

WHY DO WE NEED A RISK
ASSESSMENT?: EVERYTHING IS
GOING GREAT!

A decorative graphic consisting of several parallel white lines of varying thicknesses, slanted diagonally from the bottom-left towards the top-right, set against a blue gradient background.

W. York-Feirn, CMSP, Colorado Division of Reclamation Mining & Safety

D. Stalfort, ABS Group, Inc.

J. Kravitz, JHK & Associates Consulting, LLC

June 19, 2019

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.

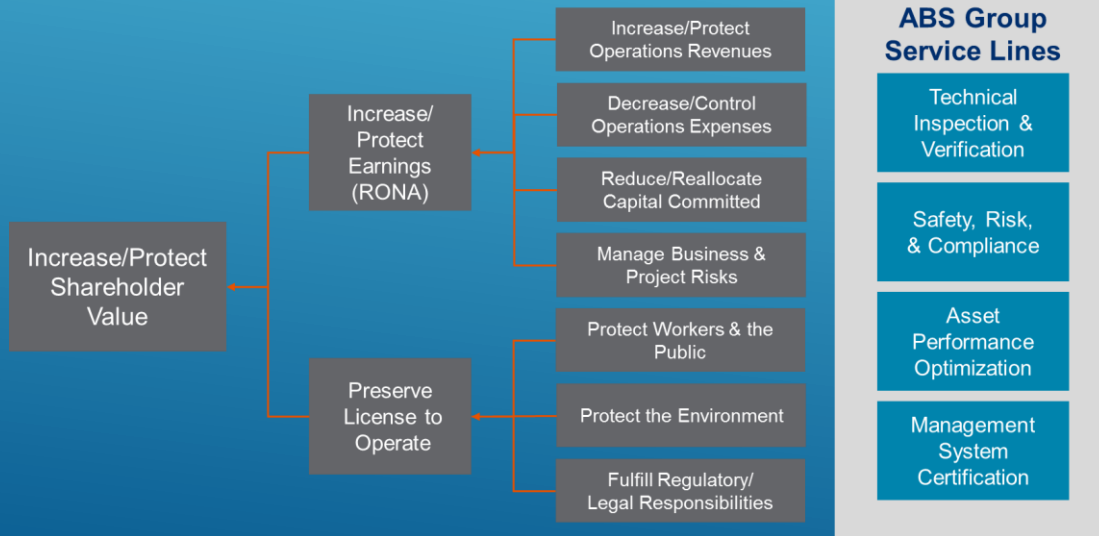
PARTNERS

- ▶ **Colorado Division of Reclamation Mining & Safety** assists, upon request, operators and miners in meeting the requirements of the Federal Mine Safety and Health Act of 1977, as amended.
- ▶ **ABS Group** provides a range of technical solutions to support safe, reliable and high performance assets & operations
- ▶ **JHK & Associates Consulting, LLC** brings over 46 years of global mine emergency prevention and response expertise to improve miner health and safety

ABS GROUP AT A GLANCE

WHO WE ARE

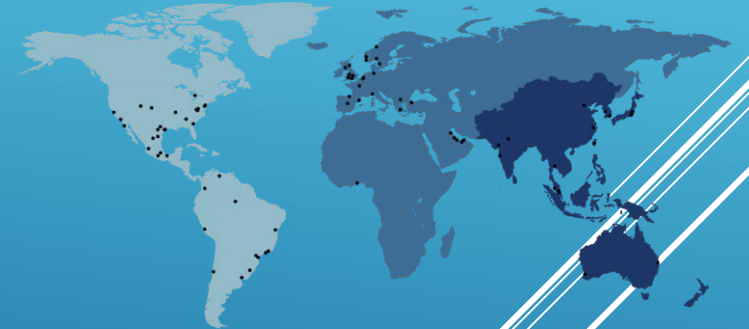
ABS Group provides a range of technical solutions to support safe, reliable and high performance assets and operations. ABS Group is an affiliated company of ABS, a leading classification society with over 150 years of service.



1300+

30+

40+



INDUSTRIES WE SERVE

- Power
- Oil & Gas
- Maritime
- Government
- Manufacturing

HEADQUARTERS

ABS Group
16855 Northchase Drive
+1-281-673-2800
www.abs-group.com

SUNSHINE

MAY 2, 1972
KELLOGG, ID



THE SUNSHINE MINE HAD ONE
OF THE BEST UNDERGROUND
M/NM VENTILATION SYSTEMS
IN THE UNITED STATES

...and that is what led to
their downfall!

7 Dead, 77 Are Reported Missing After Mine Fire

KELLOGG, Idaho (AP) — Seven miners were reported dead and 77 were reported missing Tuesday as fire swept through the Sunshine Silver Mine, deepest and richest in the nation.

More than 200 of the 300 day shift workers in the mine got out when the fire started on the 3,700-foot level from what one official said was suspected to be an electrical failure.

The seven bodies had not been brought to the surface Tuesday night, mine officials said in reporting the deaths.

Doctors and rescue workers were trying to reach the other men through an elevator shaft several thousand feet from the disaster area.

The fire continued to burn deep in the mine, and officials said they did not know when it would be controlled.

The condition of the 77 men still believed inside was not known.

The mine area was heavily barricaded, and wives and children of the missing miners

showed more than two million ounces of silver ore were produced in the first quarter of the year and that the Sunshine mine is the deepest and richest in the nation.

A mine vice president, Wallace Wilson, initially set the missing miners at 77.

A company spokesman said one miner was brought up suffering from smoke inhalation

before the hoist of the main shaft elevator was lost in the fire.

Another spokesman said there are two escape routes from the mine as well as fresh air spaces within the facility. Newsman Lee Black of radio station KWAL, Wallace, Idaho, said mine officials at the scene told him there were possible escape routes through the Polaris and Silver Summit mines 1½ miles east of the Sunshine mine.

The fire-stricken mine is six miles east of Kellogg, a community of 7,000 in the rugged hills of the northern Idaho panhandle. It is 70 miles east of Spokane, Wash. The miners live throughout a valley between Spokane and the Montana border.

A U.S. Bureau of Mines rescue crew joined Kellogg city and Shoshone County fire departments and rescue units from adjoining mines in trying to reach the missing miners.

The rescue workers went down an elevator in what is

A. "Jock" Yablonski and his wife and daughter.

At the same time sources close to the case said additional important developments could be expected in the slayings within the next week.

"We are continuing to make headway in our investigation," said one official who asked not to be identified. "There will be further key developments within the next week and, hopefully, even further developments beyond that."

Albert E. Pass, 51, of Middlesboro, Ky., was arrested in Middlesboro Tuesday soon after a federal grand jury in Pittsburgh indicted him on charges of conspiring to interfere with the rights of a union leader, obstruct justice and obstruct an investigation.

