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# Meeting and Tour with Ollie Reed Albuquerque Journal

March 2, 2016

Michael M. Mitchell  
Sandia National Laboratories

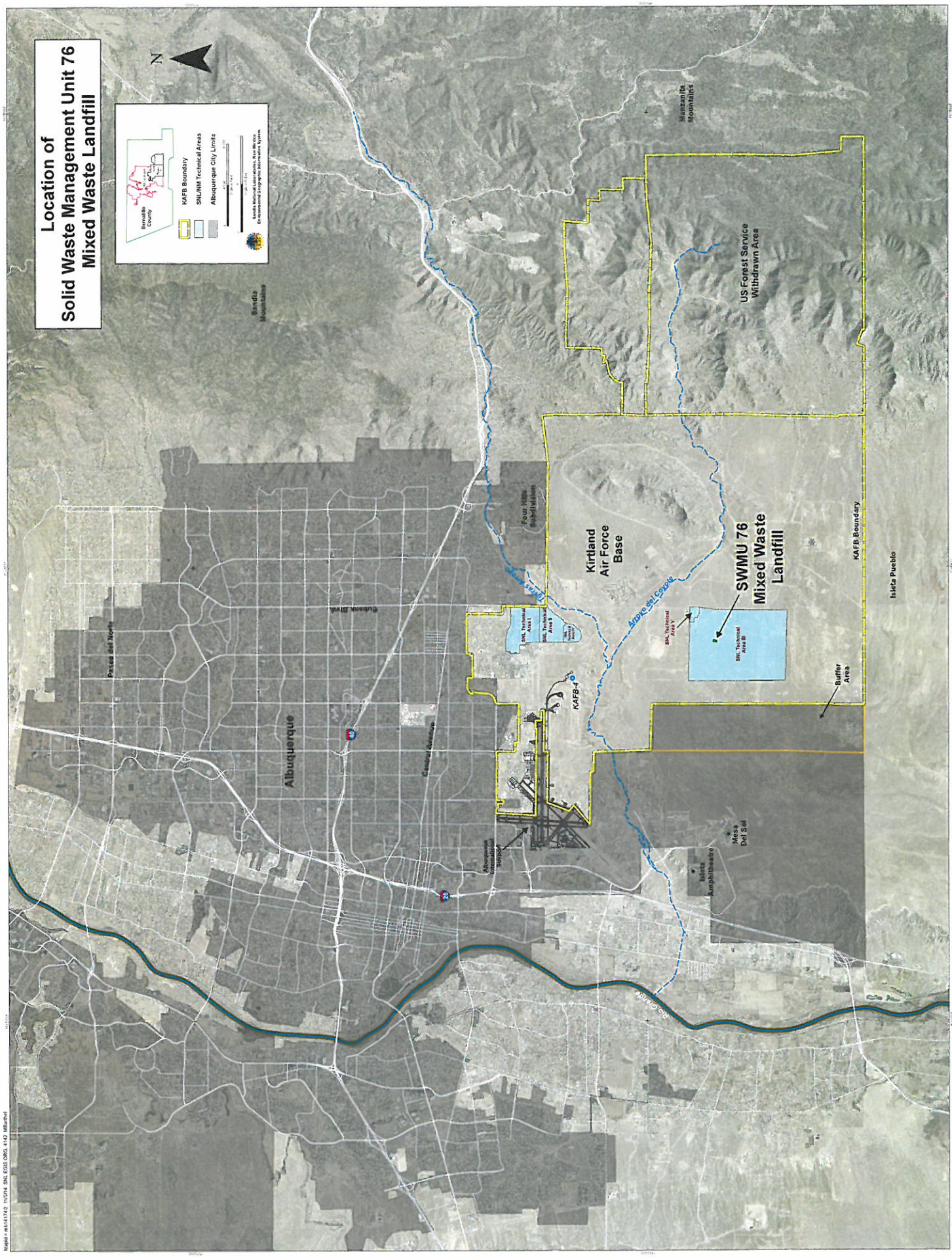
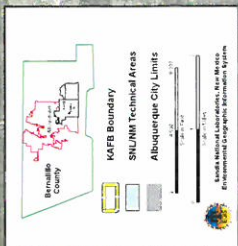


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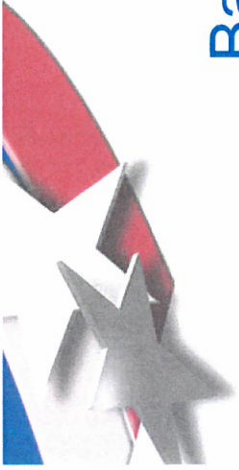




# Location of Solid Waste Management Unit 76 Mixed Waste Landfill







# Mixed Waste Landfill

## Background and Environmental Setting

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### Background

- MWL includes a classified area (0.6 acres) and unclassified area (2 acres) operated from March 1959 to December 1988
- Disposal in unlined pits and trenches
- Approximately 100,000 cubic feet (3,700 cubic yards) of low-level radioactive waste and mixed waste containing an estimated 6,300 curies (Ci) of activity at the time of disposal

