Spring Creek Mine
Navajo Transitional Energy Company, LLC.

June 2023 ASRS Conference- Boise, Id.

Native Wetland Restoration Projects in the Tongue River Valley of the Powder River Basin.

Allen Wellborn
Senior Environmental Engineer
Spring Creek Mine

Agenda

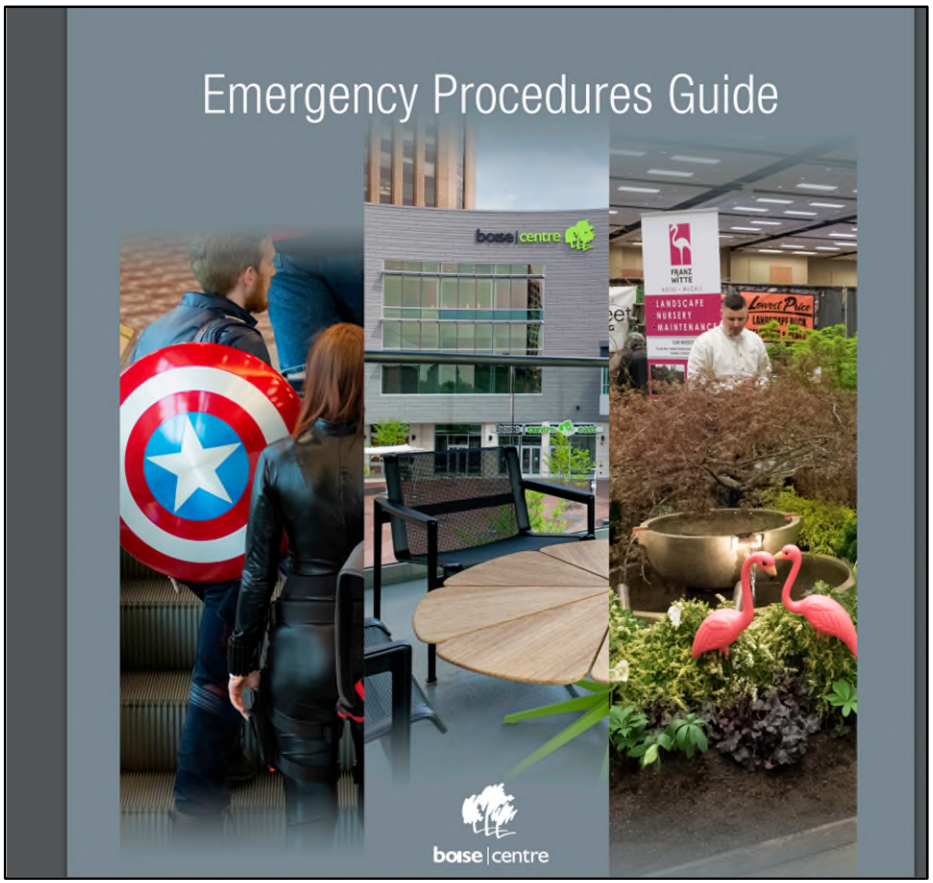
- Introduction
- Navajo Transitional Energy Company
- Wetland Restoration
- Successes and Challenges

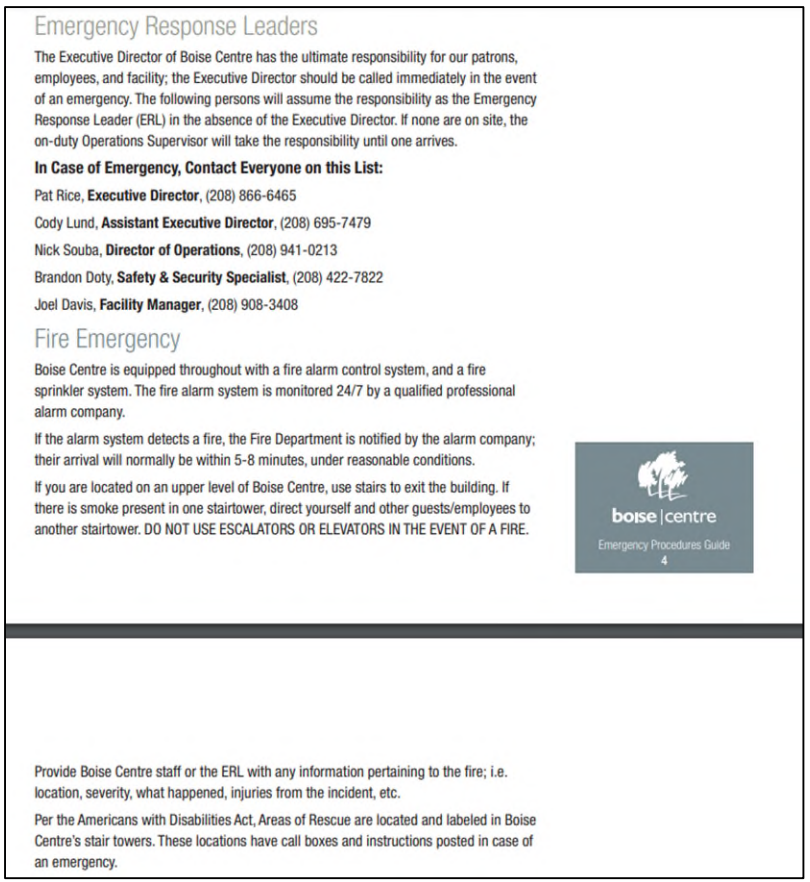
Safety Share

Navajo Transitional Energy Company

Fire Exits!

How many folks know there is an Emergency Procedure Guide for the Boise center posted online?





Emergency Response Leaders

The Executive Director of Boise Centre has the ultimate responsibility for our patrons, employees, and facility; the Executive Director should be called immediately in the event of an emergency. The following persons will assume the responsibility as the Emergency Response Leader (ERL) in the absence of the Executive Director. If none are on site, the on-duty Operations Supervisor will take the responsibility until one arrives.

