



Good afternoon – and thank you for being here.

We thank the Mining Association for hosting the presentation of these awards.

And we extend our gratitude to the Mining Association and its members for their commitment to preserving our environment, promoting awareness of the value of the minerals found in our state, and establishing life-saving mine safety procedures.

Since 1996, the Mining and Minerals Division of the Energy, Minerals and Natural Resources Department has presented its annual Excellence in Reclamation Award to recognize excellence in coal, hard rock, aggregate, and abandoned mine reclamation, and other related efforts and initiatives deserving special recognition. The complete history of award winners is posted on our website.

NAVAJO TRANSITIONAL ENERGY COMPANY, LLC

For its project:

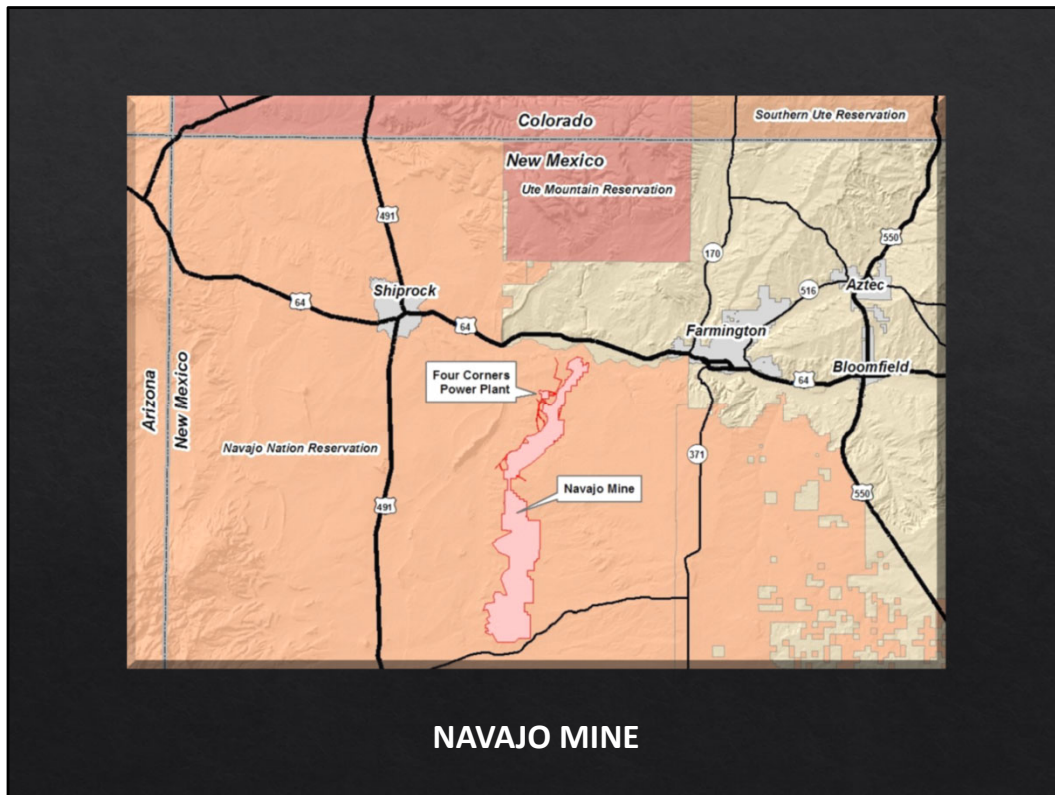
The Yazzie Wildlife Bluff



This year, MMD is presenting two awards for Excellence in Reclamation. The first award is going to Navajo Transitional Energy Company, LLC, for The Yazzie Wildlife Bluff.

