



Groundwater Periodic Monitoring Reports

Presentation to

Northern New Mexico Citizens' Advisory Board

May 13, 2015

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Supervisor Soil and Groundwater Remediation



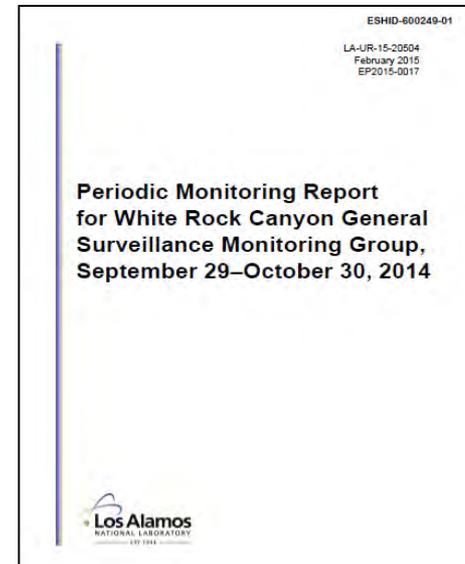
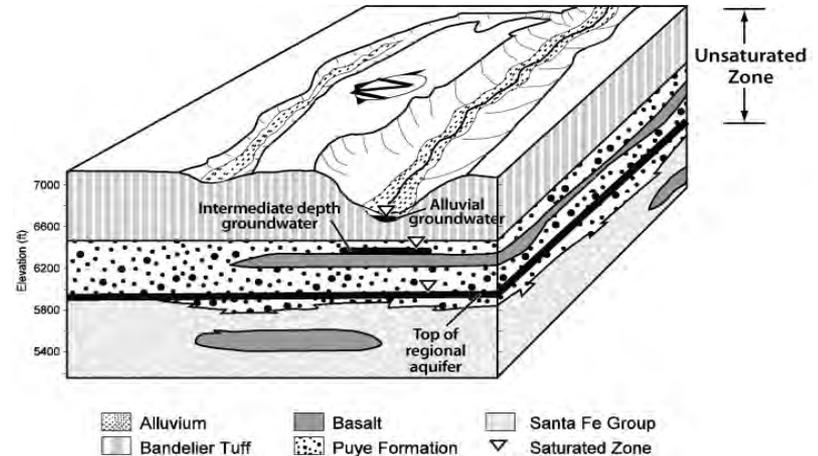
EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure



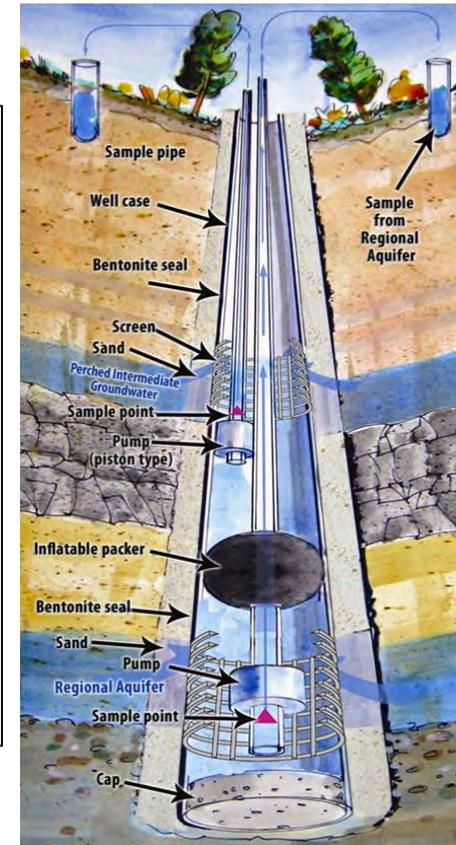
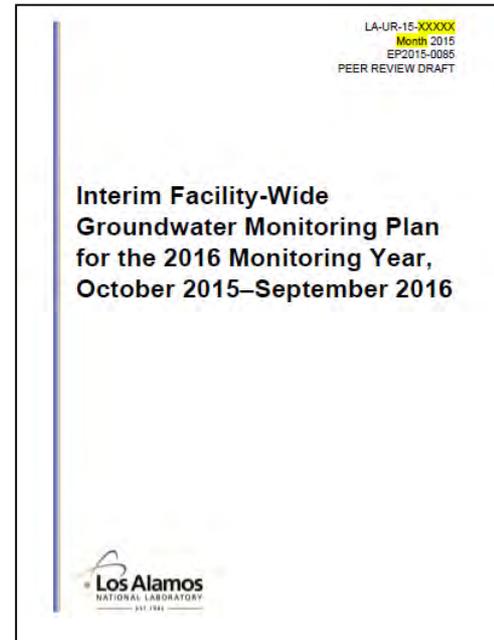
Periodic Monitoring Reports

- Required in Section IV.A.6 of the Consent Order;
- Include groundwater, base-flow, and spring monitoring results;
- Submitted quarterly on November 30, February 28, May 31, and August 31 to NMED;
- Prepared in accordance with the Annual Interim Facility-Wide Groundwater Monitoring Plan (IFGMP).