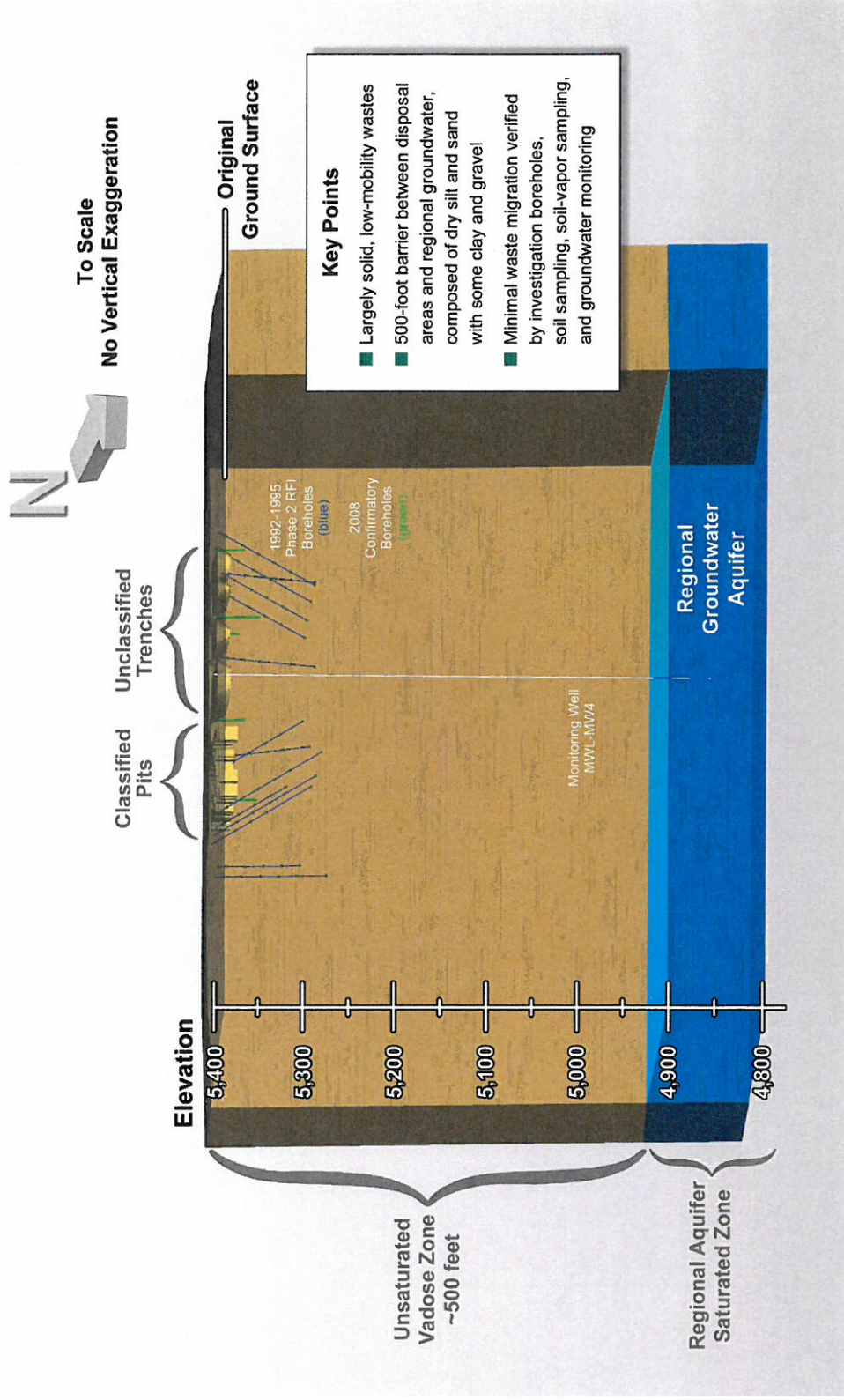
### Environmental Setting

- Semi-arid climate with approximately 8-inches of precipitation annually
- Groundwater approximately 500 feet below ground surface within Santa Fe Group deposits (basin fill)
- 500-foot thick vadose (unsaturated) zone (consisting of dry silt and sand with some clay and gravel) between disposal area and groundwater
- No geologic faults in the vicinity of MWL with displacement in Holocene time



# Mixed Waste Landfill - Key Points Summary

## Disposal Areas – Vadose Zone – Regional Aquifer







## BACKGROUND

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- MWL extensively investigated and monitored since 1990
- Operational history, inventory, and investigation and monitoring results were all addressed in the December 2004 Public Hearing associated with the Class 3 Permit Modification request for Corrective Measures (Remedy Selection)
- Hearing Officer's Report (April 2005) to the NMED Secretary and NMED Secretary's Final Order (May 2005) document remedy selection and conditions for the MWL





## 2005 HEARING OFFICER'S REPORT & NMED SECRETARY FINAL ORDER

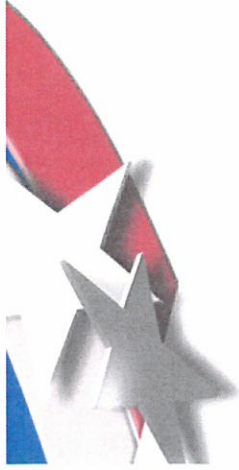
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### Hearing Officer's Report:

- Inventory is reasonably accurate and complete; MWL does not contain high level waste
- Groundwater not contaminated by releases from the MWL
- Sandia's risk assessments are adequate and investigation data and CMS Report are high quality

### Final Order:

- Remedy: vegetative soil cover with a biointrusion barrier, with additional conditions
  - Institutional and physical controls
  - Fate & transport modeling
  - Long-term monitoring & associated triggers levels
  - 5-year reports



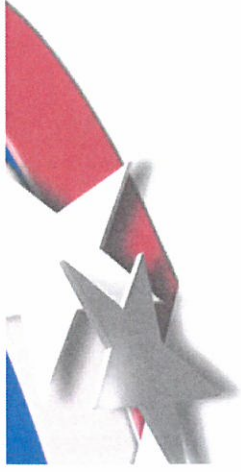
## May 2005 Final Order

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### New Mexico Secretary of Environment Final Order No. HWB 04-11(M) and associated Class 3 Permit Modification granted in August 2005

- **Adopted Hearing Officer's Report and defined conditions for corrective action complete status**
- **NMED-selected remedy:** vegetative soil cover with biointrusion barrier (i.e., evapotranspirative [ET] cover)
- **Conditions for Corrective Action Complete**
  - Corrective Measures Implementation (CMI) Plan
  - CMI Report
  - Long-Term Monitoring and Maintenance Plan (LTMMP)
- **Conditions that apply beyond Corrective Action Complete**
  - 5-year Reports
  - Public involvement process