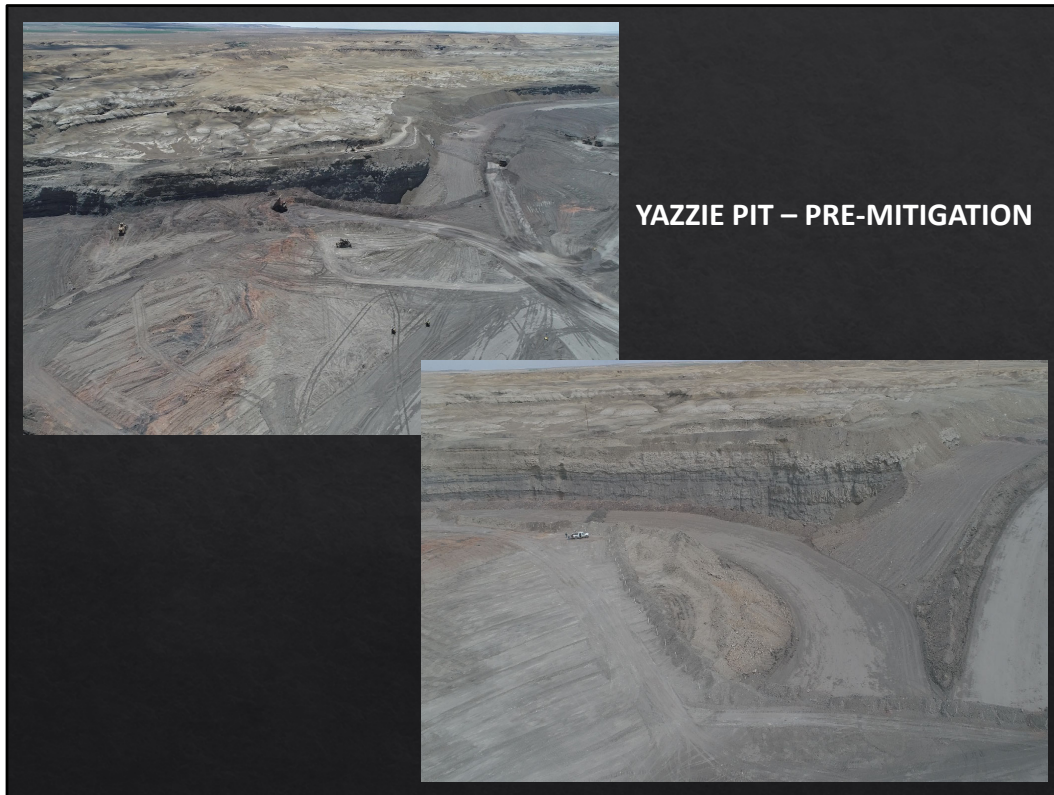
This is the fourth award given to NTEC for outstanding initiatives aimed at protecting the environment and restoring thousands of acres of Navajo Nation land to a self-sustaining post-mine land use, as well as for educational initiatives that foster an interest in mining, reclamation, and STEM-related careers through outreach, education, and volunteer work to benefit students and locals from the Navajo Nation and nearby communities.

Your successful efforts are a true inspiration.



The history of Navajo Mine dates to 1957, when the Navajo Nation council authorized a 24,000-acre coal lease on the reservation.

Navajo Mine is the sole supplier of fuel to the adjacent 1,540-megawatt Four Corners Power Plant (FCPP). The mine is in the Four Corners region of the southwestern U.S., approximately 13 miles southwest of Fruitland, New Mexico, and 19 miles west of Farmington. Coal is extracted from the Fruitland Formation, a shallow coal-bearing formation of the Greater San Juan Basin.



Since NTEC gained ownership, the engineering goal has still been to meet the regulatory requirements; however, the primary goal has shifted to creating a sustainable environment for wildlife and grazing. This led to the use of modern geomorphic reclamation to closely resemble the natural flow of water, which in the Arid Southwest includes the transportation of sediment.