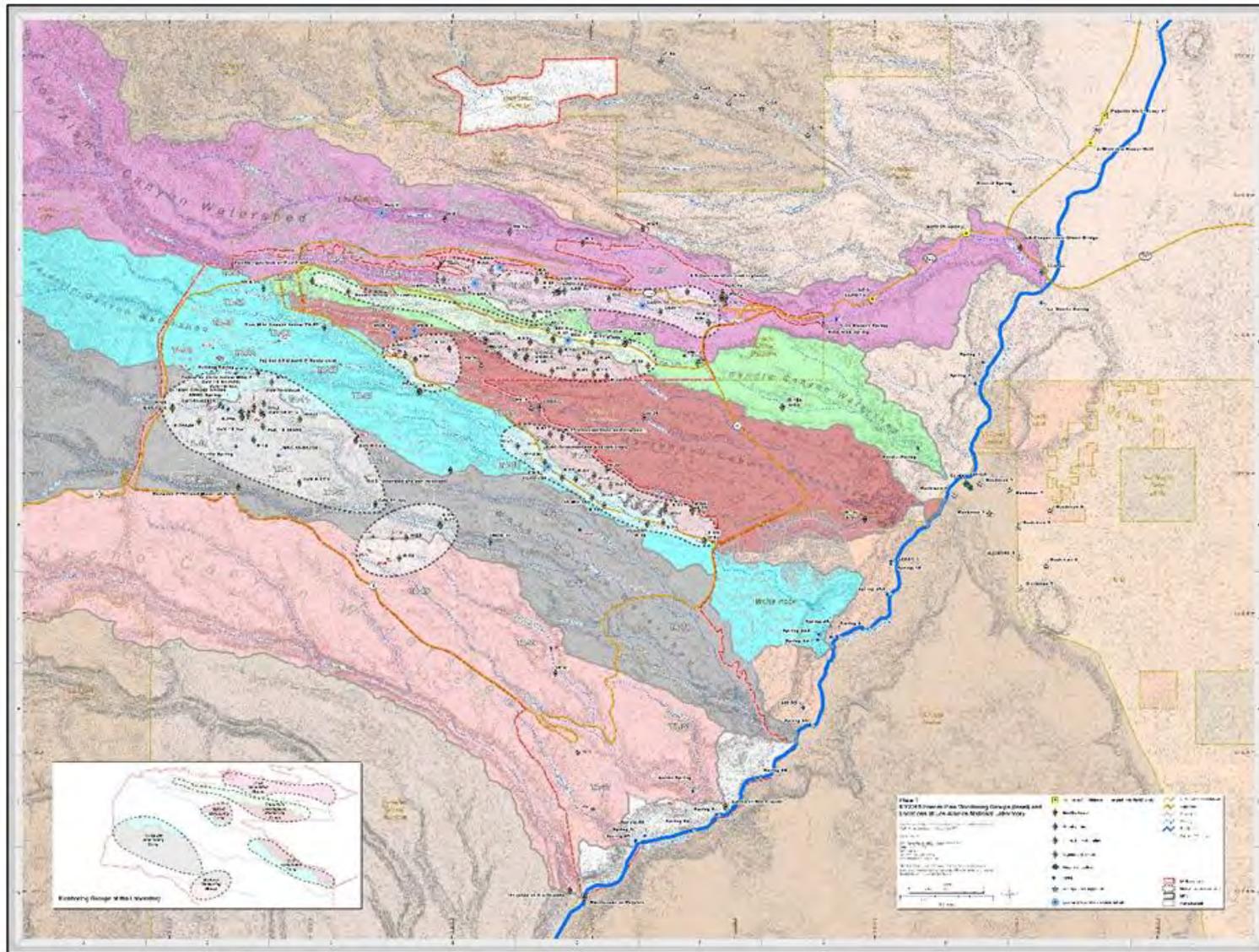


Annual Interim Facility-Wide Groundwater Monitoring Plan (IFGMP)

