

## Region 6 Compliance Assurance and Enforcement Division INSPECTION REPORT

|                                            |                                                |                                                                         |              |
|--------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------|--------------|
| Inspection Date(s):                        | 02/28/2018                                     |                                                                         |              |
| Media:                                     | Drinking Water                                 |                                                                         |              |
| Regulatory Program(s)                      | SDWA                                           |                                                                         |              |
|                                            |                                                |                                                                         |              |
| Company Name:                              | <b>Mescalero Apache Tribe (MAT)</b>            |                                                                         |              |
| Facility Name:                             | <b>Mescalero Whitetail Public Water System</b> |                                                                         |              |
| Facility Physical Location:                | Whitetail, New Mexico 88340 (Mescalero)        |                                                                         |              |
| (city, state, zip code)                    | <b>Mescalero Apache Reservation</b>            |                                                                         |              |
| Mailing address:                           | PO Box 250, Mescalero, NM-88340                |                                                                         |              |
| (city, state, zip code)                    | <b>Mescalero, NM 88340</b>                     |                                                                         |              |
| County/Parish:                             | Otero County                                   |                                                                         |              |
| Facility Contact:                          | Sterlen Kane, Jr.                              | Compliance Officer, Division of Resource Management & Protection (DRMP) |              |
|                                            | skanejr@mescalerodrm.org                       |                                                                         |              |
| Facility Contact:                          | Thomas Mendez                                  | Director of Public Works                                                |              |
|                                            | 575-464-4711                                   |                                                                         |              |
|                                            |                                                |                                                                         |              |
| FRS ID                                     | 110022323341                                   |                                                                         |              |
| SDWIS Facility PWS ID                      | 063501233                                      |                                                                         |              |
| ICIS Programmatic ID                       | 7378711                                        |                                                                         |              |
|                                            |                                                |                                                                         |              |
| Personnel participating in the inspection: |                                                |                                                                         |              |
| Thora Padilla                              | MAT, DRMP                                      | Director                                                                | 575-464-4711 |
| Thomas Mendez                              | MAT, DRMP                                      | Director of Public Works                                                | 575-464-4711 |
| Sterlen Kane, Jr.                          | MAT, DRMP                                      | Compliance Officer                                                      | 575-464-4711 |
| Joseph Morgan                              | MAT, Utilities                                 | Director                                                                | 575-937-6461 |
| Ernest Kadayso                             | MAT, Utilities                                 | PWS Operator                                                            | 575-464-4711 |
| Robert Trujillo                            | IHS                                            | Engineer                                                                | 575-464-3871 |
| Mark Nasi                                  | IHS                                            | Engineer                                                                | 505-248-4068 |
| David Esparza                              | EPA R6 6EN-WM                                  | Inspector                                                               | 505-366-8402 |
| Damon McElroy                              | EPA R6 6EN-WM                                  | Inspector                                                               | 214-665-7159 |
|                                            |                                                |                                                                         |              |
| EPA Lead Inspector<br>Signature/Date       |                                                |                                                                         |              |
|                                            | David Esparza                                  |                                                                         | Date         |
|                                            |                                                |                                                                         |              |
| Supervisor<br>Signature/Date               |                                                |                                                                         |              |
|                                            | Carol Peters                                   |                                                                         | Date         |

## **Section I – INTRODUCTION**

### **PURPOSE OF THE INSPECTION**

David Esparza and Damon McElroy arrived on February 27, 2018 at 9:00m, for an announced Sanitary Survey of the Mescalero Apache Tribe (MAT) Whitetail PWS. We presented our credentials and informed the group that this was an EPA Sanitary Survey to determine compliance with the facility's ability to provide safe drinking water under the regulatory authority and conditions of the Safe Drinking Water Act (SDWA). A Sanitary Survey consists of an inspection of the following eight elements:

1. Sources
2. Pumps and pumping facilities
3. Water treatment
4. Distribution
5. Monitoring
6. Management & Operations
7. Operator certification
8. Water storage facilities

Following this Whitetail PWS Sanitary Survey, MAT will be responsible for correcting any significant deficiencies observed and documented in this report (Ref. Section IV). According to the Ground Water Rule (GWR), the water system has 30 days from receipt of the sanitary survey report to consult with EPA regarding any appropriate corrective actions to address the significant deficiencies, and 120 days to complete the corrective actions or develop a schedule to complete them.