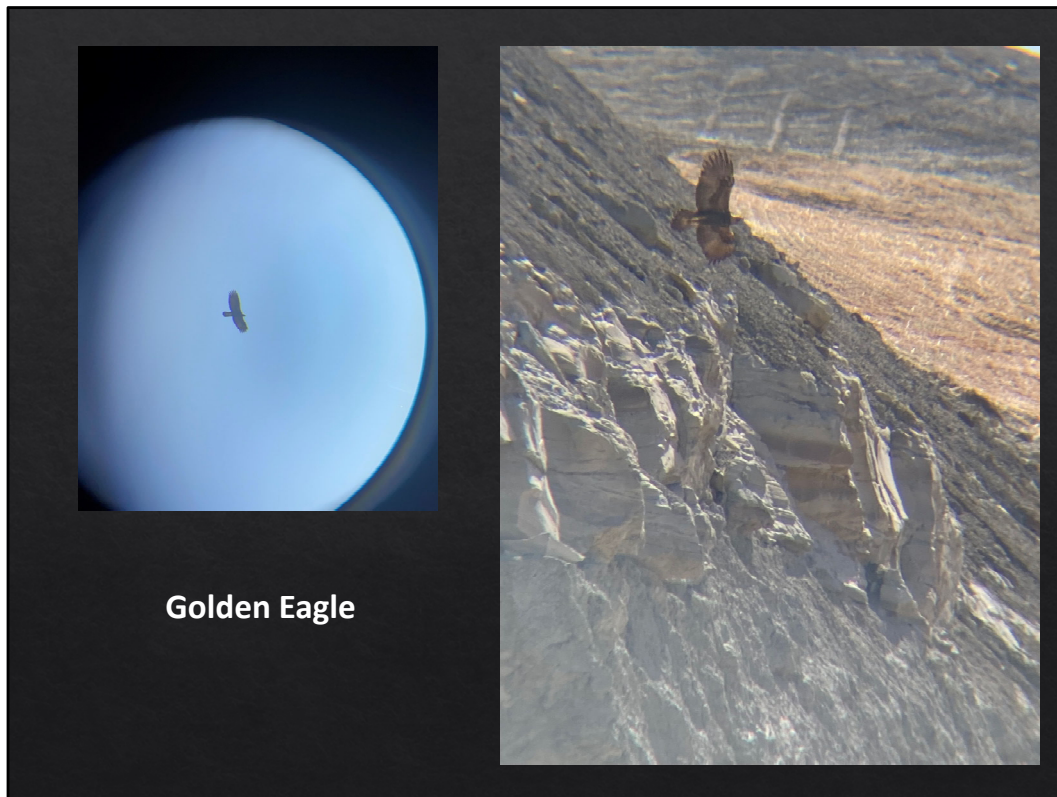
Yazzie Pit was mined in the 1970s through 2010 and is a sub watershed of the Chinde watershed. The Yazzie watershed sits on 1,332 acres on Navajo Mine. Reclamation began in 2018. The production crew moved 22.5 million yards safely and effectively by the conclusion of the project in 2022.



Backfill Process at Yazzie Pit

NOTE TO VIEWER: This is a video is posted in a separate file on the webpage.

Through this teamwork, Navajo Mine was able to successfully mitigate a golden eagle habitat while reclaiming lands that had been an open pit for over a decade. The Yazzie Wildlife Bluff is a great example of governing agencies and Navajo Mine working in harmony to achieve excellence in mine reclamation while preserving ecological lift in reclaimed lands.



At the end of April 2021, a nest was spotted by the production crew on Yazzie highwall. The crews had also noticed golden eagles in the area. A few days after the discovery of the nest, NTEC received positive identification that the nest was, in fact, constructed by the protected golden eagle.

The golden eagle is revered in the United States and by indigenous populations, including the Navajo culture. According to the United States Fish and Wildlife Service (USFWS), there are 29,722 golden eagles spread across North America and “disturbances near areas that are important for roosting or foraging can stress eagles to a degree that leads to reproductive failure or mortality elsewhere”. Upon discovery of the golden eagle nest, preserving the golden eagle and the possibility of her young became the focus of Navajo Mine.