## 2015 PUBLIC HEARING

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- All Final Order corrective action conditions completed by September 2014
- NMED issued Corrective Action Complete certificate on October 8, 2014
- DOE and Sandia requested a Class 3 Permit Modification for Corrective Action Complete with Controls on October 20, 2014
  - DOE and Sandia held a public meeting on November 18, 2014 at the Manzano Mesa Multigenerational Center
  - NMED held a public hearing for its proposal to grant corrective action complete status with controls from July 8-11, 2015

## Completion of All May 2005 Final Order Corrective Action Conditions

| <b>Final Order Condition<br/>Major Documents</b>                                                                                                                                                             | <b>Date<br/>Completed</b>         | <b>Public<br/>Process?</b> | <b>Approved by<br/>NMED</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|-----------------------------|
| <b>Corrective Measures Implementation Plan</b> <ul style="list-style-type: none"> <li>• ET Cover Construction Plan</li> <li>• Fate &amp; Transport Modeling Report</li> <li>• Monitoring triggers</li> </ul> | Nov. 3, 2005                      | Yes                        | Dec. 22, 2008               |
| <b>Corrective Measures Implementation Report</b>                                                                                                                                                             | Jan. 26, 2010                     | Yes                        | Oct. 14, 2011               |
| <b>Long-Term Monitoring and Maintenance Plan</b>                                                                                                                                                             | March 23,<br>2012                 | Yes                        | Jan. 8, 2014                |
| <b>Final Order Condition<br/>Implementation Field Work</b>                                                                                                                                                   | <b>Date Completed</b>             |                            | <b>Approved by<br/>NMED</b> |
| <b>Corrective Measures Implementation Plan</b><br>[Soil-Vapor Investigation] <sup>a</sup>                                                                                                                    | Dec. 21, 2006 – Aug. 26,<br>2008  |                            | Sept. 26, 2008              |
| <b>Corrective Measures Implementation</b><br>[Borrow Pit & Subgrade Preparations]                                                                                                                            | June 14, 2006 – April 11,<br>2007 |                            | Oct. 14, 2011               |
| <b>Corrective Measures Implementation</b><br>[ET Cover Construction]                                                                                                                                         | May 20 – Sept. 3, 2009            |                            | Oct. 14, 2011               |
| <b>LTMMP Implementation</b><br>[Monitoring Systems Installation Fieldwork]                                                                                                                                   | Jan. 8 – Sept. 25, 2014           |                            | Sept. 25, 2014              |

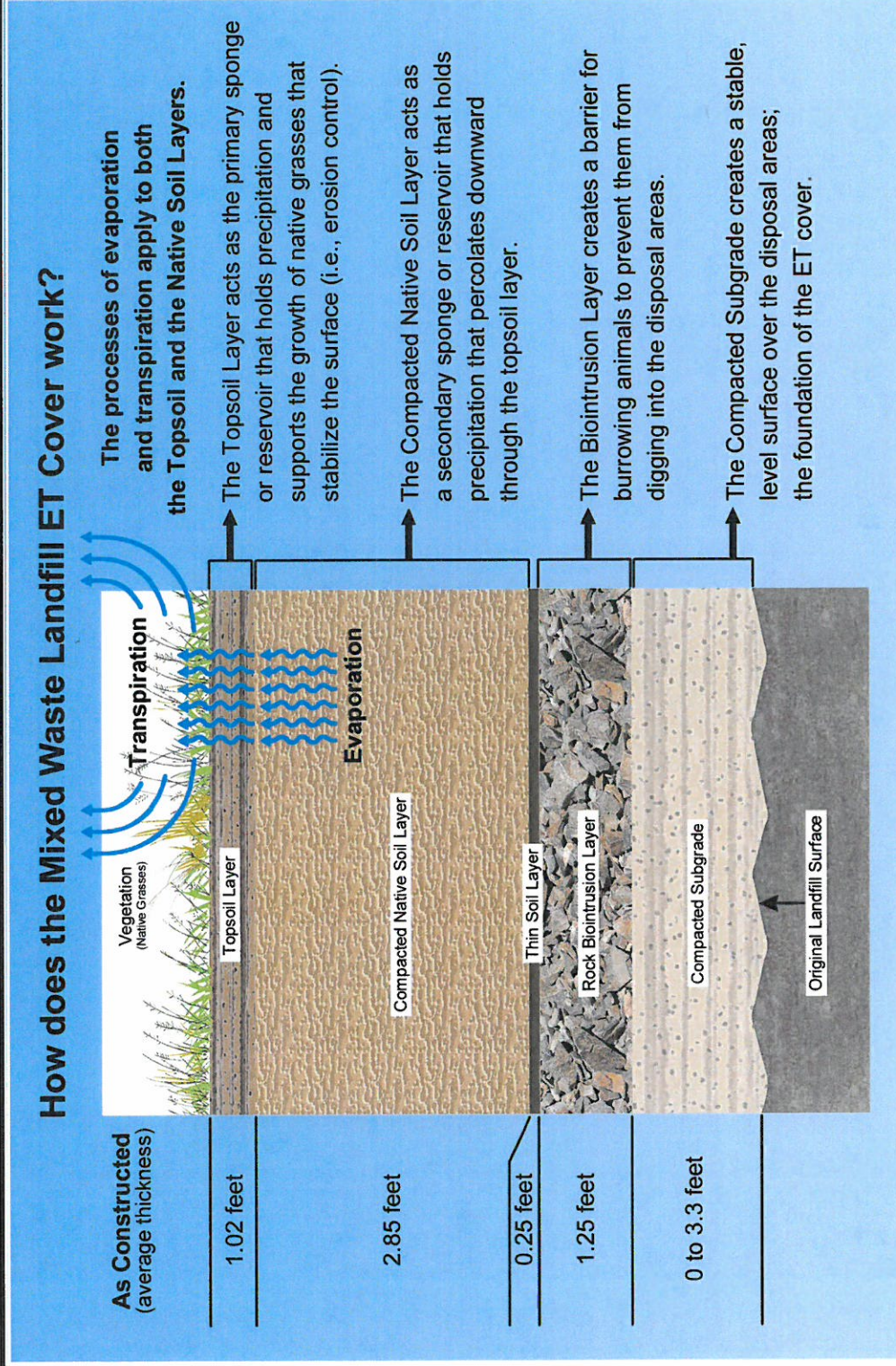
<sup>a</sup> The additional volatile organic compound soil-vapor investigation that included analyses for tritium and radon was a condition added by the NMED during the CMI Plan review and approval process to confirm earlier Phase 2 RCRA Facility Investigation results. This requirement was not part of the May 2005 Final Order.



