH	5	1303	12/07/00	NF[e]	1	1	7.73	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	5	1303	12/07/00	NF	1	1	210	—	—	0/1	—	0/1
Temperature (°C)	5	1303	12/07/00	NF	1	1	10.8	—	—	0/1	—	0/1
Turbidity (NTU)[g]	5	1303	12/07/00	NF	1	1	6.2	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	5	1303	12/07/00	F[h]	1	1	97000	—	—	—	—	—
Alkalinity (total as $CaCO_3$)	5	1303	12/07/00	NF	1	1	100000	—	—	—	—	—
Aluminum	5	1303	12/07/00	F	1	0	—	[15]	50	0/1	5000	0/1
Aluminum	5	1303	12/07/00	NF	1	0	—	[20]	—	—	—	—
Ammonia (as N)	5	1303	12/07/00	F	1	0	—	[500]	—	—	—	—
Ammonia (as N)	5	1303	12/07/00	NF	1	0	—	[500]	—	—	—	—
Antimony	5	1303	12/07/00	F	1	0	—	[0.351]	6	0/1	—	—
Antimony	5	1303	12/07/00	NF	1	0	—	[1.13]	—	—	—	—
Arsenic	5	1303	12/07/00	F	1	1	2.6	—	50	0/1	100	0/1
Arsenic	5	1303	12/07/00	NF	1	0	—	[1.5]	—	—	—	—
Barium	5	1303	12/07/00	F	1	1	8.4	—	2000	0/1	1000	0/1
Barium	5	1303	12/07/00	NF	1	1	9.2	—	—	—	—	—
Beryllium	5	1303	12/07/00	F	1	1	0.027	—	4	0/1	—	—
Beryllium	5	1303	12/07/00	NF	1	1	0.041	—	—	—	—	—
Boron	5	1303	12/07/00	F	1	1	130	—	—	—	750	0/1
Boron	5	1303	12/07/00	NF	1	1	140	—	—	—	—	—

Table D-8 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non—detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard (μg/L)
Bromide	5	1303	12/07/00	F	1	0	—	[200]	—	—	—	—
Bromide	5	1303	12/07/00	NF	1	0	—	[200]	—	—	—	—
Cadmium	5	1303	12/07/00	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	5	1303	12/07/00	NF	1	1	0.073	—	—	—	—	—
Calcium	5	1303	12/07/00	F	1	1	22000	—	—	—	—	—
Calcium	5	1303	12/07/00	NF	1	1	24000	—	—	—	—	—
Chloride	5	1303	12/07/00	F	1	1	5600	—	250000	0/1	250000	0/1
Chloride	5	1303	12/07/00	NF	1	1	6600	—	—	—	—	—
Chromium	5	1303	12/07/00	F	1	0	—	[0.52]	100	0/1	50	0/1
Chromium	5	1303	12/07/00	NF	1	1	9.4	—	—	—	—	—
Cobalt	5	1303	12/07/00	F	1	0	—	[1.5]	—	—	50	0/1
Cobalt	5	1303	12/07/00	NF	1	0	—	[1.6]	—	—	—	—
Copper	5	1303	12/07/00	F	1	0	—	[0.45]	1300	0/1	1000	0/1
Copper	5	1303	12/07/00	NF	1	0	—	[0.45]	—	—	—	—
Cyanide, Total	5	1303	12/07/00	NF	1	0	—	[10]	—	—	—	—
Fluoride	5	1303	12/07/00	F	1	1	110	—	4000	0/1	1600	0/1
Fluoride	5	1303	12/07/00	NF	1	1	100	—	—	—	—	—
Iron	5	1303	12/07/00	F	1	0	—	[48]	300	0/1	1000	0/1
Iron	5	1303	12/07/00	NF	1	0	—	[90]	—	—	—	—
Lead	5	1303	12/07/00	F	1	0	—	[0.031]	15	0/1	50	0/1
Lead	5	1303	12/07/00	NF	1	0	—	[0.019]	—	—	—	—
Magnesium	5	1303	12/07/00	F	1	1	4700	—	—	—	—	—
Magnesium	5	1303	12/07/00	NF	1	1	5000	—	—	—	—	—
Manganese	5	1303	12/07/00	F	1	1	210	—	50	1/1	200	1/1
Manganese	5	1303	12/07/00	NF	1	1	220	—	—	—	—	—

Table D-8 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Mercury	5	1303	12/07/00	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	5	1303	12/07/00	NF	1	0	—	[0.014]	—	—	2	0/1
Molybdenum	5	1303	12/07/00	F	1	1	4.9	—	—	—	—	—
Molybdenum	5	1303	12/07/00	NF	1	1	10	—	—	—	—	—
Nickel	5	1303	12/07/00	F	1	1	7.5	—	100	0/1	200	0/1
Nickel	5	1303	12/07/00	NF	1	1	14	—	—	—	—	—
Nitrate + Nitrite (as N)	5	1303	12/07/00	F	1	0	—	[100]	10000	0/1	—	—
Nitrate + Nitrite (as N)	5	1303	12/07/00	NF	1	0	—	[100]	—	—	—	—
Perchlorate	5	1303	12/07/00	NF	1	0	—	[1.04]	—	—	—	—
Phosphorus (as P)	5	1303	12/07/00	F	1	1	2800	—	—	—	—	—
Phosphorus (as P)	5	1303	12/07/00	NF	1	1	2800	—	—	—	—	—
Potassium	5	1303	12/07/00	F	1	1	1200	—	—	—	—	—
Potassium	5	1303	12/07/00	NF	1	1	1400	—	—	—	—	—
Selenium	5	1303	12/07/00	F	1	0	—	[1.7]	50	0/1	50	0/1
Selenium	5	1303	12/07/00	NF	1	1	2.6	—	—	—	—	—
SiO_2	5	1303	12/07/00	F	1	1	49200	—	—	—	—	—
SiO_2	5	1303	12/07/00	NF	1	1	53500	—	—	—	—	—
Silver	5	1303	12/07/00	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	5	1303	12/07/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	5	1303	12/07/00	F	1	1	14000	—	—	—	—	—
Sodium	5	1303	12/07/00	NF	1	1	15000	—	—	—	—	—
Strontium	5	1303	12/07/00	F	1	1	150	—	—	—	—	—
Strontium	5	1303	12/07/00	NF	1	1	170	—	—	—	—	—
Sulfate	5	1303	12/07/00	F	1	1	9600	—	250000	0/1	600000	0/1
Sulfate	5	1303	12/07/00	NF	1	1	11000	—	—	—	—	—