Yazzie Pit Site Challenges

The first engineering challenge was how to continue reclamation efforts while leaving the nest undisturbed. Buffers were established with guidance from the NNFWS, and monitoring was ongoing during the nesting period.

NTEC chose to long-haul to a different dump area outside of the buffers while the mitigation requirements were finalized. The change of plan created storm runoff challenges. The Yazzie Watershed's eastern boundary is undisturbed badlands, which have large flows from July through September. Moving the dump further south meant they would make the tie-in during the monsoon period.



**Highwall remnant
and wildlife
enhancement
feature.**

The second challenge was redesigning the final surface configuration to keep the nest undisturbed, ensure proper drainage, and cover all coal seams. A design was submitted to OSMRE, revising the Final Surface Configuration to include leaving a portion of the existing highwall as a highwall remnant and wildlife enhancement feature. The design captured the off-lease flow traveling to the northwest and diverted the flow to the northeast, protecting the nest on the highwall below. Rocks were installed along the rim to stabilize the direction of the drainage, where it drops to the plunge pool below. The plunge pool is a deep depression that sits at the bottom of the waterfall and captures all the flow before rejoining the main channel.

NTEC utilized Geomat Inc., a local engineering firm, to conduct stability studies on the competency of the highwall. The highwall passed stability requirements. After running several models, it was determined the best approach was to assume the plunge pool would function similarly to a culvert. The modeling showed that under normal conditions, the plunge pool would fill with sediment; however, during larger than 10-year, 6-hour storm events, the pool would flush, and the rocks would remain stable and in place. On January 4, 2022, NTEC received approval for the Yazzie Bluff Feature.



