Department of Energy
National Nuclear Security Administration
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NMED
Hazardous Waste
Bureau

Mr. Kevin Pierard
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Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Dr. East, Bldg 1
Santa Fe, New Mexico 87505

Subject: Submittal of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) Annual Long-Term Monitoring and Maintenance Report for Calendar Year (CY) 2019, Sandia National Laboratories, New Mexico (SNL/NM), Environmental Protection Agency (EPA) Identification Number NM5890110518

Dear Mr. Pierard:

The enclosed Subject report is provided to the New Mexico Environment Department (NMED) Hazardous Waste Bureau by the U.S. Department of Energy, National Nuclear Security Administration. This submittal satisfies the annual reporting requirement in Permit Attachment M, Section M.4 of the Hazardous Waste Facility Operating Permit for SNL/NM.

The report documents the conditions of SNL/NMs SWMUs subject to the requirements of Permit Attachment M. This report demonstrates the effectiveness of SNL/NMs administrative and physical safety controls employed at the SWMUs and AOCs during CY 2019.

If you have questions, please contact David Rast of our staff at (505) 845-5349.

Sincerely,

Jeffrey P. Harrell
Manager

Enclosure

cc: See Page 2

Submittal of Solid Waste Management Units and Areas of Concern Annual Long-Term Monitoring & Maintenance Report for Calendar Year 2019, Sandia National Laboratories/New Mexico (SNL/NM), Resource Conservation and Recovery Act Facility Operating Permit March 2020

Sandia National Laboratories
Albuquerque, New Mexico
EPA ID No. NM5890110518

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to ensure that qualified personnel properly gather and evaluate 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 or imprisonment for knowing violations.

Paul E. Shoemaker

Paul Shoemaker, Senior Manager
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2/13/2020
Date signed

Jeffrey P. Harrell, Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Owner

3/2/20
Date signed

SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN ANNUAL LONG-TERM MONITORING AND MAINTENANCE REPORT FOR CALENDAR YEAR 2019

SANDIA NATIONAL LABORATORIES, NEW MEXICO

March 2020

United States Department of Energy
Sandia Field Office

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SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN ANNUAL LONG-TERM MONITORING AND MAINTENANCE REPORT FOR CALENDAR YEAR 2019 MARCH 2020

Facility: Solid Waste Management Units and Areas of Concern

Location: Sandia National Laboratories
Albuquerque, New Mexico

EPA ID No.: NM5890110518

Permit Basis: Resource Conservation and Recovery Act Facility Operating Permit, effective February 26, 2015

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TABLE OF CONTENTS

LIST OF FIGURES ii
LIST OF TABLES ii
ACRONYMS AND ABBREVIATIONS iii
EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1-1
1.1 Background 1-1
1.2 Purpose and Scope 1-3
1.3 Report Organization 1-4
2.0 CONTROLS AND SURVEILLANCE REQUIREMENTS 2-1
2.1 Administrative Controls and Surveillance Requirements 2-1
2.2 Physical Controls and Inspection Requirements 2-4
2.3 Maintenance Requirements 2-4
2.4 Changes in Requirements During CY2019 2-5
3.0 INSPECTIONS, MAINTENANCE, AND REPAIR ACTIVITIES 3-1
3.1 Maintenance of Administrative Controls 3-1
3.2 Inspection Activities 3-1
3.3 Inspection Results 3-4
3.4 Maintenance and Repair Activities 3-4
3.5 Status of Previous Maintenance and Repair Activities 3-11
3.6 Other Conditions or Events 3-11
4.0 SUMMARY AND CONCLUSIONS 4-1
5.0 REFERENCES 5-1

LIST OF FIGURES

Figure **Page**

1-1 Location of Solid Waste Management Units and Areas of Concern for which Corrective Action is Complete with Controls, Sandia National Laboratories, New Mexico 1-2

3-1 SNL Technical Area IV Northeast and Southwest Slope Stabilization Project Locations 3-5

3-2 SNL Technical Area IV Southwest Escarpment after completion of TA-IV Slope Stabilization Project 3-7

3-3 SNL Technical Area IV Northeast Escarpment after completion of TA-IV Slope Stabilization Project 3-9

LIST OF TABLES

Table **Page**

1-1 List of Solid Waste Management Units and Areas of Concern for which Corrective Action is Complete with Controls, Sandia National Laboratories, New Mexico 1-3

2-1 Summary of Physical Controls and Surveillance Requirements, Solid Waste Management Units and Areas of Concern, Sandia National Laboratories, New Mexico 2-2

2-2 Solid Waste Management Units and Areas of Concern Maintenance Schedule, Sandia National Laboratories, New Mexico 2-4

3-1 Summary of 2019 Inspection Results and Maintenance at Solid Waste Management Units and Areas of Concern Requiring Controls, Sandia National Laboratories, New Mexico 3-2

ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
CY	calendar year
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
GPS	global positioning system
KAFB	Kirtland Air Force Base
LTMM	Long-Term Monitoring and Maintenance
LTS	Long-Term Stewardship
MWL	Mixed Waste Landfill
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
NTESS	National Technology & Engineering Solutions of Sandia, LLC
Permit	RCRA Facility Operating Permit
RCRA	Resource Conservation and Recovery Act
SNL/NM	Sandia National Laboratories, New Mexico
SWMU	Solid Waste Management Unit
TA	Technical Area

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EXECUTIVE SUMMARY

The Solid Waste Management Units (SWMU) and Areas of Concern (AOC) Annual Long-Term Monitoring and Maintenance (LTMM) Report for Calendar Year (CY) 2019 details the measures, including surveillance of site conditions and maintenance of institutional controls, for 24 SWMUs and AOCs at Sandia National Laboratories/New Mexico (SNL/NM). These measures address the requirements of the SNL/NM Resource Conservation and Recovery Act (RCRA) Facility Operating Permit, effective February 26, 2015, as revised and updated (herein referred to as the Permit). Requirements for SWMUs and AOCs are specified in Permit Attachment M, "Long-Term Monitoring and Maintenance (LTMM) Plan for SWMUs and AOCs Granted Corrective Action Complete with Controls." This report does not address measures taken for SWMU 76, Mixed Waste Landfill (MWL), which adheres to the approved MWL LTMM Plan, Section 4.8.1, which requires a separate annual report that will be submitted to the New Mexico Environment Department by June 30, 2020.

Site conditions observed during the 2019 Permit-required annual site inspections did not indicate that maintenance or repair activities were needed at 21 of the SWMUs.

The remaining three SWMUs, 45, 46, and 229, were included in an ongoing project (TA-IV Slope Stabilization Project) designed to mitigate erosion occurring in two areas along the SNL TA-IV escarpment on Tijeras Arroyo. The stabilization work effectively addressed the erosion previously identified at SWMU 45. The TA-IV Slope Stabilization Project was completed in September 2019, and the stabilized area is performing as designed.

Institutional control notification signs previously installed at SWMUs 45, 46, and 229 were either removed prior to project initiation or destroyed during the escarpment stabilization work. After completion of the project, all removed or destroyed signs were replaced with new signs in accordance with the requirements of the LTMM Plan for SWMUs and AOCs.

Based upon the inspections performed and site conditions observed, the administrative and physical institutional controls in place at the SWMUs and AOCs during CY 2019 are effectively providing continued protection of human health and the environment.

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1.0 INTRODUCTION

SNL/NM is a multimission laboratory currently managed and operated by National Technology & Engineering Solutions of Sandia, LLC (NTESS), a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's (DOE) National Nuclear Security Administration (NNSA). SNL/NM is located within the boundaries of Kirtland Air Force Base (KAFB), immediately southeast of the City of Albuquerque in Bernalillo County, New Mexico.

Surveillance of site conditions and maintenance of institutional controls are necessary for continued protection of human health and the environment at 25 SWMUs and AOCs that have undergone corrective action (Figure 1-1) at SNL/NM. These SWMUs and AOCs, together with the surveillance and institutional controls required for each, are specified in Attachment M of the Resource Conservation and Recovery Act (RCRA) Facility Operating Permit (Permit), (New Mexico Environment Department [NMED] January 2015) as revised and updated.

This report presents information for 24 of the SWMUs and AOCs at SNL/NM. It does not present the relevant monitoring and maintenance activities for SWMU 76, Mixed Waste Landfill (MWL). Those activities are detailed in the approved MWL Long-Term Monitoring and Maintenance (LTMM) Plan, Section 4.8.1 (SNL/NM March 2012), which requires a separate annual report that will be submitted to the NMED by June 30, 2020.

1.1 Background

Corrective action and continued management of the SWMUs and AOCs with Corrective Action Complete with Controls status, as approved by the NMED, are conducted in accordance with the requirements of the Permit. Each SWMU and AOC at SNL/NM is listed in one of four tables that comprise Permit Attachment K, "Solid Waste Management Units and Areas of Concern." Figure 1-1 of this Annual LTMM Report shows the locations of the SWMUs and AOCs requiring institutional controls; these are listed in Permit Attachment K, Table K-3 "Solid Waste Management Units and Areas of Concern for which Corrective Action is Complete with Controls." The comprehensive requirements for monitoring and maintenance of long-term institutional controls at the identified SWMUs and AOCs are specified in Permit Attachment M, "Long-Term Monitoring and Maintenance Plan for Solid Waste Management Units and Areas of Concern Granted Corrective Action Complete with Controls," which includes a list of the relevant SWMUs and AOCs. A summary of the associated surveillance and control requirements is included in Permit Attachment M, Table M-1, "Summary of Institutional Controls for Solid Waste Management Units and Areas of Concern Requiring Controls."