Pass was the seventh person taken into custody in the Yablonski case. He is secretary-treasurer of the UMW's District 19, headquartered in Middlesboro, and is a member of the union's International Executive Board.

Pass was held in the Bell County Jail in Pineville, Ky., Tuesday night after his arraignment before Kelly Clore, U.S. magistrate for the Eastern District of Kentucky.

Clore said Pass would remain in the county jail until the indictment arrives. Bond was set

at \$1 million. Pass, 63, a retired coal miner and former president of a UMW local in LaFollette, Tenn.

Huddleston went on trial early last month in Washington, Pa., on state charges of murder and conspiracy in the killings. But the proceedings were halted abruptly during jury selection amid reports that Huddleston had agreed to be interrogated by the FBI.

Sources said the results of that interrogation were the main basis for indictment against Pass.

The indictment reiterates a government claim that Yablonski was killed to prevent him from testifying before a federal grand jury that was probing UMW activities in Washington, D.C.

Jackson Ends Campaigning In Primaries

CLEVELAND, Ohio (AP) — Sen. Henry M. Jackson of Washington said Tuesday night he will not campaign in any more presidential primaries, but will remain a candidate for the Democratic presidential nomination.

Jackson, running fourth and



Vinyl Tapes

Machine Washable
Fully Vinyl Lined
54x54
54x72 Oblong
54x72 Oval

Nice colors of: Gold



New rescue try at Sunshine Mine fails

KELLOGG, Idaho (UPI)—The first attempt to send volunteers in a steel capsule to the bottom of the Sunshine Mine to search for 58 missing miners failed Monday night when jagged rock walls halted the cylinder.

The two volunteers smashed at the rocks with crowbars but officials said they had to be pulled up exhausted before the 7-foot-long capsule got more than 50 feet down a four-foot wide ventilation shaft.

Fresh workers will be sent down in the darkness and 100-degree heat as soon as possible, officials said, to look for the men trapped a mile below for almost a week.

Wayne Kanaca of Rolla, Mo., and J.D. Morris of Vincennes, Ind. squeezed into the capsule, standing back-to-back.

Each wore a 40-pound backpack of oxygen and carried 15 pounds of telephones and walkie-talkies as the rescue capsule began its slow ride

mine general manager Marvin C. Chase said, "We don't dare throw the power on until they clean up the moisture."

Chase said a crew of 15 electricians were in the hoist room at the top of the No. 10 shaft—above where the men were believed to be—but it would be at least 7 a.m. today before the electricity could be turned on.

The semi-circular capsule was one of two rushed from Nevada by the Atomic Energy Commission and ordinarily used to test shafts for underground nuclear explosions.

Jim Winston, U.S. Bureau of Mines spokesman, said a capsule loaded with 400 pounds of sandbags and lowered 100 feet in a test run. A fluctuation in air pressure pumped out by a compressor forced crews to bring the capsule back to the surface of the mine's No. 12 shaft, he said.

It was being linked to another compressor, he said

A young Montana pilot was killed yesterday afternoon when his light plane crashed and burned moments after takeoff from Lind's Airport north of Lodi.

The accident also claimed a valuable quarter horse grazing in a pasture where the plane went down.

As the air mishap was being investigated by the San Joaquin County Coroner's Office, deputies also were making positive identification of two men killed in weekend traffic accidents.

According to the Coroner's office, the dead pilot was Patrick Marvin Brooke, 26, of Missoula, Montana, a city about the size of Lodi.

The Federal Aviation Administration listed the accident's cause to "pilot error."

One of the last persons to see Brooke alive was Ken Spiva of Stockton who said Brooke seemed like a "happy young man." Brooke had made a quick stop for fuel at the Lodi-area airport when Spiva struck up a conversation with him. Spiva said Brooke claimed to have flown from the Los Angeles area and was enroute to Alaska to sell his plane.

As Spiva watched his new acquaintance take off, he said

The power pole which Brooke's hit was located on the "Lazy Double-Heart" quarter horse ranch, owned by Harvey Dickey. Dickey said he found a horse's hoof near the plane's wreckage.

Since there were several horses near the crash scene, Dickey investigated until he found an injured mare. Dickey said he could not figure out which part of the plane could have sheared off the hoof.

Dickey described the mare as "very expensive," said it recently had been bred and had been brought to his ranch by a Castro Valley man Dickey

identified as Harry Smith. The mare had been at that pasture only a week and one day.

After conferring with a veterinarian and Smith, Dickey said the horse had to be destroyed.

While Coroner's deputies were investigating the plane crash, other deputies released the name of a Linden man who had been killed in burned wreckage of his pickup.

Michael Burg, 28, had been killed about 2:15 a.m. Sunday when the pickup failed to negotiate a curve on Highway 88 east of Stockton.

California Highway Patrol

men said the pickup side swiped a hedge, sheered off two telephone poles and a tree before rolling and bursting into flames. The pickup was registered to Burg's employer, Ramsey Seed, Inc., Manteca.

Later Sunday morning, Gordon Lester Curless, 20, of Oakdale was killed when the car in which he was a passenger flipped over on Highway 4 and Drais Road.

Highway Patrolmen said the car landed on Curless, but missed its driver, Clyde Boothe, 20, of Modesto, who was taken to San Joaquin County General Hospital.

Planners act negatively on agenda items

Lodi Planning Commissioners last night swiftly completed a short agenda, either delaying action or denying the items before them.

Following the anticipated withdrawal of a rezoning request, planners turned down plans for gas pumps at a neigh-

No cultural center stand by St. Peter's Church

By LANGE WINCKLER

St. Peter's Lutheran Church Council last night took no stand favoring or opposing the proposed construction of a regional cultural and arts center at a park by the west Lodi church.

City Recreation and Parks Director Ed DeBenedetti made a presentation to the body, ex-

be released after a voters' meeting in June.

In the course of the discussion about the \$250,000 project, DeBenedetti revealed that two representatives of an agency helping the foundation which will fund the regional center are going to come to Lodi to discuss the project.

Gordon confirmed this is the



JEFFERSON ISLAND

November 25, 1980
New Iberia, LA



To see favorites here, select then , and drag to the Favorites Bar folder. Or import from another browser. [Import favorites](#)

[The Telegraph - Nov 21, 1980](#) [Browse this newspaper >](#) [Browse all newspapers >](#)



ature
President-elect Ronald Reagan at the Blair square. was evacuated

Mine whirlpool swallows lake, oil rig, tug and ten barges

JEFFERSON ISLAND, La. (AP) — "The end of the world is coming," yelled a fisherman as a voracious whirlpool drained Lake Peigneur right out- from under his boat.

And the big question after the collapse of an abandoned salt mine shaft — which also drew a \$5 million oil rig, a tug boat, 10 barges and a botanical garden into its gaping maw — was whether this entire island might be next.

