



TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.

HEADQUARTERS: P.O. BOX 33695 DENVER, COLORADO 80233-0695 303-452-6111

October 31, 2019

Sent via email: janet.binns@co.state.us

Mrs. Janet Binns
Environmental Protection Specialist
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: New Horizon North Mine
Permit No. C-2010-089
2019 Annual Impoundment Inspections**

Dear Mrs. Binns:

Elk Ridge Mining and Reclamation, LLC (Elk Ridge) operates the New Horizon North Mine. Tri-State Generation and Transmission Association, Inc. (Tri-State) is the parent company of Elk Ridge. The New Horizon North Mine operates under Colorado Division of Reclamation, Mining and Safety (CDRMS) Permit No. C-2010-089.

In accordance with Rule 4.05.9(14)(a), Tri-State is submitting the enclosed quarterly impoundment inspection on behalf of Elk Ridge.

If you have any questions about the enclosed quarterly impoundment reports, please contact Tony Tennyson at (970) 824-1232 at your convenience.

Sincerely,

Dan Casiraro
Senior Manager
Environmental Services

DJC:TT:der

Enclosures

cc: Frank Ferris (via email)
Chris Gilbreath (via email)
Jason Storey (via email)
Tony Tennyson (via email)
G474-11.3(21)c-8

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

A Touchstone Energy* Cooperative

CRAIG STATION
P.O. BOX 1307
CRAIG, CO 81626-1307
970-824-4411

ESCALANTE STATION
P.O. BOX 577
PREWITT, NM 87045
505-972-5200

NUCLA STATION
P.O. BOX 698
NUCLA, CO 81424-0698
970-864-7316

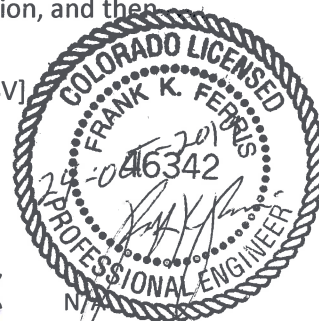
2019 ANNUAL IMPOUNDMENT INSPECTION

Mine: **New Horizon 2 Mine**
 Pond Name: **Pond 009**
 NPDES Permit & Outfall #: **CO-0000213**
 Date Inspected: **15-October-2019**
 Location Description: **2 miles NW of Nucla**

Owner's Rep.: **Frank Ferris, Mine Manager**
 Pond Type: **Partly Incised**
 CDRM & S #: **C-1981-008**
 Date Last Inspected: **1-October-2018**
 Legal Location: **Sec 36 of T47N R16W**
 Inspector's Name: **Frank Ferris**

Pond Capacity Data

As Built Pond Embankment elev.: **5649.25** As Built Pond Bottom elev.: **5639.7**
 As Built Pond Emergency Spillway elev.: **NA** As Built Pond Primary Spillway elev.: **5647.2**
 As Built Pond Capacity (pond bottom to primary spillway) per As Built **4.7 ac-ft**
 Existing Pond Capacity (pond bottom to primary spillway): As Built Volume - SV = **4.67 ac-ft**
 Sediment Volume (SV) unchanged: length **90 ft** X width **50 ft** X depth **0.3 ft** = **.03 ac-ft**
 Surface Water elev. **5640.9** - As Built Pond Bottom elev. **5639.7** = Water Depth **1.2 ft**
 Water Volume (WV) in Pond **0.21 ac-ft** (using as built capacity table & surface water elevation, and then subtracting sediment volume under water level)
 Pond Capacity Available below primary spillway **4.46 ac-ft** [As Built Pond Capacity – WV – SV]
 Inflow volume from 10-yr 24-hr storm runoff event **1.65 ac-ft**