The Yazzie Wildlife Bluff

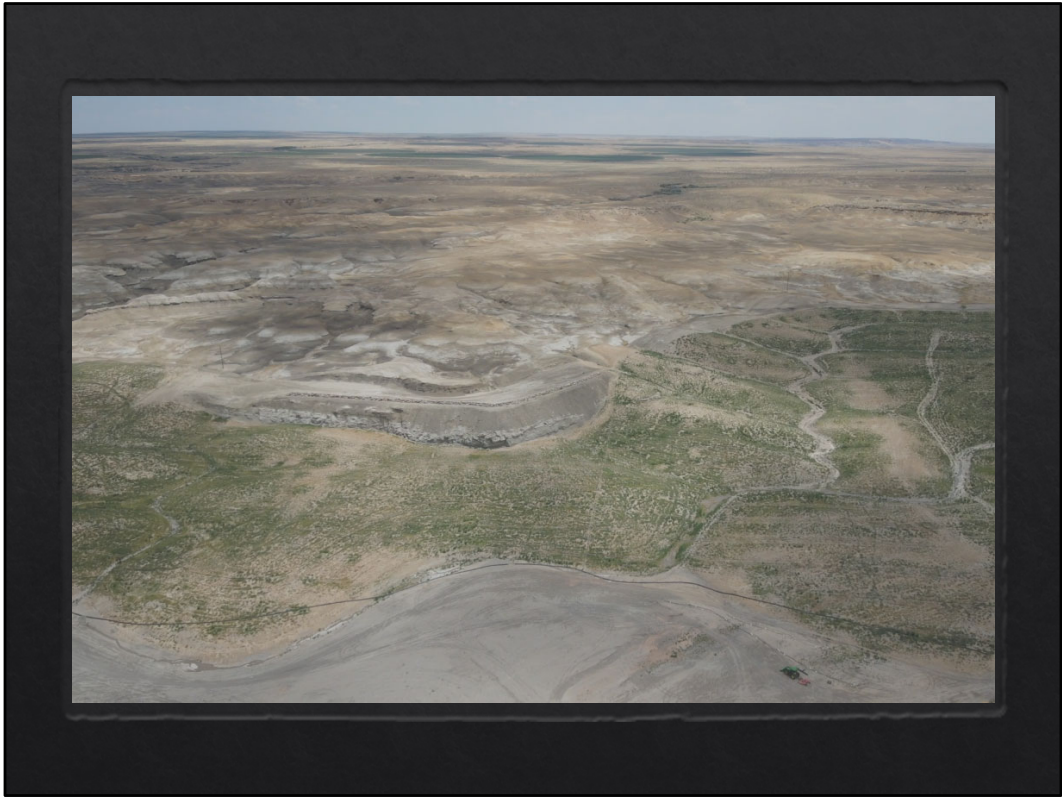
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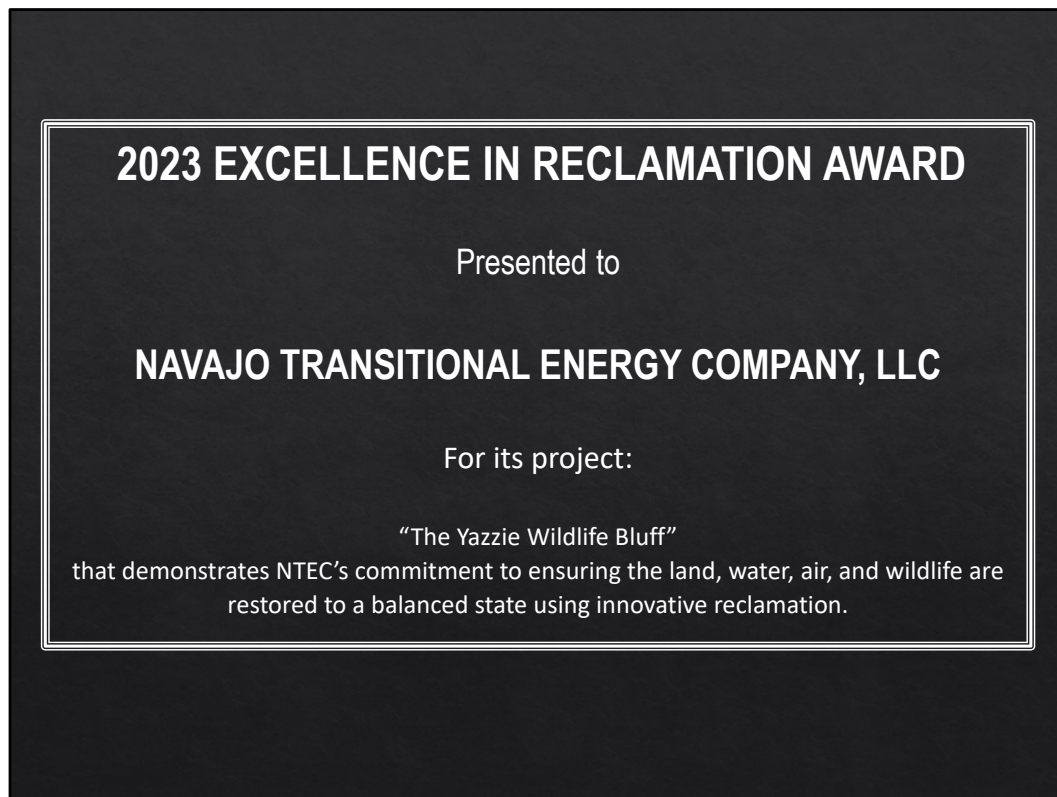


**Raptor Reclaim
Perch Pole**









While this presentation can only offer a brief overview of this amazing project, we offer our sincere congratulations to Navajo Transitional Energy Company, LLC, and with pleasure we award NTEC the 2023 Excellence in Reclamation Award for its project:

“The Yazzie Wildlife Bluff”
that demonstrates NTEC’s commitment to ensuring the land, water, air, and wildlife are
restored to a balanced state using innovative reclamation.