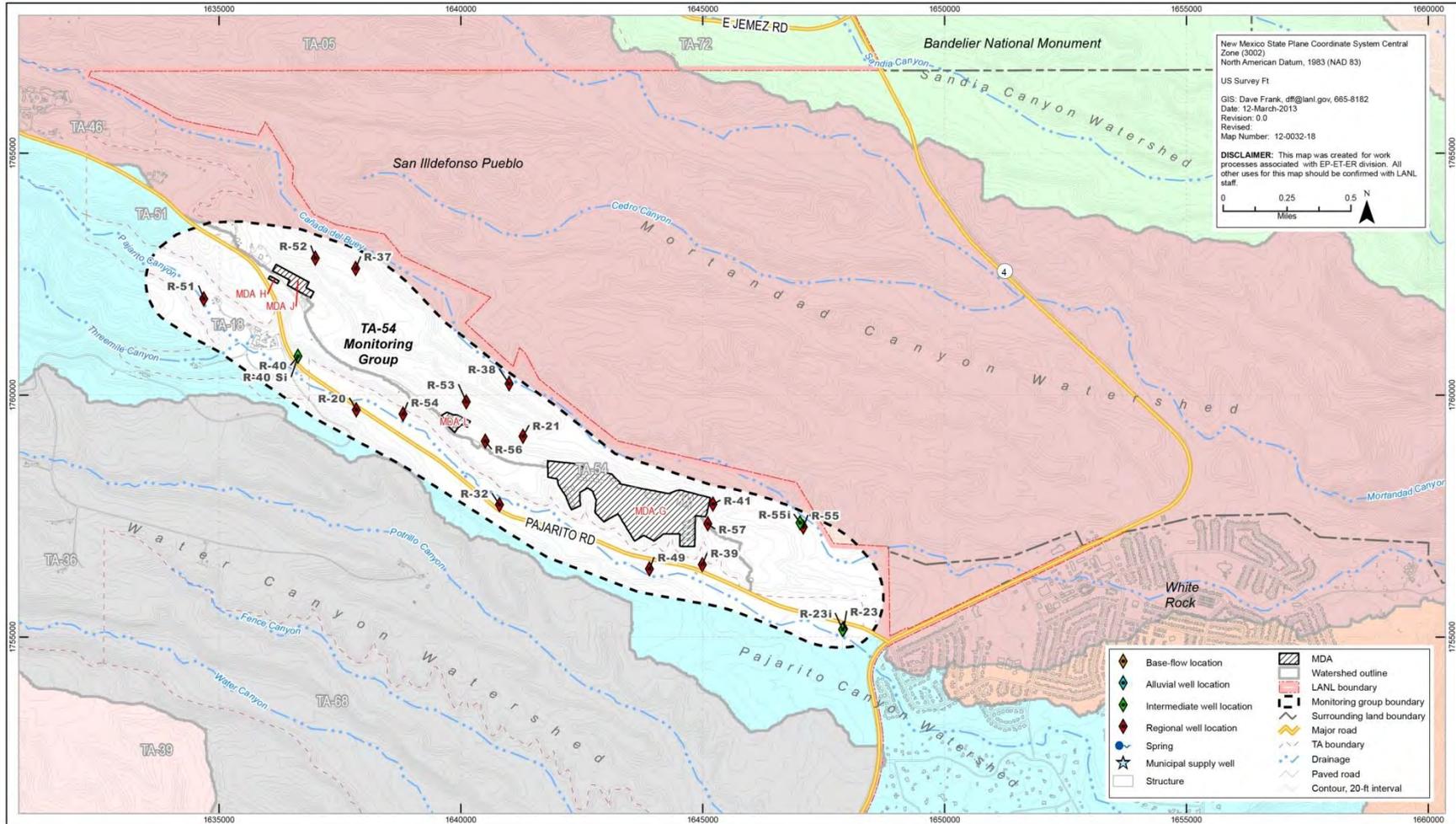
- Fulfills the groundwater monitoring requirement in Section IV.A.3.b of the Consent Order;
- Updates the monitoring activities for each monitoring group;
- Submitted to NMED for its approval prior to May 30 each year.



Monitoring Groups: TA-54, TA-21, MDA AB, MDA C, Chromium Investigation, TA-16 260 Outfall, and General Surveillance



TA-54 Monitoring Group: 33 Locations; Quarterly sampling events; 82 samples collected annually