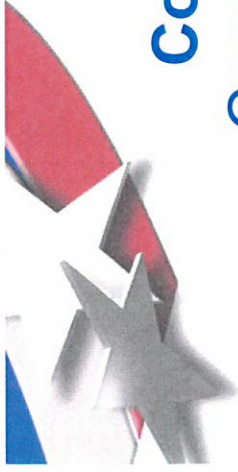


# How Does An Evapotranspirative (ET) Cover Work?

## The Engineered Purpose of Each Layer







## Corrective Measures Implementation

### Completed ET Cover with Native Vegetation

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**Current Status of ET Cover – June 23, 2015**



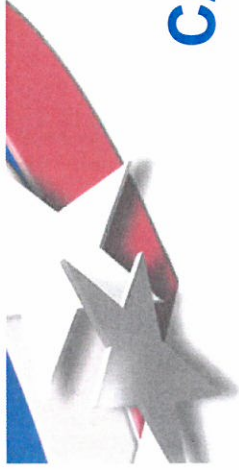


## Long-Term Monitoring and Maintenance Plan

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**Revised LTMMP establishes the physical and institutional controls to be implemented with the ET Cover to ensure the long-term protection of groundwater, human health, and the environment**

- Industrial Land Use with restrictions
- Types and frequencies of monitoring, inspection, maintenance, repair, and reporting requirements defined
  - Multi-media monitoring program and trigger levels based on Fate & Transport modeling to determine if conditions are changing
  - Conservative trigger levels and defined process for follow-up actions
    - If triggers exceeded, timely follow-up required to ensure changing conditions are addressed, including additional testing or implementation of an additional or different remedy
  - Inspection, maintenance, and repair requirements to ensure physical controls, monitoring networks, and ET Cover function as designed
  - Annual Reporting to document monitoring, inspection, and maintenance/repair results



## CANM Allegations - 2014 to Present

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- Allegations are not new and addressed in the December 2004 Public Hearing
  - NMED Final Order legally challenged in October 2006
    - Upheld in NM Court of Appeals in December 2007
    - NM Supreme Court denied review in February 2008
- Allegations similar to those presented in Senate Memorials 34 and 30 (2013 and 2014, respectively), and include:
  - Wastes are dangerous and the inventory is incomplete
  - Disposal method is not safe
  - Wastes have leaked into the Albuquerque groundwater aquifer
  - Groundwater monitoring wells and data are inadequate
  - Final remedy selected by NMED (ET Cover) is not protective





## CANM Allegations - 2014 to Present (continued)

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- New focus associated with old allegations of metallic sodium and nuclear fuel material
  - Allegations date to the December 2004 Public Hearing
  - More recent allegations assert the MWL contains high-level radioactive waste (HLW) that requires different disposal method
  - This waste (metallic sodium and fuel), which is not in the MWL, is the basis for the “explosion risk” allegation
- CANM now cites the October 2015 explosion and fire at Beatty, NV as an example of why the MWL is not safe



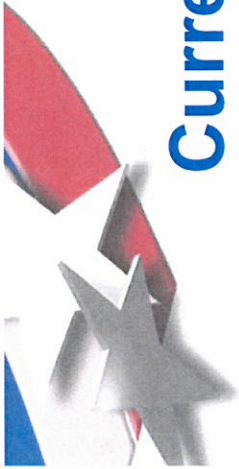
## CANM Allegations - 2014 to Present (concluded)

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### **Allegations addressed by both DOE/Sandia and NMED**

- December 2004 Public Hearing for MWL Final Remedy Selection and NMED May 2005 Final Order
- Responses to public comments for all MWL documents submitted since the May 2005 Final Order
- Responses to public comments and July 2015 Public Hearing associated with the Class 3 Permit Modification for Corrective Action Complete with Controls
  - Public comment periods from October 2014 through April 2015
  - Public Hearing July 8-11, 2015
- DOE Office of Inspector General (OIG) Special Investigation initiated in December 2014 in response to allegations submitted to the OIG Hotline from late 2014 into 2015
- Presentations to the County Water Utility Authority (WUA) and Water Protection Advisory Board (WPAB) in August and September 2015 addressing 10 CANM allegations included as WPAB resolution R-15-7 that was passed in May 2015
- Sandia provided responses to Albuquerque Free Press inquiries prior their publishing the 2 articles in December 2015





# Current Status of Regulatory Process



## Mixed Waste Landfill (MWL)

**Class 3 Permit Modification for Corrective Action Complete for the Mixed Waste Landfill**

**Final Decision** - On February 12, 2016 the Environment Department Secretary issued a Final Order on the Corrective Action Complete for the Mixed Waste Landfill. The Final Order, modified permit sections, response to comments and associated documents are provided below.

Final Order

Hearing Office Report - October 13, 2015

Approval Letter

Interested Person Letter

Response to Comments

Modified Permit

Permit Attachment K - Solid Waste Management Units and Areas of Concern

Permit Attachment M - Long-Term Monitoring and Maintenance Plan for Solid Waste Management Units and Areas of Concern Granted Corrective Action Complete with Controls with Controls, Tech Areas III and V

The New Mexico Environment Department held a public hearing on the proposed Corrective Action Complete for the Mixed Waste Landfill from July 8, 2015 through July 11, 2015 in Albuquerque, NM at the **Anderson Abruzzo Albuquerque International Balloon Museum in Pugh Hall**. See Public Hearing Notice below.

