MSHA Mine Emergency Operations

by

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MSHA Mine Emergency Operations

Current Coal Mine Emergency Unit information

- **Fully Equipped Mine Rescue Stations for Coal are Maintained in Pittsburgh, Beckley, and Price**

- **The Coal Unit is Comprised of About 30 Members who Practice Four Days each Quarter.**

Current Metal and Non-Metal Mine Rescue Team Information

- **Mine Rescue Station is located in Beckley**

MSHA Mine Emergency Operations

Mine Rescue Team Trucks Located in Beckley and Price

Trucks Contain Support Equipment for the Mine Emergency Unit

MSHA Mine Emergency Operations

Pittsburgh Station – National Headquarters

New Command Vehicle – State of the Art Communications

Under Construction

MSHA Mine Emergency Operations

Pittsburgh Station – National Headquarters

Mobile Monitoring Vehicle

Infra-red Detectors

MSHA Mine Emergency Operations

Pittsburgh Station – National Headquarters

Mobile Laboratory

Chromatographs

MSHA Mine Emergency Operations

Pittsburgh Station – National Headquarters

Seismic Location System

Upgrades Underway

MSHA Mine Emergency Operations

Pittsburgh Station – National Headquarters

Borehole Camera System

MSHA Mine Emergency Operations

Pittsburgh Station – National Headquarters

Modified (Permissible) Remotec Andros Wolverine Robot

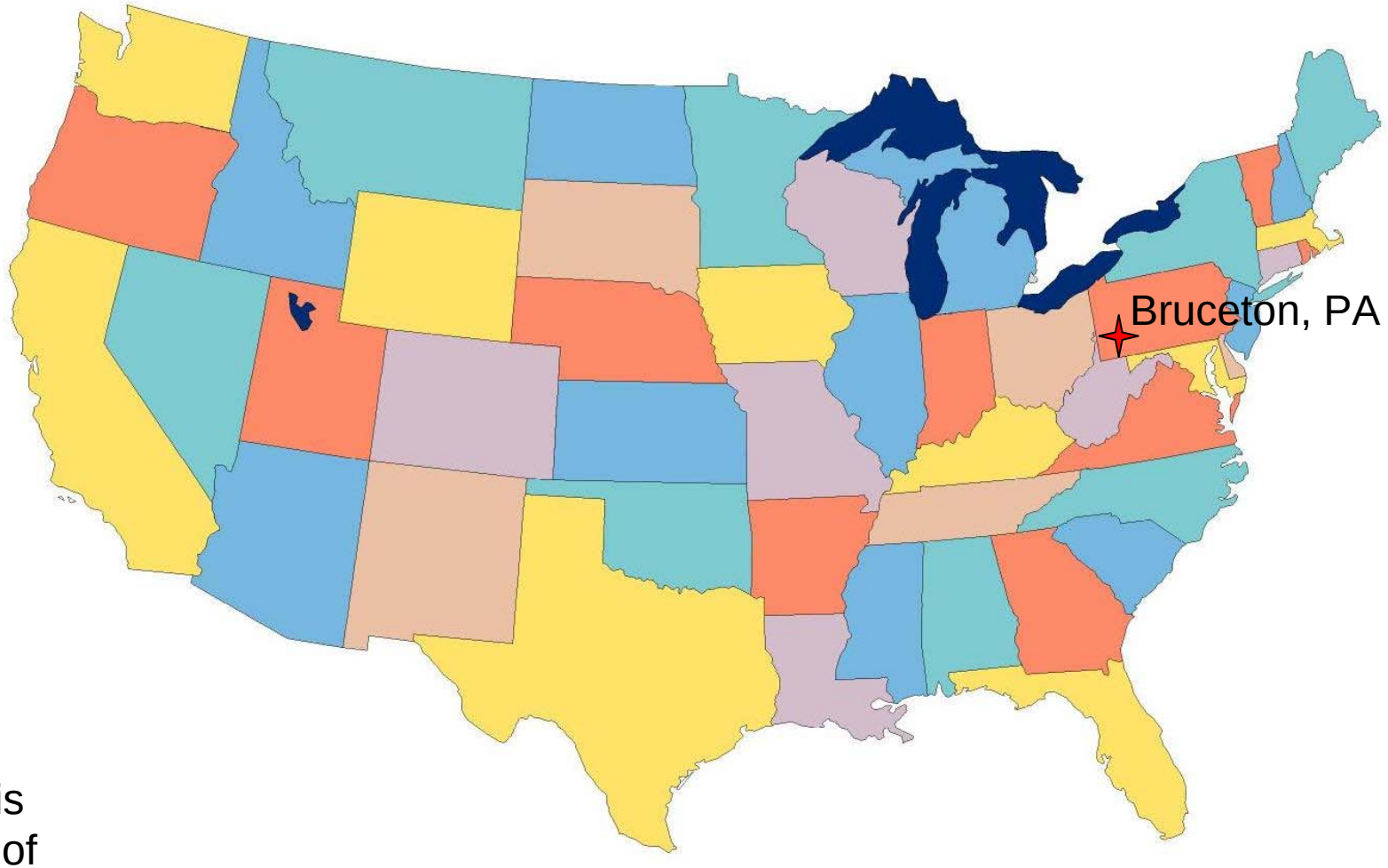
MSHA Mine Emergency Operations

Pittsburgh Station – National Headquarters

Rapid Response Vehicle

Satellite Phone, Mobile Phone, Computer Station, GPS, CD, Secure Radio

MEU Mobilization From Bruceton, PA



MSHA is Notified of Incident

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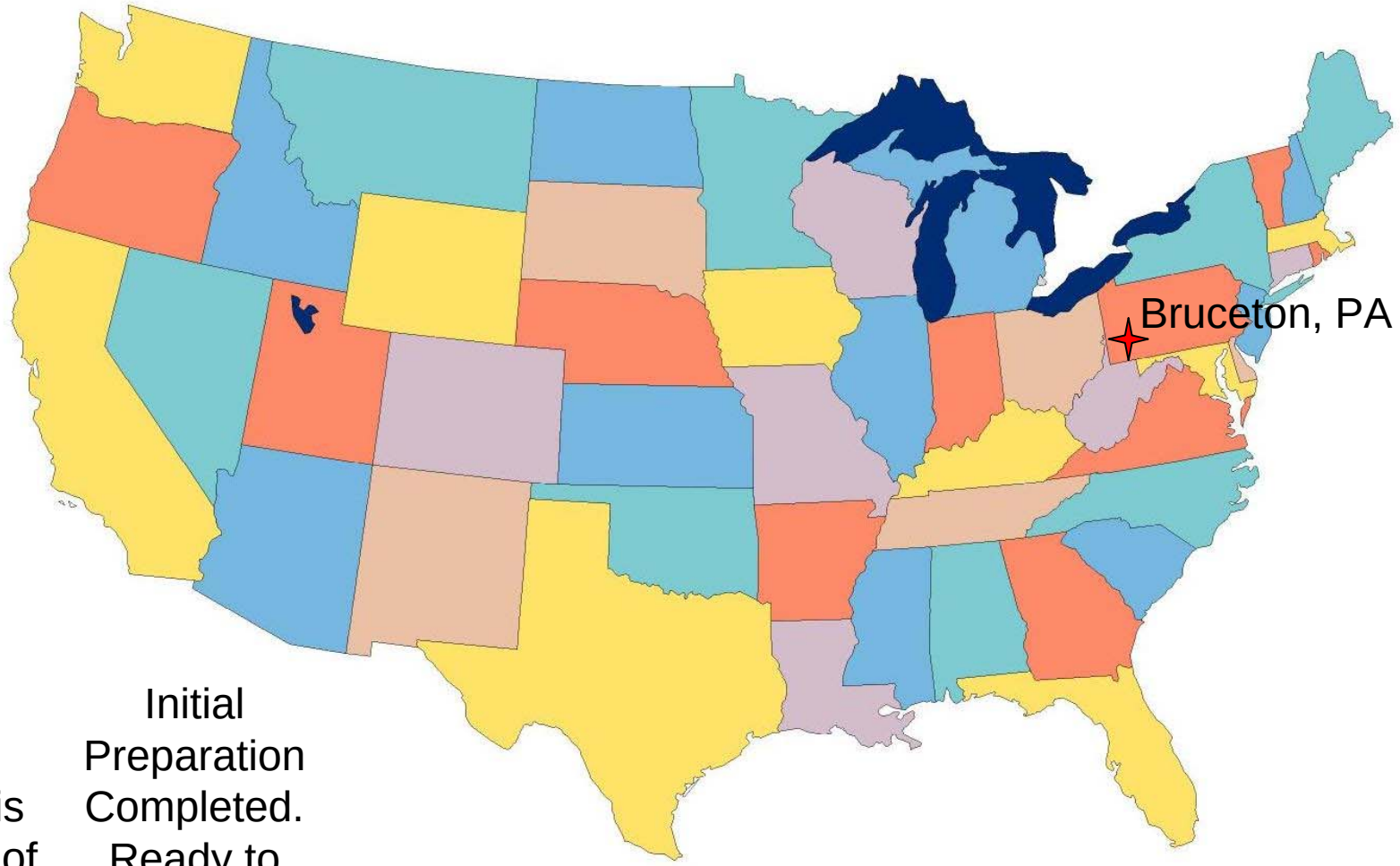
Timeline in Hours

