



**DEPARTMENT OF ENERGY**  
Environmental Management Los Alamos Field Office (EM-LA)  
Los Alamos, New Mexico 87544

EMLA-2021-0066-02-001

November 25, 2020

Mr. Kevin Pierard  
Bureau Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6313

Subject: Submittal of the Quarterly Status Report for Westbay Well R-25 Plugging and  
Abandonment Activities, August 15, 2020–November 12, 2020

Dear Mr. Pierard:

Enclosed please find two hard copies with electronic files of the “Quarterly Status Report for Westbay Well R-25 Plugging and Abandonment Activities, August 15, 2020–November 12, 2020.” This report is the third of a series of quarterly reports fulfilling the reporting requirement specified by the New Mexico Environment Department’s Hazardous Waste Bureau in correspondence dated March 18, 2020, “Approval of Request for Extension of Fiscal Year 2020 Appendix B Milestone #6, Westbay Well Plugging and Abandonment Completion Report for R-25, Los Alamos National Laboratory.”

If you have any questions, please contact Christian Maupin at (505) 695-4281 (christian.maupin@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

Sincerely,

**Arturo Q.  
Duran**

Digitally signed by Arturo Q.  
Duran  
Date: 2020.11.24 11:21:57  
-07'00'

Arturo Q. Duran  
Compliance and Permitting Manager  
Environmental Management  
Los Alamos Field Office

Enclosure:

1. Two hard copies with electronic files – Quarterly Status Report for Westbay Well R-25 Plugging and Abandonment Activities, August 15, 2020–November 12, 2020 (EM2020-0661)

CC (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX

Raymond Martinez, San Ildefonso Pueblo, NM

Dino Chavarria, Santa Clara Pueblo, NM

Chris Catechis, NMED-DOE-OB

Steve Yanicak, NMED-DOE-OB

Felicia Aguilar, N3B

William Alexander, N3B

Emily Day, N3B

Mark Everett, N3B

Sherry Gaddy, N3B

Jeff Holland, N3B

Thomas Klepfer, N3B

Kim Lebak, N3B

Joseph Legare, N3B

Dana Lindsay, N3B

Pamela Maestas, N3B

Christian Maupin, N3B

Glenn Morgan, N3B

Joseph Murdock, N3B

Steve Veenis, N3B

M. Lee Bishop, EM-LA

Stephen Hoffman, EM-LA

Kirk D. Lachman, EM-LA

David Nickless, EM-LA

Cheryl Rodriguez, EM-LA

Hai Shen, EM-LA

[emla.docs@em.doe.gov](mailto:emla.docs@em.doe.gov)

[n3brecords@em-la.doe.gov](mailto:n3brecords@em-la.doe.gov)

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**Pamela T. Maestas**

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**From:** Martinez, Cynthia, NMENV <cynthia.martinez1@state.nm.us>  
**Sent:** Monday, November 30, 2020 9:55 AM  
**To:** Pamela T. Maestas  
**Subject:** RE: Submittal to NMED on 11/25/2020 of R-25 Quarterly Status Rpt

Received  
Thank You

---

**From:** Pamela T. Maestas <pamela.maestas@em-la.doe.gov>  
**Sent:** Wednesday, November 25, 2020 11:56 AM  
**To:** Pierard, Kevin, NMENV <Kevin.Pierard@state.nm.us>  
**Cc:** Dhawan, Neelam, NMENV <neelam.dhawan@state.nm.us>; Emily M. Day <Emily.Day@em-la.doe.gov>; Regulatory Documentation <RegDocs@EM-LA.DOE.GOV>; Martinez, Cynthia, NMENV <cynthia.martinez1@state.nm.us>; cheryl.rodriguez@em.doe.gov; Thomas Klepfer <Thomas.Klepfer@EM-LA.DOE.GOV>; Mark C. Everett <mark.everett@em-la.doe.gov>  
**Subject:** [EXT] Submittal to NMED on 11/25/2020 of R-25 Quarterly Status Rpt

Mr. Pierard,

Attached for submittal is a pdf of the following:

- Submittal of the Quarterly Status Report for Westbay Well R-25 Plugging and Abandonment Activities, August 15, 2020–November 12, 2020 (EMLA-2021-0066-02-001, letter and enclosure)

Please acknowledge receipt of this submittal by responding to this email.