**Public Hearing Notice** - NMED issued a public hearing notice on May 20, 2015 for the proposed Corrective Action Complete for the Mixed Waste Landfill. The public hearing will begin on **July 8, 2015 at 9:00 a.m.** at the **Anderson Abruzzo Albuquerque International Balloon Museum in Pugh Hall located at 9201 Balloon Museum Drive NE, Albuquerque, NM 87113**. The public hearing notices are below:

Public Hearing Notice (English) (May 20, 2015)

Public Hearing Notice (Spanish) (May 20, 2015)

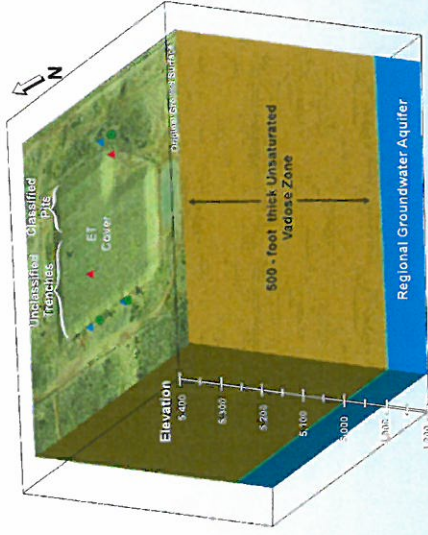
**Public comment period extended** - NMED issued a public notice on March 17, 2015 extending the public comment period to receive public comment and request for public hearing on the Corrective Action Complete (CAC) proposal for the Mixed Waste Landfill (MWL). The public comment period ends at **5:00 p.m. MDT on April 13, 2015**

The notices extending the public comment period are below:

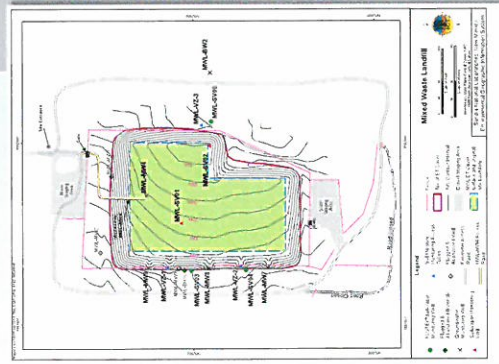
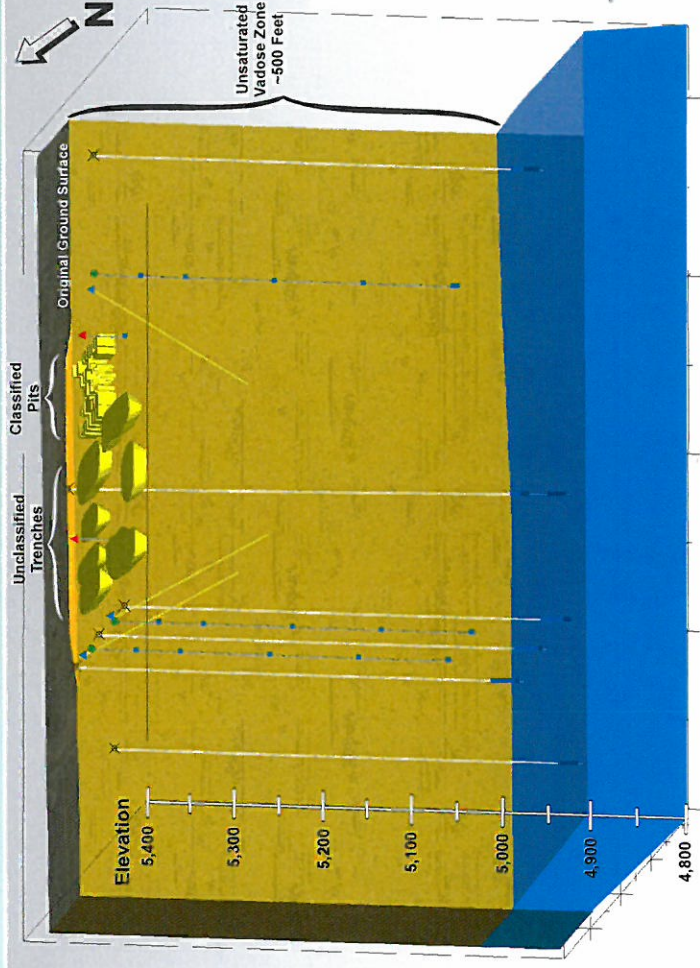
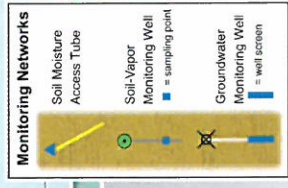
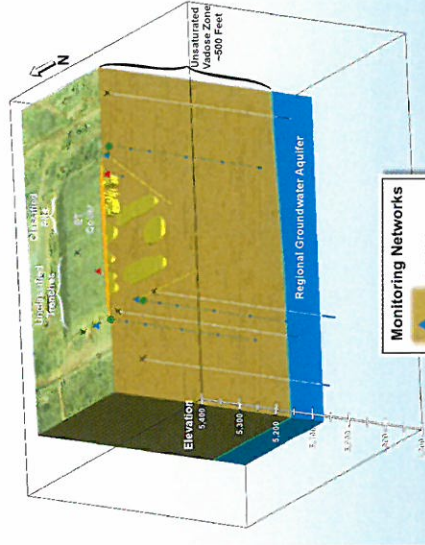
Citizen Letter and Public Notice (English) (March 17, 2015)



# Long-Term Protection of Groundwater, Human Health, and the Environment



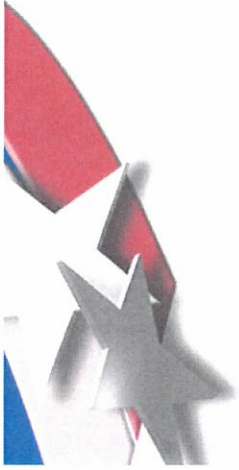
- **Evapotranspirative (ET) cover**  
= physical barrier that isolates the disposal areas from:
  - > Human and animal intrusion
  - > Precipitation infiltration/percolation
- **500 - foot thick, dry unsaturated (vadose) zone barrier between disposal areas and regional groundwater aquifer**
- **Inspection & maintenance of ET cover to ensure performance**
- **Monitoring of vadose zone to protect regional groundwater**