MEU Mobilization From Bruceton, PA



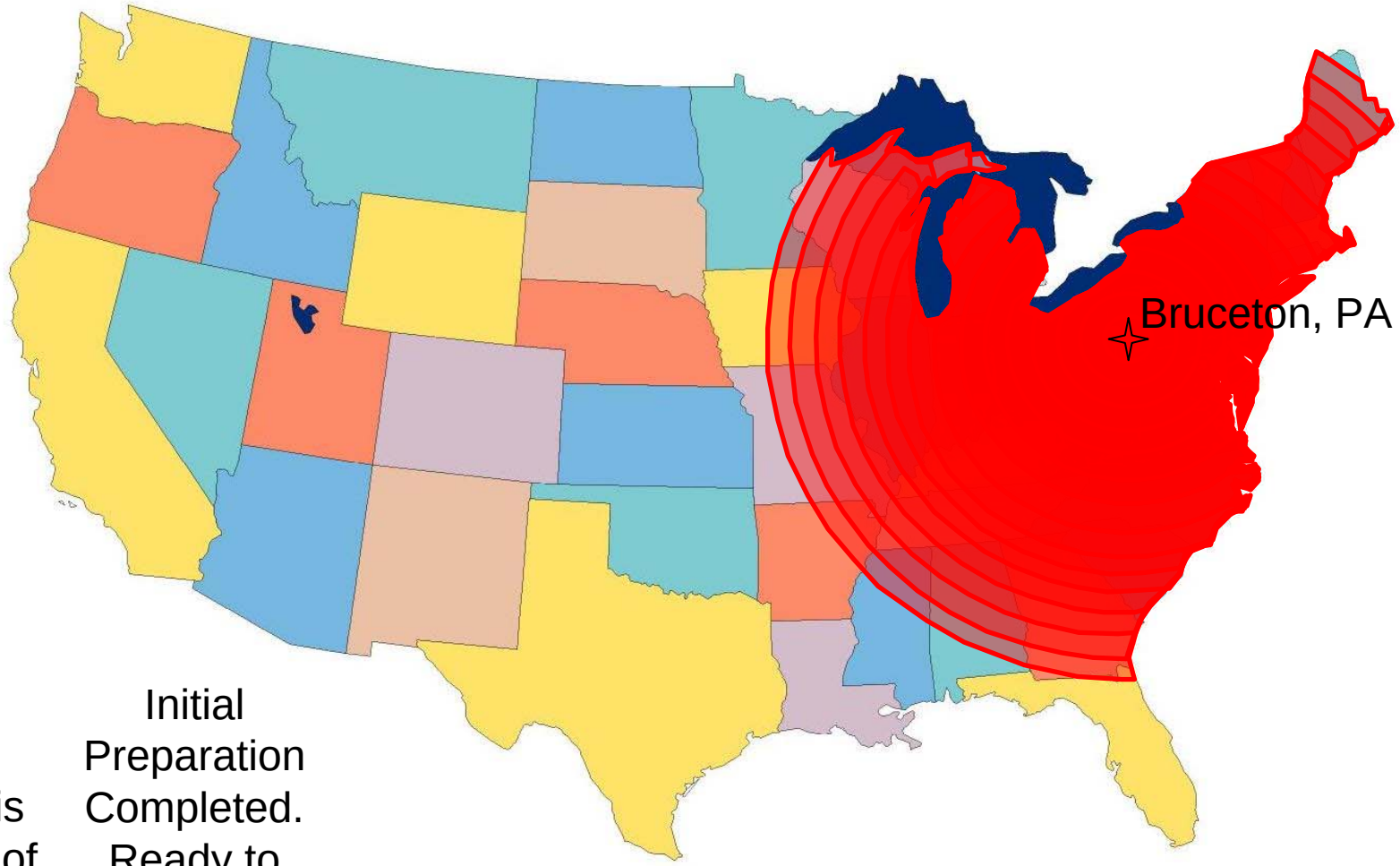
MSHA is Notified of Incident

Initial Preparation Completed. Ready to Deploy

0 1 2 3

Timeline in Hours

MEU Mobilization From Bruceton, PA



MSHA is Notified of Incident

Initial Preparation Completed. Ready to Deploy

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Timeline in Hours

MSHA Mine Emergency Operations