Table D-8 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Thallium	5	1303	12/07/00	F	1	1	0.326	—	2	0/1	—	—
Thallium	5	1303	12/07/00	NF	1	0	—	[0.019]	—	—	—	—
Uranium	5	1303	12/07/00	F	1	1	2.17	—	20	—	5000	—
Uranium	5	1303	12/07/00	NF	1	1	1.99	—	—	—	—	—
Vanadium	5	1303	12/07/00	F	1	0	—	[1.9]	—	—	—	—
Vanadium	5	1303	12/07/00	NF	1	0	—	[2.1]	—	—	—	—
Zinc	5	1303	12/07/00	F	1	0	—	[11]	5000	0/1	10000	0/1
Zinc	5	1303	12/07/00	NF	1	0	—	[9.70]	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	5	1303	12/07/00	NF	1	1	-81	—	—	—	—	—
δ O18/O16	5	1303	12/07/00	NF	1	1	-12	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1286 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-9
Regional Well R-25 Screen 6 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Field Parameter												
pH	6	1406	12/08/00	NF[e]	1	1	7.91	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	6	1406	12/08/00	NF	1	1	232	—	—	0/1	—	0/1
Temperature (°C)	6	1406	12/08/00	NF	1	1	10.9	—	—	0/1	—	0/1
Turbidity (NTU)[g]	6	1406	12/08/00	NF	1	1	1.8	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	6	1406	12/08/00	F[h]	1	1	90000	—	—	—	—	—
Alkalinity (total as $CaCO_3$)	6	1406	12/08/00	NF	1	1	93000	—	—	—	—	—
Aluminum	6	1406	12/08/00	F	1	0	—	[4]	50	0/1	5000	0/1
Aluminum	6	1406	12/08/00	NF	1	0	—	[4]	—	—	—	—
Ammonia (as N)	6	1406	12/08/00	F	1	0	—	[500]	—	—	—	—
Ammonia (as N)	6	1406	12/08/00	NF	1	0	—	[500]	—	—	—	—
Antimony	6	1406	12/08/00	F	1	0	—	[0.405]	6	0/1	—	—
Antimony	6	1406	12/08/00	NF	1	0	—	[0.633]	—	—	—	—
Arsenic	6	1406	12/08/00	F	1	1	2.2	—	50	0/1	100	0/1
Arsenic	6	1406	12/08/00	NF	1	1	2.7	—	—	—	—	—
Barium	6	1406	12/08/00	F	1	1	8.1	—	2000	0/1	1000	0/1
Barium	6	1406	12/08/00	NF	1	1	8.5	—	—	—	—	—
Beryllium	6	1406	12/08/00	F	1	1	0.02	—	4	0/1	—	—
Beryllium	6	1406	12/08/00	NF	1	1	0.026	—	—	—	—	—
Boron	6	1406	12/08/00	F	1	1	120	—	—	—	750	0/1
Boron	6	1406	12/08/00	NF	1	1	130	—	—	—	—	—

Table D-9 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Bromide	6	1406	12/08/00	F	1	0	—	[200]	—	—	—	—
Bromide	6	1406	12/08/00	NF	1	0	—	[200]	—	—	—	—
Cadmium	6	1406	12/08/00	F	1	0	—	[0.083]	5	0/1	10	0/1
Cadmium	6	1406	12/08/00	NF	1	0	—	[0.095]	—	—	—	—
Calcium	6	1406	12/08/00	F	1	1	23000	—	—	—	—	—
Calcium	6	1406	12/08/00	NF	1	1	23000	—	—	—	—	—
Chloride	6	1406	12/08/00	F	1	1	4900	—	250000	0/1	250000	0/1
Chloride	6	1406	12/08/00	NF	1	1	4900	—	—	—	—	—
Chromium	6	1406	12/08/00	F	1	1	4.2	—	100	0/1	50	0/1
Chromium	6	1406	12/08/00	NF	1	1	17	—	—	—	—	—
Cobalt	6	1406	12/08/00	F	1	0	—	[0.52]	—	—	50	0/1
Cobalt	6	1406	12/08/00	NF	1	0	—	[0.52]	—	—	—	—
Copper	6	1406	12/08/00	F	1	1	1.1	—	1300	0/1	1000	0/1
Copper	6	1406	12/08/00	NF	1	0	—	[1.7]	—	—	—	—
Cyanide, Total	6	1406	12/08/00	NF	1	0	—	[10]	—	—	—	—
Fluoride	6	1406	12/08/00	F	1	0	—	[100]	4000	0/1	1600	0/1
Fluoride	6	1406	12/08/00	NF	1	0	—	[100]	—	—	—	—
Iron	6	1406	12/08/00	F	1	0	—	[48]	300	0/1	1000	0/1
Iron	6	1406	12/08/00	NF	1	0	—	[95]	—	—	—	—
Lead	6	1406	12/08/00	F	1	1	0.033	—	15	0/1	50	0/1
Lead	6	1406	12/08/00	NF	1	0	—	[0.014]	—	—	—	—
Magnesium	6	1406	12/08/00	F	1	1	4600	—	—	—	—	—
Magnesium	6	1406	12/08/00	NF	1	1	4700	—	—	—	—	—
Manganese	6	1406	12/08/00	F	1	1	120	—	50	1/1	200	0/1
Manganese	6	1406	12/08/00	NF	1	1	120	—	—	—	—	—

Table D-9 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (μg/L)	Non—detected Value (μg/L)	Drinking Water MCL[b] (μg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (μg/L)	Frequency of Detects >NMED Groundwater Standard (μg/L)
Mercury	6	1406	12/08/00	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	6	1406	12/08/00	NF	1	0	—	[0.014]	—	—	2	0/1
Molybdenum	6	1406	12/08/00	F	1	1	6.7	—	—	—	—	—
Molybdenum	6	1406	12/08/00	NF	1	1	7.5	—	—	—	—	—
Nickel	6	1406	12/08/00	F	1	1	5.1	—	100	0/1	200	0/1
Nickel	6	1406	12/08/00	NF	1	1	13	—	—	—	—	—
Nitrate + Nitrite (as N)	6	1406	12/08/00	F	1	1	440	—	10000	0/1	—	—
Nitrate + Nitrite (as N)	6	1406	12/08/00	NF	1	1	430	—	—	—	—	—
Perchlorate	6	1406	12/08/00	NF	1	0	—	[1.04]	—	—	—	—
Phosphorus (as P)	6	1406	12/08/00	F	1	1	8400	—	—	—	—	—
Phosphorus (as P)	6	1406	12/08/00	NF	1	1	8400	—	—	—	—	—
Potassium	6	1406	12/08/00	F	1	1	1500	—	—	—	—	—
Potassium	6	1406	12/08/00	NF	1	1	1500	—	—	—	—	—
Selenium	6	1406	12/08/00	F	1	0	—	[1.7]	50	0/1	50	0/1
Selenium	6	1406	12/08/00	NF	1	1	1.9	—	—	—	—	—
SiO_2	6	1406	12/08/00	F	1	1	55640	—	—	—	—	—
SiO_2	6	1406	12/08/00	NF	1	1	55640	—	—	—	—	—
Silver	6	1406	12/08/00	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	6	1406	12/08/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	6	1406	12/08/00	F	1	1	15000	—	—	—	—	—
Sodium	6	1406	12/08/00	NF	1	1	16000	—	—	—	—	—
Strontium	6	1406	12/08/00	F	1	1	160	—	—	—	—	—
Strontium	6	1406	12/08/00	NF	1	1	160	—	—	—	—	—
Sulfate	6	1406	12/08/00	F	1	1	7800	—	250000	0/1	600000	0/1
Sulfate	6	1406	12/08/00	NF	1	1	7500	—	—	—	—	—