The island is part of a massive outcropping of salt. If the lake waters sucked into the mine during the shaft's collapse Thursday dissolve the subterranean pillars of salt, the salt dome beneath this marshy island could go crashing inward, officials fear.

The island, 10 miles



UN

DURHAM, N. for teachers at U are lower than England state ur this week.

The report say the University o get about \$6,300 age of \$29,000 per

UNH teachers érage, compared to the report.

Teachers at showed the high

The study, pr the American A sors, also criticiz

To see favorites here, select then star, and drag to the Favorites Bar folder. Or import from another browser. Import favorites

The Evening Independent - Nov 21, 1980 Browse this newspaper » Browse all newspapers »

Louisiana Island May Be Sucked Into The Earth, Experts Fear

JEFFERSON ISLAND, La. (AP) — "The end of the world is coming," yelled a fisherman as a voracious whirlpool drained Lake Peigneur right out from under his boat.

And the big question after the collapse of an abandoned salt mine shaft — which also drew a \$5-million oil rig, a tug boat, 10 barges and a botanical garden into its gaping maw — was whether this entire island might be next.

The island is part of a massive outcropping of salt. If the lake waters sucked into the mine during the shaft's collapse Thursday dissolve the subterranean pillars of salt, the salt dome beneath this marshy island could go crashing inward, officials fear.

The island, 10 miles square, was evacuated Thursday after a 1,300-foot-deep abandoned salt mine shaft collapsed when it apparently was punctured by oil drilling and seeping lake water caused a cave-in.

A growing crater sucked in more lake water, creating a whirlpool that emptied the 20-acre lake and swallowed almost everything on and near it.

"There is the potential for the island to cave in," warned Wayne Knack, district manager of the federal Mine Safety and Health Administration office in Dallas.

The danger stemmed from the fresh lake water that had drained underground, said deputy sheriff Ron Sonnier.

"The whole dome is sustained by 90-foot pillars of salt. If the water eats up those pillars, the dome itself will go in," he said.

On or near the dome is Jefferson Island with a Diamond Crystal Salt Mine Co. mining operation, a tourist garden and some oil operations.

Texaco's Max Hebert said a well "may have entered a shaft," and spokeswoman Brenda Buras said the oil company did not know its rig was resting above an abandoned shaft.

Seven men on the rig escaped by tugboat, 50 men in the salt mine got to safety, and no injuries were reported, officials said.

Once the shaft collapsed, a crater grew rapidly, devouring two Texaco rigs, the lake, a tug, a string of salt barges, thousands of gallons of water and mud and nearby Rip Van Winkle Gardens, a tourist botanical attraction.

"That water was roaring. I'm not kidding you a bit," said fisherman Leonce "Spec" Viator Jr, who was fishing on the lake at the time. "The wind was blowing and everything seemed to go dry on the earth, and we were sitting on the mud."

At one point, water in the Delcambre Canal, a shrimp boat channel linking Lake Peigneur with Vermilion Bay in the Gulf of Mexico, was running backward, pulling gulf water into the crater at about 20 miles per hour, witnesses said.

As the flow of water and mud slowed Thursday night, a natural gas fire broke out in the crater's mouth, which was about a half-mile wide.

"The only thing we know is that there was a natural gas well there. How it got ignited we have no idea. It could have been a barge rubbing against a pipe or anything," said deputy sheriff Herrin Ducote.

"The fire is not any danger to anybody," added Sonnier. "But it may cause the hole to get a little bigger."

Natural gas pipelines lace the lake, and the Federal Aviation Administration restricted flights for three miles around the lake for fear that a gas line would rupture.

The dome is one of the major salt outcroppings along the Louisiana coast. The nation's Strategic Petroleum Reserve is being stored in another dome about 50 miles to the west. At another salt mine in the chain of domes — the nearby Belle Isle dome — an explosion killed five miners last year.



These automobiles crashed here

Hostag



WEATHER WATCH

The

'I've Confessed To Jesus,' Tearful

WHERE DID THE LAKE GO?

... special investigator for a "leaky" independent commission" at the...
... pending the inquiry's completion, he ordered ex-prosecutor James M. Morrow who fired their...
... blocks have staged frequent protests and have threatened to stage a boycott since the...
... Other inquiries into the cases are being conducted by the FBI, the Orleans Parish District Attorney and the police department's internal affairs division.

city / parish

THE DAILY IBERIAN

Friday, November 21, 1997, Pg. 1

Comics	10
Sports	11
Classified	13



In the lake

This ground view of the lake front view of Big Van Winkle Live Oak Condominiums on Jefferson Island shows the destruction caused when a glass hole opened in the bottom of Lake Poignat last Thursday and

swallowed the lake and a portion of the island. Just the tip of the roof on the new administration building and tourist center is visible on far left. At left center the boiler room that served the center and the lake

ground level. In the center, a portion of the island was carried off by the lake. The island is visible on the left. The lake is visible on the right. The lake is visible on the right. The lake is visible on the right.

trees, land, buildings, barges and drifting logs were sucked into the crevasse created when a thousand Crystal Lake Lake Seaway the lake was affected. The lake was affected. The lake was affected.

Tulips will still be planted



Lake Péigneur Empty Mining / Drilling Disaster | 1980



"IT'S ALL pretty high ground," he said, of the area.

The lake is a spawning area for shrimp, but

Calm evacuation

By RAY BROUSSARD

One of the 50 miners working in the Diamond Crystal Salt Co. mine 1,300 feet below the surface of Lake Peigneur said he saw the water begin to fall into the mine after the shaft was penetrated by an oil drilling rig but said there was no panic among the men.

"I saw the water coming," said Paul Hebert said yesterday. "There wasn't a whole lot of noise. The men started to move out in an orderly fashion. I wasn't really scared."

The disaster Thursday caused heavy damage, but nobody was

settled — enough to put the land under water when the lake fills up again, said Dolan Kleinpeter of the U.S. Soil Conservation Service.

That will give the lake another three-fourths of a mile of shoreline, Kleinpeter said.

killed or even injured.

"There's no time to be scared when something like that happens," Hebert said. "And there was no panic among the men. We are trained how to react to something like this."

HEBERT said there was no collapse of the salt deposits in the mine shaft, although the danger of water eroding the salt is one most feared by miners.

He said he estimated it took a maximum of 40 minutes to get the men out of the mine.

The miner, who said he was on the grievance committee for the

the clean-up of the lake a pet project.

"This is a horror and a disaster that no one ever contemplated," he said. "Thank God it wasn't a recreation area when this disaster occurred."

Miner: 'I saw the water coming'

workers before he changed jobs at the company, confirmed that the miners met with company officials yesterday at the Holiday Inn in New Iberia.

"The company told us, for the time being, not to talk to the media," Hebert said. "We gave our statement to the company lawyer. The company didn't tell us that they would take care of us if we didn't talk to the press. Nothing like that was said."