Beckley Station

Command Vehicle

MSHA Mine Emergency Operations

Beckley Station

PEIR Communication Vehicle

Truck Under Construction

MSHA Mine Emergency Operations

Beckley Station

Urban Search and Rescue / Field Office Trailer

MSHA Mine Emergency Operations

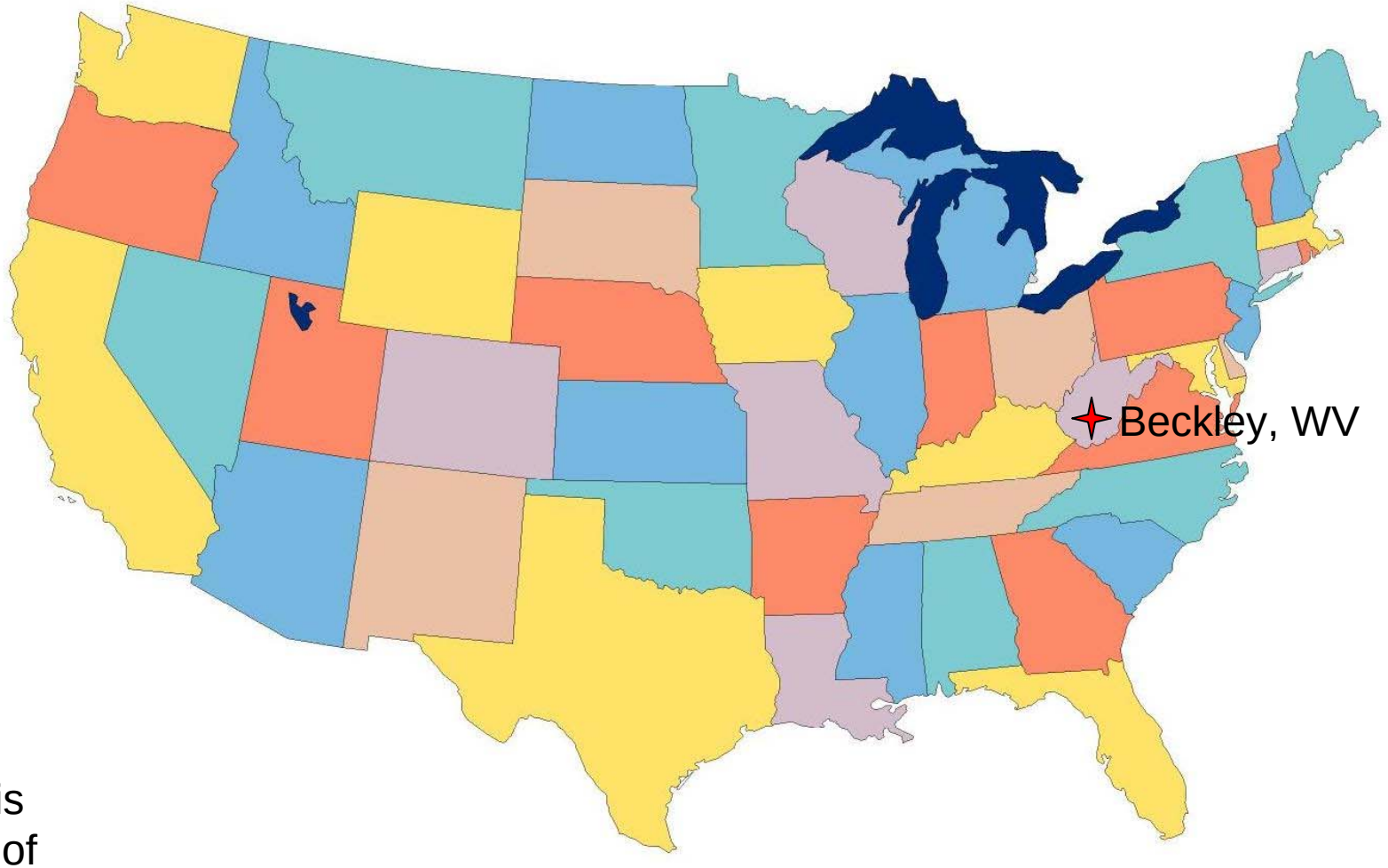
Beckley Station

Under Construction

Rapid Response Vehicle