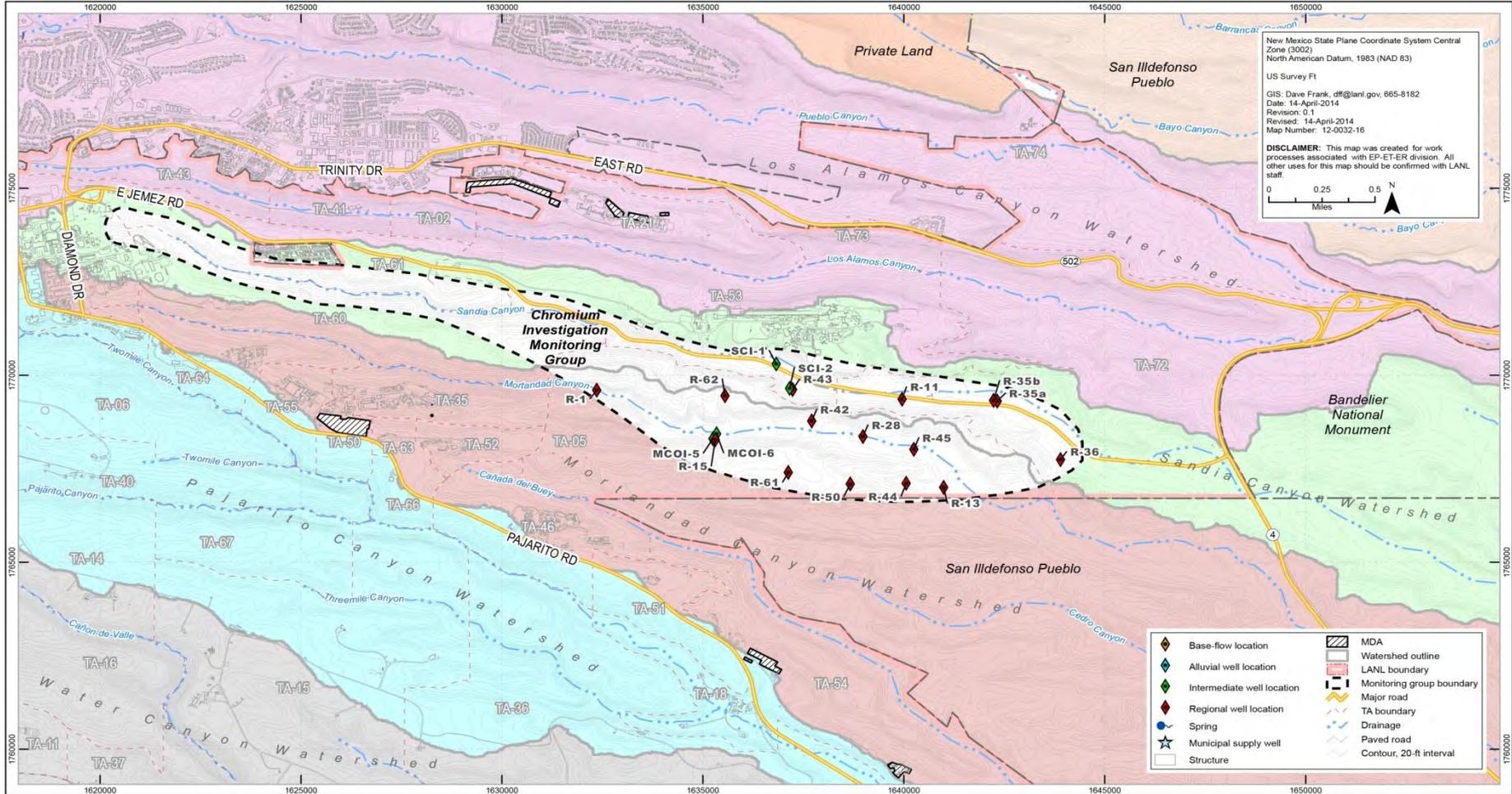


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Chromium Investigation Monitoring Group: 28 Locations; Quarterly sampling events; 96 samples collected annually