Table D-9 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Thallium	6	1406	12/08/00	F	1	0	—	[0.549]	2	0/1	—	—
Thallium	6	1406	12/08/00	NF	1	0	—	[0.544]	—	—	—	—
Uranium	6	1406	12/08/00	F	1	1	0.7	—	20	—	5000	—
Uranium	6	1406	12/08/00	NF	1	1	0.7	—	—	—	—	—
Vanadium	6	1406	12/08/00	F	1	1	4.2	—	—	—	—	—
Vanadium	6	1406	12/08/00	NF	1	1	4.9	—	—	—	—	—
Zinc	6	1406	12/08/00	F	1	0	—	[8.9]	5000	0/1	10000	0/1
Zinc	6	1406	12/08/00	NF	1	0	—	[12]	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	6	1406	12/08/00	NF	1	1	-80	—	—	—	—	—
δ N15/N14	6	1406	12/08/00	NF	1	1	+ 5.4	—	—	—	—	—
δ O18/O16	6	1406	12/08/00	NF	1	1	-12	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1286 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-10
Regional Well R-25 Screen 7 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Field Parameter												
pH	7	1605	12/11/00	NF[e]	1	1	7.90	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	7	1605	12/11/00	NF	1	1	186	—	—	0/1	—	0/1
Temperature (°C)	7	1605	12/11/00	NF	1	1	11.2	—	—	0/1	—	0/1
Turbidity (NTU)[g]	7	1605	12/11/00	NF	1	1	3.5	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	7	1605	12/11/00	F[h]	1	1	74000	—	—	—	—	—
Alkalinity (total as $CaCO_3$)	7	1605	12/11/00	NF	1	1	75000	—	—	—	—	—
Aluminum	7	1605	12/11/00	F	1	0	—	[4]	50	0/1	5000	0/1
Aluminum	7	1605	12/11/00	NF	1	0	—	[4]	—	—	—	—
Ammonia (as N)	7	1605	12/11/00	F	1	0	—	[500]	—	—	—	—
Ammonia (as N)	7	1605	12/11/00	NF	1	0	—	[500]	—	—	—	—
Antimony	7	1605	12/11/00	F	1	0	—	[0.491]	6	0/1	—	—
Antimony	7	1605	12/11/00	NF	1	0	—	[0.438]	—	—	—	—
Arsenic	7	1605	12/11/00	F	1	1	3.8	—	50	0/1	100	0/1
Arsenic	7	1605	12/11/00	NF	1	1	3.5	—	—	—	—	—
Barium	7	1605	12/11/00	F	1	1	16	—	2000	0/1	1000	0/1
Barium	7	1605	12/11/00	NF	1	1	16	—	—	—	—	—
Beryllium	7	1605	12/11/00	F	1	1	0.017	—	4	0/1	—	—
Beryllium	7	1605	12/11/00	NF	1	1	0.034	—	—	—	—	—
Boron	7	1605	12/11/00	F	1	1	140	—	—	—	750	0/1
Boron	7	1605	12/11/00	NF	1	1	140	—	—	—	—	—

Table D-10 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Bromide	7	1605	12/11/00	F	1	0	—	[200]	—	—	—	—
Bromide	7	1605	12/11/00	NF	1	0	—	[200]	—	—	—	—
Cadmium	7	1605	12/11/00	F	1	0	—	[0.061]	5	0/1	10	0/1
Cadmium	7	1605	12/11/00	NF	1	0	—	[0.1]	—	—	—	—
Calcium	7	1605	12/11/00	F	1	1	18000	—	—	—	—	—
Calcium	7	1605	12/11/00	NF	1	1	18000	—	—	—	—	—
Chloride	7	1605	12/11/00	F	1	1	6500	—	250000	0/1	250000	0/1
Chloride	7	1605	12/11/00	NF	1	1	6500	—	—	—	—	—
Chromium	7	1605	12/11/00	F	1	0	—	[0.52]	100	0/1	50	0/1
Chromium	7	1605	12/11/00	NF	1	1	43	—	—	—	—	—
Cobalt	7	1605	12/11/00	F	1	0	—	[0.52]	—	—	50	0/1
Cobalt	7	1605	12/11/00	NF	1	0	—	[0.52]	—	—	—	—
Copper	7	1605	12/11/00	F	1	0	—	[1.1]	1300	0/1	1000	0/1
Copper	7	1605	12/11/00	NF	1	0	—	[1.9]	—	—	—	—
Cyanide, Total	7	1605	12/11/00	NF	1	0	—	[10]	—	—	—	—
Fluoride	7	1605	12/11/00	F	1	0	—	[100]	4000	0/1	1600	0/1
Fluoride	7	1605	12/11/00	NF	1	0	—	[100]	—	—	—	—
Iron	7	1605	12/11/00	F	1	0	—	[59]	300	0/1	1000	0/1
Iron	7	1605	12/11/00	NF	1	1	320	—	—	—	—	—
Lead	7	1605	12/11/00	F	1	1	0.031	—	15	0/1	50	0/1
Lead	7	1605	12/11/00	NF	1	1	0.106	—	—	—	—	—
Magnesium	7	1605	12/11/00	F	1	1	4500	—	—	—	—	—
Magnesium	7	1605	12/11/00	NF	1	1	4500	—	—	—	—	—
Manganese	7	1605	12/11/00	F	1	1	33	—	50	0/1	200	0/1
Manganese	7	1605	12/11/00	NF	1	1	36	—	—	—	—	—

Table D-10 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Mercury	7	1605	12/11/00	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	7	1605	12/11/00	NF	1	0	—	[0.014]	—	—	2	0/1
Molybdenum	7	1605	12/11/00	F	1	1	4.7	—	—	—	—	—
Molybdenum	7	1605	12/11/00	NF	1	1	9.4	—	—	—	—	—
Nickel	7	1605	12/11/00	F	1	0	—	[2.7]	100	0/1	200	0/1
Nickel	7	1605	12/11/00	NF	1	1	28	—	—	—	—	—
Nitrate + Nitrite (as N)	7	1605	12/11/00	F	1	1	610	—	10000	0/1	—	—
Nitrate + Nitrite (as N)	7	1605	12/11/00	NF	1	1	600	—	—	—	—	—
Perchlorate	7	1605	12/11/00	NF	1	0	—	[1.04]	—	—	—	—
Phosphorus (as P)	7	1605	12/11/00	F	1	1	1000	—	—	—	—	—
Phosphorus (as P)	7	1605	12/11/00	NF	1	1	1000	—	—	—	—	—
Potassium	7	1605	12/11/00	F	1	1	1700	—	—	—	—	—
Potassium	7	1605	12/11/00	NF	1	1	1700	—	—	—	—	—
Selenium	7	1605	12/11/00	F	1	0	—	[1.7]	50	0/1	50	0/1
Selenium	7	1605	12/11/00	NF	1	0	—	[1.7]	—	—	—	—
SiO_2	7	1605	12/11/00	F	1	1	53500	—	—	—	—	—
SiO_2	7	1605	12/11/00	NF	1	1	53500	—	—	—	—	—
Silver	7	1605	12/11/00	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	7	1605	12/11/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	7	1605	12/11/00	F	1	1	12000	—	—	—	—	—
Sodium	7	1605	12/11/00	NF	1	1	12000	—	—	—	—	—
Strontium	7	1605	12/11/00	F	1	1	110	—	—	—	—	—
Strontium	7	1605	12/11/00	NF	1	1	110	—	—	—	—	—
Sulfate	7	1605	12/11/00	F	1	1	9400	—	250000	0/1	600000	0/1
Sulfate	7	1605	12/11/00	NF	1	1	9500	—	—	—	—	—

Table D-10 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non—detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Thallium	7	1605	12/11/00	F	1	0	—	[0.237]	2	0/1	—	—
Thallium	7	1605	12/11/00	NF	1	0	—	[0.3]	—	—	—	—
Uranium	7	1605	12/11/00	F	1	1	0.863	—	20	—	5000	—
Uranium	7	1605	12/11/00	NF	1	1	0.889	—	—	—	—	—
Vanadium	7	1605	12/11/00	F	1	1	3.6	—	—	—	—	—
Vanadium	7	1605	12/11/00	NF	1	1	3.6	—	—	—	—	—
Zinc	7	1605	12/11/00	F	1	0	—	[7.3]	5000	0/1	10000	0/1
Zinc	7	1605	12/11/00	NF	1	0	—	[6.3]	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	7	1605	12/11/00	NF	1	1	-80	—	—	—	—	—
δ N15/N14	7	1605	12/11/00	NF	1	1	+ 5.9	—	—	—	—	—
δ O18/O16	7	1605	12/11/00	NF	1	1	-12	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1282 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-11
Regional Well R-25 Screen 8 First Round Sample Results: Data Summary for Inorganic Chemicals