In Case of Emergency, Contact Everyone on this List:

Pat Rice, **Executive Director**, (208) 866-6465

Cody Lund, **Assistant Executive Director**, (208) 695-7479

Nick Souba, **Director of Operations**, (208) 941-0213

Brandon Doty, **Safety & Security Specialist**, (208) 422-7822

Joel Davis, **Facility Manager**, (208) 908-3408

Fire Emergency

Boise Centre is equipped throughout with a fire alarm control system, and a fire sprinkler system. The fire alarm system is monitored 24/7 by a qualified professional alarm company.

If the alarm system detects a fire, the Fire Department is notified by the alarm company; their arrival will normally be within 5-8 minutes, under reasonable conditions.

If you are located on an upper level of Boise Centre, use stairs to exit the building. If there is smoke present in one stairtower, direct yourself and other guests/employees to another stairtower. DO NOT USE ESCALATORS OR ELEVATORS IN THE EVENT OF A FIRE.

boise | centre
Emergency Procedures Guide
4

Provide Boise Centre staff or the ERL with any information pertaining to the fire; i.e. location, severity, what happened, injuries from the incident, etc.

Per the Americans with Disabilities Act, Areas of Rescue are located and labeled in Boise Centre's stair towers. These locations have call boxes and instructions posted in case of an emergency.

If you were in this room, Where would you go?

About Me!

UW Graduate in 2012

Rangeland Ecology and Watershed Management

Reclamation and Restoration Minor

Wildlife Society

Shotgun Sports Team Secretary

Range Club

ASMR(ASRS) club

Shrub Nerd

About NTEC

- Navajo Transitional Energy Company (**NTEC**) is a Navajo Nation owned Limited Liability Company.
- Formed in 2013 to purchase Navajo Mine, New Mexico
- Hold a 7% share of the Four Corners Power Plant, New Mexico
- Helium Project
- Invested in a Rare Earth Element Mining Project
- Alternative and Renewable Energy Projects (Primarily on the Navajo Nation)
- **NTEC** acquired Spring Creek Mine along with the other assets of Cloud Peak Energy on October 24th 2019

SCM Supporting the Economy

Navajo Transitional Energy Company

Average Salary for all Full-Time Hourly Employees
$73,000/year*

Goods and Services & Community Contributions
$117.9 million

Total Federal, State and Local Taxes and Royalties paid to Montana in 2022
$48.0 million