Other than that, Hebert refused to give any further information about the disaster.

He is 26 years old and has worked at the mine for six years.

"It is one of those things that happen," he said. "You work around a place like that long enough, in that kind of work, and you expect something to happen."

HEBERT, a Lafayette resident, said the miners and company officials are expected to meet again next week.

But he refused to say where the meeting would be held, or what would be discussed.

His wife said later that she didn't know what he would do for income now. She said that the suddenness of the disaster had left them stunned and unprepared.

It had been rumored that one crew of miners was in the shaft when a hint of trouble was indicated; that they were brought to the surface; and that another crew, preparing to go down into the shaft, was held back.

Hebert said that was not true. Only one work crew had gone down

No funds promised, says Treen

By MATT SCALLAN

Gov. David Treen this week said

and federal program designed to repair bridges not on the state highway system to replace the

STATE REPS. Ted Haik and Elias "Bo" Ackal, along with State Sen. Oswald Decuir were angered that the meeting had taken place

city / parish

THE DAILY IBERIAN

Thursday, November 27, 1986—Pg. 33

Comics 16
Sports 17
Classified 25

Assisted in evacuation at Jefferson Island

'Was just my job' says miner cited for bravery

By WILDA R. MORAN

"I don't feel I did anything so extraordinary. It was just my job." These are the words of Earl Dundas of St. Martinville, one of five men cited for heroism Tuesday night by officials of the Diamond Crystal Salt Co. at Jefferson

Island.

At a time when water was rushing in at the 1,300-foot level in the salt mine, Dundas descended another 200 feet to evacuate 43 persons.

"Time was of the essence to get the people out," he said in a telephone interview. "The good

Lord gave me the time, the power and the strength to go down and get those people out."

Dundas said he was not the first to spot the rushing water, which eventually flooded the mine, causing total shaft shutdown operations and the dismissal of all but a few workers. The disaster re-

turned last Thursday morning.

DUNDAS CITED FOR bravery, Gaddison of New Iberia, another of the first to see the incoming water.

The 50-year-old Dundas, who is shaft foreman, said he was working at the 1,300-foot level and needed

Gaddison to do some electrical work.

"I heard Gaddison hollering and shouting and took it for granted somebody was hurt," he said.

No one was hurt, he said. Instead Gaddison had seen water "coming into the mine at a vast rate of speed."

"All I could do was tell him blink the lights, cut the power, get on the man cage and get out," said Dundas.

WHILE GADDISON headed for the top, Dundas began to make his way to the lower 1,300-foot level.

"I met (Wilfred) Johnson on the way," he said.

Johnson, also of New Iberia, was a third man to be cited Tuesday by company president Charles D. Crummett.

Johnson remained at the 1,300-foot depth while Dundas descended.

According to the shaft foreman, there were about 43 people at the lower level who were evacuated.

"When we got back to the 1,300-foot level, Johnson said not to use the escape shaft but to go to the 1,000-foot level and get out through the main shaft. We got out with the help of the good Lord," said Dundas.

Dundas, who has been with Diamond Crystal for 27 years, credited the company's safety practices for the evacuations without injury or loss of life.

SAFETY is necessary if men are

don't have production," he said.

Evacuation drills are held twice or three times a year, he said, with the last drill being held within the last three months.

Procedure was still fresh and the drill experience could be called on when it was discovered water was making its way into the mine, he said.

Dundas also recalled that it was not the first time he has been in the mine when disaster threatened or occurred.

There have been minor fires, he said.

"We call them minor because we were not cut out of work," he said.

Also, he recalled that several years ago — maybe 10 to 12 years ago — a slash of salt fell, killing some workers.

But he could not remember more details of that tragedy.

ALONG WITH Dundas, Gaddison and Johnson, Louis Babon and John Vice — both of New Iberia — were cited for their bravery during Thursday's disaster.

However, details of why the other men were cited were not available by press time from Diamond Crystal officials.

The five men were cited for bravery at a meeting called by company officials Tuesday night. The media was barred from the meeting, held at New Iberia High School, but it was later learned from those attending that the practices for the evacuations of the approximately 250 employees of the mining company were terminated.

Diamond Crystal declared the



THE DAILY IBERIAN

New Iberia, Louisiana, Tuesday, November 25, 1980

87th Year, Number 290

16 Pages — 2 Sections — 25¢

Tuesday

State

Teacher pay

NEW ORLEANS (AP) — Gov. Dave Treen told a teachers' convention that they deserve another pay raise but said he's not sure the state can afford one.

Treen also assured delegates to the Louisiana Association of Educators' convention yesterday that lack of parental involvement and student discipline are the major problems in education — not bad teachers.

"We all know there are some parents that totally neglect their children and wash their hands of the problem," he said.

As for improving discipline, he said some steps will be taken in the 1981 Legislature but declined to discuss what he had in mind.

National

Chrysler profits

DETROIT (AP) — Chrysler Corp. recorded a profit last month for the first time in two years, but Chairman Lee Iacocca says the quarter will not be profitable unless sales pick up.

He did not disclose the earnings figures for October. Chrysler, like most corporations, does not report monthly results.

Earlier this year, the No. 3 car maker projected a profit for the last



Inspectors probe mine

By MATT SCALLAN

JEFFERSON ISLAND — A 22-foot difference between the water levels in the main shaft of the Diamond Crystal salt mine and the lake has federal mine inspectors sending for more sophisticated equipment to find out what is happening in the bowels of the salt dome.

Frank O'Gorman of the federal Mine Safety and Health Administration, called the unexpected development, called mine inspectors to stop all activity in the vicinity of the shaft.

A bucket lowered into the main shaft of the mine late yesterday came back filled with sand and gravel, which surprised mine inspectors.

"We thought there would be a lot more water," O'Gorman said.

BUT O'GORMAN said he did not expect any more of the salt dome, which was flooded with fresh and seawater Thursday when a drilling rig punctured a mineshaft 1,300 feet below the earth, to collapse.

A television monitor lowered into

O'Gorman said mine inspectors do not know what is causing the bubbling, but said it would account for the muddy condition of the water.

He added that inspectors do not believe it is caused by natural gas.

THE DIFFERENCE in the water level, according to the inspectors, could be caused by a blockage in the main shaft that is preventing the water there from seeking its natural level.

The new equipment, O'Gorman said, may allow inspectors to obtain a better view of what is occurring beneath the ground.

The federal spokesman said the water that seeped into the mine, and caused portions of the mine to collapse had probably expanded to salt-absorbing capacities and is proof-keeping as solid up the dome of salt.

"After a period of time, the water becomes a support mechanism," he said.

AS THE WATER seeped into the mine Thursday, it dissolved the salt that made up the dome and caused more than 50 acres of land to sink beneath the waters of Lake Theriot.