Accepting the award are several NTEC staff:

Dacia Jacquez, NTEC Engineer

Please feel free to say a few words, if you’d like. Then we will step aside for a picture.

CHEVRON MINING INCORPORATED, TRIHYDRO CORPORATION, AND KC&MC SERVICES LLC

For its project:

The Monument Channel with Pharoah Steps



The second award for Excellence in Reclamation is being presented to Chevron Incorporated, Trihydro Corporation and KC&MC Services LLC for their project The Monument Channel with Pharoah Steps at the York Canyon Underground Mine.

The York Canyon Underground Mine has had many complex problems to solve through the years; trying to solve these in an efficient and cost-effective way has proven to be no small task. This project was difficult but having all involved parties brainstorming solutions produced a solid effective project that has stood the test of time and severe monsoon storms.

Your productive efforts serve as an impressive example.

Before Reclamation



The Monument York Canyon Underground Mine is a drainage channel that conveys stormwater run-off from the east side of the reclaimed Tailings Dam #3. The existing channel was heavily eroded with multiple head-cuts, displaced riprap, exposed spoils, and exposed coal refuse. Project stakeholders were concerned about the long-term stability of the channel due to its proximity to Tailings Dam #3.

A complete redesign and reconstruction effort was entered into by the project stakeholders in late 2015. The success of this project was due to the collaborative efforts of the New Mexico Mining and Minerals Division (MMD), Vermejo Park Ranch (the landowner), Chevron Mining Incorporated, and Trihydro Corporation.



**Riprap drop structures
with stilling basins.**



Trihydro's design approach was comprehensive, considering unique terrain details and associated challenges. The upper portion of the existing channel alignment lent itself well to traditional channel design and modeling. Trihydro was able to include five large riprap drop structures with stilling basins at locations where cut features had occurred within the channel alignment. This approach was instrumental in controlling erosion through the steep lower section of the channel before blending into an existing stable sandstone rock shelf.