Total Tax and Royalties Paid by NTEC in 2022:
$269.1 MILLION

*Does NOT include benefits, includes overtime

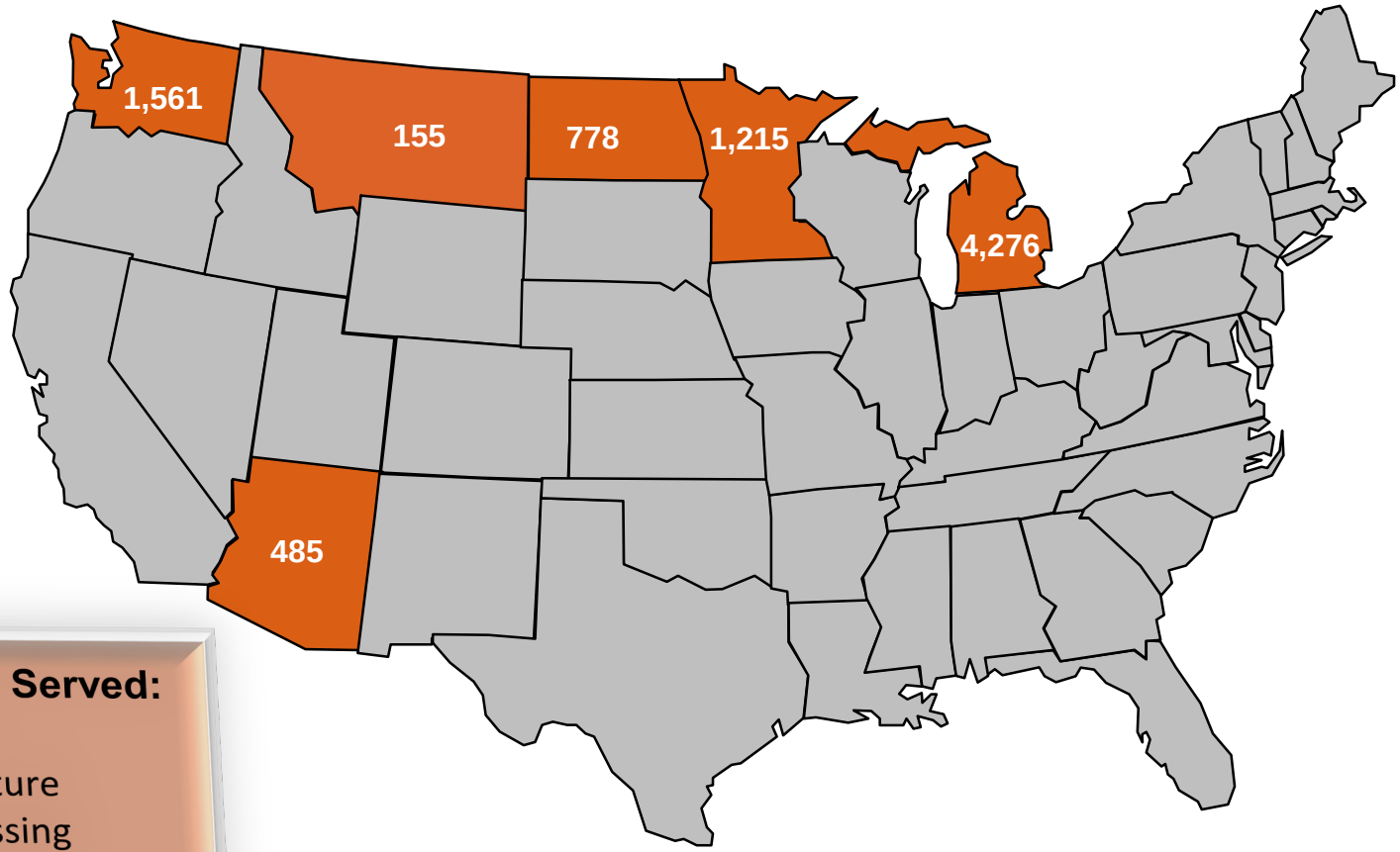
Spring Creek Mine – Customer Reach

Navajo Transitional Energy Company

Asian Exports

3,096

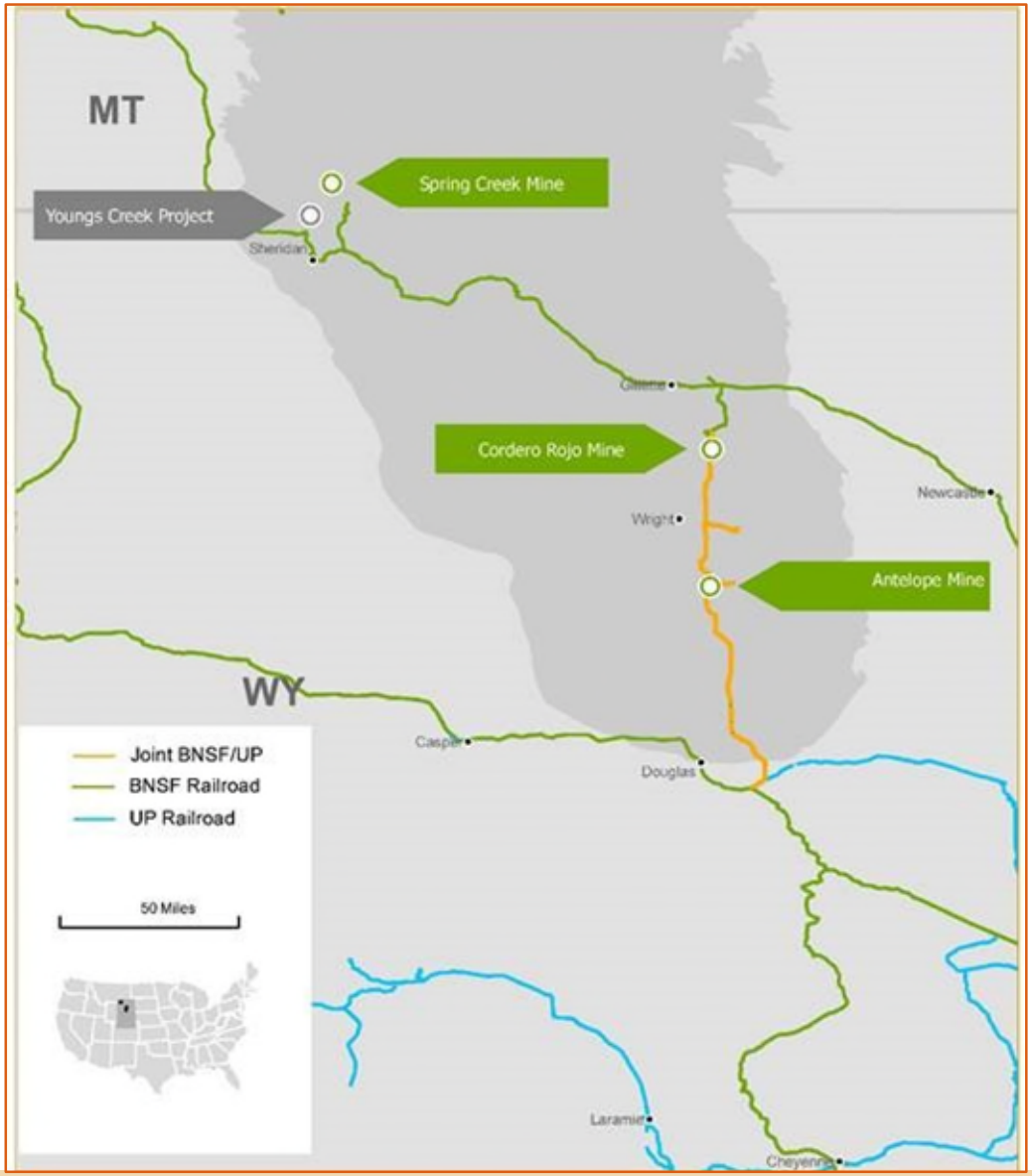
2022 Shipments
in thousands of tons



Customer Industries Served:

- Power Production
- Cement Manufacture
- Sugar Beet Processing
- Institutional Heating
- Retail Coal Sales