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Field Parameter												
pH	8	1796	12/12/00	NF[e]	1	1	8.07	—[f]	> 6 & < 9	0/1	> 6 & < 9	0/1
Specific Conductance (µS/cm)	8	1796	12/12/00	NF	1	1	204	—	—	0/1	—	0/1
Temperature (°C)	8	1796	12/12/00	NF	1	1	10.9	—	—	0/1	—	0/1
Turbidity (NTU)[g]	8	1796	12/12/00	NF	1	1	14.3	—	—	0/1	—	0/1
Analyte												
Alkalinity (total as $CaCO_3$)	8	1796	12/12/00	F[h]	1	1	83000	—	—	—	—	—
Alkalinity (total as $CaCO_3$)	8	1796	12/12/00	NF	1	1	83000	—	—	—	—	—
Aluminum	8	1796	12/12/00	F	1	1	350	—	50	1/1	5000	0/1
Aluminum	8	1796	12/12/00	NF	1	1	4000	—	—	—	—	—
Ammonia (as N)	8	1796	12/12/00	F	1	0	—	[500]	—	—	—	—
Ammonia (as N)	8	1796	12/12/00	NF	1	0	—	[500]	—	—	—	—
Antimony	8	1796	12/12/00	F	1	0	—	[0.725]	6	0/1	—	—
Antimony	8	1796	12/12/00	NF	1	0	—	[0.789]	—	—	—	—
Arsenic	8	1796	12/12/00	F	1	1	2.7	—	50	0/1	100	0/1
Arsenic	8	1796	12/12/00	NF	1	1	3.9	—	—	—	—	—
Barium	8	1796	12/12/00	F	1	1	25	—	2000	0/1	1000	0/1
Barium	8	1796	12/12/00	NF	1	1	73	—	—	—	—	—
Beryllium	8	1796	12/12/00	F	1	1	0.33	—	4	0/1	—	—
Beryllium	8	1796	12/12/00	NF	1	1	1.99	—	—	—	—	—
Boron	8	1796	12/12/00	F	1	1	140	—	—	—	750	0/1
Boron	8	1796	12/12/00	NF	1	1	160	—	—	—	—	—

Table D-11 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Bromide	8	1796	12/12/00	F	1	0	—	[200]	—	—	—	—
Bromide	8	1796	12/12/00	NF	1	0	—	[200]	—	—	—	—
Cadmium	8	1796	12/12/00	F	1	0	—	[0.059]	5	0/1	10	0/1
Cadmium	8	1796	12/12/00	NF	1	1	0.155	—	—	—	—	—
Calcium	8	1796	12/12/00	F	1	1	17000	—	—	—	—	—
Calcium	8	1796	12/12/00	NF	1	1	21000	—	—	—	—	—
Chloride	8	1796	12/12/00	F	1	1	7900	—	250000	0/1	250000	0/1
Chloride	8	1796	12/12/00	NF	1	1	6700	—	—	—	—	—
Chromium	8	1796	12/12/00	F	1	1	2.5	—	100	0/1	50	0/1
Chromium	8	1796	12/12/00	NF	1	1	33	—	—	—	—	—
Cobalt	8	1796	12/12/00	F	1	1	0.8	—	—	—	50	0/1
Cobalt	8	1796	12/12/00	NF	1	1	2.4	—	—	—	—	—
Copper	8	1796	12/12/00	F	1	0	—	[2.7]	1300	0/1	1000	0/1
Copper	8	1796	12/12/00	NF	1	1	12	—	—	—	—	—
Cyanide, Total	8	1796	12/12/00	NF	1	0	—	[10]	—	—	—	—
Fluoride	8	1796	12/12/00	F	1	0	—	[100]	4000	0/1	1600	0/1
Fluoride	8	1796	12/12/00	NF	1	0	—	[100]	—	—	—	—
Iron	8	1796	12/12/00	F	1	1	1900	—	300	1/1	1000	1/1
Iron	8	1796	12/12/00	NF	1	1	19000	—	—	—	—	—
Lead	8	1796	12/12/00	F	1	1	2.57	—	15	0/1	50	0/1
Lead	8	1796	12/12/00	NF	1	1	18.1	—	—	—	—	—
Magnesium	8	1796	12/12/00	F	1	1	4300	—	—	—	—	—
Magnesium	8	1796	12/12/00	NF	1	1	6200	—	—	—	—	—
Manganese	8	1796	12/12/00	F	1	1	42	—	50	0/1	200	0/1
Manganese	8	1796	12/12/00	NF	1	1	150	—	—	—	—	—

Table D-11 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Mercury	8	1796	12/12/00	F	1	0	—	[0.014]	2	0/1	—	—
Mercury	8	1796	12/12/00	NF	1	0	—	[0.014]	—	—	2	0/1
Molybdenum	8	1796	12/12/00	F	1	1	5.6	—	—	—	—	—
Molybdenum	8	1796	12/12/00	NF	1	1	8.4	—	—	—	—	—
Nickel	8	1796	12/12/00	F	1	1	6.7	—	100	0/1	200	0/1
Nickel	8	1796	12/12/00	NF	1	1	27	—	—	—	—	—
Nitrate + Nitrite (as N)	8	1796	12/12/00	F	1	1	280	—	10000	0/1	—	—
Nitrate + Nitrite (as N)	8	1796	12/12/00	NF	1	1	110	—	—	—	—	—
Perchlorate	8	1796	12/12/00	NF	1	0	—	[1.04]	—	—	—	—
Phosphorus (as P)	8	1796	12/12/00	F	1	1	950	—	—	—	—	—
Phosphorus (as P)	8	1796	12/12/00	NF	1	1	1700	—	—	—	—	—
Potassium	8	1796	12/12/00	F	1	1	3000	—	—	—	—	—
Potassium	8	1796	12/12/00	NF	1	1	3400	—	—	—	—	—
Selenium	8	1796	12/12/00	F	1	0	—	[1.7]	50	0/1	50	0/1
Selenium	8	1796	12/12/00	NF	1	0	—	[1.7]	—	—	—	—
SiO_2	8	1796	12/12/00	F	1	1	53500	—	—	—	—	—
SiO_2	8	1796	12/12/00	NF	1	1	79180	—	—	—	—	—
Silver	8	1796	12/12/00	F	1	0	—	[0.78]	100	0/1	50	0/1
Silver	8	1796	12/12/00	NF	1	0	—	[0.78]	—	—	—	—
Sodium	8	1796	12/12/00	F	1	1	18000	—	—	—	—	—
Sodium	8	1796	12/12/00	NF	1	1	19000	—	—	—	—	—
Strontium	8	1796	12/12/00	F	1	1	130	—	—	—	—	—
Strontium	8	1796	12/12/00	NF	1	1	180	—	—	—	—	—
Sulfate	8	1796	12/12/00	F	1	1	13000	—	250000	0/1	600000	0/1
Sulfate	8	1796	12/12/00	NF	1	1	10000	—	—	—	—	—

Table D-11 (continued)

Parameter and Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Thallium	8	1796	12/12/00	F	1	0	—	[0.019]	2	0/1	—	—
Thallium	8	1796	12/12/00	NF	1	1	0.083	—	—	—	—	—
Uranium	8	1796	12/12/00	F	1	1	1.66	—	20	—	5000	—
Uranium	8	1796	12/12/00	NF	1	1	5.23	—	—	—	—	—
Vanadium	8	1796	12/12/00	F	1	1	2.8	—	—	—	—	—
Vanadium	8	1796	12/12/00	NF	1	1	8.5	—	—	—	—	—
Zinc	8	1796	12/12/00	F	1	0	—	[15]	5000	0/1	10000	0/1
Zinc	8	1796	12/12/00	NF	1	1	81	—	—	—	—	—
Stable Isotopes **(‰)**												
δ D/H	8	1796	12/12/00	NF	1	1	-81	—	—	—	—	—
δ N15/N14	8	1796	12/12/00	NF	1	1	5.3	—	—	—	—	—
δ O18/O16	8	1796	12/12/00	NF	1	1	-11.6	—	—	—	—	—

Note: Units are µg/L except as otherwise noted in first column.