Satellite Phone, Mobile Phone, Computer Station, GPS, CD, Secure Radio

MEU Team Mobilization From Beckley, WV



MSHA is Notified of Incident

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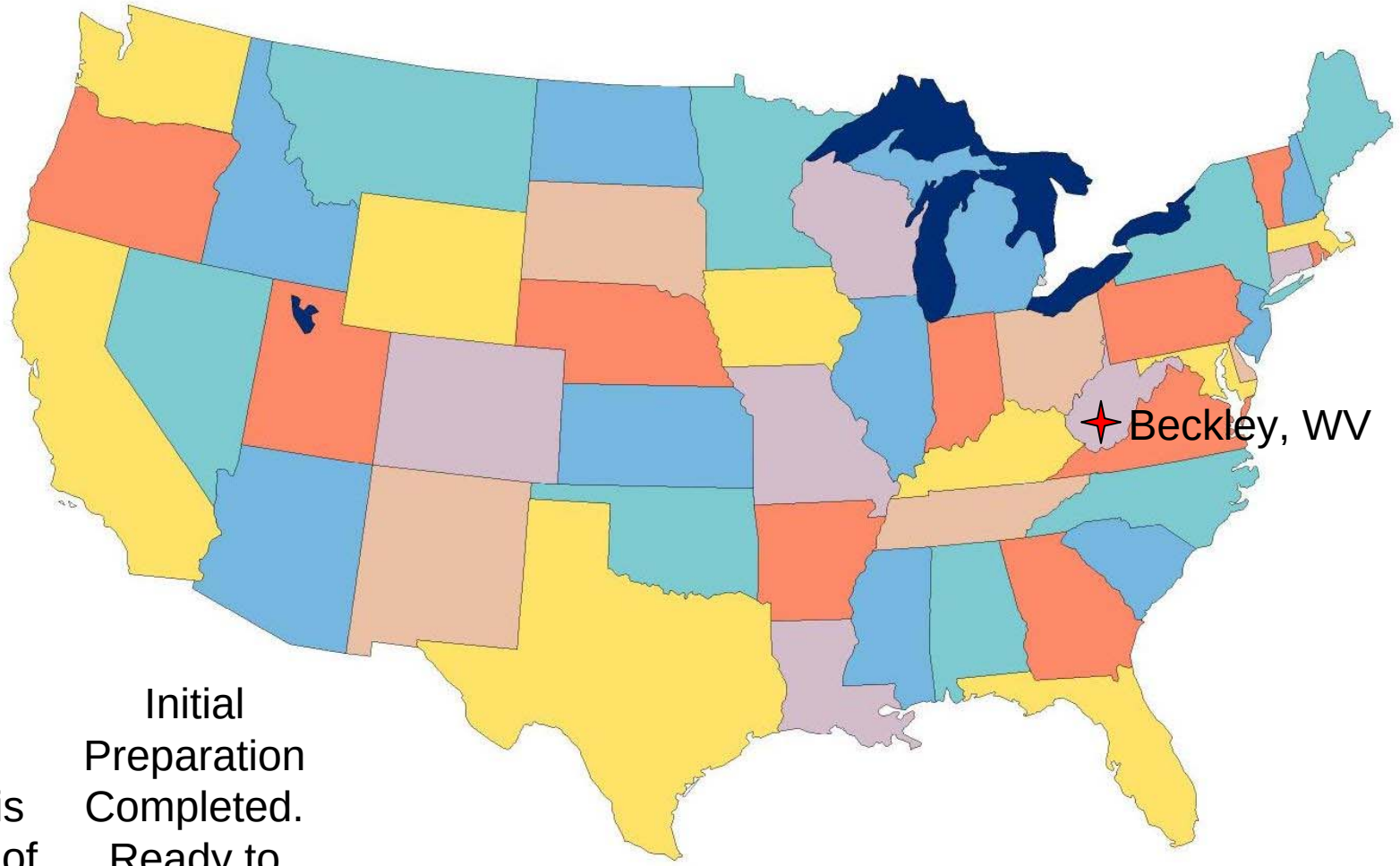
Timeline in Hours

MEU Team Mobilization From Beckley, WV



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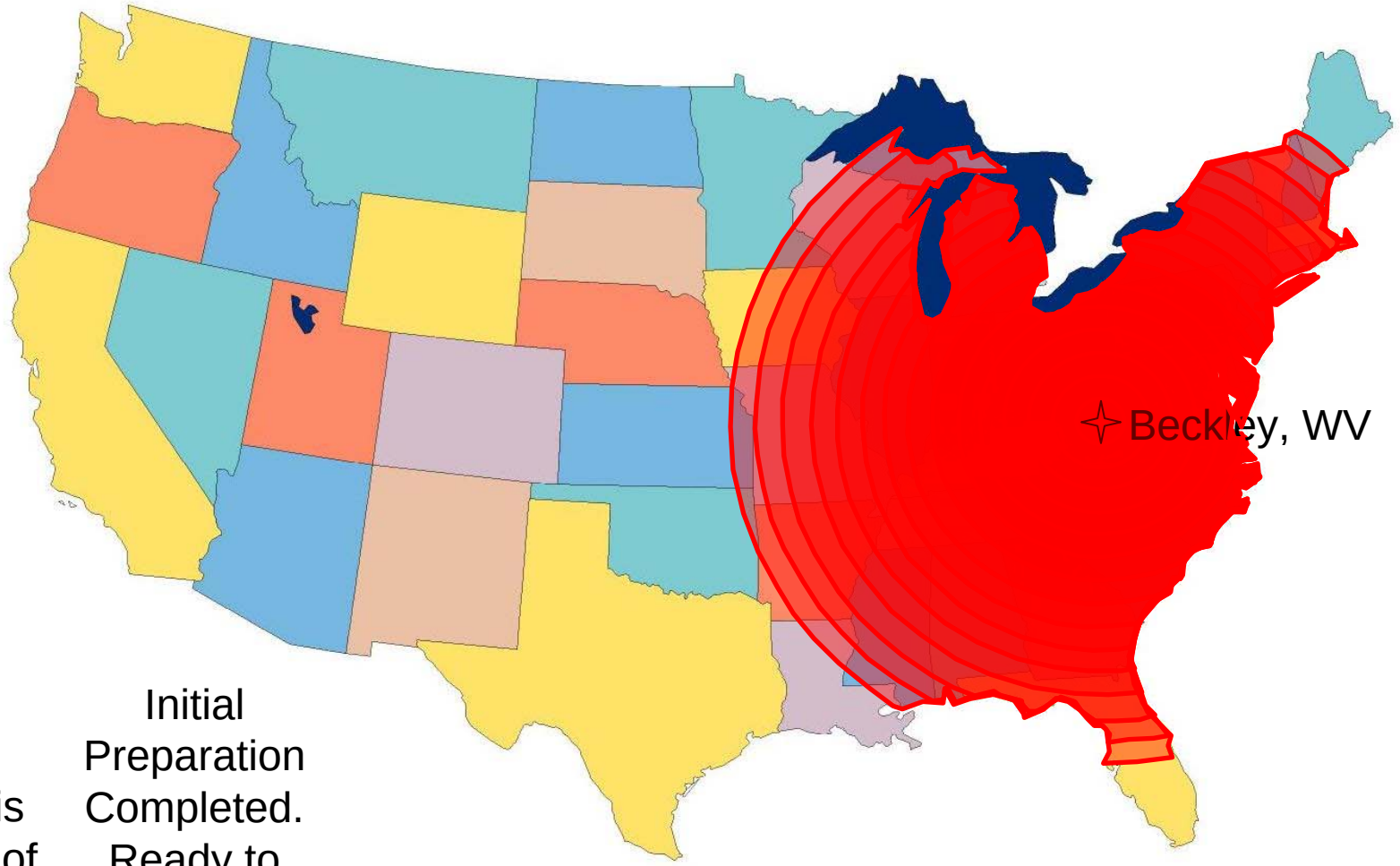
Timeline in Hours