Circle or Write appropriate Response

- | | | | | |
|-----|---|----------------|---------------|----------------|
| 1. | Seepage (specify location, color, and approx. volume) _____ | Yes | No | N/A |
| 2. | Cracks or scarps on crest or slopes _____ | Yes | No | N/A |
| 3. | Sloughing or bulging on slopes _____ | Yes | No | N/A |
| 4. | Major erosion problems _____ | Yes | No | N/A |
| 5. | Surface movements in valley bottom or on hillside _____ | Yes | No | N/A |
| 6. | Water impounded against toe _____ | Yes | No | N/A |
| 7. | Clogging | | | |
| | a) Spillway channels and pipes _____ | Yes | No | N/A |
| | b) Decant system _____ | Yes | No | N/A |
| | c) Diversion Ditches _____ | Yes | No | N/A |
| 8. | Cracking or crushing of pipes | | | |
| | a) Spillway pipes _____ | Yes | No | N/A |
| | b) Decant system _____ | Yes | No | N/A |
| 9. | Trash racks clear and in place _____ | Yes | No | N/A |
| 10. | Monitoring instrumentation _____ | Yes | No | N/A |

Comments: **Minor sediment accumulation (90 ft L, 50 ft W, & 0.3 ft deep) = 0.03 ac-ft, unchanged since 2015**

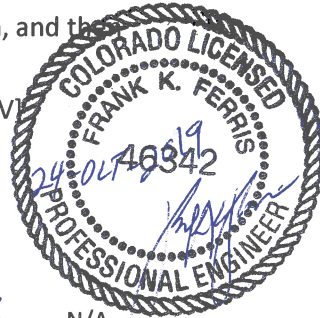
2019 ANNUAL IMPOUNDMENT INSPECTION

Mine: **New Horizon 2 Mine**
 Pond Name: **Pond 012**
 NPDES Permit & Outfall #: **CO-0000213**
 Date Inspected: **15-October-2019**
 Location Description: **2 miles NW of Nucla**

Owner's Rep.: **Frank Ferris, Mine Manager**
 Pond Type: **Partly Incised**
 CDRM & S #: **C-1981-008**
 Date Last Inspected: **12-December-2018**
 Legal Location: **Sec 36 of T47N R16W**
 Inspector's Name: **Frank Ferris**

Pond Capacity Data

As Built Pond Embankment elev.: **5608.5** As Built Pond Bottom elev.: **5596.5**
 As Built Pond Emergency Spillway elev.: **NA** As Built Pond Primary Spillway elev.: **5606.5**
 As Built Pond Capacity (pond bottom to primary spillway) per As Built **4.9 ac-ft**
 Existing Pond Capacity (pond bottom to primary spillway): As Built Volume - SV = **4.72 ac-ft**
 Sediment Volume (SV) unchanged: **3 areas = ~0.18 ac-ft**
 Surface Water elev. **5596.5** - As Built Pond Bottom elev. **5596.5** = Water Depth **0 ft**
 Water Volume (WV) in Pond **0 ac-ft** (using as built capacity table & surface water elevation, and then subtracting sediment volume under water level)
 Pond Capacity Available below primary spillway **4.72 ac-ft** [As Built Pond Capacity – WV – SV]
 Inflow volume from 10-yr 24-hr storm runoff event **3.41 ac-ft**



Circle or Write appropriate Response

- | | | | | |
|-----|---|----------|----------|----------|
| 1. | Seepage (specify location, color, and approx. volume) _____ | Yes | X | N/A |
| 2. | Cracks or scarps on crest or slopes _____ | Yes | X | N/A |
| 3. | Sloughing or bulging on slopes _____ | Yes | X | N/A |
| 4. | Major erosion problems _____ | Yes | X | N/A |
| 5. | Surface movements in valley bottom or on hillside _____ | Yes | X | N/A |
| 6. | Water impounded against toe _____ | Yes | X | N/A |
| 7. | Clogging | | | |
| | a) Spillway channels and pipes _____ | Yes | X | N/A |
| | b) Decant system _____ | Yes | X | N/A |
| | c) Diversion Ditches _____ | Yes | X | N/A |
| 8. | Cracking or crushing of pipes | | | |
| | a) Spillway pipes _____ | Yes | X | N/A |
| | b) Decant system _____ | Yes | X | N/A |
| 9. | Trash racks clear and in place _____ | X | No | N/A |
| 10. | Monitoring instrumentation _____ | Yes | No | X |

Comments: **Sediment accumulation in 3 areas = 0.18 ac-ft. No significant sediment change since 2015.**

Pond bottom sod is wet.