Let me know if you have any questions.

Thank you.

**Pamela T. Maestas**

**Regulatory Documentation Manager**

Newport News Nuclear BWXT-Los Alamos, LLC

c. 505-927-7882

[regdocs@em-la.doe.gov](mailto:regdocs@em-la.doe.gov)



1200 Trinity Drive, Suite 150  
Los Alamos, NM 87544

**Quarterly Status Report for  
Westbay Well R-25 Plugging and  
Abandonment Activities,  
August 15, 2020–November 12, 2020**

Newport News Nuclear BWXT-Los Alamos, LLC (N3B), under the U.S. Department of Energy Office of Environmental Management Contract No. 89303318CEM000007 (the Los Alamos Legacy Cleanup Contract), has prepared this document pursuant to the Compliance Order on Consent, signed June 24, 2016. The Compliance Order on Consent contains requirements for the investigation and cleanup, including corrective action, of contamination at Los Alamos National Laboratory. The U.S. government has rights to use, reproduce, and distribute this document. The public may copy and use this document without charge, provided that this notice and any statement of authorship are reproduced on all copies.


# Quarterly Status Report for Westbay Well R-25 Plugging and Abandonment Activities, August 15, 2020–November 12, 2020

November 2020


Responsible program director:

Steve Veenis		T2S Program Director	Water Program	11/19/20
Printed Name	Signature	Title	Organization	Date

Responsible N3B representative:

Kim Lebak		Program Manager	N3B Environmental Remediation Program	11/19/20
Printed Name	Signature	Title	Organization	Date

Responsible DOE EM-LA representative:

Arturo Q. Duran	Arturo Q. Duran		Compliance and Permitting Manager	Office of Quality and Regulatory Compliance	
Printed Name	Signature	Digitally signed by Arturo Q. Duran Date: 2020.11.24 11:23:27 -07'00'	Title	Organization	Date



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## 1.0 PURPOSE

This is the third quarterly status report on plugging and abandonment activities for Westbay Well R-25. The report fulfills the quarterly reporting requirement specified by the New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB) in correspondence dated March 18, 2020, “Approval of Request for Extension of Fiscal Year 2020 Appendix B Milestone #6, Westbay Well Plugging and Abandonment Completion Report for R-25, Los Alamos National Laboratory” (NMED 2020, 700808), and the “Revised Plugging Plan of Operations for RG-98113 (R-25)” approved by New Mexico Office of the State Engineer (NMOSE) with amendments (N3B 2020, 700936; NMOSE 2020, 700937). This report covers the period from August 15, 2020, through November 12, 2020, the third quarter since the extension for R-25 plugging and abandonment activities was requested by the U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) on February 24, 2020 (DOE 2020, 700774). The report summarizes activities related to Westbay System removal from well R-25, reviews planned activities for the next quarter, and provides expectations for project completion.

## 2.0 OVERVIEW

EM-LA and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) are in the process of removing the Westbay system and components from R-25 with plans to plug and abandon the well following the Westbay system removal. Requirements for work at well R-25 were set forth in the “Work Plan to Plug and Abandon Well R-25” (LANL 2012, 232352), NMED’s approval with direction received January 11, 2013 (NMED 2013, 521801), and guidance provided in the 2016 Compliance Order on Consent (Consent Order) Appendix F, Sampling/Analytical/Field Method Regulatory Guidance, Section II.D, Well Abandonment. NMOSE originally approved the “Plugging Plan of Operations for RG-98113 (R-25)” in correspondence to Los Alamos National Laboratory (LANL or the Laboratory) dated July 15, 2019 (NMOSE 2019, 700876).