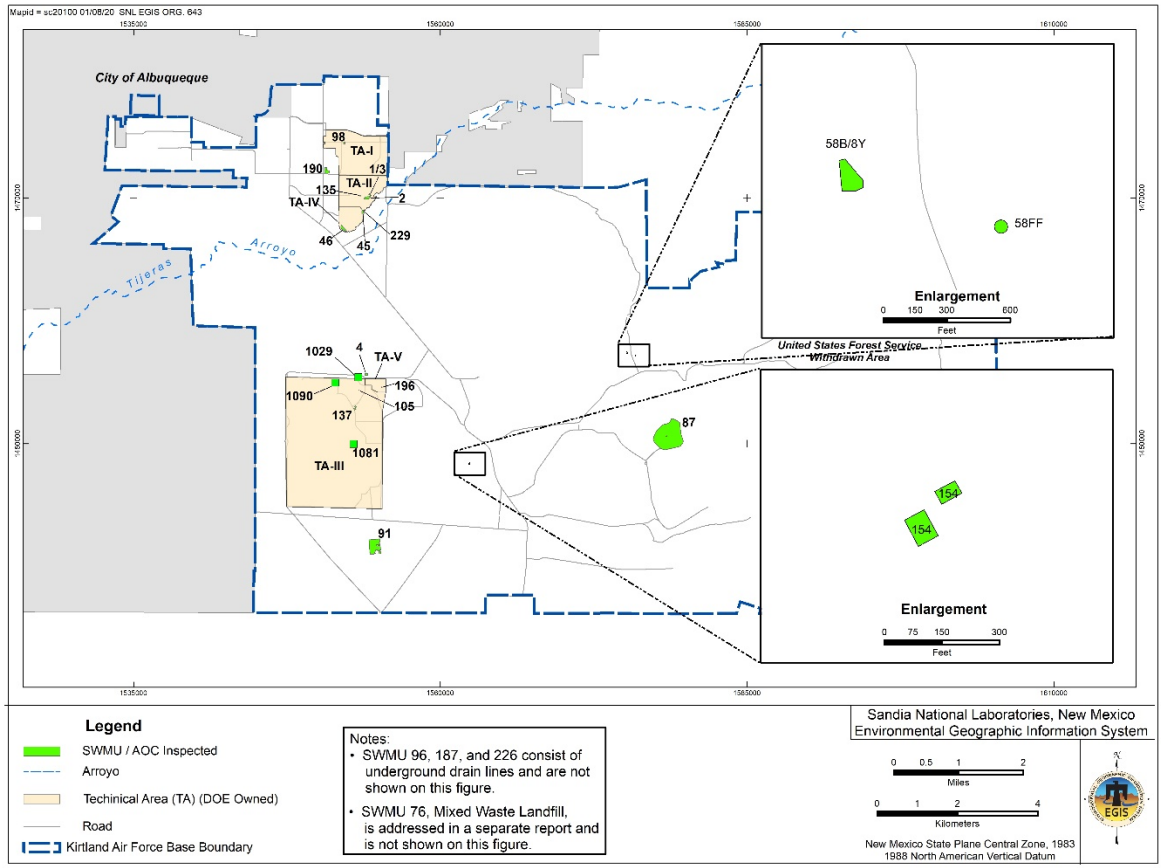

Figure 1-1

Location of Solid Waste Management Units and Areas of Concern
for which Corrective Action is Complete with Controls, Sandia National Laboratories, New Mexico

1.2 Purpose and Scope

The purpose of this report is to document maintenance of controls, and activities conducted during 2019. The reporting period extends from January 1 to December 31 of each CY. Table 1-1 lists and Figure 1-1 shows the SWMUs and AOCs addressed in this Annual LTMM Report.

Table 1-1
List of Solid Waste Management Units and Areas of Concern for which
Corrective Action is Complete with Controls
Sandia National Laboratories, New Mexico

SWMU or AOC Number	SWMU or AOC Name
1	Radioactive Waste Landfill
2	Classified Waste Landfill (TA-II)
3	Chemical Disposal Pit
4	LWDS Surface Impoundments
45	Liquid Discharge (Behind TA-IV)
46	Old Acid Waste Line Outfall
58FF	Fire Bricks Feature (Coyote Canyon Blast Area)
58B/8Y	Debris Pile and Pit Area (Coyote Canyon Blast Area)
87	Building 9990 Firing Site
91	Lead Firing Site (Thunder Range)
96	Storm System Drain
98	Building 863 (TCA, Photochemical Releases: Silver Catch Boxes)
105	Mercury Spill (Building 6536)
135	Building 906 Drain System
137	Building 6540/6542 Septic System (TA-III)
154	Bldg. 9960 Septic System and Seepage Pits (Coyote Test Field)
187	Septic Tank Piping for POTW
190	Steam Plant Tank Farm
196	Building 6597 Cistern (TA-V)
226	Old Acid Waste Line
229	Storm Drain System Outfall (for TA-II)
1029	Building 6584 North Septic System (TA-III)
1081	Building 6650 Septic System (TA-III)
1090	Building 6721 Septic System (TA-III)

Notes:
AOC = Area of Concern.
LWDS = Liquid Waste Disposal System.
POTW = Publicly Owned Treatment Works.
SWMU = Solid Waste Management Unit.
TA = Technical Area.
TCA = 1,1,1-trichloroethane.