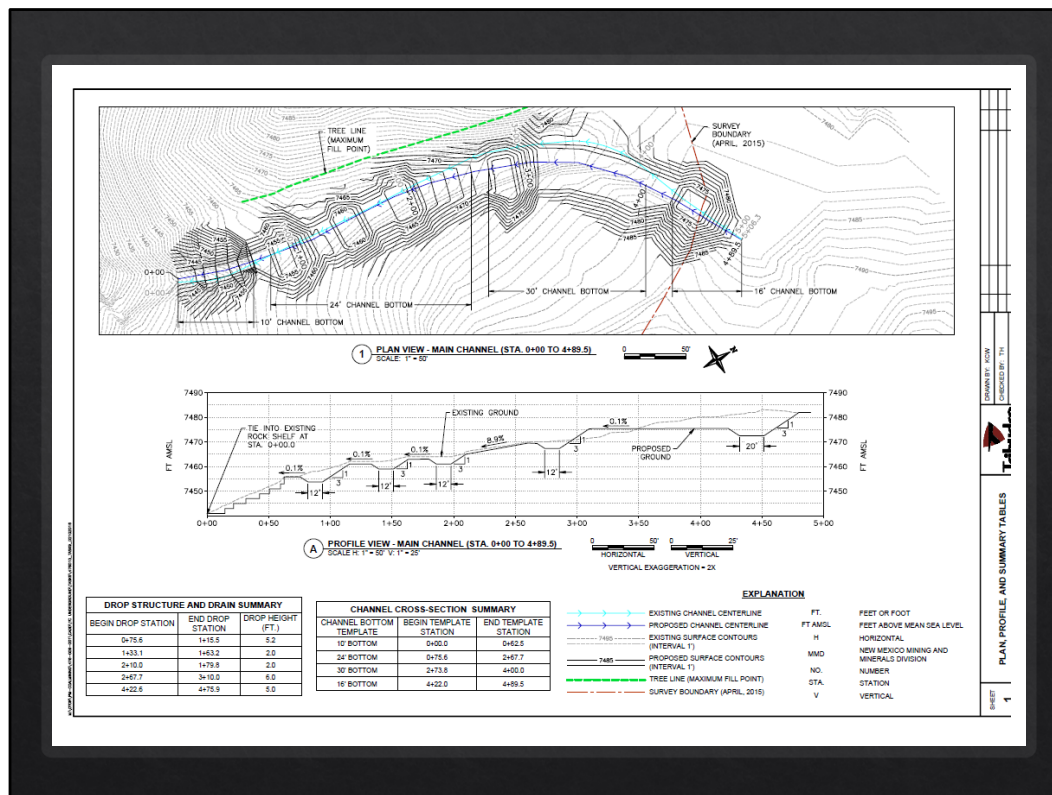


“Pharoah Steps”

The lower section of the channel was much more challenging. This section dropped steeply off the Tailing Dam #3 area and tied into an existing steep and narrow drainage. The heaviest erosion occurred along this existing channel section. With input from MMD, the reconstruction design connected the lower portion of the channel into a stable rock shelf where the channel discharges into the existing drainage.

The challenge was determining how to tie this extremely steep channel into the rock shelf over 20 feet below. The MMD proposed using large flat boulders, which were readily available in the area, to create a stair-stepped channel from the bottom down to the stable rock shelf. This feature later became known as the "Pharoah Steps."

Extensive hydrologic modeling and iterative design were performed to ensure a stable channel structure. Hydraulic modeling was used to site drop structures and stilling basins in locations that would decrease stormwater run-off velocity before reaching the "Pharoah Steps" in the lower channel section. The "Pharoah Steps" were also modeled for shear forces and displacement potential. This data-driven approach allowed the design team to make informed decisions and optimize the design for maximum efficiency and sustainability.



The Task 9 Channel has a trapezoidal cross-section and generally follows the existing horizontal channel alignment. The channel repair section was approximately 490 feet in length, and the design centerline generally maintained the vertical alignment of the existing channel. This approach minimized the length of cut slopes that would invariably result from a deeper channel cut and decreased disturbance of spoils to the east of the channel alignment.

Channel construction began in March 2016 and was completed in May 2016. Construction was completed by crew members from KC&MC Services LLC (KC&MC) of Raton, New Mexico. KC&MC's diligence and attention to detail was also crucial to the success of this structure.



NOTE TO PRESENTER: This is a video. Click it to play it as you read.

The Monument Channel has been tested several times throughout the past seven years. The York Canyon Complex has experienced multiple heavy monsoon seasons in that time frame, as well as a 100-year, 6-hour event that hit the site in May 2021. The channel sustained no damage from this storm event and continues to be stable. The York Underground Mine was fully released to Phase III in 2019. This task shows the success of mine reclamation when industry and agencies work together.



While this presentation can only offer a brief overview of this amazing project, we offer our sincere congratulations to Chevron Mining Incorporated, Trihydro Corporation, and KC&MC Services LLC, and with pleasure, we award them the 2023 Excellence in Reclamation Award for their project:

“The Monument Channel with Pharoah Steps”
that demonstrates the success of mine reclamation when industry and agencies work
creatively together.

Accepting the award : Tyrel Hulet, Project Manager, Trihydro Corporation
Keith Cervo, Owner, KC&MC Services LLC

Please feel free to say a few words, if you'd like. Then we will step aside for a picture.



Once more, we extend our congratulations to the Navajo Transitional Energy Company, Chevron Mining Incorporated, Trihydro Corporation, and KC&MC Services LLC. We express our gratitude for their diligent labor and their effective efforts on behalf of reclamation, preservation, environmental awareness, and educating and motivating future generations to carry on this restorative work.

For the 2024 awards, we anticipate receiving yet another wave of deserving submissions from the entire mining sector in New Mexico.

Thank you.