2019 ANNUAL IMPOUNDMENT INSPECTION

Mine: **New Horizon 2 Mine**

Pond Name: **Pond 013**

NPDES Permit & Outfall #: **CO-0000213**

Date Inspected: **15-October-2019**

Location Description: **2 miles West of Nucla**

Owner's Rep.: **Frank Ferris, Mine Manager**

Pond Type: **Partly Incised**

CDRM & S #: **C-1981-008**

Date Last Examined: **12-December-2018**

Legal Location: **Sec 36 of T47N R16W**

Inspector's Name: **Frank Ferris**

Pond Capacity Data

As Built Pond Embankment elev.: **5560.4**

As Built Pond Bottom elev.: **5548.0**

As Built Pond Emergency Spillway elev.: **5557.0**

As Built Pond Primary Spillway elev.: **5555.0**

As Built Pond Capacity (pond bottom to primary spillway) per As Built **6.14 ac-ft**

Existing Pond Capacity (pond bottom to primary spillway): As Built Volume - SV = **6.14 ac-ft**

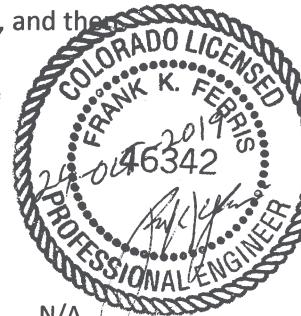
Sediment Volume (SV) at Inspection: **no change since as-built**

Surface Water elev. **5553.5** As Built Pond Bottom elev. **5548.0** = Water Depth **5.5 feet**

Water Volume (WV) in Pond **4.0 ac-ft** (using as built capacity table & surface water elevation, and then subtracting sediment volume under water level)

Pond Capacity Available below primary spillway **2.14 ac-ft** [As Built Pond Capacity – WV – SV]

Inflow volume from 10-yr 24-hr storm runoff event **2.7 ac-ft**



Circle or Write appropriate Response

- | | | | | |
|-----|--|---|--|-----|
| 1. | Seepage (specify location, color, and approx. volume) _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 2. | Cracks or scarps on crest or slopes _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 3. | Sloughing or bulging on slopes _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 4. | Major erosion problems _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 5. | Surface movements in valley bottom or on hillside _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 6. | Water impounded against toe _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 7. | Clogging | | | |
| | a) Spillway channels and pipes _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| | b) Decant system _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| | c) Diversion Ditches _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 8. | Cracking or crushing of pipes | | | |
| | a) Spillway pipes _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| | b) Decant system _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 9. | Trash racks clear and in place _____ | <input checked="" type="checkbox"/> Yes | No | N/A |
| 10. | Monitoring instrumentation Flume in place & functioning | <input checked="" type="checkbox"/> Yes | No | N/A |

Comments:

2019 ANNUAL IMPOUNDMENT INSPECTION

Mine: **New Horizon 2 Mine**

Owner's Rep.: **Frank Ferris, Mine Manager**

Pond Name: **Pond 015**

Pond Type: **Partly Incised**

NPDES Permit & Outfall #: **CO-0000213**

CDRM & S #: **C-1981-008**

Date Inspected: **15-October-2019**

Date Last Examined: **1-October-2018**

Location Description: **~2 miles West of Nucla**

Legal Location: **Sec 36 of T47N R16W**

Inspector's Name: **Frank Ferris**

Pond Capacity Data

As Built Pond Embankment elev.: **5671.0**

Surveyed Pond Bottom elev.: **5560.7**

As Built Pond Emergency Spillway elev.: **NA**

As Built Pond Primary Spillway elev.: **NA**

As Built Pond Capacity (pond bottom to top of embankment) per As Built **0.94 ac-ft**

Existing Pond Capacity (pond bottom to top of embankment): As Built Volume - SV = **0.94 ac-ft**

Sediment Volume (SV) at Inspection: length ____ ft X width ____ ft X depth ____ ft = **NA**

Surface Water elev. **Dry** - As Built Pond Bottom elev. **5660.0** = Water Depth **NA**

Water Volume (WV) in Pond **Dry** (using as built capacity table & surface water elevation, and then subtracting sediment volume under water level)

Pond Capacity Available **0.94 ac-ft** [As Built Pond Capacity – WV – SV]

Inflow volume from 100-yr 24-hr storm runoff event **0.508 ac-ft**

Since the sediment volume between elevations 5560.0 to 5560.7 is less than .005 ac-ft, the volume does not show in the calculations. No significant sediment volume was added to Pond 015 in 2019.