### **WHITETAIL FACILITY DESCRIPTION**

The Whitetail PWS is a community ground water system that serves approximately 25 residents through 16 service connections. Operations and maintenance (O&M) is generally conducted five days per week (Monday through Friday). The total MAT O&M encompasses ten (10) Mescalero PWSs. Two (2) of these PWSs are operated seasonally (Silver Lake and Eagle Creek). Currently there are no plans for new capital improvements. The average daily water demand is not quantified. The peak daily demand is unknown and unmeasured.

The Whitetail PWS has the following primary infrastructure:

1. Whitetail well, well house, and chlorination system.
2. Three (3) 2,000 Ground Storage Tanks (GST), installed circa 2003.
3. Finished drinking water is pumped from the well to the GSTs and distributed by gravity pressure to the customers.
4. The system maintains a check and isolation valve and does not have an air relief valve (ARV), as the well pumps directly into the storage tanks; thus negating the need for an ARV.
5. The ancillary pressure relief valve associated with the well is utilized as a blow-off valve.

6. The distribution system is approximately 15 years old. The distribution system consists of 2 and 4-inch polyvinyl chloride (PVC) and 1 ¼-inch polyethylene (PE) pipe.

Below is a Table A, showing current MAT Water Utility staff:

**Table A: Updated Staff.**

| Name                  | Job Title                                                     | Phone        | Email                                                                                  |
|-----------------------|---------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------|
| Thora Padilla         | Director, Division of Resource Management & Protection (DRMP) | 575-464-4711 | <a href="mailto:thora@mescalerodrm.org">thora@mescalerodrm.org</a>                     |
| Sterlen Kane, Jr      | Compliance Officer<br>DRMP<br>(Certification Level 4 – NMED)  | 575-464-4711 | <a href="mailto:skanejr@mescalerodrm.org">skanejr@mescalerodrm.org</a>                 |
| Joe Morgan            | Utility Director                                              | 575-464-4311 | <a href="mailto:jmorgan@mescaleroapachetribe.com">jmorgan@mescaleroapachetribe.com</a> |
| Arthur Blazer         | President                                                     | 575-464-9233 | <a href="mailto:ablazer@mescaleroapachetribe.com">ablazer@mescaleroapachetribe.com</a> |
| Kelton Starr          | Acting Tribal Administrator                                   | 575-464-9211 | <a href="mailto:dduffy@mescaleroapachetribe.com">dduffy@mescaleroapachetribe.com</a>   |
| Carlton Hoahwah       | DW Quality Technician                                         | 575-464-4711 | TBD                                                                                    |
| Daniel McFadden       | SW Quality Technician                                         | 575-464-4711 | TBD                                                                                    |
| Ashley David          | Customer Inquiry Call Center                                  | 575-464-4711 | TBD                                                                                    |
| PWS Utility Operators |                                                               |              |                                                                                        |
| Raymond Martinez      | Operator<br>(Certification Level 1 – NMED)                    | 575-464-4711 | TBD                                                                                    |
| Truman Bob            | Operator<br>(Certification Level 1 – NMED)                    |              |                                                                                        |
| Ernest Kadayso        | Operators – pending certification                             |              |                                                                                        |
| Chris Hugar           |                                                               |              |                                                                                        |

## Section II – OPENING DISCUSSION:

Reference the MAT Carrizo Sanitary Survey dated February 26 & 27, 2018, for detailed opening discussion observations.