Monitoring well R-25, located in Technical Area 16 on the mesa top above Cañon de Valle in the southwestern portion of the Laboratory, was the third well installed as part of the implementation of the “Hydrogeologic Workplan” (LANL 1998, 059599). Well R-25 was primarily designed to provide water-quality, geochemical, hydrologic, and geologic information that would contribute to the understanding of the hydrogeologic setting beneath the Laboratory. Drilling, well installation, and site restoration operations occurred from July 1998 through May 2001. The location of well R-25 is depicted in Figures 2.0-1 and 2.0-2.

The R-25 borehole was drilled to a depth of 1942 ft below ground surface (bgs) using air-rotary drilling methods. Well R-25 was constructed with nine screened intervals; however, two of the screens, screens 3 and 9, were damaged during well-installation activities. Screens 3 and 9 were restored to partial usefulness, and all well screen intervals were developed before installation of a Westbay multiport sampling system. Because of groundwater sample quality concerns, NMED directed in 2012 that well R-25 be removed from service from the LANL monitoring network and plugged and abandoned. A plugging and abandonment plan was submitted on December 13, 2012 (LANL 2012, 232352), and NMED approved the plan with modifications on January 11, 2013 (NMED 2013, 521801).

The original scope of the R-25 plugging and abandonment project included extraction of the 1834-ft, 9-port Westbay sampling system from the R-25 well casing using a hoist rig, perforation of select intervals of well casing, and plugging of the well. Work completed through February 2020 includes the removal of approximately 1155 ft of the Westbay system to above packer 11 (of 26 packers total on the Westbay system) using a hoist rig. During retrieval or “fishing” operations to remove the Westbay system, a portion of the steel pipe fishing string (BQ pipe) became lodged adjacent to and at the top of the remaining

Westbay casing and debris. Conventional operations have been unable to retrieve the remainder of the components in the well. Current depth of the top of the Westbay fish (remaining Westbay system and BQ pipe) is approximately 1088 ft bgs. Approximately 681 ft of the Westbay system remains in the well.

The R-25 well site was placed in safe configuration for Mexican spotted owl restrictions starting March 1, 2020. The hoist rig and related equipment were demobilized from the site. Spotted owl restrictions were lifted on March 10, 2020, for the R-25 project after Triad National Security, LLC, biologists reevaluated the well maintenance biological assessment (Hathcock et al. 2017, 700877) and determined that the R-25 work would not interfere with spotted owl activities.

On March 23, 2020, N3B/EM-LA transitioned to essential mission critical activities (EMCA) status as a prudent measure in response to the situation involving the COVID-19 pandemic in New Mexico. Under the EMCA status, the only Consent Order activity that remained operational was the maintenance of groundwater monitoring well packer systems. The R-25 location was placed in safe configuration and field activities remained suspended during EMCA status.

After entering the EMCA status, the R-25 Integrated Project Team (IPT) was created to plan, coordinate, and execute project activities. This team met regularly to delegate and execute project work, discuss progress, and work through planning and project preparedness issues. Under the EMCA status, the IPT staff were actively working on the R-25 project through telecommuting. Several important R-25 project-related communications via correspondence were generated during the first quarter of the EMCA status. These communications included the following:

- In a letter dated March 17, 2020, EM-LA provided NMED information regarding the methods for the removal of pipe and Westbay components in R-25 and a listing of potential drilling fluid additives that might be required to complete the work (DOE 2020, 700806).
- NMED approved the use of a variety of drilling fluids to assist with the recovery of the Westbay system from R-25 in the letter titled “Approval, Drilling Fluid Additive Use Options for Well R-25 Westbay Sampling System Removal,” dated April 7, 2020 (NMED 2020, 700840). Per the approval letter, details describing the use of drilling fluids and transducer pressure responses recorded at nearby wells R-25b, CdV-16-4ip, and CdV-16-1i will be reported in the monthly project status updates and quarterly reports once the field program resumes. To date, no fluids have been used and the monitoring of pressure responses in nearby wells has not begun.
- The “Revised Plugging Plan of Operations for RG-98113 (R-25)” was approved by NMOSE with amendments in a letter dated June, 19, 2020 (N3B 2020, 700936; NMOSE 2020, 700937).