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1282 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] NTU = Nephelometric turbidity unit.

[h] F = Filtered.

Table D-12
Regional Well R-25 Screen 1 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
4-Amino-2,6-dinitrotoluene	1	755	11/14/00	NF[e]	1	1	3.3	—[f]	—	—	—	—
2-Amino-4,6-dinitrotoluene	1	755	11/14/00	NF	1	1	8	—	—	—	—	—
Dissolved Organic Carbon	1	755	11/14/00	F[g]	1	1	1500	—	—	—	—	—
Humic Substances, Hydrophilic Acids	1	755	11/14/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophilic Bases	1	755	11/14/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophilic Neutrals	1	755	11/14/00	F	1	1	700	—	—	—	—	—
Humic Substances, Hydrophilic Total	1	755	11/14/00	F	1	1	700	—	—	—	—	—
Humic Substances, Hydrophobic Acids	1	755	11/14/00	F	1	1	400	—	—	—	—	—
Humic Substances, Hydrophobic Bases	1	755	11/14/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophobic Neutrals	1	755	11/14/00	F	1	1	400	—	—	—	—	—
Humic Substances, Hydrophobic Total	1	755	11/14/00	F	1	1	800	—	—	—	—	—
RDX	1	755	11/14/00	NF	1	1	65	—	—	—	—	—
Tetrachloroethene	1	755	11/14/00	NF	1	1	1.3	—	5	0/1	20	0/1
Trichloroethene	1	755	11/14/00	NF	1	1	1.8	—	5	0/1	100	0/1
2,4,6-Trinitrotoluene	1	755	11/14/00	NF	1	1	4.3	—	—	—	—	—

Table D-12 (continued)

[a] Upper saturated zone, Otowi Member, Bandelier Tuff.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] F = Filtered.

Table D-13
Regional Well R-25 Screen 2 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
4-Amino-2,6-dinitrotoluene	2	892	11/15/00	NF[e]	1	1	1.3	—[f]	—	—	—	—
2-Amino-4,6-dinitrotoluene	2	892	11/15/00	NF	1	1	0.49	—	—	—	—	—
Dissolved Organic Carbon	2	892	11/15/00	F[g]	1	1	2300	—	—	—	—	—
HMX	2	892	11/15/00	NF	1	1	2.8					
Humic Substances, Hydrophilic Acids	2	892	11/15/00	F	1	1	300	—	—	—	—	—
Humic Substances, Hydrophilic Bases	2	892	11/15/00	F	1	1	200	—	—	—	—	—
Humic Substances, Hydrophilic Neutrals	2	892	11/15/00	F	1	1	800	—	—	—	—	—
Humic Substances, Hydrophilic Total	2	892	11/15/00	F	1	1	1300	—	—	—	—	—
Humic Substances, Hydrophobic Acids	2	892	11/15/00	F	1	1	500	—	—	—	—	—
Humic Substances, Hydrophobic Bases	2	892	11/15/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophobic Neutrals	2	892	11/15/00	F	1	1	500	—	—	—	—	—
Humic Substances, Hydrophobic Total	2	892	11/15/00	F	1	1	1000	—	—	—	—	—
RDX	2	892	11/15/00	NF	1	1	15	—	—	—	—	—
Tetrachloroethene	2	892	11/15/00	NF	1	1	1.2	—	5	0/1	100	0/1

Table D-13 (continued)

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] F = Filtered.

Table D-14
Regional Well R-25 Screen 3 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
Chlorobenzene	3	1063	12/01/00	NF[e]	1	1	0.89	—[f]	100	0/1	—	—
HMX	3	1063	12/01/00	NF	1	1	4.9	—	—	—	—	—
RDX	3	1063	12/01/00	NF	1	1	5.2	—	—	—	—	—
Styrene	3	1063	12/01/00	NF	1	1	1	—	100	0/1	—	—
Toluene	3	1063	12/01/00	NF	1	1	15	—	1000	0/1	750	—
2,4,6-Trinitrotoluene	3	1063	12/01/00	NF	1	1	0.36	—	—	—	—	—

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

Table D-15
Regional Well R-25 Screen 4 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
4-Amino-2,6-dinitrotoluene	4	1192	12/04/00	NF[e]	1	1	0.6	—[f]	—	—	—	—
2-Amino-4,6-dinitrotoluene	4	1192	12/04/00	NF	1	1	0.65	—	—	—	—	—
Dissolved Organic Carbon	4	1192	12/04/00	F[g]	1	1	1100	—	—	—	—	—
Chlorobenzene	4	1192	12/04/00	NF	1	1	0.73	—	100	0/1	—	—
Humic Substances, Hydrophilic Acids	4	1192	12/04/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophilic Bases	4	1192	12/04/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophilic Neutrals	4	1192	12/04/00	F	1	1	200	—	—	—	—	—
Humic Substances, Hydrophilic Total	4	1192	12/04/00	F	1	1	600	—	—	—	—	—
Humic Substances, Hydrophobic Acids	4	1192	12/04/00	F	1	1	100	—	—	—	—	—
Humic Substances, Hydrophobic Bases	4	1192	12/04/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophobic Neutrals	4	1192	12/04/00	F	1	1	500	—	—	—	—	—
Humic Substances, Hydrophobic Total	4	1192	12/04/00	F	1	1	600	—	—	—	—	—
RDX	4	1192	12/04/00	NF	1	1	9.4	—	—	—	—	—
Toluene	4	1192	12/04/00	NF	1	1	0.86	—	1000	0/1	750	0/1

Table D-15 (continued)

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] F = Filtered.

Table D-16
Regional Well R-25 Screen 5 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
4-Amino-2,6-dinitrotoluene	5	1303	12/07/00	NF[e]	1	1	0.94	—[f]	—	—	—	—
2-Amino-4,6-dinitrotoluene	5	1303	12/07/00	NF	1	1	0.75	—	—	—	—	—
Dissolved Organic Carbon	5	1303	12/07/00	F[g]	1	1	1300	—	—	—	—	—
HMX	5	1303	12/07/00	NF	1	1	3.1	—	—	—	—	—
Humic Substances, Hydrophilic Acids	5	1303	12/07/00	F	1	1	300	—	—	—	—	—
Humic Substances, Hydrophilic Bases	5	1303	12/07/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophilic Neutrals	5	1303	12/07/00	F	1	1	300	—	—	—	—	—
Humic Substances, Hydrophilic Total	5	1303	12/07/00	F	1	1	600	—	—	—	—	—
Humic Substances, Hydrophobic Acids	5	1303	12/07/00	F	1	1	200	—	—	—	—	—
Humic Substances, Hydrophobic Bases	5	1303	12/07/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophobic Neutrals	5	1303	12/07/00	F	1	1	500	—	—	—	—	—
Humic Substances, Hydrophobic Total	5	1303	12/07/00	F	1	1	700	—	—	—	—	—
RDX	5	1303	12/07/00	NF	1	1	22	—	—	—	—	—
Toluene	5	1303	12/07/00	NF	1	1	2.5	—	1000	0/1	750	0/1

Table D-16 (continued)

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1286 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] F = Filtered.