NTEC Operations

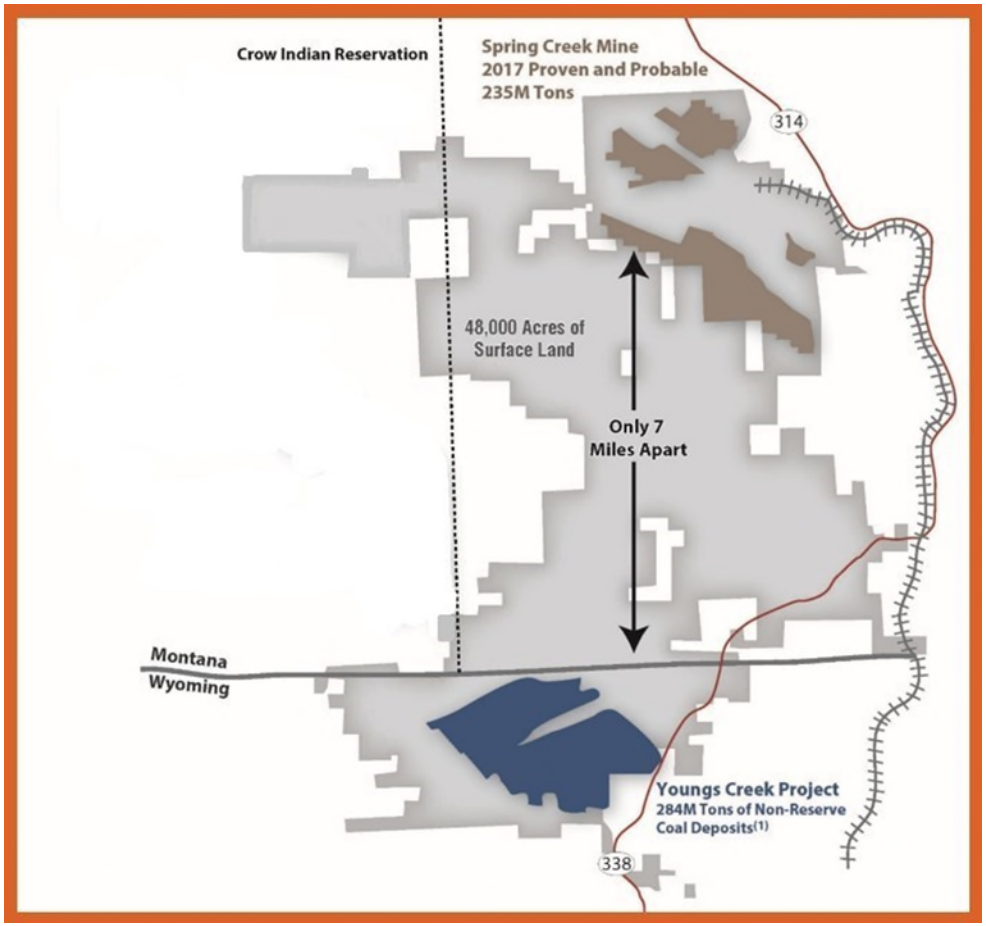


2021 by the numbers:

- Approx. 1,500 employees in Wyoming, Montana, Colorado and New Mexico
- 3rd largest U.S. coal producer
- Approx. 51.7 million tons produced
- Approx. 2 percent of U.S. electricity generation
- 5.1 million tons exported to Asia through British Columbia

Spring Creek Complex

Potential Development Options



Youngs Creek Project

- 284 million tons of non-reserve coal deposits at December 31, 2019(1)
- Contracted royalty payments of 8% vs. 12.5% federal rate
- 48,000 controlled acres of surface land connecting Youngs Creek and Spring Creek deposits

(1) Non-reserve coal deposits are not reserves under SEC Industry Guide 7. Estimates of non-reserve coal deposits are subject to further exploration and development, are more speculative, and may not be converted to future reserves of the company.

Recognized for Health, Safety & Environmental Performance

Navajo Transitional Energy Company

National Association of State Land Reclamationists – Outstanding Reclamation Award

- 2018 – Impressive reclamation and innovative practices

Office of Surface Mining (OSM) – National Excellence in Surface Mine Reclamation

- 2017 – Enhanced reclamation success through diversity of topography, soil and vegetation
- 2009 – Voluntary plantings of rare mustard plant (woolly twinpod)
- 2005 – Reclamation of the South Fork stream channel

Office of Surface Mining (OSM) – Good Neighbor Award

- 2012 – Reclamation & mining education outreach, flood responses

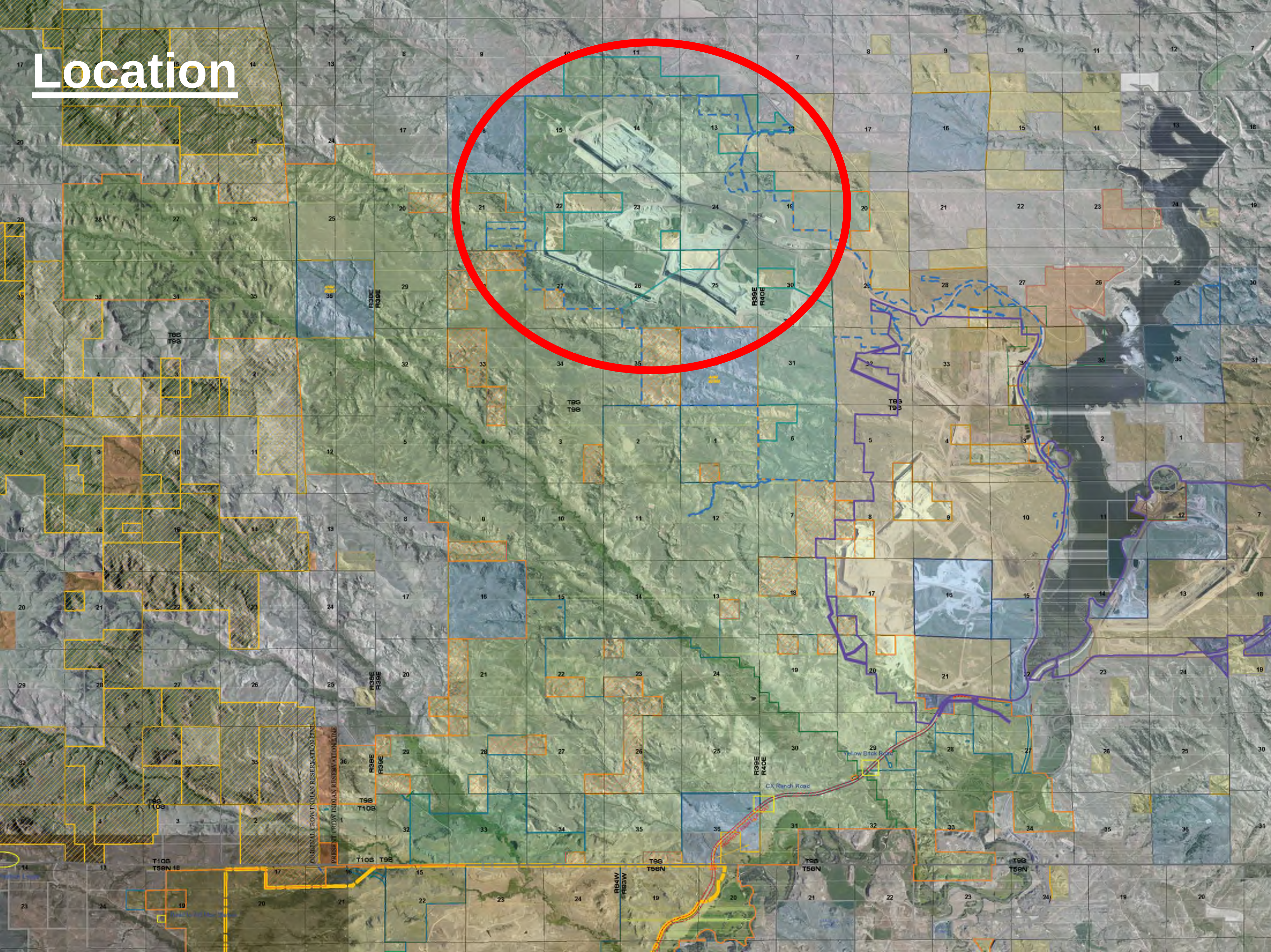
Mine Safety and Health Administration (MSHA) – Sentinel's of Safety