## 3 Monitoring Networks = Early Detection

- 1) Soil moisture beneath ET cover & disposal areas
- 2) Soil-vapor monitoring from 40 to 400 feet (17 sampling ports)
- 3) Groundwater monitoring of uppermost part of regional aquifer





## BACK-UP SLIDES

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# Long-Term Monitoring and Maintenance Plan Annual and 5-Year Reevaluation Reports



# Long-Term Monitoring and Maintenance Plan

## Multi-Media Monitoring Program

| Sampling Media      | Monitoring Parameters                    | Monitoring Frequency                                                                                                           | Number of Samples Per Event | Purpose                                                                                                                                                                              | Monitoring Method                                                                                                                                                                                                               |
|---------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Air</b>          | Radon                                    | Year 1 – Quarterly<br>Year 2 – Quarterly<br>Year 3 – Semiannual<br>Year 4 – Semiannual<br>Year 5 and subsequent years – Annual | 17                          | Determine if sealed radium -226 sources remain intact in the disposal area.<br>Two previous studies show radon-222 emissions from the MWL are consistent with background values.     | 17 Track-etch detectors placed around the perimeter and on the MWL. Samples are time-weighted average for a 3-month period.                                                                                                     |
| <b>Surface Soil</b> | Tritium                                  | Annual                                                                                                                         | 4                           | Determine if a significant release of tritium occurs from the disposal area.<br>Monitoring has been conducted since 1985 and tritium values have been steadily decreasing over time. | One soil sample collected from each corner (4) of the MWL ET Cover. Moisture is extracted and analyzed for tritium.                                                                                                             |
| <b>Vadose Zone</b>  | VOCs in soil vapor                       | Year 1 – Semiannual<br>Year 2 – Semiannual<br>Year 3 – Semiannual<br>Year 4 and subsequent years – Annual                      | 17                          | Determine VOC soil-vapor concentrations in the subsurface above the water table from 40 to 400 feet below ground surface and monitor over time.                                      | Sampling and analysis for 50 VOCs at 17 locations to provide a complete profile of VOC soil-vapor concentrations in the subsurface above the water table.                                                                       |
| <b>Vadose Zone</b>  | Moisture content underneath the ET Cover | Year 1 – Semiannual<br>Year 2 – Semiannual<br>Year 3 and subsequent years – Annual                                             | 171                         | Determine soil-moisture content underneath the ET Cover over time to evaluate moisture infiltration through the ET Cover.<br>Baseline data collected prior to ET Cover installation. | Soil-moisture monitoring using a neutron probe. Measurements obtained at 1-foot increments from 4 feet to 25 feet bgs, then 5-foot increments to total depth in the 3 soil-moisture monitoring access tubes (~200 linear feet). |





# Long-Term Monitoring and Maintenance Plan

## Multi-Media Monitoring Program (continued)

| Sampling Media                  | Monitoring Parameters/ Constituents of Concern                                                                                        | Monitoring Frequency | Number of Samples Per Event     | Purpose                                                                                                                                                                                                                                                             | Monitoring Method                                                                                                            |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Ground water</b>             | VOCs, metals (uranium, cadmium, and nickel), tritium, radon, gamma-emitting radionuclides (short list), and gross alpha/beta activity | Semiannual           | 4                               | Determine groundwater concentrations over time to evaluate potential impacts from the MWL and other sources.<br><br>Groundwater monitoring has been performed at MWL since 1990 and provides over 24 years of data indicating the MWL has not impacted groundwater. | Sampling and analysis of the MWL compliance groundwater monitoring well network: MWL-BW2, MWL-MW7, MWL-MW8, and MWL-MW9.     |
| <b>Biota – Surface Soil</b>     | RCRA Metals plus Cu, Ni, V, Zn, Co, and Be; and gamma-emitting radionuclides (short list)                                             | Annual               | Up to 4 (2 each, if they exist) | Determine surface soil concentrations in the vicinity of features indicative of animal activity (burrows and/or ant hills) to evaluate contaminant transport through biological activity.                                                                           | Sampling and analysis of surface soil at animal burrow and/or ant hill features identified during routine cover inspections. |
| <b>Biota – Cover Vegetation</b> | Gamma-emitting radionuclides (short list) in vegetation                                                                               | Annual               | Up to 2 if they exist           | Determine radionuclide activity of vegetation that have root systems that could potentially reach the disposal area to evaluate contaminant transport through vegetation.                                                                                           | Sampling and analysis of potentially deep-rooted vegetation, including the plant and root system.                            |



# Long-Term Monitoring and Maintenance Plan

## Multi-Media Monitoring Program (continued)

### Summary of Long-Term Monitoring Parameters with Trigger Levels

| Sampling Media                  | Monitoring Parameter                       | Trigger Level                                                                                                                       |
|---------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Air                             | Radon                                      | 4 pCi/L                                                                                                                             |
| Surface Soil                    | Tritium                                    | 20,000 pCi/L in soil moisture                                                                                                       |
| Surface Soil - Biota Monitoring | Metals                                     | NMED Industrial/Occupational Soil Screening Levels.<br>Listed in Table 5.2.2-1 of the MWL Long-Term Monitoring and Maintenance Plan |
| Vadose Zone                     | VOCs in soil vapor                         | PCE = 20 ppmv (parts per million – volume basis)<br>TCE = 20 ppmv<br>Total VOCs = 25 ppmv                                           |
| Vadose Zone                     | Moisture content in underlying vadose zone | Average 23% volumetric soil moisture content                                                                                        |
| Groundwater                     | VOCs, metals, and radiological parameters  | All groundwater trigger levels listed in Table 5.2.4-1 of the MWL Long-Term Monitoring and Maintenance Plan                         |