Circle or Write appropriate Response

- | | | | | |
|-----|---|-----|--|---|
| 1. | Seepage (specify location, color, and approx. volume) _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 2. | Cracks or scarps on crest or slopes _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 3. | Sloughing or bulging on slopes _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 4. | Major erosion problems _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 5. | Surface movements in valley bottom or on hillside _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 6. | Water impounded against toe _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 7. | Clogging | | | |
| | a) Spillway channels and pipes _____ | Yes | No | <input checked="" type="checkbox"/> N/A |
| | b) Decant system _____ | Yes | No | <input checked="" type="checkbox"/> N/A |
| | c) Diversion Ditches _____ | Yes | <input checked="" type="checkbox"/> No | N/A |
| 8. | Cracking or crushing of pipes | | | |
| | a) Spillway pipes _____ | Yes | No | <input checked="" type="checkbox"/> N/A |
| | b) Decant system _____ | Yes | No | <input checked="" type="checkbox"/> N/A |
| 9. | Trash racks clear and in place _____ | Yes | No | <input checked="" type="checkbox"/> N/A |
| 10. | Monitoring instrumentation _____ | Yes | No | <input checked="" type="checkbox"/> N/A |

Comments: **The pond elevations indicate less than .005 ac-ft of sediment accumulation & inlet repaired.**

2019 ANNUAL IMPOUNDMENT INSPECTION

Mine: **New Horizon 2 Mine**

Owner's Rep.: **Frank Ferris, Mine Manager**

Pond Name: **Pond 016**

Pond Type: **Partly Incised**

NPDES Permit & Outfall #: **CO-0000213**

CDRM & S #: **C-1981-008**

Date Inspected: **15-October-2019**

Date Last Inspected: **1-October-2018**

Location Description: **~2 miles West of Nucla**

Legal Location: **Sec 36 of T47N R16W**

Inspector's Name: **Frank Ferris**

Pond Capacity Data

As Built Pond Embankment elev.: **5620.5**

Surveyed Pond Bottom elev.: **5611.0**

As Built Pond Emergency Spillway elev.: **5618.5**

As Built Pond Primary Spillway elev.: **NA**

As Built Pond Capacity (pond bottom to emergency spillway) per As Built **7.5 ac-ft**

Existing Pond Capacity (pond bottom to emergency spillway): As Built Volume - SV = **7.5 ac-ft** ^{note}

Sediment Volume (SV) at Inspection: length ____ ft X width ____ ft X depth ____ ft = **NA ac-ft**

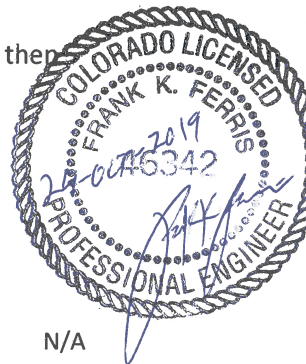
Surface Water elev. **Dry** - As Built Pond Bottom elev. **5611.0** = Water Depth **NA**

Water Volume (WV) in Pond **Dry** (using as built capacity table & surface water elevation, and then subtracting sediment volume under water level)

Pond Capacity Available **7.5 ac-ft** [As Built Pond Capacity – WV – SV]

Inflow volume from 100-yr 24-hr storm runoff event **5.33 ac-ft**

Note: Sediment volume about equal to settling.