### **3.0 SUMMARY OF WORK COMPLETED DURING THE THIRD QUARTERLY REPORTING PERIOD**

As required during the third quarterly reporting period, EM-LA submitted two monthly status reports to NMED. These two monthly status reports were transmitted to NMED on September 25, 2020, and October 26, 2020. This third quarterly report summarizes project work completed through the end of the third quarter of the reporting period (August 15–November 12).

Project progress during the third quarter included

- R-25 IPT meetings held weekly by teleconference to discuss project status;
- finalization and approval of project documents for the planned first phase of Westbay system removal operations using a rotary drilling rig and the services of “fishing” consultants, including project implementation and environmental, safety, and health plans;

- finalization of operational control and re-fueling agreements with LANL/Triad for the first phase of operations;
- completion of engineering and work scope planning for site pad expansion, followed by execution of pad expansion September 9–October 22, 2020;
- completion of a field implementation schedule for removal of stuck pipe and remnant Westbay system, and plugging and abandonment of R-25;
- finalization of drilling, fishing, and security subcontractor contract modifications and training requirements;
- preparation and approval of COVID-19 safe work controls and protocols to ensure project and community safety;
- mobilization of drilling rig, and ancillary equipment and tooling, to LANL and R-25 November 9–November 12, 2020, and;
- preparation of the September and October R-25 monthly status reports and the R-25 third quarterly report for NMED, due November 30, 2020.

#### **4.0 SUMMARY OF WORK PLANNED FOR THE NEXT QUARTER**

Mobilization of equipment and personnel will be completed and final site/rig inspections will be conducted, followed by commencement of Westbay system extraction operations. Should the first phase of operations be unsuccessful, a transition to contingency options including the mobilization of a different fishing consultant and a larger hydraulic workover rig will be executed.

Following extraction of the remaining Westbay components and debris, the well will be plugged and abandoned according to the approved plans (LANL 2012, 232352; NMED 2013, 521801; N3B 2020, 700936; NMOSE 2020, 700937), with perforation of the stainless-steel casing followed by emplacement of cement grout and concrete to surface.

Once Westbay extraction operations resume, details describing the use of drilling fluids and recorded transducer pressure responses at nearby wells R-25b, CdV-16-4ip, and CdV-16-1i will be reported in the monthly project status updates and quarterly reports. The next required monthly project status updates will be submitted by December 25, 2020, and January 29, 2021, and the next quarterly report will be submitted by February 26, 2021, unless the project is completed before these dates.

#### **5.0 PROJECT COMPLETION**

N3B/EM-LA will continue to provide NMED with monthly updates and quarterly reports as required through the completion of the project. Once field operations begin, the project will be brought to completion by

- setting up designated nearby wells for electronic monitoring,
- removing the Westbay system and components,
- implementing the approved plugging and abandonment plan,
- restoring the well pad, and
- preparing the R-25 plugging and abandonment completion report.

## 6.0 REFERENCES

*The following reference list includes documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ERID, ESHID, or EMID. This information is also included in text citations. ERIDs were assigned by the Laboratory's Associate Directorate for Environmental Management (IDs through 599999); ESHIDs were assigned by the Laboratory's Associate Directorate for Environment, Safety, and Health (IDs 600000 through 699999); and EMIDs are assigned by N3B (IDs 700000 and above). IDs are used to locate documents in N3B's Records Management System and in the Master Reference Set. The NMED Hazardous Waste Bureau and N3B maintain copies of the Master Reference Set. The set ensures that NMED has the references to review documents. The set is updated when new references are cited in documents.*