Table D-17
Regional Well R-25 Screen 6 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
4-Amino-2,6-dinitrotoluene	6	1406	12/08/00	NF[e]	1	1	2.5	—[f]	—	—	—	—
2-Amino-4,6-dinitrotoluene	6	1406	12/08/00	NF	1	1	1.6	—	—	—	—	—
Total Organic Carbon	6	1406	12/08/00	F[g]	1	1	910	—	—	—	—	—
HMX	6	1406	12/08/00	NF	1	1	2.8	—	—	—	—	—
RDX	6	1406	12/08/00	NF	1	1	17	—	—	—	—	—
2,4,6-Trinitrotoluene	6	1406	12/08/00	NF	1	1	0.83	—	—	—	—	—

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1286 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] F = Filtered.

Table D-18
Regional Well R-25 Screen 7 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
4-Amino-2,6-dinitrotoluene	7	1605	12/11/00	NF[e]	1	1	3.8	—[f]	—	—	—	—
2-Amino-4,6-dinitrotoluene	7	1605	12/11/00	NF	1	1	2.2	—	—	—	—	—
Total Organic Carbon	7	1605	12/11/00	F[g]	1	1	880	—	—	—	—	—
HMX	7	1605	12/11/00	NF	1	1	3.8	—	—	—	—	—
RDX	7	1605	12/11/00	NF	1	1	26	—	—	—	—	—
Trichloroethene	7	1605	12/11/00	NF	1	1	1	—	5	0/1	100	0/1
2,4,6-Trinitrotoluene	7	1605	12/11/00	NF	1	1	2.2	—	—	—	—	—

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1282 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] F = Filtered.

Table D-19
Regional Well R-25 Screen 8 First Round Sample Results: Data Summary for Detected Organic Chemicals

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (µg/L)	Non-detected Value (µg/L)	Drinking Water MCL[b] (µg/L)	Frequency of Detects >Drinking Water MCL	NMED[c] Groundwater Standard[d] (µg/L)	Frequency of Detects >NMED Groundwater Standard (µg/L)
4-Amino-2,6-dinitrotoluene	8	1796	12/12/00	NF[e]	1	1	4.5	—[f]	—	—	—	—
2-Amino-4,6-dinitrotoluene	8	1796	12/12/00	NF	1	1	3	—	—	—	—	—
Dissolved Organic Carbon	8	1796	12/12/00	F[g]	1	1	2100	—	—	—	—	—
HMX	8	1796	12/12/00	NF	1	1	4.1	—	—	—	—	—
Humic Substances, Hydrophilic Acids	8	1796	12/12/00	F	1	1	400	—	—	—	—	—
Humic Substances, Hydrophilic Bases	8	1796	12/12/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophilic Neutrals	8	1796	12/12/00	F	1	1	300	—	—	—	—	—
Humic Substances, Hydrophilic Total	8	1796	12/12/00	F	1	1	700	—	—	—	—	—
Humic Substances, Hydrophobic Acids	8	1796	12/12/00	F	1	1	200	—	—	—	—	—
Humic Substances, Hydrophobic Bases	8	1796	12/12/00	F	1	1	0	—	—	—	—	—
Humic Substances, Hydrophobic Neutrals	8	1796	12/12/00	F	1	1	1200	—	—	—	—	—
Humic Substances, Hydrophobic Total	8	1796	12/12/00	F	1	1	1400	—	—	—	—	—
RDX	8	1796	12/12/00	NF	1	1	28	—	—	—	—	—
Trichloroethene	8	1796	12/12/00	NF	1	1	1.2	—	5	0/1	100	0/1
2,4,6-Trinitrotoluene	8	1796	12/12/00	NF	1	1	2	—	—	—	—	—

Table D-19 (continued)

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1282 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NMED = New Mexico Environment Department.

[d] State of New Mexico groundwater standards are from New Mexico Water Quality Control Commission Regulations, Ground and Surface Water Protection, 20 NMAC 6.2.

[e] NF = Nonfiltered.

[f] — = Not available or not applicable.

[g] F = Filtered.

Table D-20
Regional Well R-25 Screen 1 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Americium-241	1	755	11/14/00	F[c]	1	0	—[d]	[0.027]	15[e]	0/1
Americium-241	1	755	11/14/00	NF[f]	1	0	—	[0.063]	—	—
Cesium-134	1	755	11/14/00	F	1	0	—	[0.4]	—	—
Cesium-134	1	755	11/14/00	NF	1	0	—	[0.6]	—	—
Cesium-137	1	755	11/14/00	F	1	0	—	[-1.1]	—	—
Cesium-137	1	755	11/14/00	NF	1	0	—	[0]	—	—
Cobalt-60	1	755	11/14/00	F	1	0	—	[0.6]	—	—
Cobalt-60	1	755	11/14/00	NF	1	0	—	[-0.2]	—	—
Europium-152	1	755	11/14/00	F	1	0	—	[1]	—	—
Europium-152	1	755	11/14/00	NF	1	0	—	[0.1]	—	—
Plutonium-238	1	755	11/14/00	F	1	0	—	[0.039]	15[e]	0/1
Plutonium-238	1	755	11/14/00	NF	1	0	—	[0.02]	—	—
Plutonium-239	1	755	11/14/00	F	1	0	—	[0.01]	15[e]	0/1
Plutonium-239	1	755	11/14/00	NF	1	0	—	[0.008]	—	—
Ruthenium-106	1	755	11/14/00	F	1	0	—	[-8]	—	—
Ruthenium-106	1	755	11/14/00	NF	1	0	—	[-5]	—	—
Sodium-22	1	755	11/14/00	F	1	0	—	[-0.3]	—	—
Sodium-22	1	755	11/14/00	NF	1	0	—	[0]	—	—
Strontium-90	1	755	11/14/00	F	1	0	—	[0.7]	8	0/1
Strontium-90	1	755	11/14/00	NF	1	0	—	[1.4]	—	—
Tritium	1	755	11/14/00	NF	1	1	16.5	—	20000	0/1

Table D-20 (continued)

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Uranium-234	1	755	11/14/00	F	1	1	0.82	—	—	—
Uranium-234	1	755	11/14/00	NF	1	1	0.64	—	—	—
Uranium-235	1	755	11/14/00	F	1	1	0.082	—	—	—
Uranium-235	1	755	11/14/00	NF	1	1	0.059	—	—	—
Uranium-238	1	755	11/14/00	F	1	1	0.37	—	—	—
Uranium-238	1	755	11/14/00	NF	1	1	0.58	—	—	—

[a] Upper saturated zone, Bandelier Tuff.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] F = Filtered.

[d] — = Not available or not applicable.

[e] Based on an MCL of 15 pCi/L for gross alpha particle activity (including radium, but excluding radon and uranium).

[f] NF = Nonfiltered.

