

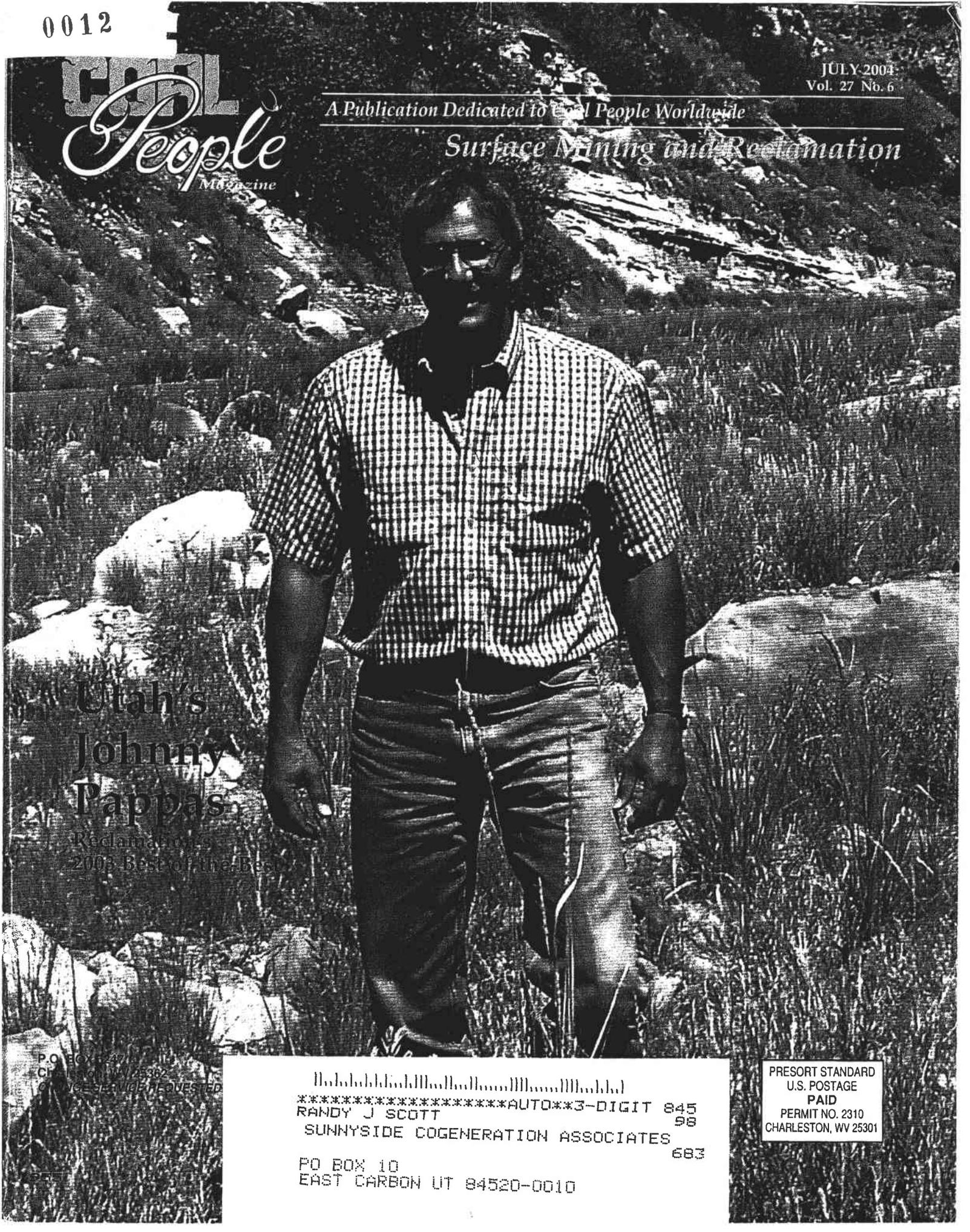
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Surface Mining and Reclamation



Utah's Johnny Pappas

Reclamation
2003 Best of the Best

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OSM's 2003 "Best of the Best" For Outstanding Reclamation

JOHNNY PAPPAS

This section of the site is where the old warehouse/office complex was located.

Environmental Engineer Johnny Pappas of Castle Gate Mine in Price, Utah compares his life with that of Camelot, "living a dream and doing most what I've always wanted to do," reshaping landscapes as an innovative reclamationist.