Drilling blamed for cave-in

Salt company suing Texaco

By MATT SCALLAN

Diamond Crystal Salt Company filed suit against Texaco, Inc. in U.S. Western District Court yesterday in an attempt to recover the millions of dollars in damages it lost when the Jefferson Island salt mine caved in Thursday.

Meanwhile, Texaco issued a news release saying the drilling in Lake Peigneur that led to the disaster was "prudently conducted."

A spokesman for Diamond Crystal said the suit alleges that the well, being drilled for Texaco by the Fred Wilson Co., was the sole cause of the disaster.

DIAMOND CRYSTAL officials yesterday declared the mine a total loss.

While they did not name the amount of money sought in the suit, a company spokesman said the damages run into the "many millions of dollars."

Texaco spokesperson Brenda

shallow, 1¼ mile in diameter lake into the cavernous salt dome, along with an unknown amount of seawater from the Delcambre Canal and Vermilion Bay.

Iberia and Vermilion Parish sheriff's deputies, along with State Police and agents of the Department of Wildlife and Fisheries, kept the island sealed off from sightseers and the news media.

THE ISLAND, which is not an island but a mountain of salt jutting up from the surrounding marshland, will be kept closed until officials feel the danger is past.

When that will be, no one is certain.

Diamond Crystal officials remained tight-lipped about details of the accident, confining their statements to three short

press releases and refusing to elaborate on them.

Employees of the company were ordered not to talk to reporters at a meeting yesterday at a local motel where attorneys took their statements concerning the accident.

State Sen. Oswald Decuir and

(Continued on next page)



DANGER

**ELEVATOR
SHAFT**

DANGER

**SAFETY GLASSES
REQUIRED
BEYOND THIS POINT**



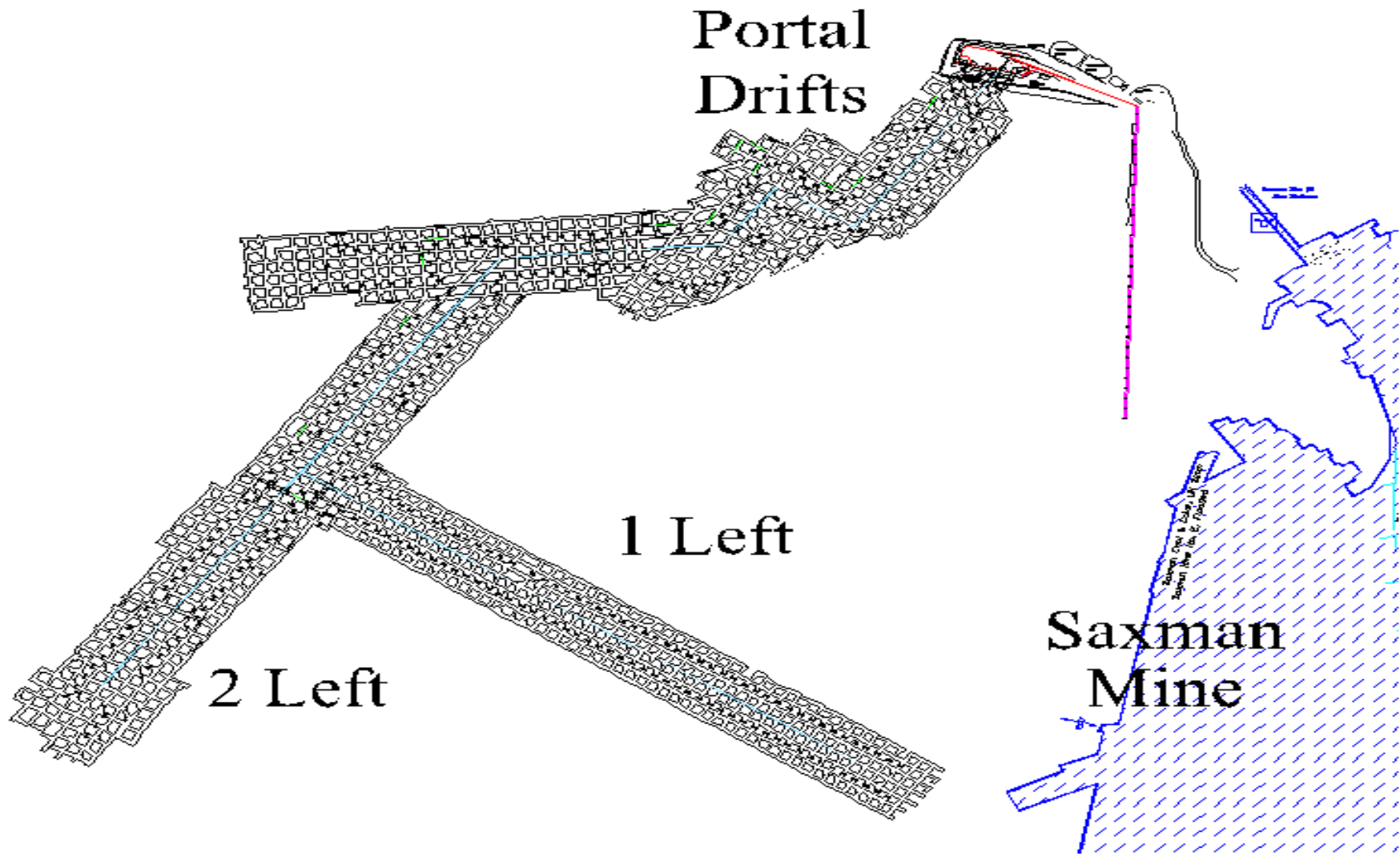
HISTORY

QUECREEK

JULY 24, 2002
SOMERSET, PA













2 KDKA-TV
HOMETOWN ADVANTAGE

2 KDKA-TV
HOMETOWN ADVANTAGE

Live On S







“9 for 9”