Table D-21
Regional Well R-25 Screen 2 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Americium-241	2	892	11/15/00	F[c]	1	0	—[d]	[0.008]	15[e]	0/1
Americium-241	2	892	11/15/00	NF[f]	1	0	—	[0.022]	—	—
Cesium-134	2	892	11/15/00	F	1	0	—	[0.3]	—	—
Cesium-134	2	892	11/15/00	NF	1	0	—	[-0.6]	—	—
Cesium-137	2	892	11/15/00	F	1	0	—	[-0.5]	—	—
Cesium-137	2	892	11/15/00	NF	1	0	—	[0.1]	—	—
Cobalt-60	2	892	11/15/00	F	1	0	—	[-0.1]	—	—
Cobalt-60	2	892	11/15/00	NF	1	0	—	[0.4]	—	—
Europium-152	2	892	11/15/00	F	1	0	—	[1]	—	—
Europium-152	2	892	11/15/00	NF	1	0	—	[1.8]	—	—
Plutonium-238	2	892	11/15/00	F	1	0	—	[-0.008]	15[e]	0/1
Plutonium-238	2	892	11/15/00	NF	1	0	—	[-0.002]	—	—
Plutonium-239	2	892	11/15/00	F	1	0	—	[0.016]	15[e]	0/1
Plutonium-239	2	892	11/15/00	NF	1	0	—	[0.044]	—	—
Ruthenium-106	2	892	11/15/00	F	1	0	—	[8]	—	—
Ruthenium-106	2	892	11/15/00	NF	1	0	—	[4]	—	—
Sodium-22	2	892	11/15/00	F	1	0	—	[-0.8]	—	—
Sodium-22	2	892	11/15/00	NF	1	0	—	[1]	—	—
Strontium-90	2	892	11/15/00	F	1	0	—	[0]	8	0/1
Strontium-90	2	892	11/15/00	NF	1	0	—	[0.7]	—	—
Tritium	2	892	11/15/00	NF	1	1	43.5	—	20000	0/1

Table D-21 (continued)

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Uranium-234	2	892	11/15/00	F	1	1	2.13	—	—	—
Uranium-234	2	892	11/15/00	NF	1	1	2.47	—	—	—
Uranium-235	2	892	11/15/00	F	1	1	0.162	—	—	—
Uranium-235	2	892	11/15/00	NF	1	1	0.153	—	—	—
Uranium-238	2	892	11/15/00	F	1	1	1.3	—	—	—
Uranium-238	2	892	11/15/00	NF	1	1	1.51	—	—	—

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] F = Filtered.

[d] — = Not available or not applicable.

[e] Based on an MCL of 15 pCi/L for gross alpha particle activity (including radium, but excluding radon and uranium).

[f] NF = Nonfiltered.

Table D-22
Regional Well R-25 Screen 3 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Tritium	3	1063	12/01/00	NF[c]	1	1	21.1	—[d]	20000	0/1

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NF = Nonfiltered.

[d] — = Not available or not applicable.

Table D-23
Regional Well R-25 Screen 4 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Americium-241	4	1192	12/04/00	F[c]	1	0	—[d]	[0]	15[e]	0/1
Americium-241	4	1192	12/04/00	NF[f]	1	0	—	[0.045]	—	—
Cesium-134	4	1192	12/04/00	F	1	0	—	[0]	—	—
Cesium-134	4	1192	12/04/00	NF	1	0	—	[2.4]	—	—
Cesium-137	4	1192	12/04/00	F	1	0	—	[-1]	—	—
Cesium-137	4	1192	12/04/00	NF	1	0	—	[-0.5]	—	—
Cobalt-60	4	1192	12/04/00	F	1	0	—	[-1]	—	—
Cobalt-60	4	1192	12/04/00	NF	1	0	—	[1.5]	—	—
Europium-152	4	1192	12/04/00	F	1	0	—	[-2.6]	—	—
Europium-152	4	1192	12/04/00	NF	1	0	—	[0.3]	—	—
Plutonium-238	4	1192	12/04/00	F	1	0	—	[0.027]	15[e]	0/1
Plutonium-238	4	1192	12/04/00	NF	1	0	—	[0.017]	—	—
Plutonium-239	4	1192	12/04/00	F	1	0	—	[0]	15[e]	0/1
Plutonium-239	4	1192	12/04/00	NF	1	0	—	[0.006]	—	—
Ruthenium-106	4	1192	12/04/00	F	1	0	—	[6]	—	—
Ruthenium-106	4	1192	12/04/00	NF	1	0	—	[-5]	—	—
Sodium-22	4	1192	12/04/00	F	1	0	—	[-0.2]	—	—
Sodium-22	4	1192	12/04/00	NF	1	0	—	[-3.3]	—	—
Strontium-90	4	1192	12/04/00	F	1	0	—	[0.3]	8	0/1
Strontium-90	4	1192	12/04/00	NF	1	0	—	[0.09]	—	—

Table D-23 (continued)

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Tritium	4	1192	12/04/00	NF	1	1	13.10	—	20000	0/1
Uranium-234	4	1192	12/04/00	F	1	1	0.40	—	—	—
Uranium-234	4	1192	12/04/00	NF	1	1	0.49	—	—	—
Uranium-235	4	1192	12/04/00	F	1	0	—	[0.018]	—	—
Uranium-235	4	1192	12/04/00	NF	1	0	—	[0.028]	—	—
Uranium-238	4	1192	12/04/00	F	1	1	0.19	—	—	—
Uranium-238	4	1192	12/04/00	NF	1	1	0.45	—	—	—

[a] Upper saturated zone, Puye formation.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] F = Filtered.

[d] — = Not available or not applicable.

[e] Based on an MCL of 15 pCi/L for gross alpha particle activity (including radium, but excluding radon and uranium).

[f] NF = Nonfiltered.

Table D-24
Regional Well R-25 Screen 5 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Americium-241	5	1303	12/07/00	F[c]	1	0	—[d]	[0.032]	15[e]	0/1
Americium-241	5	1303	12/07/00	NF[f]	1	0	—	[0.033]	—	—
Cesium-134	5	1303	12/07/00	F	1	0	—	[-0.4]	—	—
Cesium-134	5	1303	12/07/00	NF	1	0	—	[-0.2]	—	—
Cesium-137	5	1303	12/07/00	F	1	0	—	[-0.7]	—	—
Cesium-137	5	1303	12/07/00	NF	1	0	—	[-0.3]	—	—
Cobalt-60	5	1303	12/07/00	F	1	0	—	[0.6]	—	—
Cobalt-60	5	1303	12/07/00	NF	1	0	—	[1]	—	—
Europium-152	5	1303	12/07/00	F	1	0	—	[1.6]	—	—
Europium-152	5	1303	12/07/00	NF	1	0	—	[-0.5]	—	—
Plutonium-238	5	1303	12/07/00	F	1	0	—	[0.016]	15[e]	0/1
Plutonium-238	5	1303	12/07/00	NF	1	0	—	[0.006]	—	—
Plutonium-239	5	1303	12/07/00	F	1	0	—	[0.016]	15[e]	0/1
Plutonium-239	5	1303	12/07/00	NF	1	0	—	[0.023]	—	—
Ruthenium-106	5	1303	12/07/00	F	1	0	—	[4]	—	—
Ruthenium-106	5	1303	12/07/00	NF	1	0	—	[-3]	—	—
Sodium-22	5	1303	12/07/00	F	1	0	—	[2]	—	—
Sodium-22	5	1303	12/07/00	NF	1	0	—	[-1.5]	—	—
Strontium-90	5	1303	12/07/00	F	1	0	—	[0.4]	8	0/1
Strontium-90	5	1303	12/07/00	NF	1	0	—	[0.1]	—	—
Tritium	5	1303	12/07/00	NF	1	1	8.4	—	20000	0/1

Table D-24 (continued)

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Uranium-234	5	1303	12/07/00	F	1	1	1.06	—	—	—
Uranium-234	5	1303	12/07/00	NF	1	1	1.08	—	—	—
Uranium-235	5	1303	12/07/00	F	1	0	—	[-0.001]	—	—
Uranium-235	5	1303	12/07/00	NF	1	0	—	[0.016]	—	—
Uranium-238	5	1303	12/07/00	F	1	1	0.6	—	—	—
Uranium-238	5	1303	12/07/00	NF	1	1	0.53	—	—	—

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1286 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] F = Filtered.