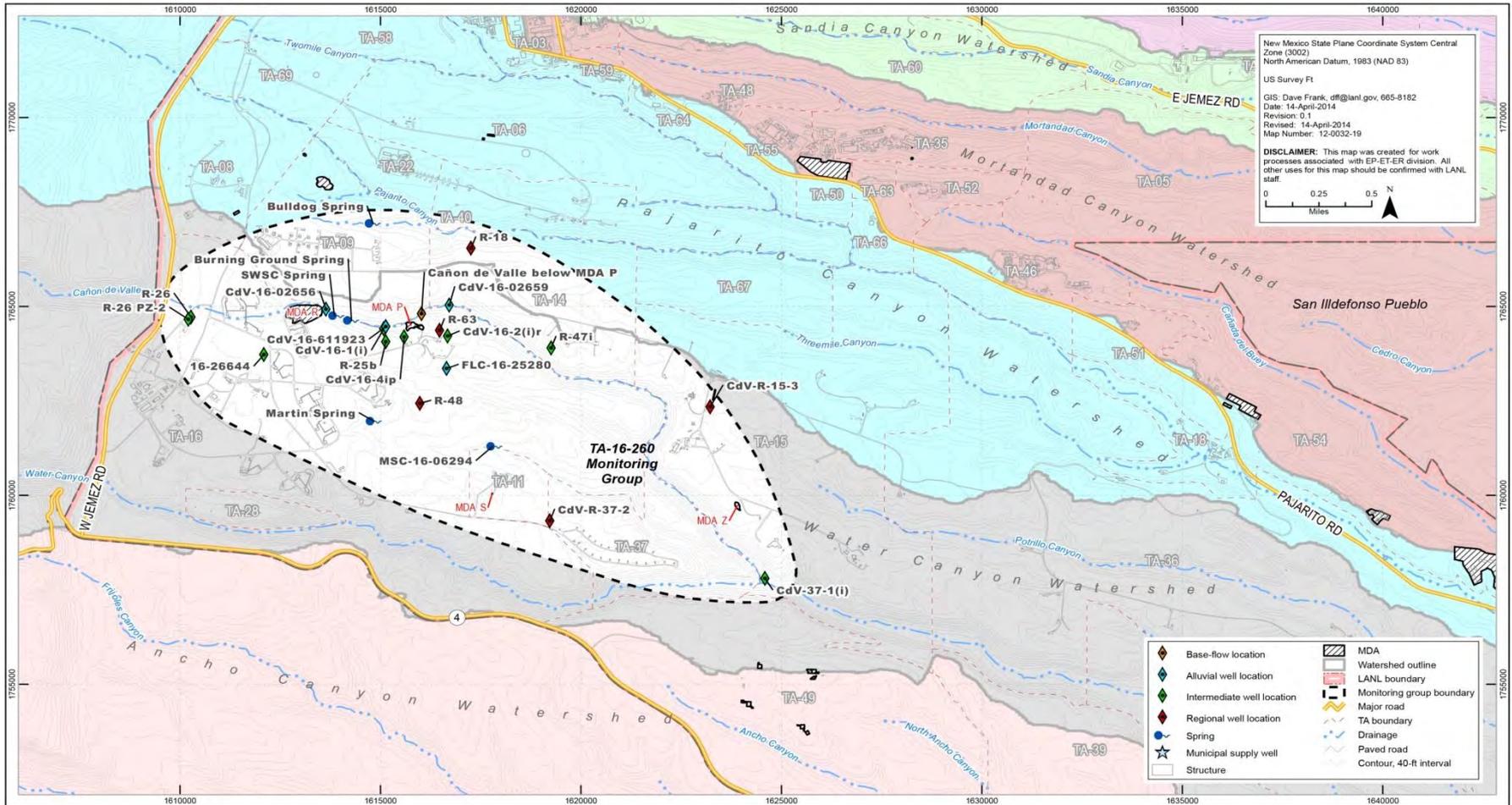


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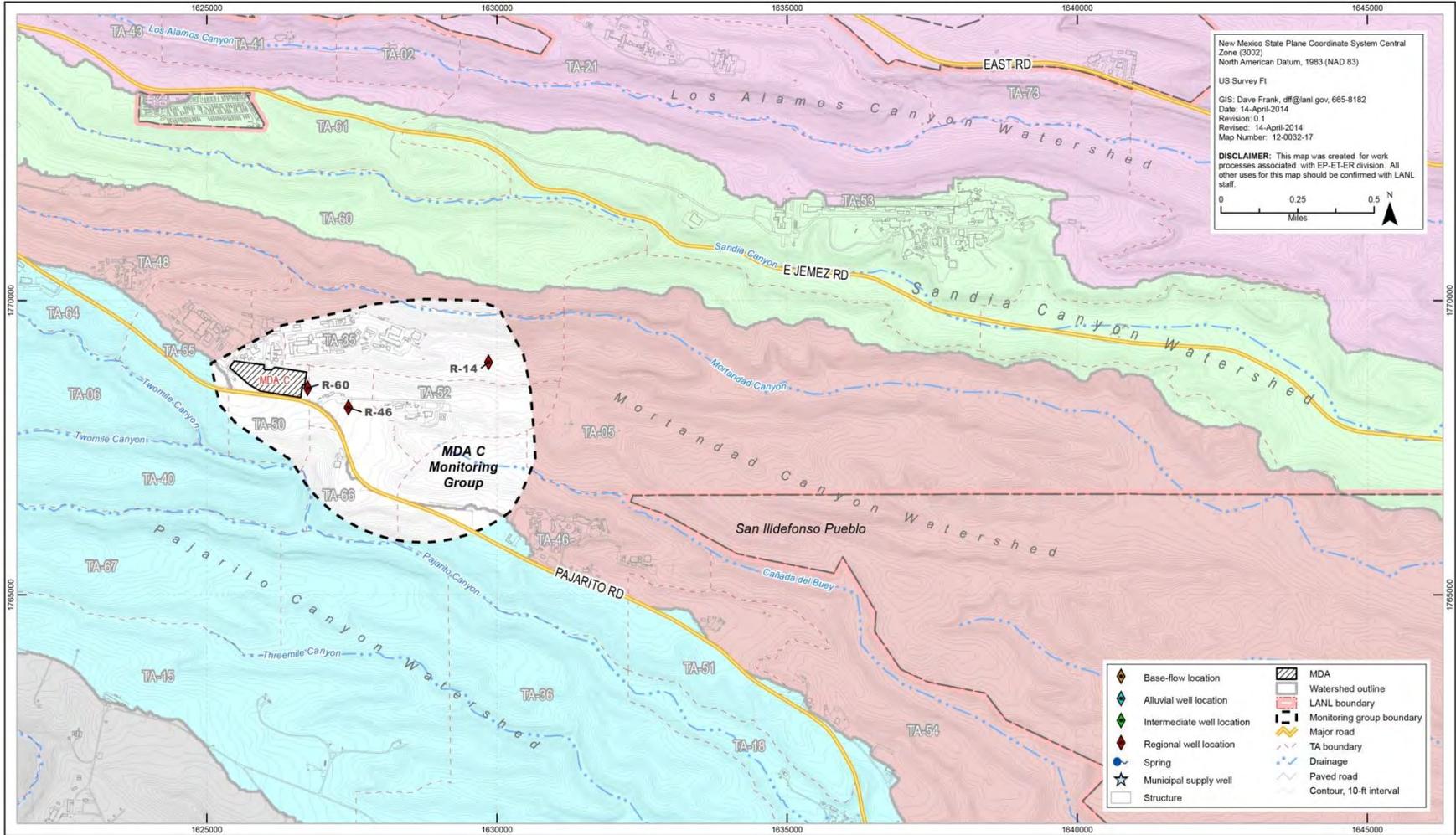
safety ♦ performance ♦ cleanup ♦ closure