Circle or Write appropriate Response

- | | | | | |
|-----|---|-----|-----------|----------|
| 1. | Seepage (specify location, color, and approx. volume) _____ | Yes | X | N/A |
| 2. | Cracks or scarps on crest or slopes _____ | Yes | X | N/A |
| 3. | Sloughing or bulging on slopes _____ | Yes | X | N/A |
| 4. | Major erosion problems _____ | Yes | X | N/A |
| 5. | Surface movements in valley bottom or on hillside _____ | Yes | X | N/A |
| 6. | Water impounded against toe _____ | Yes | X | N/A |
| 7. | Clogging | | | |
| | a) Spillway channels and pipes _____ | Yes | X | N/A |
| | b) Decant system _____ | Yes | No | X |
| | c) Diversion Ditches _____ | Yes | X | N/A |
| 8. | Cracking or crushing of pipes | | | |
| | a) Spillway pipes _____ | Yes | No | X |
| | b) Decant system _____ | Yes | No | X |
| 9. | Trash racks clear and in place _____ | Yes | No | X |
| 10. | Monitoring instrumentation _____ | Yes | No | X |

Comments: **The pond floor settling is offset by the sediment accumulation at the southeast entrance.**

2019 ANNUAL IMPOUNDMENT INSPECTION

Mine: **New Horizon 2 Mine**

Pond Name: **Pond 018**

NPDES Permit & Outfall #: **CO-0000213**

Date Inspected: **15-October-2019**

Location Description: **~¼ mile West of Nucla**

Owner's Rep.: **Frank Ferris, Mine Manager**

Pond Type: **Partly Incised**

CDRM & S #: **C-1981-008**

Date Last Examined: **12-December-2018**

Legal Location: **Sec 6 of T46N R15W**

Inspector's Name: **Frank Ferris**

Pond Capacity Data

As Built Pond Embankment elev.: **5682.0**

Surveyed Pond Bottom elev.: **5570.**

As Built Pond Emergency Spillway elev.: **5678.0**

As Built Pond Primary Spillway elev.: **NA**

As Built Pond Capacity (pond bottom to emergency spillway) per As Built **4.03 ac-ft**

Existing Pond Capacity (pond bottom to emergency spillway): As Built Volume - SV = **4.03 ac-ft**

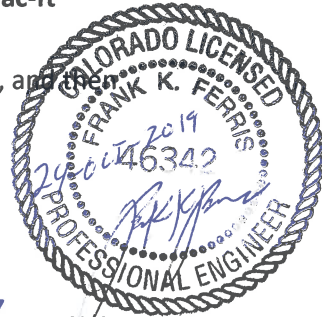
Sediment Volume (SV) at Inspection: length ____ ft X width ____ ft X depth ____ ft = **NA ac-ft**

Surface Water elev. **Dry** - As Built Pond Bottom elev. **5670.0** = Water Depth **Dry ft**

Water Volume (WV) in Pond **0 ac-ft** (using as built capacity table & surface water elevation, and subtracting sediment volume under water level)

Pond Capacity Available **4.03 ac-ft** [As Built Pond Capacity – WV – SV]

Inflow volume from 100-yr 24-hr storm runoff event **2.25 ac-ft**



Circle or Write appropriate Response

- | | | | | |
|-----|---|-----|---------------|----------------|
| 1. | Seepage (specify location, color, and approx. volume) _____ | Yes | No | N/A |
| 2. | Cracks or scarps on crest or slopes _____ | Yes | No | N/A |
| 3. | Sloughing or bulging on slopes _____ | Yes | No | N/A |
| 4. | Major erosion problems _____ | Yes | No | N/A |
| 5. | Surface movements in valley bottom or on hillside _____ | Yes | No | N/A |
| 6. | Water impounded against toe _____ | Yes | No | N/A |
| 7. | Clogging | | | |
| | a) Spillway channels and pipes _____ | Yes | No | N/A |
| | b) Decant system _____ | Yes | No | N/A |
| | c) Diversion Ditches _____ | Yes | No | N/A |
| 8. | Cracking or crushing of pipes | | | |
| | a) Spillway pipes _____ | Yes | No | N/A |
| | b) Decant system _____ | Yes | No | N/A |
| 9. | Trash racks clear and in place _____ | Yes | No | N/A |
| 10. | Monitoring instrumentation _____ | Yes | No | N/A |

Comments: **Dry**