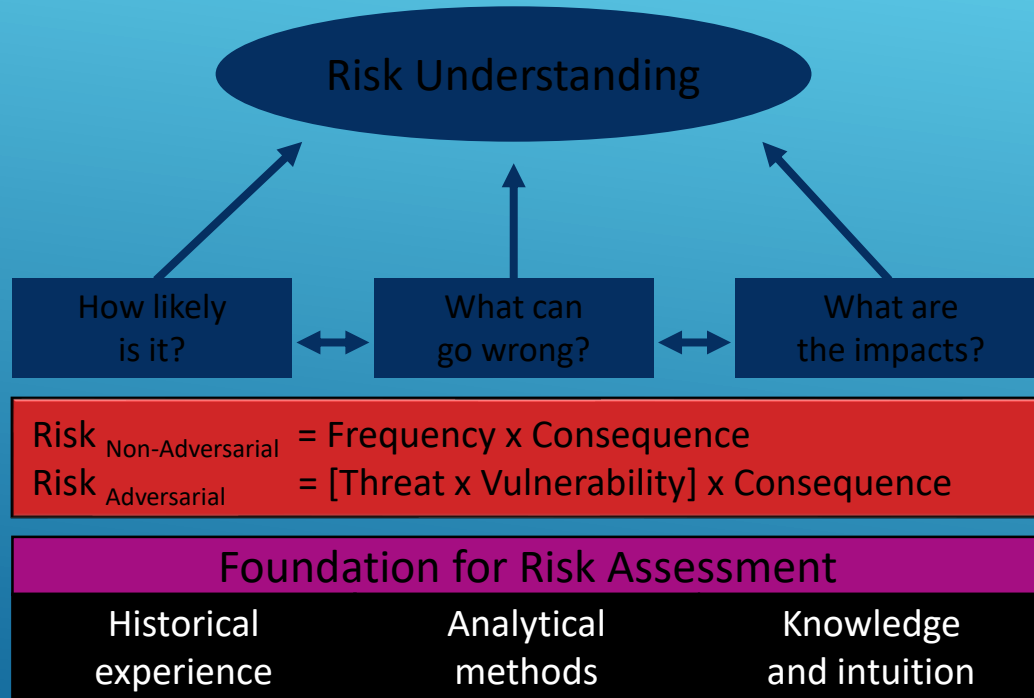


GOALS

- ▶ Identify the risks associated with your mine and methods to prevent major mine emergencies,
- ▶ Assess the preparedness of your mine to respond to a major mine emergency,
- ▶ Assess the readiness of your rescue teams, and
- ▶ Assess the readiness of responsible persons to execute your emergency plan.



LOW FREQUENCY / HIGH CONSEQUENCE EVENTS



Risk Assessment

Preparedness Assessment

Mine Rescue Team
Readiness

Responsible/Competent
Person Readiness



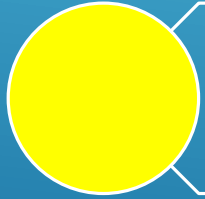
BROAD MINING INDUSTRY PARTICIPATION



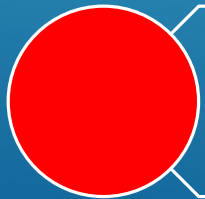
ASSESSMENT CRITERIA



Meeting the Factors



Not meeting the factors,
making progress



Not meeting the factors
top priority for management



THE ASSESSMENT PROCESS

Step 1:
Review
Criteria
and
Factors

- Questions to Frame Your Thoughts

Step 2:
Assign
a Score

- Green
- Yellow
- Red

Step 3:
Explain
the
Score

- Document why you could not score "Green"

Step 4:
Develop
Action
Plan

- Document what you plan to do to move towards "Green"

SUMMARY RESULTS – MINE 4

Overall Summary Assessment					
RISK LEVEL = 1; THE MINE DOES NOT MEET THE STANDARD					
MODEL 1: RISK ASSESSMENT		MODEL 2: EMER PREPAREDNESS		MODEL 3: MINE RESCUE TEAMS	
Risk Criteria	Rating	Risk Criteria	Rating	Risk Criteria	Rating
SECTION A – BASE RISK		SECTION A - PEOPLE		SECTION A – PEOPLE	
A. Design and Planning		A. Local Coordination		A. Competencies	
B. Equip, Maintenance/Reliability		B. Knowledge		B. Training Drills And Exercises	
C. Upkeep of Infrastructure		C. Training and Exercises		C. Leadership/Organization	
D. Documentation/Records		SECTION B – EQUIPMENT		SECTION B – EQUIPMENT	
E. Material/Parts/Equipment		D. Communications		D. Rescue Team Equipment	
F. Hazardous Material		E. Firefighting		E. Mine Infrastructure Equipment	
		F. Facilities			
G. Procedures		G. Mine Equipment		F. Contracted Team Resources	
H. Workplace Conditions		H. Rescue Equipment		SECTION C – PROCESS	
I. Training/Personnel Qualifications		I. Outside Suppliers		G. Communications	
J. Supervision		SECTION C – PLANNING		H. Emergency Procedures	
K. Communication		J. Planning		I. Equipment Procedures	
L. Personnel Performance		MODEL 4: RESPONSIBLE PERSONS			
SECTION B – ACTIVITY RISK		SECTION A – PEOPLE		SECTION C – PROCESS	
M. Equipment/Infrastructure		A. Competencies		G. Communication	
N. Personnel		B. Training		H. Emergency Procedures	N/A
O. Mining Conditions		C. Knowledge			
P. Mining Location	N/A	SECTION B – EQUIPMENT			
SECTION C – SAFETY CULTURE		D. Equipment			
Q. Safety Culture		E. Infrastructure			

SUMMARY RESULTS – MINE 6

Overall Summary Assessment						
RISK LEVEL = 1; THE MINE DOES NOT MEET THE STANDARD						
MODEL 1: RISK ASSESSMENT		MODEL 2: EMERGENCY PREPAREDNESS		MODEL 3: MINE RESCUE TEAMS		
Risk Criteria	Rating	Risk Criteria	Rating	Risk Criteria	Rating	
SECTION A – BASE RISK		SECTION B – PEOPLE		SECTION A – PEOPLE		
A. Design and Planning	Yellow	A. Local Coordination	Red	A. Competencies	Red	
B. Equip, Maintenance/Reliability	Red	B. Knowledge	Red	B. Training Drills And Exercises	Red	
C. Upkeep of Infrastructure	Green	C. Training and Exercises	Red	C. Leadership/Organization	Red	
D. Documentation/Records	Yellow	SECTION B – EQUIPMENT		SECTION B – EQUIPMENT		
E. Equipment/Parts/Material	Yellow	D. Communications	Green	D. Rescue Team Equipment	Green	
F. Hazardous Material	Yellow	E. Firefighting	Red	E. Mine Infrastructure Equipment	Yellow	
G. Procedures	Yellow	G. Mine Equipment	Red	F. Contracted Team Resources	Green	
H. Workplace Conditions	Green	H. Rescue Equipment	Green	SECTION C - PROCESS		
I. Training/Personnel Qualifications	Yellow	I. Outside Suppliers	Red	G. Communications	1	
J. Supervision	Yellow	SECTION C – PLANNING		H. Emergency Procedures	1	
K. Communication	Green	J. Planning	Red			
L. Personnel Performance	Red	MODEL 4: RESPONSIBLE PERSONS				1
SECTION B – ACTIVITY RISK		SECTION A – PEOPLE		SECTION C - PROCESS		
M. Equipment/Infrastructure	N/A	A. Competencies	Red	G. Communication	5	
N. Personnel	Green	B. Training	Green	H. Emergency Procedures	3	
O. Mining Conditions	Green	C. Knowledge	Green			
P. Mining Location	N/A	SECTION B – EQUIPMENT				
SECTION C – SAFETY CULTURE		D. Equipment	Yellow			
Q. Safety Culture	Yellow	E. Infrastructure	Green			
		F. Contracted Resources	Red			