1.3 Report Organization

This report is organized as follows:

- Chapter 1 presents background information, purpose and scope, and report organization.
- Chapter 2 provides a summary of controls, surveillance, and maintenance requirements specified in Permit Attachment M.
- Chapter 3 presents the results of the inspections performed during the reporting period.
- Chapter 4 presents a general summary and conclusions for the 2019 reporting period.
- Chapter 5 lists the references cited in this report.

2.0 CONTROLS AND SURVEILLANCE REQUIREMENTS

Measures to be taken to provide protection of human health and the environment are defined in Permit Attachment M. The measures include surveillance of site conditions and maintenance of institutional controls. The controls are consistent with the risks presented by the site conditions and constituents of concern at each SWMU and AOC. The controls are implemented in an integrated and layered approach to enhance their effectiveness and reliability, and to provide continued protection in the event that one or more controls become temporarily impaired.

The required administrative and physical controls are described in Permit Attachment M, Section M.2 “Institutional Controls,” and are summarized in Section 2.1 and 2.2, respectively. Maintenance requirements are described in Section M.3, “Maintenance of Institutional Controls,” and are covered in Section 2.3 of this report.

2.1 Administrative Controls and Surveillance Requirements

Administrative controls for the SWMUs and AOCs listed in Table 1-1 include information management, awareness, and restrictions on future land use. Information about each SWMU and AOC includes:

- Site location and characteristics;
- Site history and corrective action;
- Land use permits or agreements with KAFB;
- Documentation of current site conditions, including information from annual inspections;
- Type of controls;
- Maintenance records;
- Planning information, including restrictions on future activities at the site; and
- Copies of reports previously submitted to NMED.

The information is to be maintained and plans for future DOE and SNL/NM activities at or near each SWMU and AOC in Permit Table K-3 are to be evaluated during planning stages to identify aspects that are not consistent with industrial land use.

Table 2-1
Summary of Physical Controls and Surveillance Requirements
Solid Waste Management Units and Areas of Concern
Sandia National Laboratories, New Mexico

SWMU or AOC Number	Signs and Postings	Inspection Frequency	Additional Information
1	4 signs on SWMU perimeter, one each in selected corners of the SWMU.	Annual	N/A
2	5 signs on SWMU perimeter, one in the approximate middle of each side of the SWMU.	Annual	N/A
3	Included with SWMU 1.	Annual	Located adjacent to SWMU 1.
4	4 signs on SWMU perimeter, one in the approximate middle of each side of the SWMU.	Annual	N/A
45	5 signs on SWMU perimeter, one in approximately each corner of the SWMU outside of the TA-IV fence.	Annual	Western half of the SWMU is located within the TA-IV fenced boundary.
46	4 signs along the TA-IV fence line and 7 signs posted along the south and west perimeter of the SWMU.	Annual	N/A
58FF	2 signs on perimeter	Annual	Feature within SWMU 58.
58B/8Y	4 signs on perimeter	Annual	Feature within SWMU 58.
87	4 signs, one at the access road and 3 on the perimeter of the SWMU.	Annual	N/A
91	4 signs on SWMU perimeter, one in the approximate middle of each side of the SWMU.	Annual	N/A
96	Not feasible	None	SWMU consists of underground storm drains throughout TA-I. No signs, postings, or inspections are feasible due to SWMU features.
98	Not feasible	None	SWMU consists of a subsurface area located under a building. No signs, postings, or inspections are feasible due to SWMU features.

See notes at end of table.

Table 2-1 (Concluded)
Summary of Physical Controls and Surveillance Requirements
Solid Waste Management Units and Areas of Concern
Sandia National Laboratories, New Mexico

SWMU or AOC Number	Signs and Postings	Inspection Frequency	Additional Information
105	4 signs on SWMU perimeter, one in the approximate middle of each side of the SWMU.	Annual	N/A
135	1 sign.	Annual	N/A
137	4 signs on SWMU perimeter, one each at selected corners of the SWMU.	Annual	N/A
154	4 signs at 2 areas that comprise the SWMU; 2 signs near selected corners of each area.	Annual	N/A
187	Not feasible	None	SWMU consists of underground sewer lines throughout TA-I. No signs, postings, or inspections are feasible due to SWMU features.
190	4 signs on SWMU perimeter, one in the approximate middle of each side of the SWMU.	Annual	N/A
196	1 sign near the northeast corner of the SWMU.	Annual	N/A
226	Not feasible	None	SWMU consists of underground drain lines throughout TA-I, -II, and -IV. No signs, postings, or inspections are feasible due to SWMU features.
229	1 sign at the top of the outfall.	Annual	N/A
1029	3 signs on SWMU perimeter.	Annual	N/A
1081	3 signs on SWMU perimeter.	Annual	N/A
1090	1 sign, approximately in the middle of the SWMU.	Annual	N/A

Notes:
AOC = Area of Concern.
N/A = Not applicable.
SWMU = Solid Waste Management Unit.
TA = Technical Area.