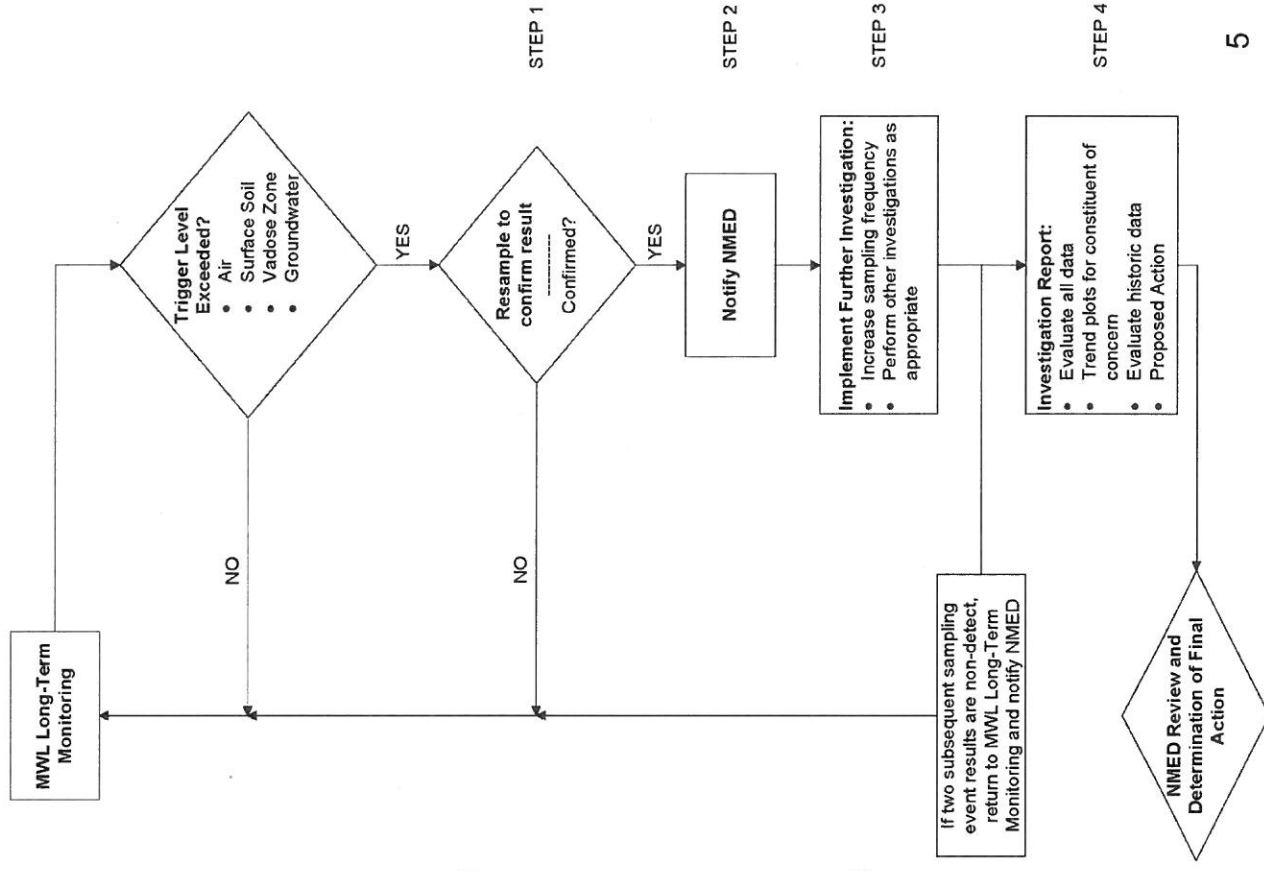
## Multi-Media Monitoring Trigger Evaluation Process for the Mixed Waste Landfill

The trigger evaluation process is designed to ensure the protection of human health and the environment, while allowing adequate data collection to eliminate field sampling and/or laboratory error and identify short-term exceedances that do not reflect long-term trends.

**Steps 1 & 2** require resampling to confirm exceedance, and notification to NMED if exceedance confirmed

**Steps 3 & 4** require further investigation and reporting. Investigation Report must be submitted to NMED within 1 year of exceedance notification

NMED will review the investigation report and determine final actions to be implemented.





## Multi-Media Monitoring Program

### Protection of Groundwater, Human Health, and Environment

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- Investigation, monitoring, and Fate & Transport modeling results indicate current and future conditions are/will continue to be protective of groundwater, human health, and the environment
- LTMMP Multi-Media Monitoring Program designed to ensure long-term protection
  - Monitoring focuses on most mobile contaminants
  - Environmental media monitored include air, surface soil, vadose zone (VOC soil vapor and soil moisture content), groundwater, and biota and address all exposure pathways
  - Trigger levels set at concentrations that provide an early warning of changing conditions that require timely follow-up