TA-16 260 Monitoring Group: 28 Locations; Semi-annual sampling events; 59 samples collected annually



MDA C Monitoring Group: 3 Locations; Semi-annual sampling events; 6 samples collected annually

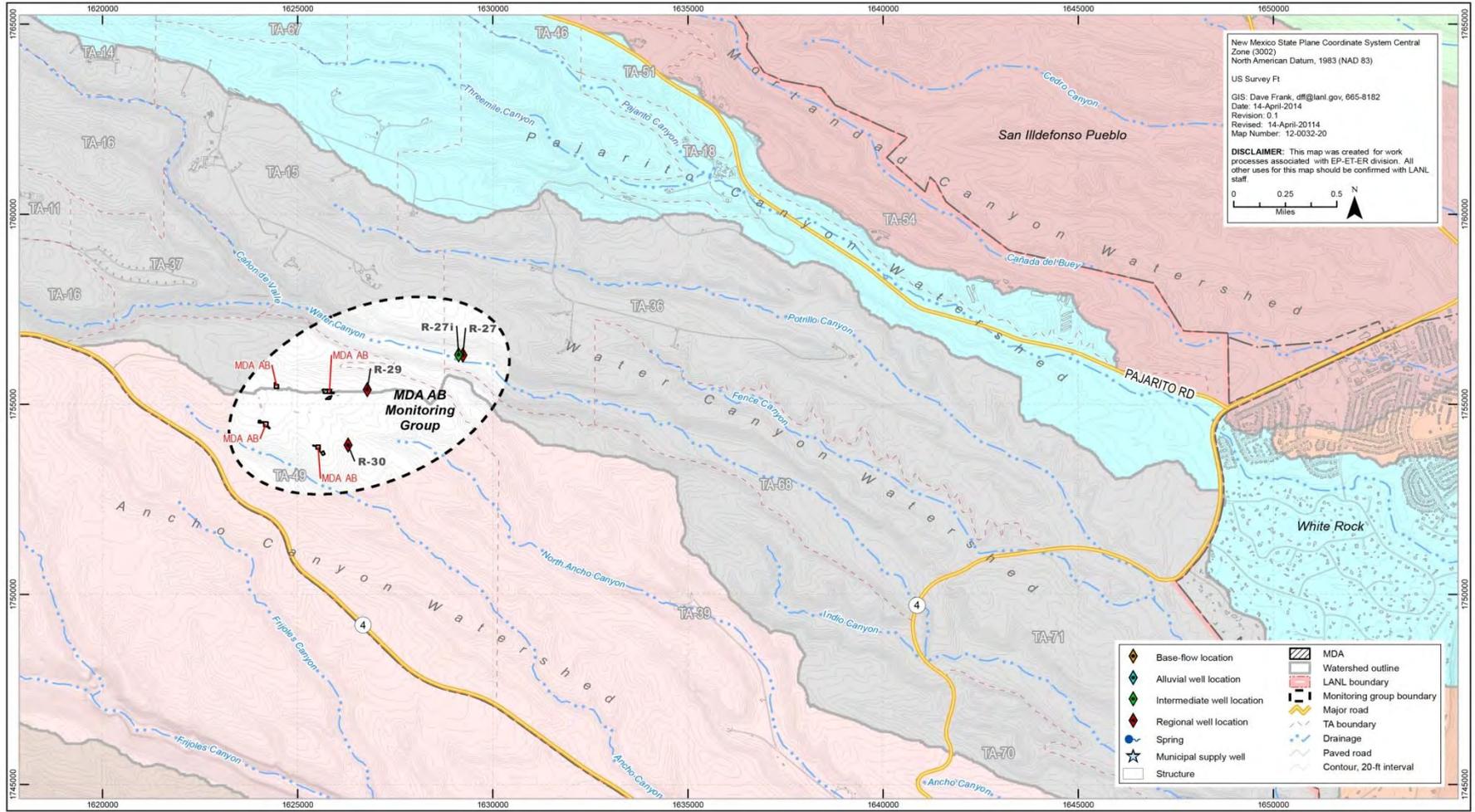


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MDA AB Monitoring Group: 3 Locations; Semi-annual sampling events; 6 samples collected annually