2.2 Physical Controls and Inspection Requirements

Physical controls for the SWMUs and AOCs in Table 2-1 include the following:

- Warning and information signs posted at each SWMU/AOC where feasible;
- Fences that restrict access to some or all portions of each SWMU/AOC;
- Physical features such as subsurface location (e.g., sewer lines); and
- Limiting land use to industrial activities.

Permit Attachment M, Table M-1 "Summary of Institutional Controls for Solid Waste Management Units and Areas of Concern Requiring Controls," lists the specific controls and surveillance requirements. They are further summarized in Table 2-1 of this report.

Annual inspections are to be performed (except as noted in Table 2-1) to verify that physical controls are in place, and to determine whether adverse conditions exist at each SWMU or AOC that would impair the controls or lead to inadvertent exposure to hazardous wastes or hazardous waste constituents.

2.3 Maintenance Requirements

The physical controls (e.g. signs) for the SWMUs and AOCs are to be maintained and repaired in a timely manner as specified in Permit Attachment M, Table M-2 "Maintenance Schedule." Maintenance is to occur on the schedule in Table M-2 unless weather or other site-specific conditions result in a delay. Each repair is to be reviewed in a follow-up inspection within 180 days. The follow-up inspection may be combined with an annual inspection.

Table 2-2 summarizes the maintenance requirements and schedule.

Table 2-2
Solid Waste Management Units and Areas of Concern Maintenance Schedule
Sandia National Laboratories, New Mexico

Maintenance Issue	Response Schedule
Erosion, seepage, or subsidence	Evaluate severity and if necessary develop mitigation plan within 120 days Complete in a timely manner
Newly-occurring or newly-discovered contamination	See Permit Part 8
Signs	Begin to address within 30 days Complete in a timely manner
Activities that are inconsistent with site restrictions	Begin to address within 30 days Complete in a timely manner

See notes at end of table.

Table 2-2 (Concluded)
Solid Waste Management Units and Areas of Concern Maintenance Schedule
Sandia National Laboratories, New Mexico

Maintenance Issue	Response Schedule
Awareness measures to address new residential activities adjacent to SWMU/AOC locations	Develop measures within 30 days Implement measures in a timely manner
Access restrictions to address new residential activities adjacent to SWMU/AOC locations	Develop measures within 60 days Implement measures in a timely manner

Notes:
AOC = Area of Concern.
Permit = Resource Conservation and Recovery Act Facility Operating Permit.
SWMU = Solid Waste Management Unit.

2.4 Changes in Requirements During CY2019

There were no changes in Permit requirements during CY 2019.

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3.0 INSPECTIONS, MAINTENANCE, AND REPAIR ACTIVITIES

This chapter presents a summary of inspection, maintenance, and repair activities conducted during the reporting period January through December 2019. SWMUs and AOCs with an "Annual" designation in Table 2-1 were inspected during 2019. Table 3-1 summarizes and discusses issues noted during inspections, together with maintenance and repair activities, including the SNL TA- IV Stabilization Project.

3.1 Maintenance of Administrative Controls

The information about each SWMU and AOC was maintained during 2019 and reviewed as needed during planning activities. Specific activities included:

- Reviewing information from annual inspections to determine whether maintenance or repairs were needed;
- Reviewing approximately 150 plans for future activities at or near the SWMUs and AOCs to verify that the planned activities would not compromise the controls in place; and
- Following each review, notifying the appropriate personnel of the controls at SWMUs and AOCs at or near the planned activities, and the actions needed to avoid compromising the controls.

3.2 Inspection Activities

Personnel inspected each SWMU and AOC (except where not feasible as noted in Table 2-1) during the summer months of 2019. During each inspection, personnel walked over the SWMU or AOC and recorded observations of the site perimeter and internal site areas. Large SWMUs and AOCs were inspected by following a grid pattern across the site.

Personnel monitored and recorded the following information:

- Condition of site;
- Evidence of erosion, seepage or subsidence;
- Evidence of newly-occurring or newly-visible contamination;
- Condition and location of signs;
- Evidence of activities that were not consistent with the restrictions in place; and
- Evidence of any residential activities adjacent to the given SWMU or AOC that would necessitate additional awareness measures and access restrictions for the site.