COMMENTS FROM PARTICIPANTS

- It is definitely a **huge value** to our industry
 - **Made us think** about things that have been taken for granted
 - **Helped us develop a good action item list** of best practices to lead continuous improvement in risk mitigation and preparedness
 - Produced **new understanding and insights** about our preparedness to further reduce risk
 - We were able to **engage our team on substance with each other.**
 - I will **share this process with our sister mines** as well as our competitors locally
- 

COMPARATIVE RESULTS – RISK ASSESSMENT

Date	5/6/2014	4/1/2015	6/24/2014	3/10/2015	10/1/2014	2/24/2015	9/1/2015	4/5/2016	11/11/2015	10/6/2015
MINE SAFETY RISK ASSESSMENT	Mine 1a	Mine 1b	Mine 2	Mine 3	Mine 4	Mine 5	Mine 6a	Mine 6b	Mine 7	Mine 8
A. Design and Planning	Green	Yellow	Yellow	Green	Yellow	Green	Yellow	Yellow	Green	Yellow
B. Equipment Maintenance and Reliability	Green	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Green	Yellow	Green
C. Mine Infrastructure	Green	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green
D. Documentation and Records	Green	Yellow	Yellow	Green	Yellow	Green	Yellow	Yellow	Green	Yellow
E. Material/Parts/Equipment	Green	Yellow	Yellow	Green	Yellow	Green	Red	Yellow	Green	Green
F. Hazard/Defect Identification and Analysis	Green	Green	Yellow	Green	Yellow	Yellow	Yellow	Green	Yellow	Yellow
G. Procedures	Green	Yellow	Yellow	Green	Green	Yellow	Yellow	Green	Yellow	Yellow
H. Workplace Conditions/Human Factors	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green
I. Training/Personnel Qualification	Yellow	Green	Yellow	Green	Red	Yellow	Yellow	Green	Yellow	Yellow
J. Supervision	Green	Green	Yellow	Green	Yellow	Green	Yellow	Green	Green	Green
K. Verbal and Informal Written Communication	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Yellow
L. Personal Performance	Green	Yellow	Yellow	Green	Yellow	Green	Yellow	Yellow	Yellow	Yellow
M. Equipment/Infrastructure	Green	N/A	Green	Green	Yellow	Green	Green	Green	Green	Green
N. Personnel	Green	Green	Yellow	Green	Yellow	N/A	Yellow	N/A	Yellow	Yellow
O. Mining Conditions	Green	Green	Green	Green	Green	Yellow	N/A	Green	Green	Green
P. Mining Location	Green	Green	N/A	Green	Green	N/A	N/A	N/A	Yellow	N/A
Q. Safety Culture	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Green

COMPARATIVE RESULTS – EMERGENCY PREPAREDNESS

Date	5/6/2014	4/1/2015	6/24/2014	3/10/15	10/1/2014	2/24/2015	9/1/2015	4/5/2016	11/11/2015	10/6/2015
MINE EMERGENCY PREPAREDNESS	Mine 1a	Mine 1b	Mine 2	Mine 3	Mine 4	Mine 5	Mine 6a	Mine 6b	Mine 7	Mine 8
A. Local Coordination	Red	Red	Green	Yellow	Yellow	Red	Yellow	Green	Yellow	Yellow
B. Knowledge	Yellow	Yellow	Green	Yellow	Yellow	Red	Yellow	Green	Yellow	Yellow
C. Training and Exercises	Red	Yellow	Green	Yellow	Yellow	Red	Yellow	Green	Yellow	Yellow
D. Communications	Yellow	Green	Green	Green	Yellow	Green	Yellow	Green	Green	Green
E. Firefighting	Red	Yellow	Red	Green	Green	Yellow	Red	Green	Green	Yellow
F. Facilities	Yellow	Yellow	Green	Green	Yellow	Red	Yellow	Green	Green	Green
G. Mine Equipment	Yellow	Green	Green	Green	Yellow	Red	Yellow	Yellow	Yellow	Green
H. Rescue Equipment	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
I. Outside Suppliers	Red	Yellow	Green	Green	Yellow	Yellow	Red	Green	Green	Green
J. Planning	Red	Yellow	Green	Green	Green	Red	Green	Green	Green	Yellow

COMPARATIVE RESULTS – RESPONSIBLE PERSONS

Date	5/6/2014	4/1/2015	6/24/2014	3/109/15	10/1/2014	2/24/2015	9/1/2015	4/5/2016	11/11/2015	10/6/2015
RESPONSIBLE PERSON READINESS	Mine 1a	Mine 1b	Mine 2	Mine 3	Mine 4	Mine 5	Mine 6a	Mine 6b	Mine 7	Mine 8
A. Competencies	Yellow	Yellow	Yellow	Green	Yellow	Red	Yellow	Yellow	Yellow	Yellow
B. Training, Drills and Exercises	Yellow	Yellow	Yellow	Green	Green	Red	Yellow	Green	Yellow	Yellow
C. Knowledge and Information	Green	Green	Green	Green	Green	Yellow	Yellow	Green	Green	Yellow
D. Emergency Response Plans	Yellow	Green	Green	Green	Green	Yellow	Yellow	Green	Yellow	Green
E. Responsible Person(s) Equipment	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
F. Communications Procedures	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green
G. Emergency Procedures	Yellow	Green	Green	Yellow	Green	Yellow	Green	Green	Green	Green

ACTION PLANS

Category	Rating	Explanation	Action Plan	Lead Person
C.1. Housekeeping: Score the mine on its housekeeping programs and implementation and implementation. + Questions to Help Frame Your Thoughts: Does the mine have a minewide housekeeping schedule? Is the housekeeping schedule adequate to maintain proper working conditions in the entire mine? Is the location of combustible and flammable appropriate? Are travelways and escapeways designed and maintained appropriately?	3	Can always improve on housekeeping. Got away from section and panel audits - need to revive them. When they move the LW the clutter gets pretty intense.	Revive section and panel audits quarterly	Smith, John

REASSESSMENT 6 MONTHS LATER

- Reassessment of one mine six months later:
- Base Risk

MINE SAFETY RISK ASSESSMENT	Mine 6a	Mine 6b
A. Design and Planning	Yellow	Yellow
B. Equipment Maintenance and Reliability	Red	Green
C. Mine Infrastructure	Green	Green
D. Documentation and Records	Yellow	Yellow
E. Material/Parts/Equipment	Yellow	Yellow
F. Hazard/Defect Identification and Analysis	Yellow	Green
G. Procedures	Yellow	Green
H. Workplace Conditions/Human Factors	Green	Green
I. Training/Personnel Qualification	Yellow	Green
J. Supervision	Yellow	Green
K. Verbal and Informal Written Communication	Green	Green
L. Personal Performance	Red	Yellow
M. Equipment/Infrastructure	N/A	Green
N. Personnel	Green	N/A
O. Mining Conditions	Green	Green
P. Mining Location	N/A	N/A
Q. Safety Culture	Yellow	Green