It came as no surprise when Pappas was singled out as Reclamation's 2003 "Best of the Best". The Office of Surface Mining selects one individual from the national award winners and recognizes that person as most responsible for outstanding accomplishments at the selected site. Castle Gate Mine was presented the Excellence in Surface Mining Reclamation for 2003, recognizing the company for outstanding reclamation practices and achievements by coal mine operators. The Utah Division of Oil, Gas and Mining's Susan White and Paul Baker nominated Pappas.

"Reclamation is one of the primary responsibilities of the Division of Oil, Gas and Mining," says Division Director Lowell Braxton. "We have worked closely with Castle Gate Holding Company and Johnny Pappas and are extremely pleased to see



(left to right) Jeff Jarrett - Director of the Office of Surface Mining; Steven Griles - Deputy Secretary of the Interior Department; Johnny Pappas; Johnnie Greene - Director of Environmental Affairs for RAG; and Jack Gerard - NMA President and CEO.

all our efforts have been recognized. What made this reclamation so good was the collaborative effort of the division, the operator and the contractor working as a team to seek the best solution." Most people crumble under stress, but the Castle Gate engineer uses stress as a motivator, inspiring him to work harder. "I love working under pressure," Pappas admits, "because it then becomes a challenge and it forces me to perform better and work

on a higher level of efficiency.

"When permitting we're always anticipating. We plan for the best, and anticipate the worst. We don't want to get violations, so we keep operations at a high efficiency level. We strive to put our best foot forward and set standards for other companies to meet or even exceed."

Pappas works in unison with his contractor, the Utah Division of Oil, Gas and Mining and the company's specialized team. "We like challenging projects. I look at the work we do today and come to realize that our techniques have improved tremendously over the years. We're getting better."

Living in an arid environment is a major challenge for Pappas and his team.

The area only averages about 14 inches of precipitation a year, and most of that is snow. To overcome that distinct disadvantage, the Castle Gate crew mixes certified noxious weed-free hay with the topsoil after backfilling and grading, along with deep gouges that form a rough surface thereby stopping the water flow as the holes fill.

"We capture every drop of rain that falls, minimizing runoff and the loss of sediment. And the seeds stay in place. We plant a variety of seeds, including native plant species. We try to make the area so rough, even a horse would think twice about walking over it. It's a good technique."

"The company and my supervisor Dennis Ware and John Borla, allow us to do the job, along with the contractor. We achieve what we achieve as a team. One can't do without the other."

Born the son of a Greek immigrant on March 17, 1959 at Price, Utah, Pappas has always wanted to work in the coal fields. His father came from Greece to work in the coalfields in Colorado and New Mexico, before settling at a coal camp in Hiawatha, Utah.

"My dad retired before I could remember his days as a coal miner real well. I remember him vaguely coming and going to work. He didn't want any of us to be coal miners, so he saved his money so that we can go to college and get an education."

Unfortunately, a brother, Tony, was killed at Andalex Coal mine in 1982, after working his way through college on a baseball scholarship and earning a degree as an educator. He opted for work in the mines because of higher salaries.

After graduating from Carbon High School in 1977, Johnny Pappas entered Southern Utah University, pursuing a degree in geology. He later transferred to the University of Utah where he earned his degree in geology. He also received a degree in business administration from Utah State University.

His goals were simple. He wanted to

work in the coal fields. "I wanted to be a geologist in a coal mine in my hometown. All these dreams were realized, but first the young graduate had to run the gamut of jobs that would lead to his goal. First job out of college was as a custodian at a power plant where he eventually would work his way to a lab technician. "There were no jobs available at that time in 1983 and I took what I could. I swept and mopped floors. It was a character builder."

Seven years later, Pappas got his first break, a career change with the Utah Division of Oil Gas and Mining as a reclamation specialist. "I took a cut in pay, but only worked there for a few months before taking a position as environmental coordinator with Soldier Creek Coal Co." In March 1992, he was laid off and went to Winnemucca, Nevada as an environmental coordinator for a gold mining operation.

Mark January 1995, as a red-letter day for Johnny Pappas—a day his dream came true! He joined Plateau Mining Corp., which then was part of Cyprus Amax and today is owned by RAG American Coal Holding Inc, as an environmental engineer.