Table 3-1
Summary of 2019 Inspection Results and Maintenance at
Solid Waste Management Units and Areas of Concern Requiring Controls
Sandia National Laboratories, New Mexico

SWMU or AOC Number	Inspection Completion Date	Required Maintenance	Maintenance Performed	Maintenance Completion Date	Other Conditions or Events
1	9/19/19	None	N/A	N/A	None observed
2	9/19/19	None	N/A	N/A	None observed
3	9/19/19	None	N/A	N/A	None observed
4	9/24/19	None	N/A	N/A	None observed
45	10/3/19	Re-install signs 45-3, 45-4, and 45-5. These signs were removed during the TA-IV Slope Stabilization Project.	Re-installed signs 45-3, 45-4, and 45-5 at previous GPS sign locations.	10/3/19	None observed.
46	9/24/19	Re-install sign 46-6. This sign was destroyed during the TA-IV Slope Stabilization Project.	Re-installed sign 46-6 at previous GPS sign location.	10/1/19	None observed
58FF	9/19/19	None	N/A	N/A	None observed
58B/8Y	9/25/19	None	N/A	N/A	None observed

See notes at end of table.

Table 3-1 (Concluded)
Summary of 2019 Inspection Results and Maintenance at
Solid Waste Management Units and Areas of Concern Requiring Controls
Sandia National Laboratories, New Mexico

SWMU or AOC Number	Inspection Completion Date	Required Maintenance	Maintenance Performed	Maintenance Completion Date	Other Conditions or Events
87	10/2/19	None	N/A	N/A	None observed
91	9/26/19	None	N/A	NA	None observed
105	8/8/19	None	N/A	N/A	None observed
135	8/8/19	None	N/A	N/A	None observed
137	9/19/19	None	N/A	N/A	None observed
154	9/19/19	None	N/A	N/A	None observed
190	9/19/19	None	NA	NA	None observed
196	8/8/19	None	N/A	N/A	None observed
229	10/3/19	Re-install sign 229-1	Re-installed sign 229-1 at previous GPS location.	10/3/19	None observed
1029	10/3/19	None	N/A	N/A	None observed
1081	9/24/19	None	N/A	N/A	None observed
1090	8/8/19	None	N/A	N/A	None observed

Notes:
Inspections are not required at SWMUs 96, 98, 187, and 226 because these SWMUs consist of underground drain lines or are located under a building. Inspections are not feasible.

AOC = Area of Concern.
LTMM = Long-Term Monitoring and Maintenance.
N/A = Not applicable.
NMED = New Mexico Environment Department.
SWMU = Solid Waste Management Unit.
TA = Technical Area.

Inspection records are maintained in the Operating Record at SNL/NM in accordance with the Permit requirements.

3.3 Inspection Results

Table 3-1 summarizes the results of the 24 annual inspections. Four subsurface sites, SWMUs 96, 98, 187, and 226, are not subject to the requirement for annual inspections, as noted in Table 2-1.

Signs 45-3, 45-4, 45-5, and 229-1 were removed during slope stabilization activities to prevent their destruction during escarpment stabilization work. Sign 46-6 was inadvertently destroyed during slope stabilization activities. Upon completion of slope stabilization activities, all signs were returned to their prior GPS locations or replaced with new signs at their prior GPS locations.

No other maintenance requirements or concerns, such as erosion or subsidence, were observed during the 2019 annual inspections.

3.4 Maintenance and Repair Activities

Evidence of erosion at SWMU 45 had been identified during the 2017 annual site inspection; this was reported in the Annual SWMUs and AOCs Annual LTMM Report for CY 2017 (SNL/NM March 2018). SNL completed design of the TA-IV Slope Stabilization Project in CY 2018 and completed construction in CY 2019. This project consisted of two separate work locations referred to as the Northeast and Southwest Slope Stabilization Projects, as shown in Figure 3-1. The project was designed to control erosion on the TA-IV escarpment by capturing and transporting storm water run-off to the geographically lower Tijeras Arroyo flood plain.

Three SWMUs (45, 46, and 229) are located within the TA-IV Slope Stablization Project. Institutional controls were implemented at each SWMU during the construction activities because the levels of residual contaminants remaining in the soils within each SWMU are not suitable for residential exposure. These controls consisted of the following elements:

- Soils at each of the SWMUs remained within their respective SWMU boundaries.
- Soils were relocated within the respective site boundaries as necessary.
- Clean fill material was used on any portion within the Slope Stabilization Project boundaries, including the SWMUs as necessary to achieve the desired final surface elevation and slopes.

Figures 3-2 and 3-3 show the southwest TA-IV escarpment and the northeast TA-IV escarpment, respectively, after construction was completed. As shown in these figures, a portion of the concrete cutoff wall was built through SWMUs 45 and 46. Construction activities at each of these SWMUs adhered to the institutional controls listed above.

SWMU 229, which runs down the northeast escarpment in a north to south direction, received substantial additions of clean fill soil during construction to form the northeast escarpment slope. Areas disturbed during construction were re-seeded with drought tolerant plants. A seed binder was applied to improve seed germination and revegetation.