MEU Team Mobilization From Beckley, WV



MSHA is Notified of Incident

Initial Preparation Completed. Ready to Deploy

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Timeline in Hours

MSHA Mine Emergency Operations

Price Station / Denver Office

Command Center

MSHA Mine Emergency Operations

Price Station / Denver Office

Mobile Monitoring Vehicle

Under Construction

Infra-red Detectors

MSHA Mine Emergency Operations

Price Station / Denver Office

PEIR Communication Vehicle

Trailer Under Construction

MSHA Mine Emergency Operations

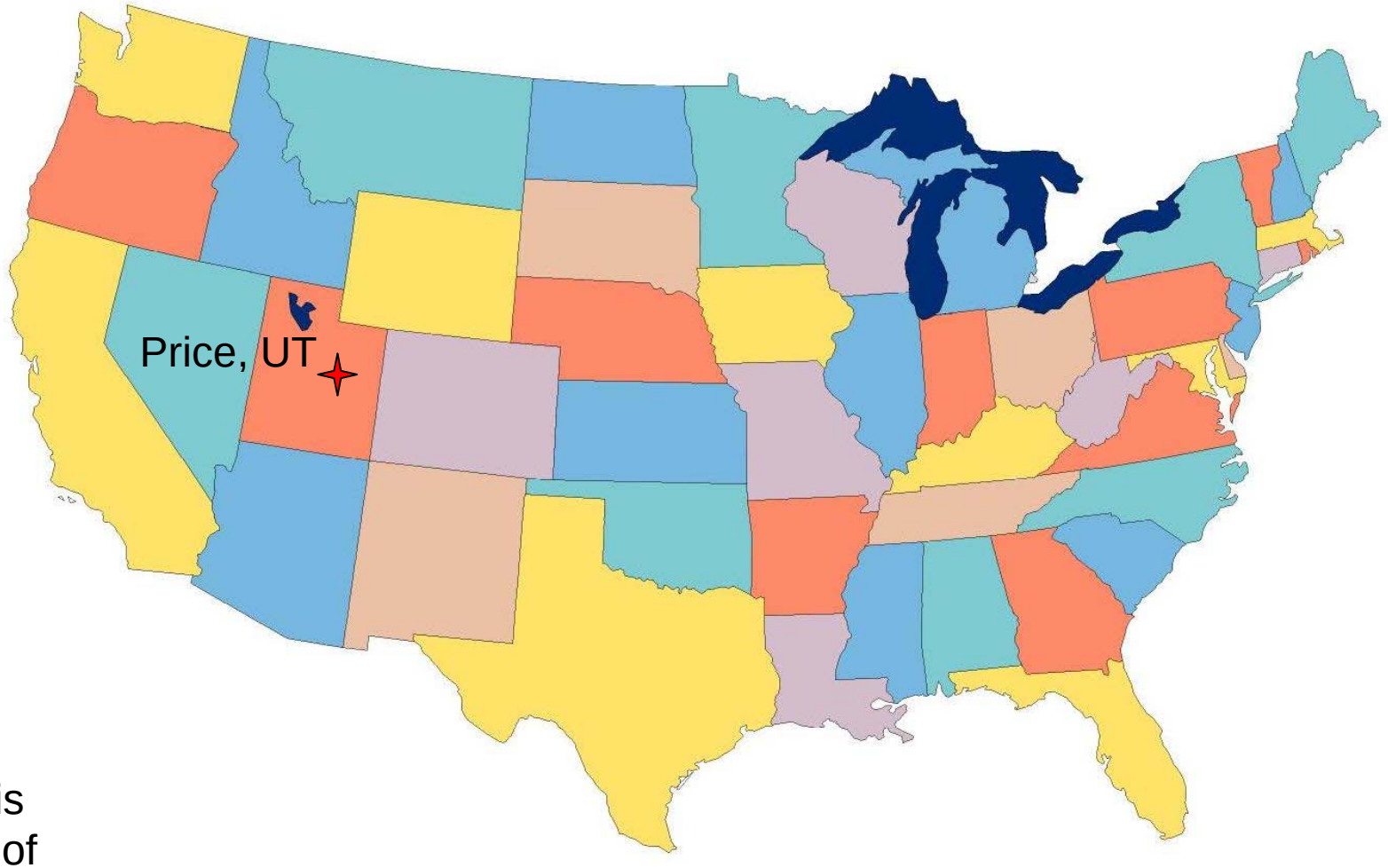
Price Station / Denver Office

Under Construction

Rapid Response Vehicle

Satellite Phone, Mobile Phone, Computer Station, GPS, CD, Secure Radio