REASSESSMENT 6 MONTHS LATER

- Reassessment of one mine six months later:
- Emergency Preparedness

Date	5/6/2014	4/1/2015
MINE EMERGENCY PREPAREDNESS	Mine 1a	Mine 1b
A. Local Coordination	Red	Red
B. Knowledge	Yellow	Yellow
C. Training and Exercises	Red	Yellow
D. Communications	Yellow	Green
E. Firefighting	Red	Yellow
F. Facilities	Yellow	Yellow
G. Mine Equipment	Yellow	Green
H. Rescue Equipment	Green	Green
I. Outside Suppliers	Red	Yellow
J. Planning	Red	Yellow

GROUP DYNAMICS– A DIFFERENT ENVIRONMENT

- In an inspection environment.....
- *Everyone hopes that the inspector doesn't find problems*
- In an assessment environment.....
- *Everyone is looking for unaddressed problems to highlight and correct*




FACILITATED GROUP DYNAMICS


- Facilitators aid the group dynamics process by:
 - Keeping the discussion moving
 - Interjecting points/ideas the team has not considered
 - Assuring that the scoring is fair and justified
- Facilitators keep track of scoring and record significant comments made by team members.
- Facilitators encourage the team to develop action plan items and assign responsibility for the item.



SELECTED BEST PRACTICES

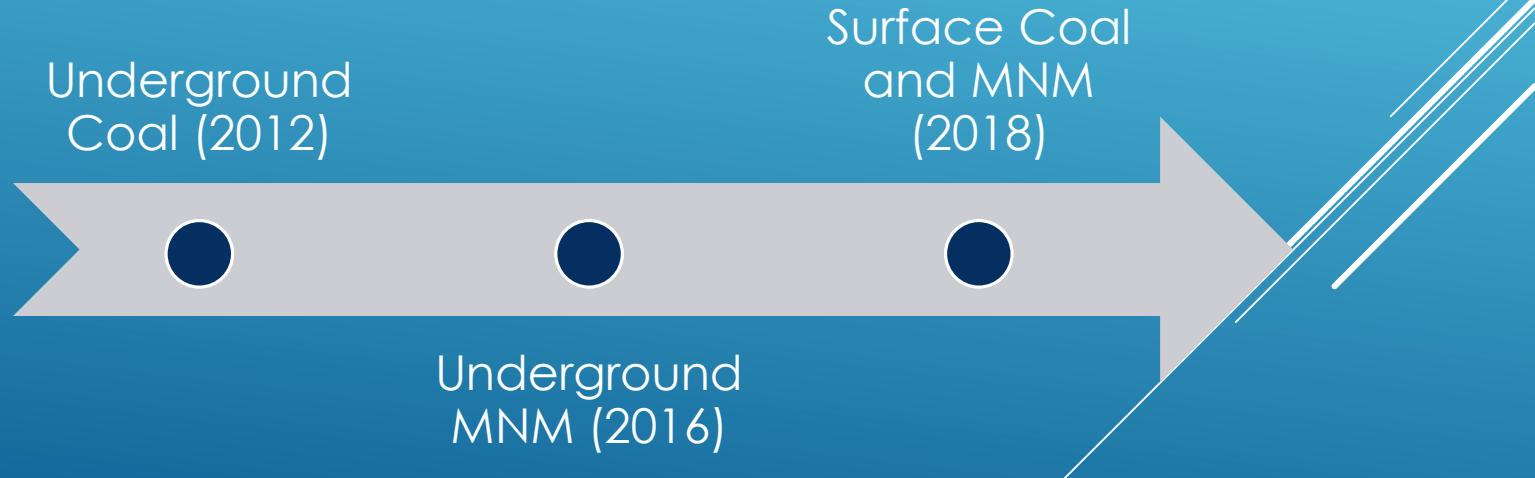
- Implementation process for innovative changes is informal – approved and completed quickly
 - Workforce completes risk assessment cards every day – WRACs – Workplace Risk Assessment and Control evaluations - target low probability/high consequence events
 - Monitoring systems over and above requirements – lower alarm levels than required
 - Installing proximity detection on all CMs, scoops and trammers
 - Level of team training and equipment readiness exceeds industry standards
 - Acquiring latest wireless communication and tracking system for emergencies
 - Strong succession planning for company employees
- 

ASSESSMENTS CONDUCTED


- ▶ Total 16
 - Underground Coal – 11 assessments
 - Underground MNM – 4 assessments
 - ▶ Salt
 - ▶ Limestone
 - ▶ Trona
 - ▶ Nickel / Copper
 - Surface Coal – 1 assessment completed
 - 1 assessment scheduled June, 2019
- 
- A decorative graphic consisting of several parallel white lines of varying lengths and orientations, located in the bottom right corner of the slide.

NEW DEVELOPMENTS

- Converted the original underground coal models to:
 - ✓ Underground Metal Nonmetal – 2016
 - ✓ Surface Coal and MNM - 2018



FUTURE PLANS

- Scientific Study - positive results/action plans
 - Determine why action plans are effective/ineffective
 - Development of Train the Trainer Course
 - Governance
 - Data Analysis
 - Benchmarking
 - Scheduling Assessments
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

THANK YOU!

I've reviewed the recent Risk Assessment and Readiness evaluation and shared it with our US Executive team. I want to thank you and your team for the effort and dedication in bringing this tool all the way from concept to product, and emphasize the value to us as a corporation.

*First, for the people who are intimately involved with planning and operation on the most fundamental level, **it is critical to have a broad, thorough and objective measuring stick to assess risk readiness, identify gaps and develop action plans to either maintain or improve performance.** Second, those who are not deeply entrenched in daily operations need to be able to rely on an appraisal such as this to help set short-term and long-term strategic operations goals. Finally, for those of us in a position of responsibility in a complex organization, this type of tool provides an objective audit to assure senior executives, board members and owners that systems are in place to evaluate risk and readiness.*

Trent Peterson, Vice President
GCC Energy, LLC

2017

TO SCHEDULE AN ASSESSMENT:

William C. York-Feirn, CMSP

Colorado Division of
Reclamation, Mining and Safety
1313 Sherman St., Rm 215
Denver, CO 80203
United States
(303) 866-3567, x 8151
bill.york-feirn@state.co.us

David C. Stalfort, PMP

ABS Group
1525 Wilson Blvd, Suite 625
Arlington, VA 22209
United States
(703) 351-3727
dstalfort@abs-group.com

Jeff Kravitz, PhD, PE

JHK & Associates Consulting
412-596-6849
jeffkrav@msn.com