[d] — = Not available or not applicable.

[e] Based on an MCL of 15 pCi/L for gross alpha particle activity (including radium, but excluding radon and uranium).

[f] NF = Nonfiltered.

Table D-25
Regional Well R-25 Screen 6 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Tritium	6	1406	12/08/00	NF[c]	1	1	8.1	—[d]	20000	0/1

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1282 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] NF = Nonfiltered.

[d] — = Not available or not applicable.

Table D-26
Regional Well R-25 Screen 7 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Americium-241	7	1605	12/11/00	F[c]	1	0	—[d]	[0.008]	15[e]	0/1
Americium-241	7	1605	12/11/00	NF[f]	1	0	—	[0.009]	—	—
Cesium-134	7	1605	12/11/00	F	1	0	—	[0.2]	—	—
Cesium-134	7	1605	12/11/00	NF	1	0	—	[-2.9]	—	—
Cesium-137	7	1605	12/11/00	F	1	0	—	[-1.1]	—	—
Cesium-137	7	1605	12/11/00	NF	1	0	—	[0]	—	—
Cobalt-60	7	1605	12/11/00	F	1	0	—	[0.1]	—	—
Cobalt-60	7	1605	12/11/00	NF	1	0	—	[0]	—	—
Europium-152	7	1605	12/11/00	F	1	0	—	[0.9]	—	—
Europium-152	7	1605	12/11/00	NF	1	0	—	[-1.6]	—	—
Plutonium-238	7	1605	12/11/00	F	1	0	—	[0.038]	15[e]	0/1
Plutonium-238	7	1605	12/11/00	NF	1	0	—	[0.008]	—	—
Plutonium-239	7	1605	12/11/00	F	1	0	—	[0]	15[e]	0/1
Plutonium-239	7	1605	12/11/00	NF	1	0	—	[0.008]	—	—
Ruthenium-106	7	1605	12/11/00	F	1	0	—	[5]	—	—
Ruthenium-106	7	1605	12/11/00	NF	1	0	—	[0]	—	—
Sodium-22	7	1605	12/11/00	F	1	0	—	[1.3]	—	—
Sodium-22	7	1605	12/11/00	NF	1	0	—	[-0.1]	—	—
Strontium-90	7	1605	12/11/00	F	1	0	—	[0.8]	8	0/1
Strontium-90	7	1605	12/11/00	NF	1	0	—	[0.2]	—	—
Tritium	7	1605	12/11/00	NF	1	1	11	—	20000	0/1

Table D-26 (continued)

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Uranium-234	7	1605	12/11/00	F	1	1	0.7	—	—	—
Uranium-234	7	1605	12/11/00	NF	1	1	0.61	—	—	—
Uranium-235	7	1605	12/11/00	F	1	0	—	[0.005]	—	—
Uranium-235	7	1605	12/11/00	NF	1	0	—	[0.021]	—	—
Uranium-238	7	1605	12/11/00	F	1	1	0.35	—	—	—
Uranium-238	7	1605	12/11/00	NF	1	1	0.233	—	—	—

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1282 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] F = Filtered.

[d] — = Not available or not applicable.

[e] Based on an MCL of 15 pCi/L for gross alpha particle activity (including radium, but excluding radon and uranium).

[f] NF = Nonfiltered.

Table D-27
Regional Well R-25 Screen 8 First Round Sample Results: Data Summary for Radionuclides

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Americium-241	8	1796	12/12/00	F[c]	1	0	—[d]	[-0.011]	15[e]	0/1
Americium-241	8	1796	12/12/00	NF[f]	1	0	—	[0.036]	—	—
Cesium-134	8	1796	12/12/00	F	1	0	—	[0.4]	—	—
Cesium-134	8	1796	12/12/00	NF	1	0	—	[0]	—	—
Cesium-137	8	1796	12/12/00	F	1	0	—	[-0.2]	—	—
Cesium-137	8	1796	12/12/00	NF	1	0	—	[0.4]	—	—
Cobalt-60	8	1796	12/12/00	F	1	0	—	[-0.5]	—	—
Cobalt-60	8	1796	12/12/00	NF	1	0	—	[1.2]	—	—
Europium-152	8	1796	12/12/00	F	1	0	—	[0.3]	—	—
Europium-152	8	1796	12/12/00	NF	1	0	—	[2.8]	—	—
Plutonium-238	8	1796	12/12/00	F	1	0	—	[0.006]	15[e]	0/1
Plutonium-238	8	1796	12/12/00	NF	1	0	—	[-0.002]	—	—
Plutonium-239	8	1796	12/12/00	F	1	0	—	[0.006]	15[e]	0/1
Plutonium-239	8	1796	12/12/00	NF	1	0	—	[0.022]	—	—
Ruthenium-106	8	1796	12/12/00	F	1	0	—	[-2]	—	—
Ruthenium-106	8	1796	12/12/00	NF	1	0	—	[-5]	—	—
Sodium-22	8	1796	12/12/00	F	1	0	—	[0.1]	—	—
Sodium-22	8	1796	12/12/00	NF	1	0	—	[0.3]	—	—
Strontium-90	8	1796	12/12/00	F	1	0	—	[-0.4]	8	0/1
Strontium-90	8	1796	12/12/00	NF	1	0	—	[-0.19]	—	—
Tritium	8	1796	12/12/00	NF	1	1	11.7	—	20000	0/1

Table D-27 (continued)

Analyte	Screen	Depth (ft)[a]	Collection Date	Field Preparation	Number of Analyses	Number of Detects	Detected Value (pCi/L)	Non-detected Value (pCi/L)	Drinking Water MCL[b] (pCi/L)	Frequency of Detects >Drinking Water MCL
Uranium-234	8	1796	12/12/00	F	1	1	1.59	—	—	—
Uranium-234	8	1796	12/12/00	NF	1	1	0.78	—	—	—
Uranium-235	8	1796	12/12/00	F	1	0	—	[0.055]	—	—
Uranium-235	8	1796	12/12/00	NF	1	0	—	[0.028]	—	—
Uranium-238	8	1796	12/12/00	F	1	1	1.43	—	—	—
Uranium-238	8	1796	12/12/00	NF	1	1	0.44	—	—	—

[a] Lower saturated zone, Puye formation, regional aquifer, static water level measured during well installation was 1282 ft.

[b] MCL = Maximum contaminant level. US Environmental Protection Agency (EPA) MCLs are from the National Primary Water Regulations, 40 CFR Part 141. US EPA secondary MCLs are from National Secondary Drinking Water Regulations, 40 CFR Part 143. State of New Mexico MCLs are from Drinking Water Regulations, 20 NMAC 7.1.

[c] F = Filtered.

[d] — = Not available or not applicable.

[e] Based on an MCL of 15 pCi/L for gross alpha particle activity (including radium, but excluding radon and uranium).

[f] NF = Nonfiltered.