# Long-Term Monitoring and Maintenance Plan

## Inspection, Maintenance, and Repair Program

| MWL System to be Inspected      | Inspection Parameters                                                                                         | Inspection Frequency                                                                | Maintenance Implementation                                | Maintenance/ Repair Frequency                                                                                           |
|---------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| ET Cover Surface                | Vegetation Inventory                                                                                          | Quarterly until vegetation is established, annually thereafter by a staff biologist | Soil augmentations and/or reseeding                       | Within 60 days of discovery of needed repairs.<br>Reseeding repairs may be delayed to await appropriate growing season. |
|                                 | Contiguous areas of no vegetation >200 square feet                                                            |                                                                                     | Revegetate barren areas that exceed prescribed limits     |                                                                                                                         |
|                                 | Animal intrusion burrows in excess of 4 inches in diameter                                                    |                                                                                     | Repair cover system damage that exceeds prescribed limits |                                                                                                                         |
| ET Cover Surface                | Settlement of cover surface in excess of 6 inches                                                             | Quarterly by a field technician                                                     | Repair cover system damage that exceeds prescribed limits | Within 60 days of discovery of needed repairs.<br>Reseeding repairs may be delayed to await appropriate growing season. |
|                                 | Erosion of cover soil in excess of 6 inches deep                                                              |                                                                                     |                                                           |                                                                                                                         |
|                                 | Ponding of water on the ET Cover surface in excess of 100 square feet                                         |                                                                                     |                                                           |                                                                                                                         |
|                                 | Animal intrusion burrows in excess of 4 inches in diameter                                                    |                                                                                     |                                                           |                                                                                                                         |
| Surface-Water Drainage Features | Contiguous areas of no vegetation >200 square feet                                                            | Quarterly by a field technician                                                     | Revegetate barren areas that exceed prescribed limits     | Within 60 days of discovery of needed repairs.                                                                          |
|                                 | Channel or sidewall erosion in excess of 6 inches deep                                                        |                                                                                     | Repair erosion that exceeds prescribed limits             | Within 60 days of discovery of needed repairs.                                                                          |
|                                 | Accumulations of sediment in excess of 6 inches deep or debris that blocks more than 1/3 of the channel width |                                                                                     | Remove sediment and debris that exceed prescribed limits  |                                                                                                                         |

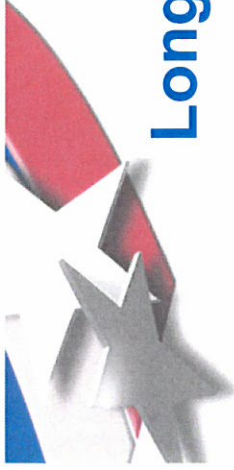


# Long-Term Monitoring and Maintenance Plan

## Inspection, Maintenance/Repair Program (continued)

| MWL System to be Inspected                                                                           | Inspection Parameters                                   | Inspection Frequency                                                                                                      | Maintenance Implementation                                                                                                                   | Maintenance/Repair Frequency                   |
|------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Soil-Vapor Monitoring Wells, Soil-Moisture Monitoring Access Tubes, and Groundwater Monitoring Wells | Concrete pads, stanchions, and protective casings       | Groundwater and Vadose Zone Network Components: Field technician to inspect at same frequency/time that monitoring occurs | Maintain, clean, repair, replace, re-label, as appropriate                                                                                   | Within 60 days of discovery of needed repairs. |
|                                                                                                      | Well cover caps and Swagelok® (or equivalent) dust caps |                                                                                                                           |                                                                                                                                              |                                                |
|                                                                                                      | Monitoring wells and soil-vapor sampling port labels    |                                                                                                                           |                                                                                                                                              |                                                |
|                                                                                                      | Locks                                                   |                                                                                                                           |                                                                                                                                              |                                                |
|                                                                                                      | Sampling pumps and tubing                               |                                                                                                                           |                                                                                                                                              |                                                |
| Fence                                                                                                | Neutron probe and cable system                          | Quarterly by a field technician                                                                                           | Remove wind-blown plants and debris                                                                                                          | Within 60 days of discovery of needed repairs. |
|                                                                                                      | Presence of wind-blown plants and debris                |                                                                                                                           | Repair broken wire sections and posts, repair/oil gates, clean/replace locks, repair/replace warning signs, clear dirt/debris from monuments |                                                |





## Long-Term Monitoring and Maintenance Plan

### Annual Reporting

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- Annual Reports are submitted to NMED to document all monitoring and inspection activities/results conducted during the previous year
  - Annual reporting period is April 1 – March 31 (of the following year)
  - All monitoring results will be reported, evaluated, and compared to trigger levels
  - All inspection, maintenance, and repair activities presented
  - Reports will evaluate site conditions and the effectiveness of the final remedy
  - Annual Reports due to NMED by June 30 of each year



# Long-Term Monitoring and Maintenance Plan

## 5-Year Reporting

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- 5-Year Reports are submitted to NMED to document all monitoring and inspection activities/results conducted during the previous year
  - Reevaluate the feasibility of excavation
  - Analyze the effectiveness of the ET Cover and the likelihood of contaminants reaching groundwater based on current monitoring results
  - Review of monitoring results and other pertinent data
  - Update Fate & Transport model if current results are outside the range of previously modeled results
  - Include all efforts to ensure any future releases are detected and addressed before any effect on groundwater or increased risk to public health and the environment
- First 5-year Report will be submitted to NMED by January 8, 2019
- Available to public for review and comment
- NMED will address all public comments



# NMED Timeframe for 5-Year Reevaluation



SUSANA MARTINEZ  
Governor

JOHN A. SANCHEZ  
Lieutenant Governor

## NEW MEXICO ENVIRONMENT DEPARTMENT

### *Hazardous Waste Bureau*

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

Phone (505) 476-6000 Fax (505) 476-6030

[www.nmemv.state.nm.us](http://www.nmemv.state.nm.us)



DAVE MARTIN  
Secretary

BUTCH TONGATE  
Acting Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 14, 2011

The Permittees must submit a Long-Term Monitoring and Maintenance Plan (LTMMP) for the Mixed Waste Landfill within 180 days of the date of this letter. Upon NMED approval of the LTMMP, the first five-year period for re-evaluating the feasibility of excavation and analyzing the effectiveness of the remedy, required under the Secretary's Final Order of May 26, 2005, will begin. This will allow for monitoring data to be acquired under the LTMMP to be available for the purpose of conducting the evaluation.



## Long-Term Monitoring and Maintenance Plan

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- **March 2012 DOE and Sandia submitted the revised MWL LTMMP**
  - NMED conducted 150-day public comment period (September 2012 to February 2013) and public meeting (October 16, 2012)
  - NMED responded to all public comments
- **NMED approved the revised LTMMP on January 8, 2014**
  - DOE and Sandia implemented all LTMMP requirements upon approval
- **NMED approval and timeframe for 5-year report challenged in the New Mexico Court of Appeals**
  - In February 2015, the New Mexico Court of Appeals upheld NMED approval and timeframe for 5-year Report
  - In May 2015, the New Mexico Supreme Court denied petition for writ of certiorari (i.e., denied review of case)

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