- 2019 - 2017 – Sentinel's of Safety Runner-Up
- 2013 – Sentinel's of Safety Runner-Up
- 2011 – Sentinel's of Safety Runner-Up
- 2008 – Sentinel's of Safety Runner-Up
- 2005 – Sentinel's of Safety Runner-Up

Rocky Mountain Coal Mining Institute (RMCMI)

- 2013 – Safety Award
- 2006 – Safety Award

Location



R39E R40E
R38E R39E
T8S T9S
T9S T10S
T10S T9S
T10S T5S
T9S T5SN
R84W R83W
ORIGINAL CROW INDIAN RESERVATION LINE
PRESENT CROW INDIAN RESERVATION LINE
Yellow Brick Road
CX Ranch Road

Mine Layout

Active Mining in Pits 2, 4 & 7

Navajo Transitional Energy Company

Recent NTEC Reclamation Awards

Navajo Transitional Energy Company

Reclamation Consistently Recognized For Its Quality

2018 Spring Creek Mine – Outstanding Reclamation Award from National Association of State Lands Reclamationists.

2017 Antelope Mine – Wyoming Game and Fish- Industry wildlife Stewardship award.

2015 Cordero Rojo Mine – National Excellence in Surface Mining and Reclamation Award from the Office of Surface Mining for *restoration of the Belle Fourche River, including both the hydrologic functions as well as the aquatic biota of this stream.*

2015 Cordero Rojo Mine – Wyoming Excellence in Surface Mining and Reclamation Award for *restoration of the Belle Fourche River, including both the hydrologic functions as well as the aquatic biota of this stream.*

2014 Antelope Mine – National Excellence in Surface Mining and Reclamation Award from the Office of Surface Mining for *sustainable control of cheatgrass on western reclaimed lands through innovative husbandry practices.*

2013 Antelope Mine – Wyoming Excellence in Surface Mining for development and implementation of *ground-breaking techniques to control cheatgrass and improve reclamation*

2010 Antelope Mine - Mining and Reclamation Award from the Office of Surface Mining for shrub development on reclaimed lands *establishing wildlife habitat*

2010 Antelope Mine - Wyoming Excellence in Surface Mining and Reclamation Award from the Wyoming Department of Environmental Quality for *shrub development* on reclaimed lands establishing wildlife habitat

2009 Spring Creek Mine – National Excellence in Surface Mining and Reclamation Award from the Office of Surface Mining for intensive efforts in *re-establishing a rare plant species*

Native Wetland Restoration Projects in the Tongue River valley of the Powder River Basin.

Navajo Transitional Energy Company

Background of a Wetland Restoration project

- Utilizes geomorphic principles - specific to the area
- Intent = establish stable drainages that can handle 100-year, 6-hour flow events
- Intent = Restore native wetlands disturbed as a result of mining
- Intent= Restore native wetlands as a result of overgrazing or storm events
- Intent = Create Native wetlands as an ACOE Mitigation for offsite impacts as part of a Nationwide 404 Permit.

DETERMINE THE NEED

- **Damaged Ecosystem?**
- Grazing
- Storm event
- **Compensatory Mitigation?**
- Like in kind mitigation for future impacts?
- Like in kind mitigation for existing impacts?
- **Mine Reclamation?**
- Creating new wetlands
- Re creating existing wetlands that have been removed

Find a site

Are you restoring an existing wetland?

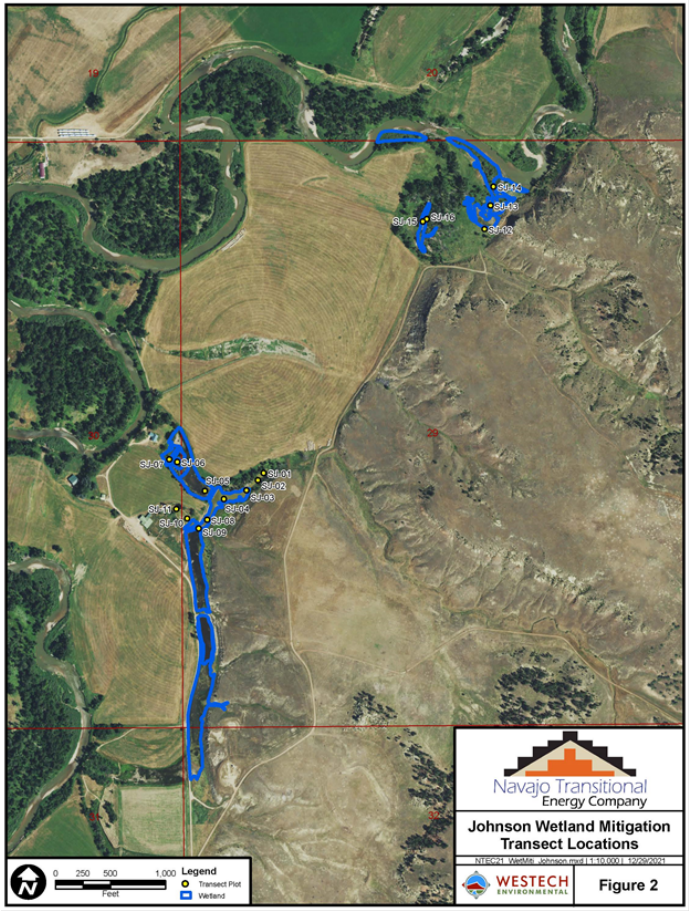
Is the site accessible

Is it Compensatory?

Location must be not on applicants property in the application

Is it Reclamation?

Have you completed your spoil quality testing, and brought your spoils to the approved PMT



Permit it!