"I couldn't have scripted my life any better, everything fell into place. I've been blessed with the best job in the world." Pappas and wife, Jill, whom he met at a Greek Festival in Price, Utah, live in a world that Johnny might describe as Eden.

SETTING — The Castle Gate Mine Complex, a subsidiary of RAG American Coal, is located approximately 10 miles north of Price, Utah in the Wasatch Plateau Coal Cliff fields in Carbon County. The complex consists of various areas including: the Hardscrabble Mine facilities, the Sowbelly site, the Eastern Coal Reserves and the Adit #1 Mine.

In general, the area is mountainous and dissected by numerous steep canyons with ground surface elevation varying between 6,000 and 9,500 feet.

Intensive mining has occurred in Hardscrabble Canyon since the 1880s, when Teacum Pratt opened the first operation for stocker coal. Among these mining operations were several mines, a coal cleaning plant, bathhouses, offices, a warehouse, and truck loading facilities.

The area has a history of various mining operations producing coal since the turn of the century. Consolidated mining activities began in 1971, conducted by the Braztah Corporation, which in turn became the Price River Coal Company in 1979, then Castle Gate Coal Company in 1986, and Castle Gate Holding Company in 1998. Reclamation began in 1992 in Sowbelly Canyon and 1993 through 1999 in Hardscrabble Canyon. The Adit is yet to be reclaimed.

All disturbances were created before 1977 and pre-SMCRA but continuously used until 1989 when Price River Coal

Company closed the mines. Disturbed areas associated with the Castle Gate Holding Company's permit that have been reclaimed include Hardscrabble Mine facilities, the Sowbelly Gulch site, the Eastern Coal Reserves and Adit #1 Mine in Price Canyon.

REGRADING — Because the site was disturbed before 1977, there was no consideration for how highwalls and cut slopes were to be reclaimed. It was impossible to completely backfill all highwalls and cut slopes. Castle Gate Holding Company and the contractor did remarkable work to make the remaining cuts and highwalls look natural and blend into the existing landscape. Some upper areas of the highwall and selected cut slopes remain and blend into the existing cliffs in the natural environment. Large rocks have been placed at the bottom of two of these areas, and they look like natural rock falls.

The approved backfilling and grading plan called for 20,000 yards of cut and fill material to generate the reclamation topography in the original plan. However, by the end of the reclamation 93,700 yards of cut and fill material had been moved and placed, exceeding even Castle Gate's expectation of 61,000 yards.

During regrading cliffs were re-exposed so as to match the natural exposed sandstone outcrops. Large rocks uncovered during regrading were used to make rock piles that have been adopted as habitat for birds and small mammals. These techniques have created a diverse landscape that is capable of supporting a varied assemblage of wildlife species.

A 75-foot section of Italian rock wall masonry was retained in the area of the upper bathhouse. The masonry is similar to other rock walls found in Carbon County that were considered an enhancement to the postmining land use, since the people of Carbon County are very proud of their mining heritage and do not want all traces of coal mining removed from these sites. The remaining masonry will serve to remind those who pass through Hardscrabble Canyon of that heritage.

REVEGETATION AND EROSION CONTROL — After the grade areas were gouged, the seed was applied by hand broadcasting methods. The site was then mulched with a combination of straw mulch and hydromulch to help reduce erosion. The disturbed area was planted with 5,000 tublings, 1,700 No. 1 gallon and 120 No. 2 gallon containerized shrubs. The planted species were: serviceberry, chokecherry, current, Mountain mahogany, bitterbush, Woods rose, cottonwood, snowberry, elderberry, and rocky Mountain maple.

Within the disturbed area, there are

some areas with native vegetation and a few areas along the ephemeral drainage with nearly full-grown cottonwoods. The original grading plans were altered in order to leave as many of these areas as possible.

LAND USE AND VEGETATION SUCCESS — The pre-and postmining land uses are wildlife habitat and grazing. The main access road in Hardscrabble Canyon was regraded and then reestablished as a 10 to 12 foot wide dirt road (*photo*) for the postmining land use. A local rancher uses the road to trail his livestock to the top of the plateau where he leases grazing rights.



The Utah Division of Wildlife Resources classifies the area as critical Elk winter range. During site inspections, numerous deer and elk have been seen in the area. Although grasses dominate the vegetation cover, there is a good mix of forbs and shrubs.