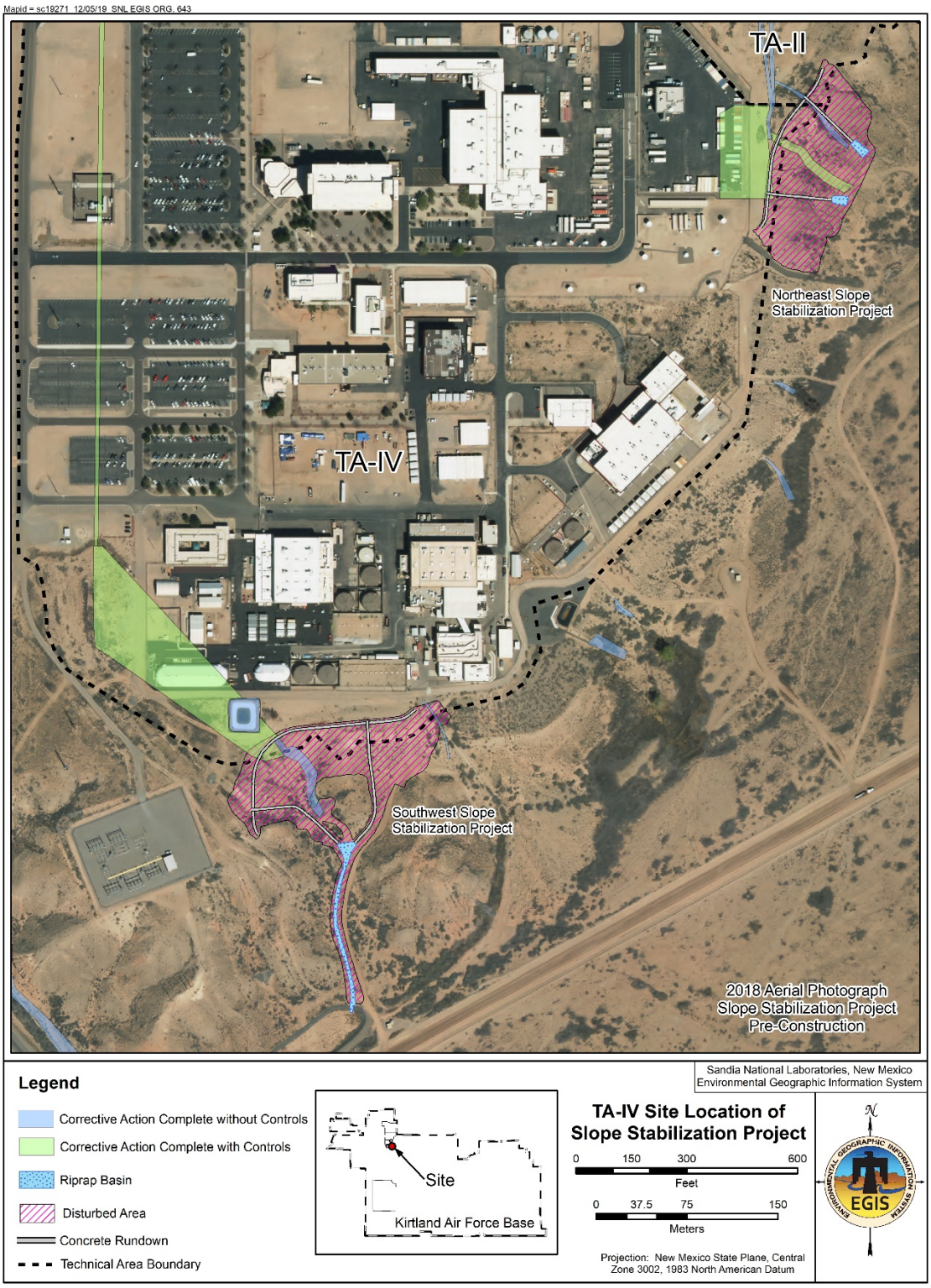

Figure 3-1. SNL Technical Area IV Northeast and Southwest Slope Stabilization Project Locations

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Figure 3-2. SNL Technical Area IV Southwest Escarpment after completion of TA-IV Slope Stabilization Project.