- **US Army Corps of Engineers(USACE) 404 Permit**

  - State Permits?
    - Montana and Wyoming require additional permitting through the Conservation district and the Water Quality Division
      - Known as a " joint 310 application"
        - 318 turbidity waiver- both
        - MFWP 124 permit
        - Navigable water determination- both
        - USACE 401 certification- Both
        - USACE 404 Permit – Both

If you are on mine permit, you will have to permit through the Surface Mine Permit process as well

Baseline Information

- **Vegetation**
  - Both upland and riparian

- **<u>Wildlife</u>**
  - Aquatic- Invertebrates, Vertebrates, Ichthyology
  - Terrestrial – Mammals, Entomology

- **<u>Hydraulics</u>**
  - Are you building a stream?
  - Are you building a slough?

The Process

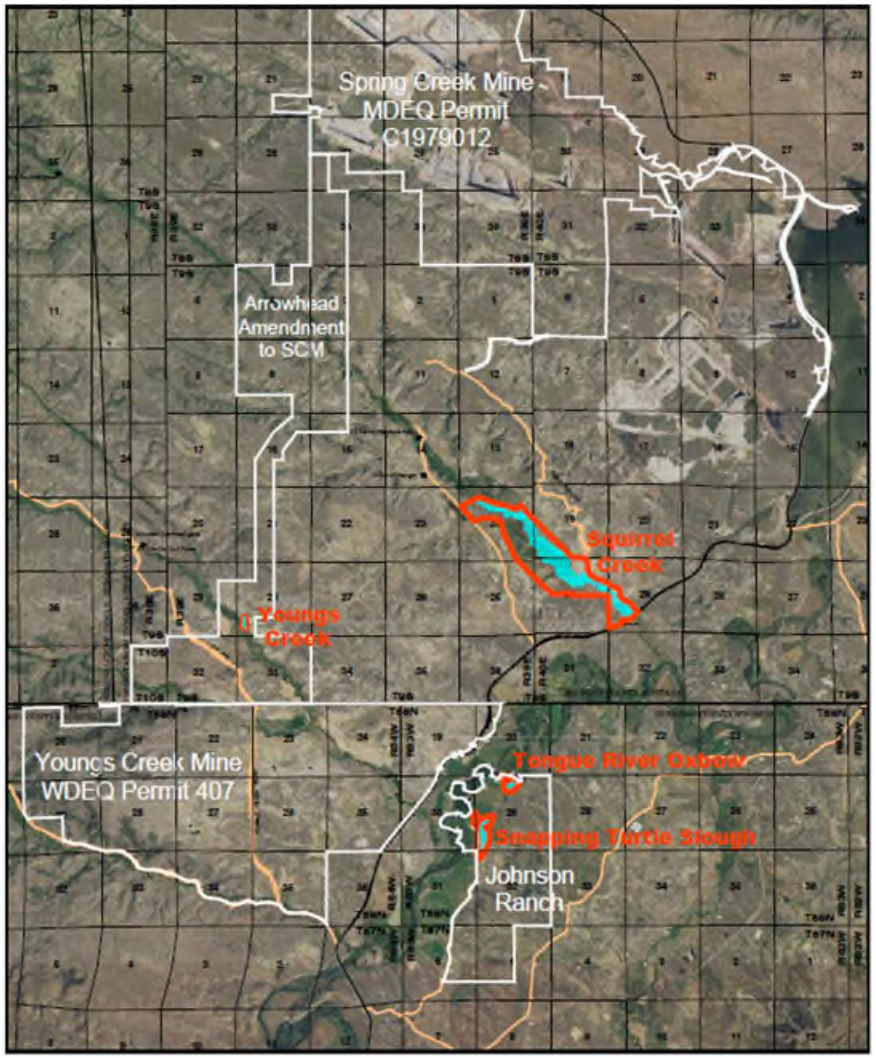
Navajo Transitional Energy Company

Once you've obtained your permits, baseline, location……..

Now you can start work!

NTEC currently has 3 Wetland projects in the Tongue River Valley

Squirrel Creek- Complete
Johnson Ranch- Monitoring
Youngs Creek Relocation- in process

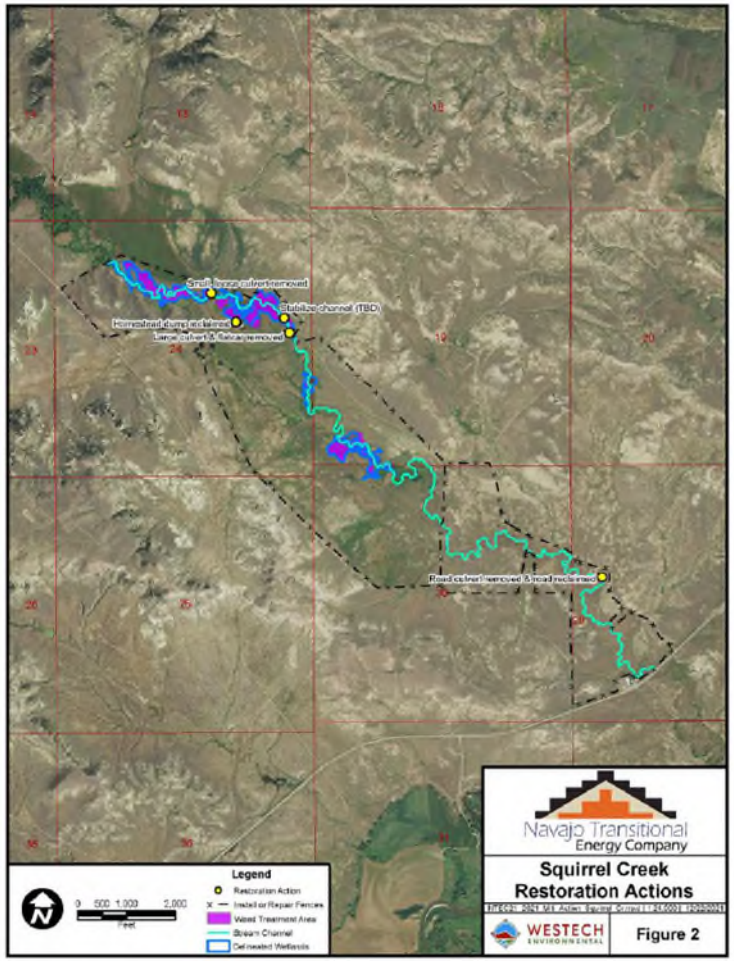


Squirrel Creek

The Squirrel Creek site is an abandoned farmstead

Issues :