In general, the plant species that have become established are more desirable for wildlife forage than the species in adjacent undisturbed areas. The dominant species in surrounding undisturbed areas are Salina wild rye and sagebrush. A more palatable and common species in the reclaimed area is Great Basin wild rye, a tall grass that is very desirable for wintering elk. In addition, the two dominant grasses, thick spike wheatgrass, western wheatgrass and pacific aster are very effective at controlling erosion.

Reclamation at Hardscrabble Canyon is not only a model for how pre-law sites in Utah should be reclaimed; the area is a model for post-law mine sites. Castle Gate Holding Company spent more money than anticipated for this project to achieve long term restoration of the canyon watershed with its ephemeral stream channels. The costs will be repaid in lower long term maintenance and rapid vegetation of the site, leading to a prompt Phase II bond release. The postmining land uses of wildlife habitat and grazing have been achieved and enhanced, and the stream and runoff channels have been reconfigured and built to be stable, achieving better downstream water quality.

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2003 OSM Awards

Abandoned Mine Land Reclamation Awards

Appalachian Regional Award / National Award Taylor Creek Impoundment, West Virginia



Taylor Creek Impoundment post-reclamation aerial view, looking westward toward the town of Clay. Taylor creek flows along the reclaimed pile's toe, hidden in the shadows.

The Victory site is located in Vigo County, Indiana near Terre Haute. Underground mining operations were active from 1943 to 1954.

The mining and processing operation left a 245-acre area of gob, slurry, derelict concrete structures, trash, debris, and a hazardous open slope entry.

Prior to reclamation, Victory Mine Site was a detriment to the community. The slope entry presented a hazard to human safety, odors from land-fill operations permeated the area, and runoff from the barren mine refuse created sedimentation and acid mine drainage problems in adjacent Honey Creek.

Reclamation has eliminated the hazard presented by the open slope entry and overall site reclamation has eliminated any significant sedimentation and AMD problems into Honey Creek. The site has become a central point for community activities, recreational uses, and sports competitions, making it an exemplary reclamation project with unlimited potential for future high quality post reclamation land use.

Western Regional Award / People's Choice Award Cove 3 Project, Navajo Reservation



Overall view of the Cove 3 location, Cove, Arizona. Photo shows the type terrain and vegetation.

Located in Central West Virginia, this 90-acre Clay County site, was originally part of a massive abandoned coal preparation and waste disposal facility that ceased operation in the 1950s. This site consisted of two large refuse areas totalling 72 acres. The reclamation plan involved eliminating an 18-acre water-filled impoundment; extinguishing the burning refuse along with regrading and soil covering the remaining areas of toxic coal refuse; restoring the main stream channel; and construction of badly needed drainage control structures.

Upon completion, the contractor had excavated and reshaped 1.8 million cubic yards of refuse along with extinguishing 10 acres of burning material; drained and treated 1.5 million gallons of acidic mine water from the 18-acre impoundment; re-established nearly 4,000 L.F. of Taylor Creek; constructed three-fourths mile of various size drainage control channel; and soil covered and re-vegetated the entire 90 acres.

This site received the National Award as well as Regional.

Mid-Continent Regional Award Victory Mine Site, Indiana



The post-reclaimed Victory site was the start of the NCAA Cross Country Championship.

The Cove AML area is located within the Northeastern part of Arizona in the Navajo Nation. Mining within the Cove area occurred in the early 1950s to the late 1960s. The elevation ranges from 7,000 to 8,000 feet above sea level. Reclamation within the Cove area have been broken into phases. Problems from the AML sites include health and safety of the public, livestock and wildlife; water quality; and aesthetics. The project addressed a total of 61 AML sites within 11 project groupings.

Mining technique implemented underground room and pillars with some open sloping. The mine site within the mountainous terrain are located at the edge of the steep slopes and cliffs making it difficult to perform the cut and fill backfilling techniques of the associated mine waste.

This project was complicated by nature of the terrain, scope-of-work, health and safety concerns, NAPA restrictions, and limited construction time frame. It was successful due to the dedicated individuals involved, successful project management approach and partnering concept. Many of the sites are within access by the public and local citizens. This site received the People's Choice Award as well as Regional.