- I observed that the MAT Utility officials recognize the importance of providing safe drinking water, and struggles to achieve a PWS that is sustainable to best serve the community.
- MAT needs to address significant deficiencies in a timely manner and generally modify the observed culture of apathetic public health protection.
- MAT does not implement a work order management system.
- When a water line is replaced, Indian Health Service (IHS) standards, inclusive of disinfection or an equivalent standard operating procedure (SOP) is not followed subjecting costumers to a potential contamination risk.
- The current six (6) PWS operators for all 10 MAT PWSs spend about 80% of their time fixing drinking water leaks or breaks; and about 20% on road and right-of-way (ROW) work. This equates to an approximate 32-hours out of a normal work week to system maintenance.
- I observed that MAT should add additional five (5) or six (6) FTEs (full time employees) capable of operating the MAT PWSs. Such skills needed may include SCADA operations, GIS mapping, electrical, asset maintenance, mechanical, etc.

## Section III – WHITETAIL SANITARY SURVEY

I observed the following sanitary survey characteristics regarding the Whitetail PWS:

### A. Sources

1. The well is cased with 16-inch steel casing and the casing appears to not extend at least 18-inches above land surface (Appendix 1 Photograph #1).
2. The total depth (TD) of the well and static water level (SWL) is unknown. Likewise, the screened interval, well yield (now or at time of completion) or pump parameters are unknown.
3. The well has no auxiliary power.
4. The pump could be operated manually to avoid potential overflow.
5. The well has:
  - o Operational records that did not appear to be maintained.
  - o No pump failure alarm.
  - o A flow meter (in the well house).
  - o No known flow records are maintained or analyzed.
  - o Lightning protection.
  - o Need to provide routine or preventive maintenance, with respect to all well, disinfection, storage and distribution equipment, inclusive of all associated ancillary appurtenances. This is true and/or consistent for all MAT wells and infrastructure.

6. There is no back-up (or redundant) well.

B. Pumps and pumping facilities

The pumping facilities consist of:

1. The drinking water well, well house and chlorination system.

C. Water Treatment (Disinfection)

Whitetail PWS treatment observations:

1. Chlorine feed to maintain a  $\approx$  0.5 ppm residual.
2. Chlorine is applied on the discharge pipe after the meter and pressure gauge.
3. Residual is calibrated on weekdays.

D. Distribution

1. MAT has commenced the creation of geographical information system (GIS) maps of its PWSs assets, inclusive of distribution system pipeline alignments and system infrastructure. These maps are updated as repairs or alignment changes occur (Appendix 2).
2. PWS assets are being updated and coincide with the MAT GIS mapping system.
3. Installing new water lines and pipeline repair SOPs are not established.
4. O&M does not include a formal flushing program.
5. Water pressure has not been measured or assessed.
6. It is a gravity pressure system comprised of one (1) pressure zone, one (1) dead end line and no flush hydrants/valves.
7. Two (2) of the three (3) water faucets (bladder type automatic shut-off) used in conjunction with livestock water troughs have been raised or are in the process of being raised creating an air gap, inclusive of an overflow penetration being cut and screened into the side of the tank basin. The third livestock trough is constructed of approximate 4-inch thick concrete and measures approximately 2-feet square. The top of the trough exhibits considerable spalling or degradation. MAT personnel had scheduled the appropriate equipment and tools to correct the final low faucet configuration (Appendix 1 Photograph #9, #10, #11 and #12). It should be noted if the faucet is not raised above the rim of the basin it is not considered an air gap. Additionally, creating a penetration in the sidewall may not be sufficient, since the purpose of the basin is to prevent freezing. However, if the basin overflows during the winter months it could freeze and plug the penetration.

E. Monitoring

1. Pump Station, GST, and disinfection monitoring occurs by MAT officials on weekdays.
2. Chlorine dose calibration and final dose records (based on pump flow) are not maintained.

F. Management & Operations

1. MAT has a total annual budget of approximately \$1.1 million, inclusive of emergency funding.

2. Most of the budget is used for PWS water and wastewater operator wages and distribution system repairs.
3. Staff mainly receives adequate training to obtain a Level 1 operator licenses.
4. Infrastructure improvements are funded and often designed through IHS (via the Sanitation Deficiency System (SDS) process) with EPA grant supplementation.
5. There is no observed source water protection plan.
6. PWS records are kept in accordance with corresponding SDWA federal law.
7. MAT does not implement a preventive maintenance program.
8. MAT has a TCR monitoring plan.
9. MAT does not implement SOPS as a general process.