MEU Team Mobilization From Price, UT



MSHA is Notified of Incident

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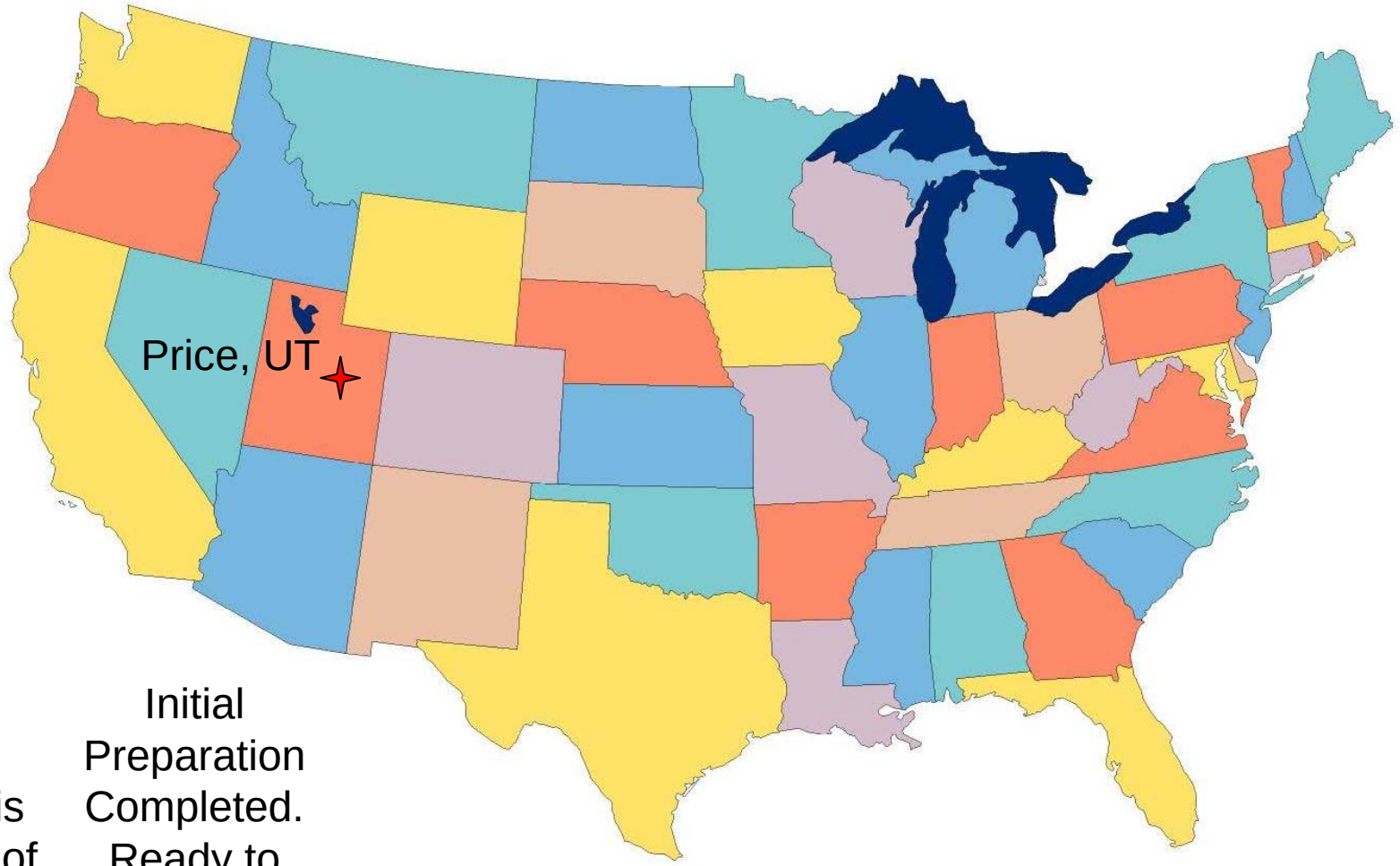
Timeline in Hours

MEU Team Mobilization From Price, UT



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Initial Preparation Completed. Ready to Deploy

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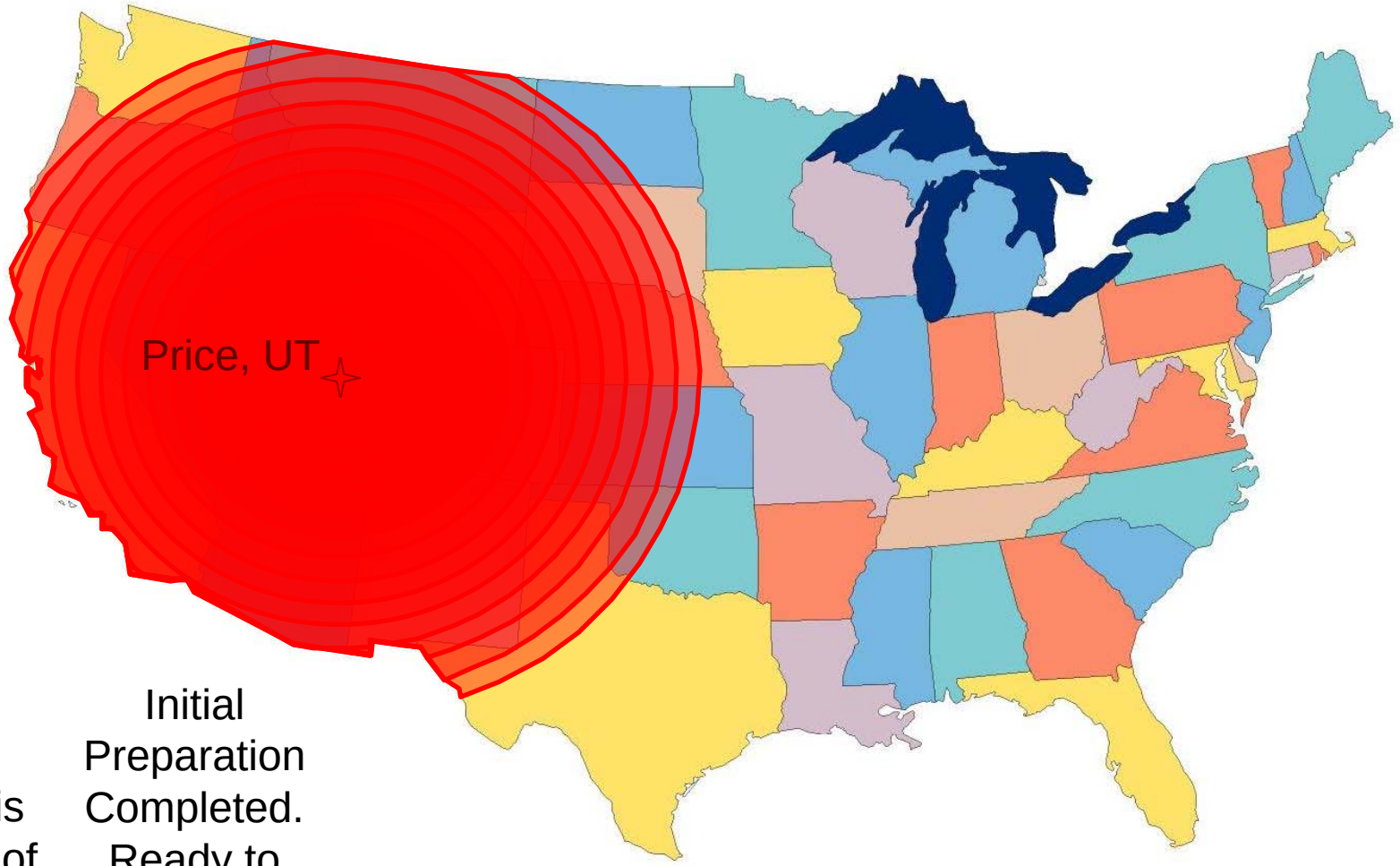
Timeline in Hours

MEU Team Mobilization From Price, UT



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Initial Preparation Completed. Ready to Deploy

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Timeline in Hours

MSHA Mine Emergency Operations

WHAT ELSE?