- Heavily grazed
- Litter
- High annual vegetation
- Low crossing roads



Mitigation:

- Required Trash Clean up
- Required Culvert Removal and replacements
- Required grazing exclusion fencing

Squirrel Creek

Navajo Transitional Energy Company

Attachment 1.SC Squirrel Creek Mitigation Site 2020 Restoration Actions Photograph Log

Old Barn Location Before Photo 3400 (See 3437) **Year: 2020**

Old Barn Location After Photo 3437 (See 3400) **Year: 2020**

Old Barn Location After Photo 3401 (See 3436) **Year: 2020**

Old Barn Location After Photo 3436 (See 3401) **Year: 2020**

Squirrel Creek

Navajo Transitional Energy Company

Appendix E-2: Stream Monitoring Photographs for Squirrel Creek Stream Mitigation Site

Photo Point SC-1A: Upstream **Year: 2016**

Photo Point SC-1A: Upstream **Year: 2020**

Photo Point SC-1A: Downstream **Year: 2016**

Photo Point SC-1A: Downstream **Year: 2020**

Squirrel Creek

Navajo Transitional Energy Company

Appendix E – 3: Squirrel Creek Photographs – Reach 2

Photo Point SC-2F: Upstream Year: 2016

Photo Point SC-2F: Upstream Year: 2020

Photo Point SC-2F: Downstream Year: 2016

Photo Point SC-2F: Downstream Year: 2020

Squirrel Creek

Navajo Transitional Energy Company

Appendix E-2: Stream Monitoring Photographs for Squirrel Creek Stream Mitigation Site

Photo Point SC-1C: Upstream **Year: 2016**

Photo Point SC-1C: Upstream **Year: 2020**

Photo Point SC-1C: Downstream **Year: 2016**

Photo Point SC-1C: Downstream **Year: 2020**

Johnson Ranch

The Johnson Ranch site contains 2 projects on Private Property

Issues :

- Tongue River Flood Damage
- Litter
- High annual vegetation
- Livestock Damage

Mitigation:

- Required Trash Clean up
- Required Culvert Removal and replacements
- Required grazing exclusion fencing
- Required flood water managements

Johnson Ranch

Navajo Transitional Energy Company

Appendix E.JR: Wetland Comparison Photographs: Johnson Ranch Site

Site: SJ-05 **Year: 2017**

Site: SJ-05 **Year: 2020**

Site: SJ-06 **Year: 2017**

Site: SJ-06 **Year: 2020**

Johnson Ranch

Navajo Transitional Energy Company

Appendix E.JR: Wetland Comparison Photographs: Johnson Ranch Site

Site: SJ-11 **Year: 2017**

Site: SJ-11 **Year: 2020**

Site: SJ-12 **Year: 2017**

Site: SJ-12 **Year: 2020**

Johnson Ranch

Navajo Transitional Energy Company

Appendix E.JR: Wetland Comparison Photographs: Johnson Ranch Site

Site: SJ-15 **Year: 2017**

Site: SJ-15 **Year: 2020**

Site: SJ-16 **Year: 2017**

Site: SJ-16 **Year: 2020**

Youngs Creek Re-alignment

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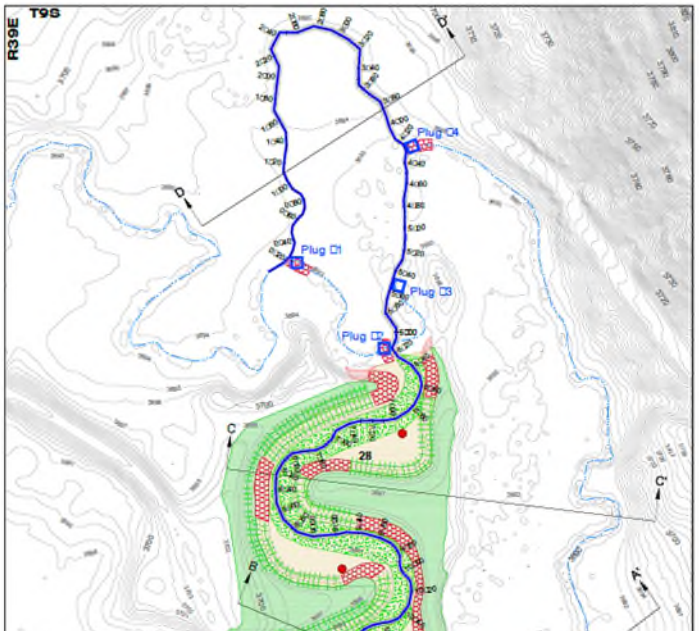
The Youngs Creek Re- alignment project is a complete stream and wetland realignment

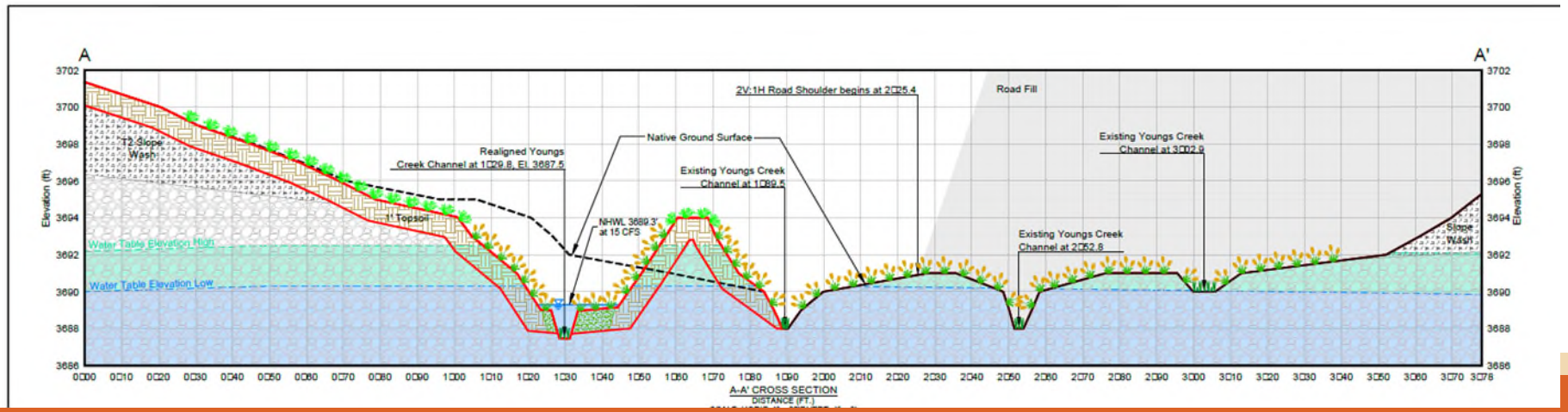
Issues :