- DOE (U.S. Department of Energy), February 24, 2020. "Status of Westbay Well R-25 Reconfiguration Efforts and Request for Extension of Fiscal Year 2020 Appendix B Milestone #6, Westbay Well Plugging and Abandonment Completion Report for R-25," U.S. Department of Energy letter (EMLA-2020-1275-02-001) to K. Pierard (NMED-HWB) from A. Duran (EM-LA), Los Alamos, New Mexico. (DOE 2020, 700774)
- DOE (U.S. Department of Energy), March 17, 2020. "Drilling Fluid Additive Use Options for Well R-25 Westbay Sampling System Removal," U.S. Department of Energy letter (EMLA-2020-1274-02-001) to K. Pierard (NMED-HWB) from A. Duran (EM-LA), Los Alamos, New Mexico. (DOE 2020, 700806)
- Hathcock, C.D., D.C. Keller, B.E. Thompson, and J. Berryhill, February 2017. "Biological Assessment of the Continued Operation and Expansion of the Water Monitoring Programs at Los Alamos National Laboratory," Los Alamos National Laboratory document LA-UR-17-20753, Los Alamos, New Mexico. (Hathcock et al. 2017, 700877)
- LANL (Los Alamos National Laboratory), May 22, 1998. "Hydrogeologic Workplan," Los Alamos National Laboratory document LA-UR-01-6511, Los Alamos, New Mexico. (LANL 1998, 059599)
- LANL (Los Alamos National Laboratory), December 2012. "Work Plan to Plug and Abandon Well R-25," Los Alamos National Laboratory document LA-UR-12-26836, Los Alamos, New Mexico. (LANL 2012, 232352)
- N3B (Newport News Nuclear BWXT-Los Alamos, LLC), May 28, 2020. "Revised Plugging Plan of Operations for RG-98113 (R-25)," N3B letter (N3B-2020-0181) to L. Garcia (NMOSE) from B. Smith (N3B) and A.Q. Duran (EM-LA), Los Alamos, New Mexico. (N3B 2020, 700936)
- NMED (New Mexico Environment Department), January 11, 2013. "Approval with Modification, Work Plan to Plug and Abandon Well R-25," New Mexico Environment Department letter to P. Maggiore (DOE-LASO) and J.D. Mousseau (LANL) from J.E. Kielling (NMED-HWB), Santa Fe, New Mexico. (NMED 2013, 521801)
- NMED (New Mexico Environment Department), March 18, 2020. "Approval, Request for Extension of Fiscal Year 2020 Appendix B Milestone #6, Westbay Well Plugging and Abandonment Completion Report for R-25," New Mexico Environment Department letter to A. Duran (EM-LA) from K. Pierard (NMED-HWB), Santa Fe, New Mexico. (NMED 2020, 700808)

NMED (New Mexico Environment Department), April 7, 2020. "Approval, Drilling Fluid Additive Use Options for Well R-25, Westbay Sampling System Removal," New Mexico Environment Department letter to A. Duran (EM-LA) from K. Pierard (NMED-HWB), Santa Fe, New Mexico. (NMED 2020, 700840)

NMOSE (New Mexico Office of the State Engineer), July 15, 2019. "Re: Plugging Plan of Operations for RG-98113 (R-25)," NMOSE letter to M. Everett (N3B) from L. Garcia (NMOSE), Santa Fe, New Mexico. (NMOSE 2019, 700876)

NMOSE (New Mexico Office of the State Engineer), June 19, 2020. "Re: Plugging Plan of Operations for RG-98113 (R-25)," NMOSE letter to M. Everett (N3B) from L. Garcia (NMOSE), Santa Fe, New Mexico. (NMOSE 2020, 700937)