G. Operator certification

The PWS Utility staff has adequate (Level 1 NMED) certification.

H. Water storage facilities

1. Ground Storage Tanks (GST):

- o Three (3) plastic storage tanks (Appendix 1 Photograph #2).
- o 2,000 gallons each.
- o Constructed in 2003.
- o Tank lid(s) have gaskets and are locked (Appendix 1 Photograph #2).
- o Internal condition good.
- o External condition good with the exception cited below.
- o It is unknown when the tanks were last cleaned.
- o Tanks are vented and screened. 24-mesh screen has been installed (Appendix 1 Photograph #3).
- o The overflow or drain pipe with an installed flapper valve does not terminate at least 12-inches above splash pad and is in essence level with the pad. It should be noted the overflow is a common overflow for all three (3) GSTs (Appendix 1 Photograph #4 and #5).
- o Manual level indicator in working order.

**Section IV – SIGNIFICANT DEFICIENCIES** (Reference photos in Appendix 1)

1. The overflow or drain pipe with an installed flapper valve is level with the concrete pad and should be extended between 12 to 24 inches above the concrete pad. It should be noted the overflow is a common overflow for all three (3) GSTs (Appendix 1 Photograph #4 and #5).
2. The GSTs should be cleaned at least every five (5) years, and any recommendations from the tank inspection reports should be implemented (Appendix 1 Photograph #6).
3. Two (2) of the three (3) livestock tanks (trough) need to be constructed to prevent cross-connections.
4. MAT needs additional appropriately trained staff and updated calibrated equipment for adequate O&M.
5. There is insufficient maintenance at the MAT water systems as evidenced by the repeated/unaddressed significant deficiencies from previous sanitary surveys.

6. Significant deficiencies from past sanitary surveys, as shown below in Table B below, need to be fixed, and relevant photos provided to EPA:

**TABLE B: Past Survey Significant Deficiencies**

| ID | Survey Year | Significant Deficiency or Fixed Deficiency Description                                                                                                                                                                                                                                                                                                                                                                              |
|----|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | 2015        | The water faucets for two (2) of the livestock water troughs are submerged below the rim of the basin. These water faucets are connected directly into the distribution system and create a cross connection which could contaminate the distribution system. The water faucets to the livestock water tanks need to be extended above the rim of the basin to create an air gap that is at least 2 times the diameter of the pipe. |
| 2  | 2015        | The drain pipe with appropriately installed flapper valve is level with the concrete pad and should be extended between 12 to 24 inches from the concrete pad.                                                                                                                                                                                                                                                                      |

#### Section IV – Recommendations

1. Adopt and implement a distribution pipeline repair and/or replacement standard operations procedure (SOP), inclusive of GIS mapping of all related appurtenances in accordance with IHS standards or equivalent.
2. Develop and implement an SOP to issue a boil water notice and a disinfection SOP when the distribution system pressure drops below 20 psi.
3. The DW Utility needs to be capable of providing operations and maintenance (O&M).
4. Combine the DRMP with the utility group under one Water and Wastewater department.
5. Achieve an adequate operating budget to create a sufficient utility department.
6. Create a user fee for drinking water.
7. Conduct public education or announcements regarding the cost of providing safe drinking water, as politically feasible.
8. MAT needs to addresses significant deficiencies in a timely manner; generally, respond to EPA administrative orders (AO), and to modify the culture of apathetic public health protection.
9. MAT needs a work order management system with an asset management component to operate efficiently and at the lowest cost.
10. MAT needs to create a capital improvement program (CIP) to implement PWSs that are sustainable. This would complement items 3, 4, 5, 6, 7, and 8 above.

#### Section IV – FOLLOW UP

No information was received by EPA after exiting the Facility on 2/28/2018.

#### Section VI – LIST OF APPENDICES

**Appendix 1** – Photo Log – 48 photos taken 2/28/2018

**Appendix 2** – Whitetail Distribution System GIS Example Map