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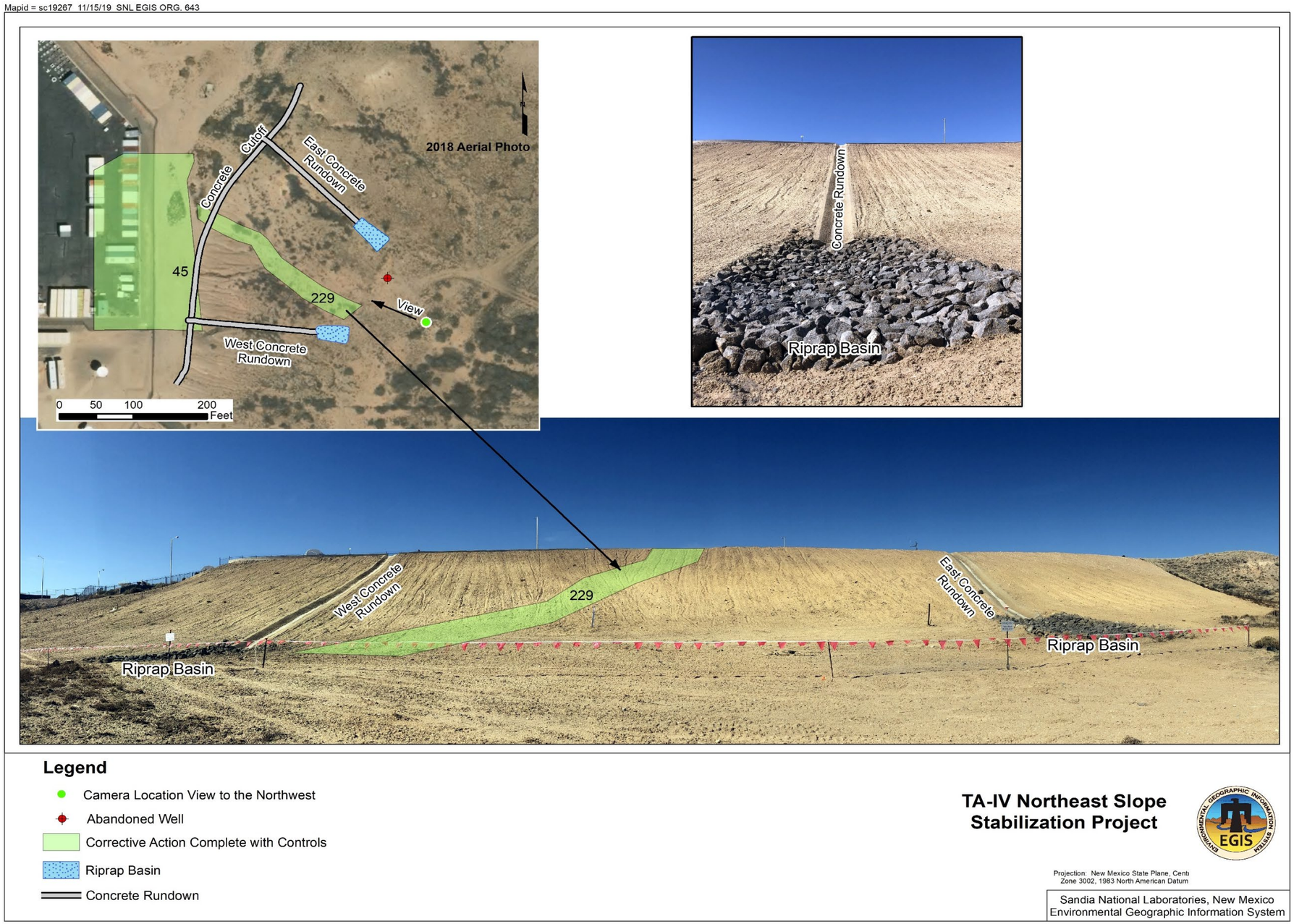

Figure 3-3. SNL Technical Area IV Northeast Escarpment after completion of TA-IV Slope Stabilization Project.

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3.5 Status of Previous Maintenance and Repair Activities

The TA-IV Slope Stabilization Project construction was completed in September 2019. The stabilized area is performing as designed.

3.6 Other Conditions or Events

During each site inspection, personnel observed the adjacent areas, and no activities inconsistent with site restrictions were observed during those inspections. No evidence of residential activities was noted adjacent to any of the inspected SWMUs or AOCs.

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4.0 SUMMARY AND CONCLUSIONS

During calendar year 2019, maintenance and inspections of long-term controls at SWMUs and AOCs were performed as described and documented in this report.

Evidence of erosion, such as small gullies and rills, were observed at SWMU 45 during the 2017 annual site inspection (SNL/NM March 2018). SNL/NM personnel developed and completed the TA-IV Slope Stabilization Project designed to mitigate the erosion occurring along the SNL TA-IV escarpment. This project included SWMUs 45 and 229 located along the northeast slope of the escarpment and SWMU 46 located along the southwest escarpment slope. Project work began in March 2019 and was completed in September 2019 and is performing as designed.

During the escarpment work, five Institutional Controls notification signs were proactively removed to prevent damage to the signs. One sign was inadvertently destroyed during the project work. Upon completion of slope stabilization activities, all signs were replaced at their original GPS surveyed locations.

No conditions requiring maintenance or repair activities were observed at any of the other inspected SWMUs or AOCs during 2019.

Personnel associated with approximately 150 planned projects at SNL/NM were notified of controls associated with SWMUs and AOCs so that the controls would not be impacted by the planned activities.

Based upon the inspections performed and site conditions observed, the administrative and physical institutional controls in place at the SWMUs and AOCs are effectively providing continued protection of human health and the environment.

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5.0 REFERENCES

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