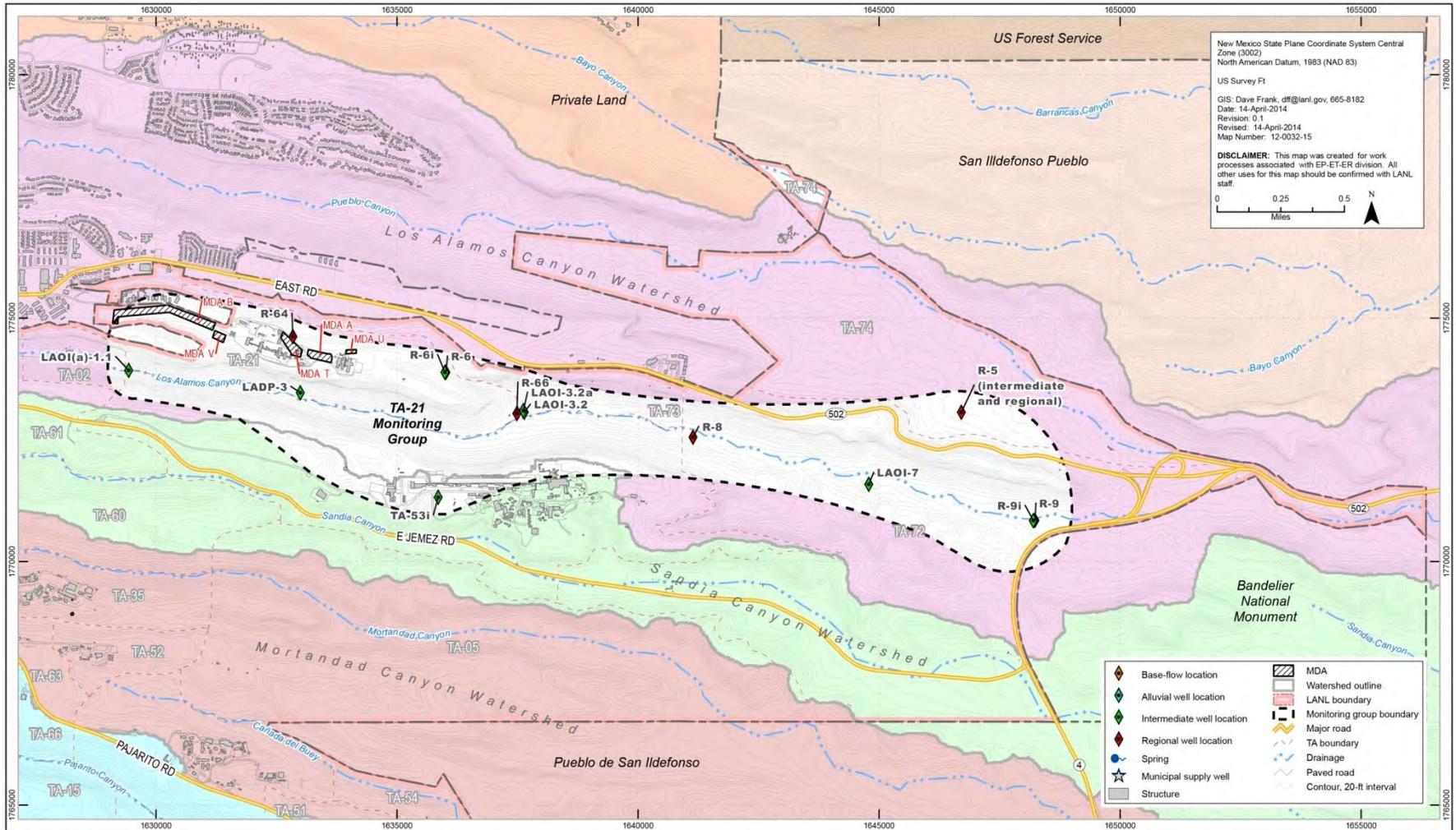


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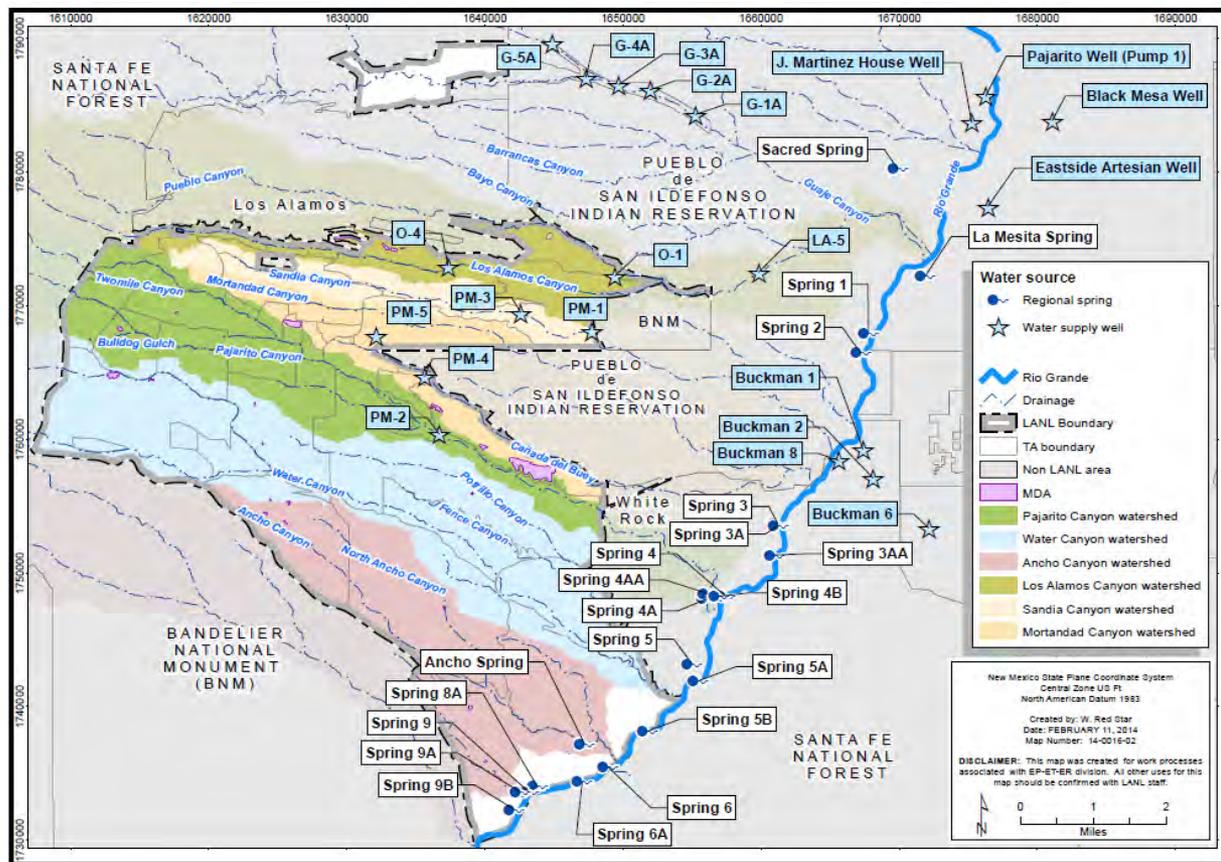


TA-21 Monitoring Group: 16 Locations; Semi-annual sampling events; 21 samples collected annually



Water Supply Wells at LAC, CSF Buckman Well Field, and Pueblo de San Ildefonso, and Springs in White Rock Canyon

- City of Santa Fe
 - 5 Locations
 - 14 samples collected annually
- Los Alamos County
 - 12 Locations
 - 31 samples collected annually
- San Ildefonso Pueblo
 - 5 Locations
 - 5 samples collected annually



Field Quality Assurance/Quality Control

- Field QA/QC samples include field blanks, equipment rinsate blanks, performance evaluation blanks, field duplicates, and field trip blanks.
- Field QA/QC samples are used to detect possible field or analytical laboratory contamination and to track analytical laboratory performance.
- Exceedances of target measures for each of the QA/QC samples may trigger corrective actions, including data review/focused validation, reanalysis and resampling, on a case-by-case basis.



Analytical Laboratory QA/QC

- EPA certified analytical laboratories;