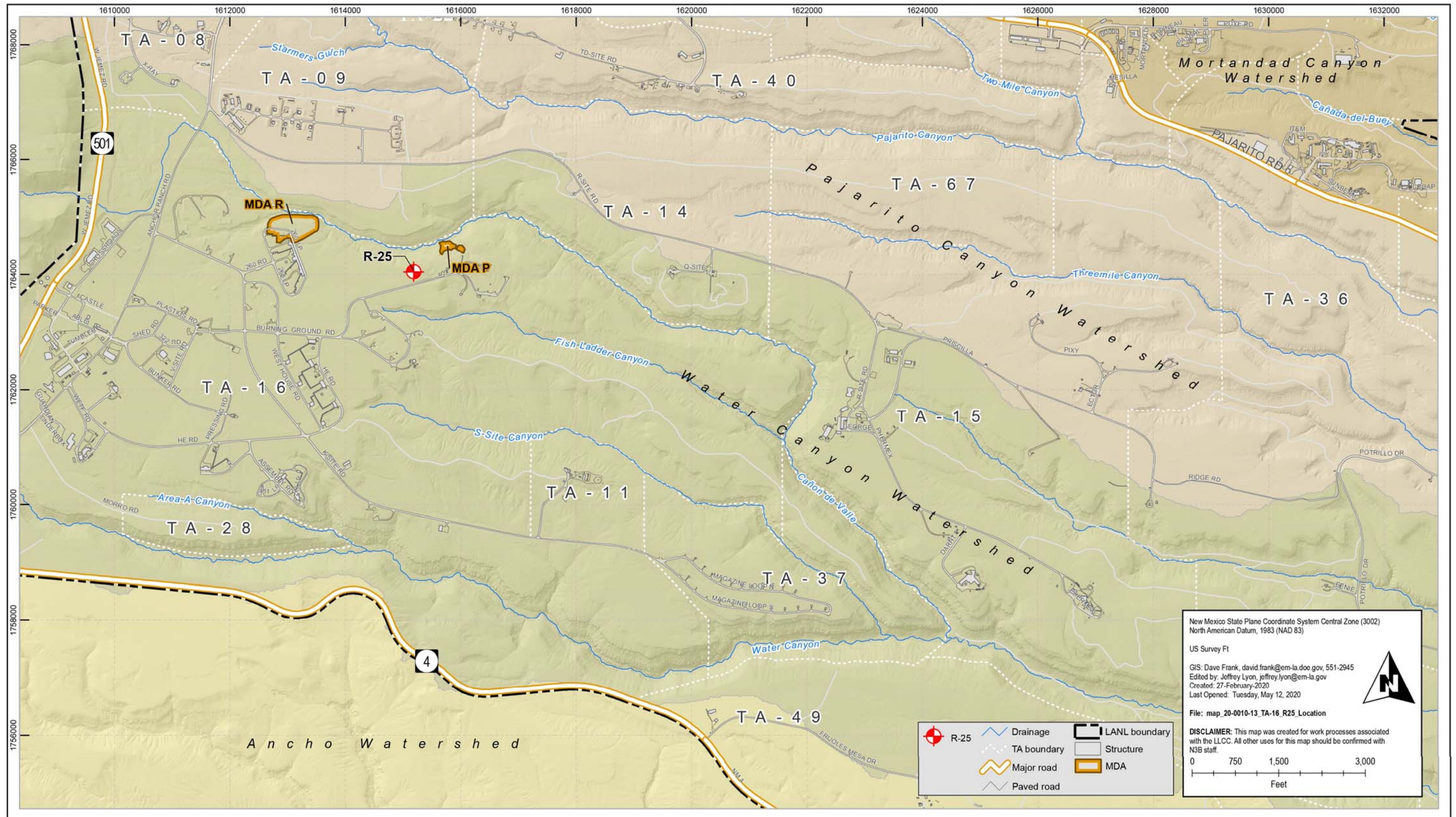


Figure 2.0-1 Location of well R-25



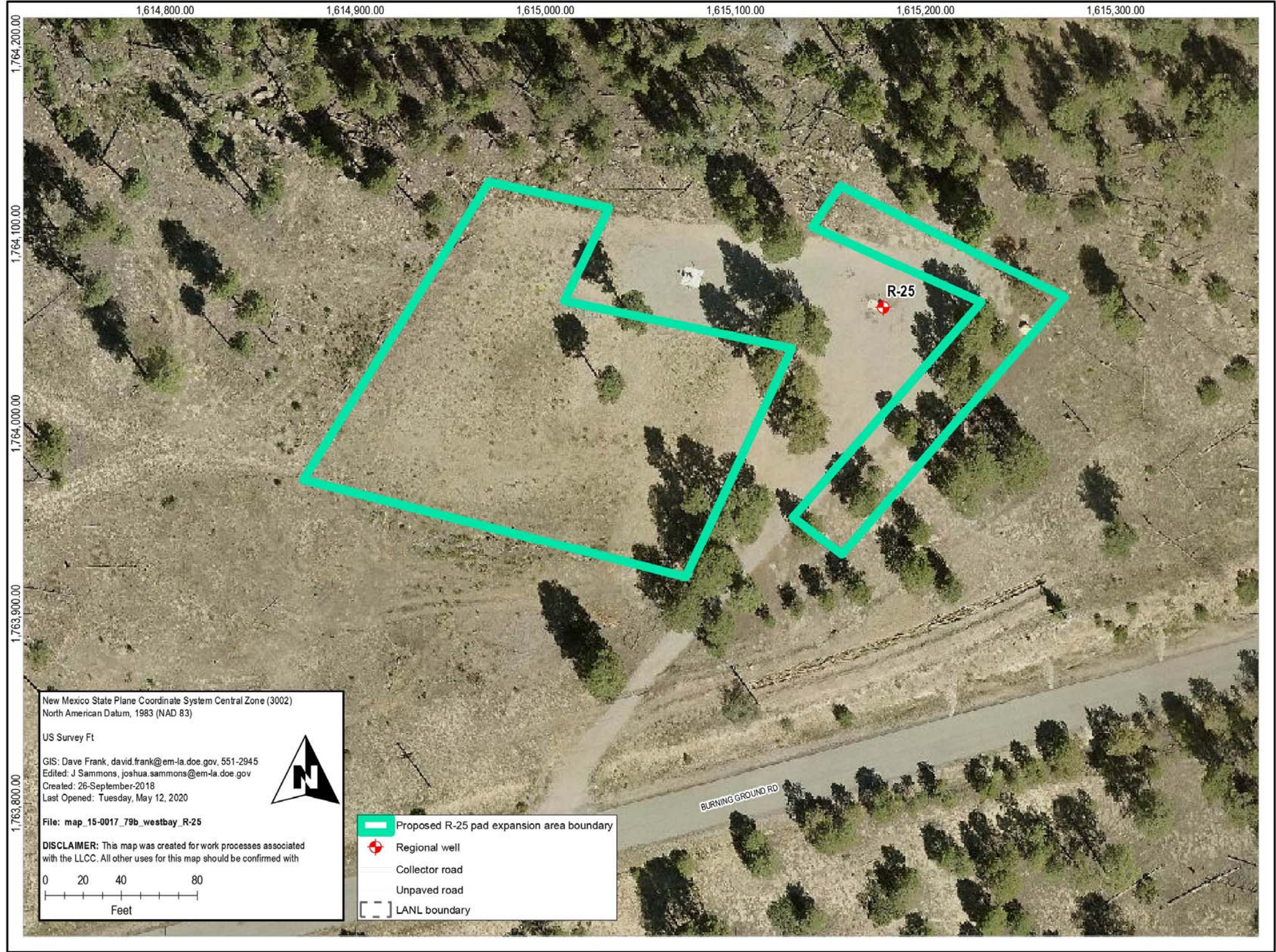


Figure 2.0-2 Aerial photo of well R-25 location with proposed pad expansion area