1. ***Specialized Equipment***
2. ***Training***
3. ***Experience***

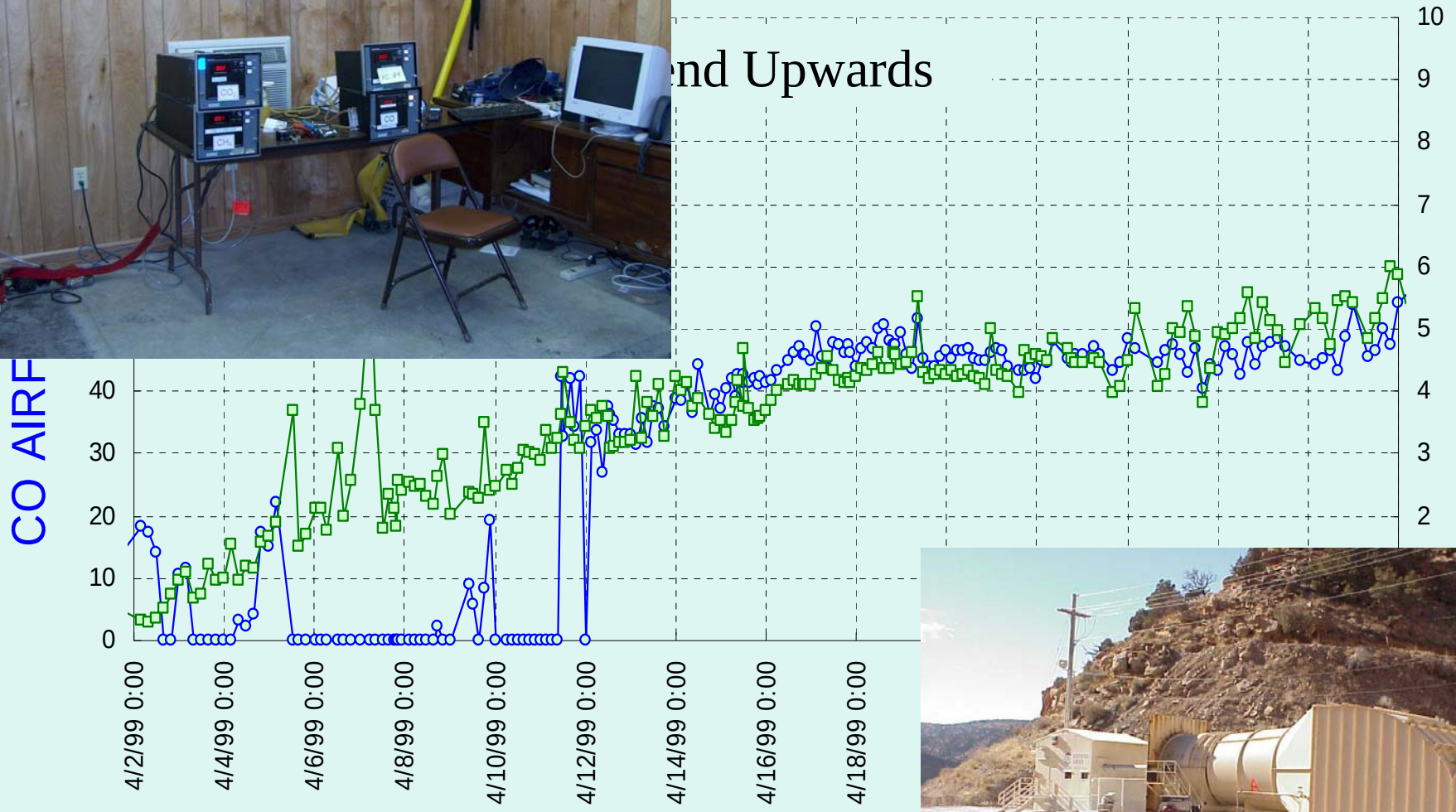
What is MSHA looking for?

- Information from underground
- Gas readings

By the Numbers

free and Oxygen

nd Upwards



Gas Readings

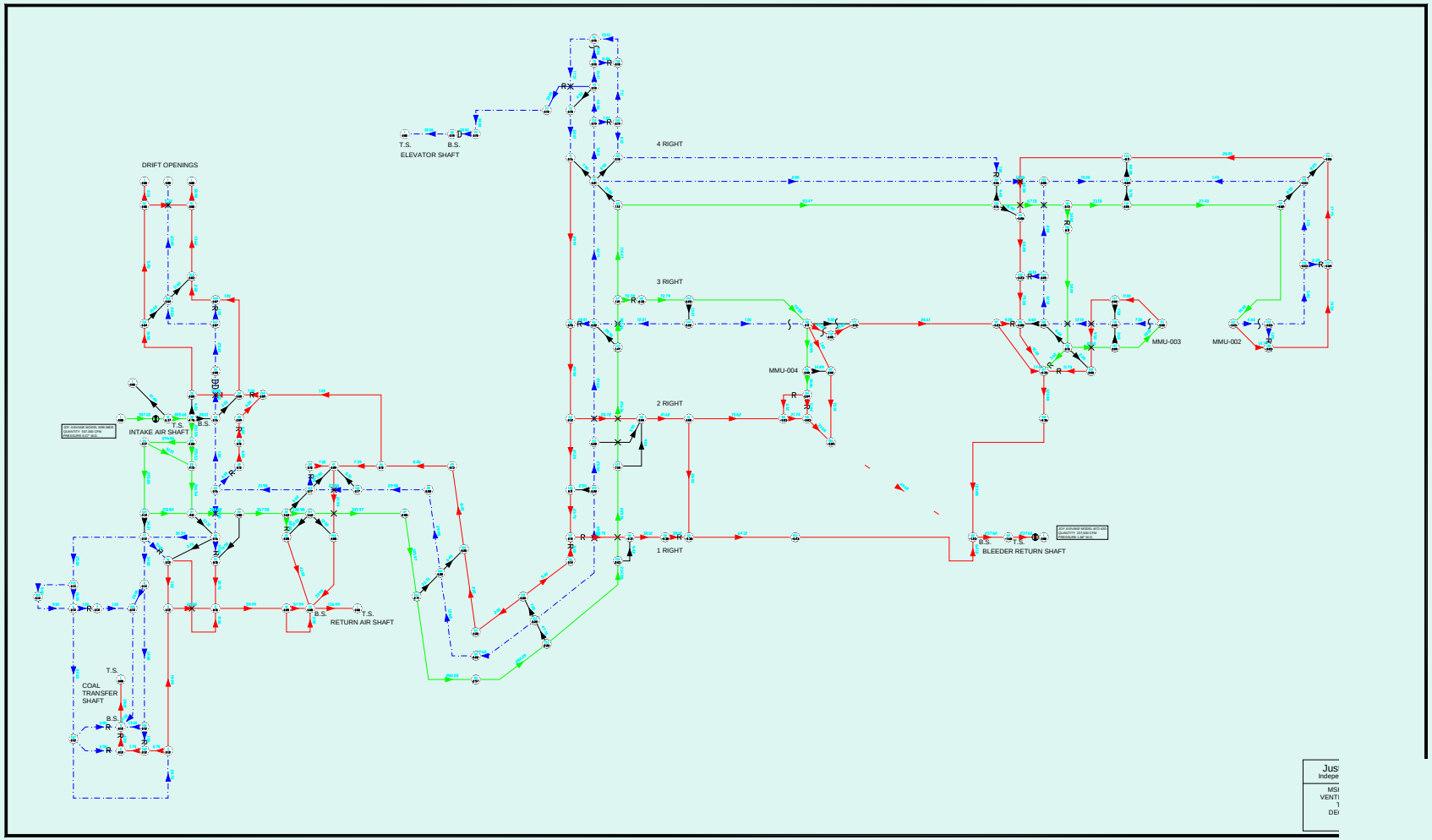
- In General;
  - An upward trend in methane or carbon monoxide is not positive.
  - Higher than normal concentrations of methane must be explained.
  - A stable trend may be positive
  - A downward trend may be positive