- Youngs Creek Channel is in the way of a potential Haul Road Development between two mines
- Livestock Damage

Mitigation:

- Stream channel re-routed
- Wetlands Expanded
- Required grazing exclusion fencing
- Required flood water managements





Youngs Creek Re-alignment

Navajo Transitional Energy Company

The Youngs Creek Re- alignment project is a complete stream and wetland realignment

Status

- Construction work was completed in January of 2023
  - Challenges
    - Record winter
    - Record snow pack
    - Record Cold temperatures
    - Unsually high ground water levels

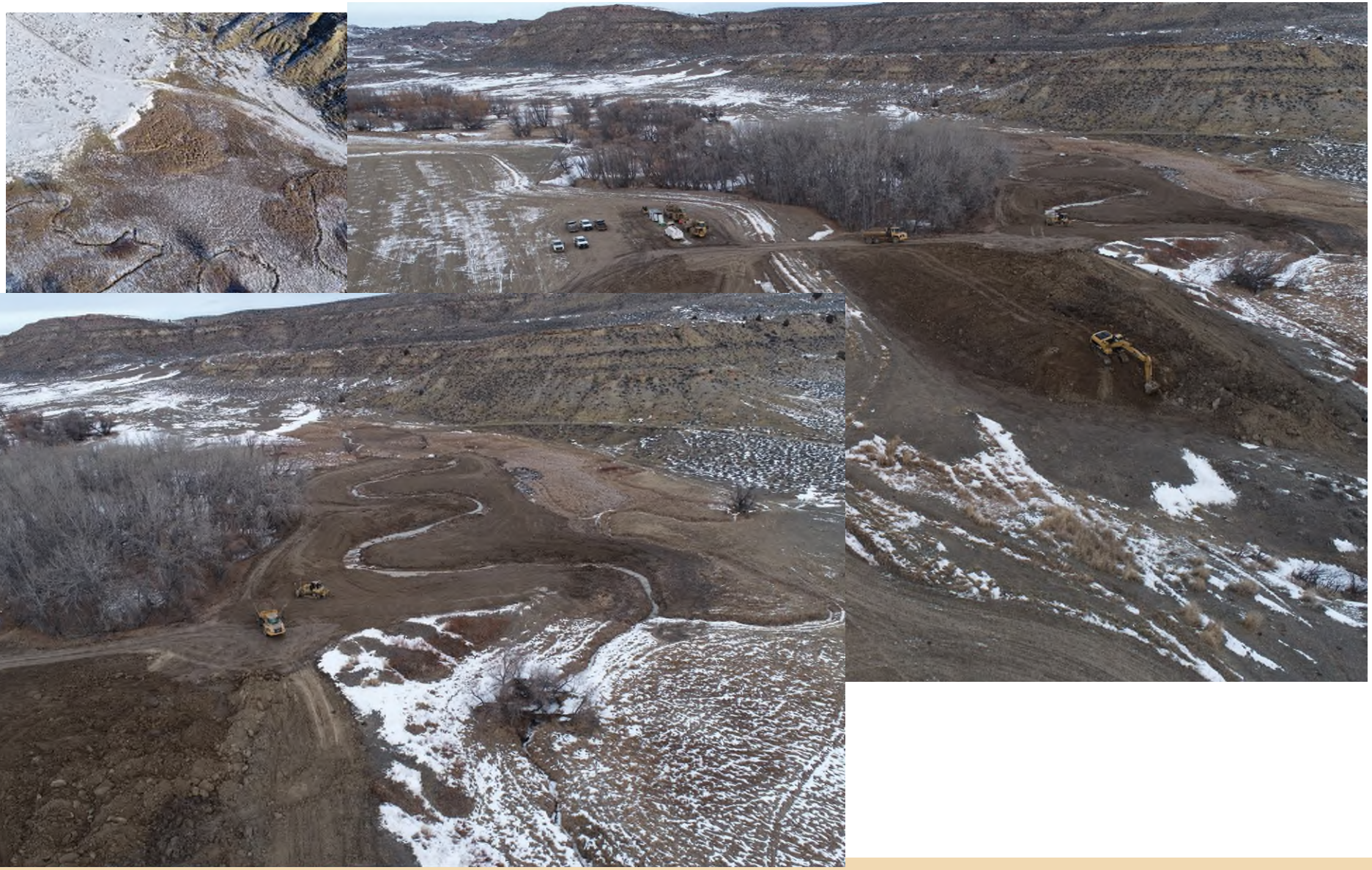
- Seeding and Reclamation phase
  - Seeded with a native mix
  - Live willow transplants
  - Erosion control practices(matting, sterile triticale, wattles
  - Grazing exclusion

Project Phases:

- Topsoil removal
- Wetland sod salvage
- Channel Excavation
- Overburden pile shaping (permanent feature)
- Topsoil and sod placement
- Seeding and erosion control

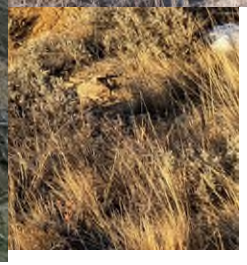
Youngs Creek Re-alignment

Navajo Transitional Energy Company



Youngs Creek Re-alignment

Navajo Transitional Energy Company



Youngs Creek Re-alignment

Navajo Transitional Energy Company

Youngs Creek Re-alignment

Navajo Transitional Energy Company

Wrap-up

Wetland permitting and restoration is not as easy as upland reclamation

Find a good contractor

Wetland restoration takes a long time but the benefits are worth it.

Johnson Ranch wetlands Flooding after mitigation work had been completed……monitor, repair, monitor, repair

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Questions?