- Sample shipment chain-of custody procedures and forms;
- EPA analytical methods;
- Preventive laboratory equipment maintenance and calibration;
- Analytical precision and accuracy;
- Laboratory Quality Control requirements;
- Data management, and documentation for laboratory analysis.



Analyses, Field Preparation, and Analytical Methods Used by Contract Laboratory

Analytical Suite	Analytical Group	Field Prep	Analytical Method
Metals	WSP-All Metals	Filtered	EPA:245.2
Metals	WSP-All Metals	Filtered	SM:A2340B
Metals	WSP-All Metals	Filtered	SW-846:6010C
Metals	WSP-All Metals	Filtered	SW-846:6020
Metals	MSGP-Hg	Unfiltered	EPA:245.2
VOCs	WSP-8260B-VOA	Unfiltered	SW-846:8260B
SVOCs	WSP-8270C-SVOA	Unfiltered	SW-846:8270D

Summary

- **PMRs contain all LANL potential contaminants of concern, including Metals, VOCs, SVOCs, PCBs, High Explosives, Radionuclides, General Inorganics, etc.**
- **Fifteen PMRs will be prepared and submitted annually to report groundwater monitoring results.**
- **PMRs and Monitoring results are made available to the public at LANL electronic public reading room (<http://epr.lanl.gov/oppie/service>) and the Intellus New Mexico database (www.intellusnm.com).**