Thoughts

- If all personnel are safely withdrawn from the mine:
  - Wait 72 hours
- If the mine or a portion of the mine is sealed:
  - Wait 100 days

DO NOT CHANGE VENTILATION

WITHOUT KNOWING THE FULL SITUATION AND BEING ABLE TO TAKE ONE STEP BACK



Know your Options

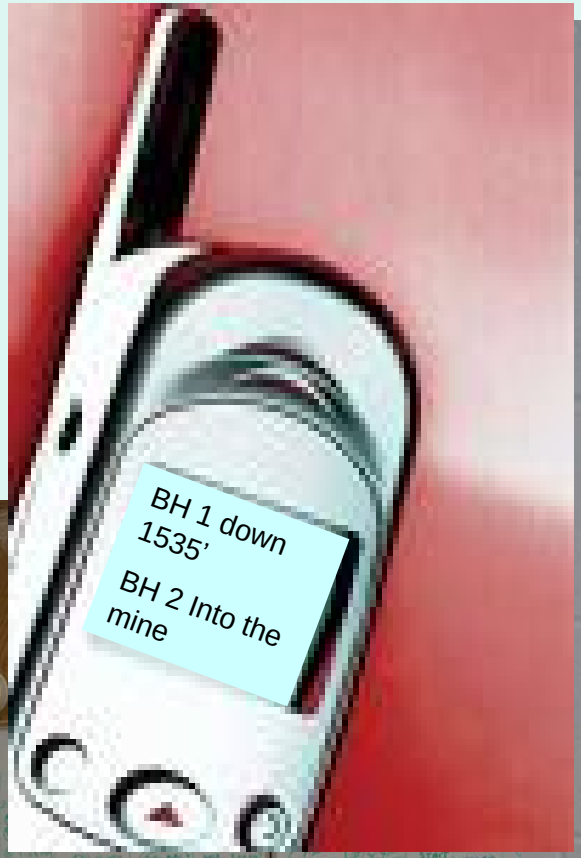
Look at the Numbers.

If it is too dangerous for Mine Rescue Teams, explore other options.

U.S. Department of Labor
MSHA
Mine Safety and Health Administration
Start Drilling!!!
96 Hours

Establishing a Command Center

Distribute the information



WHO IS IN YOUR COMMAND CENTER?

Family Members are Brought in to Observe Drilling Operations

Media

From the local newspaper…

World

Car bomb kills at least 47 people in Iraq

— Page A2

The Messenger

THURSDAY

Finance

Comcast makes bid to buy Disney

— Page A5

50 Cents Madisonville, Ky. • February 12, 2004 • www.the-messenger.com Established 1917

Mine fire forces crews to evacuate

No one injured in Dotiki blaze, which defies efforts to extinguish

BY AMANDA RICHARDSON
Messenger Staff Writer
amrichardson@the-messenger.com

NEBO — A cloud of gray smoke filled an otherwise bright blue sky over miles of farmland and Dotiki Mine in northwest Hopkins County.

A fire that started at about 4:30 a.m. at the Dotiki mine site on Balls Hill Road was still burning into the evening hours Wednesday, causing mine rescue workers to be evacuated.

Coal miner Dwight Browning reported to Dotiki for his shift at 4 a.m. and was underground when he heard about the fire.

"You just have to concentrate on safety first and getting everyone out of the mine," he said. "You make sure you leave nobody behind."

Browning said the team of between 75 and 100 workers has to ensure its equipment does not pose additional safety

"We had no problem getting out," Browning said. "I wouldn't call it a close call. Anytime you're in the underground mines, you just thank God you made the surface."

Rescue crews from across the region worked throughout the day to bring the blaze under control. A press release from the Environmental and Public Protection Cabinet indicated that high temperatures, smoke and potentially dangerous levels of methane made fighting the fire unsafe for crews, and the workers were evacuated.

"The fire was a result of an apparent mobile equipment malfunction and is confined to a small area of the mine," Alliance Coal said in a statement at approximately 10:30 a.m.

A source who wished to remain anonymous said that the "mobile equipment" was a Jeep-like vehicle that is used to move around in the mine.

Though no one was injured

Dotiki Mine facts:

- Underground mine acquired by Alliance Coal in 1971.
- Mine produces high-sulfur coal at rate of 1,000 tons per hour.
- Workers use continuous mining units to pull raw coal from the No. 9 coal seam.
- The new mine shaft near Wednesday's fire opened in 2003.

This topple is part of Webster County Coal's sprawling Dotiki Mine operation.

Hopkins County Sheriff's Deputy Richard Hicks watches the smoke rising from the Dotiki Mine entrance, Wednesday. He was guarding the entrance road to the mine located near Nebo. The fire was still burning Wednesday night. (Messenger Photo/Lowell Mendyk)

White County Coal's Pattiki mine.

As the fire gained strength, its rescue

Rescue, South Hopkins Rescue, Fort Campbell, Nebo, Aaron

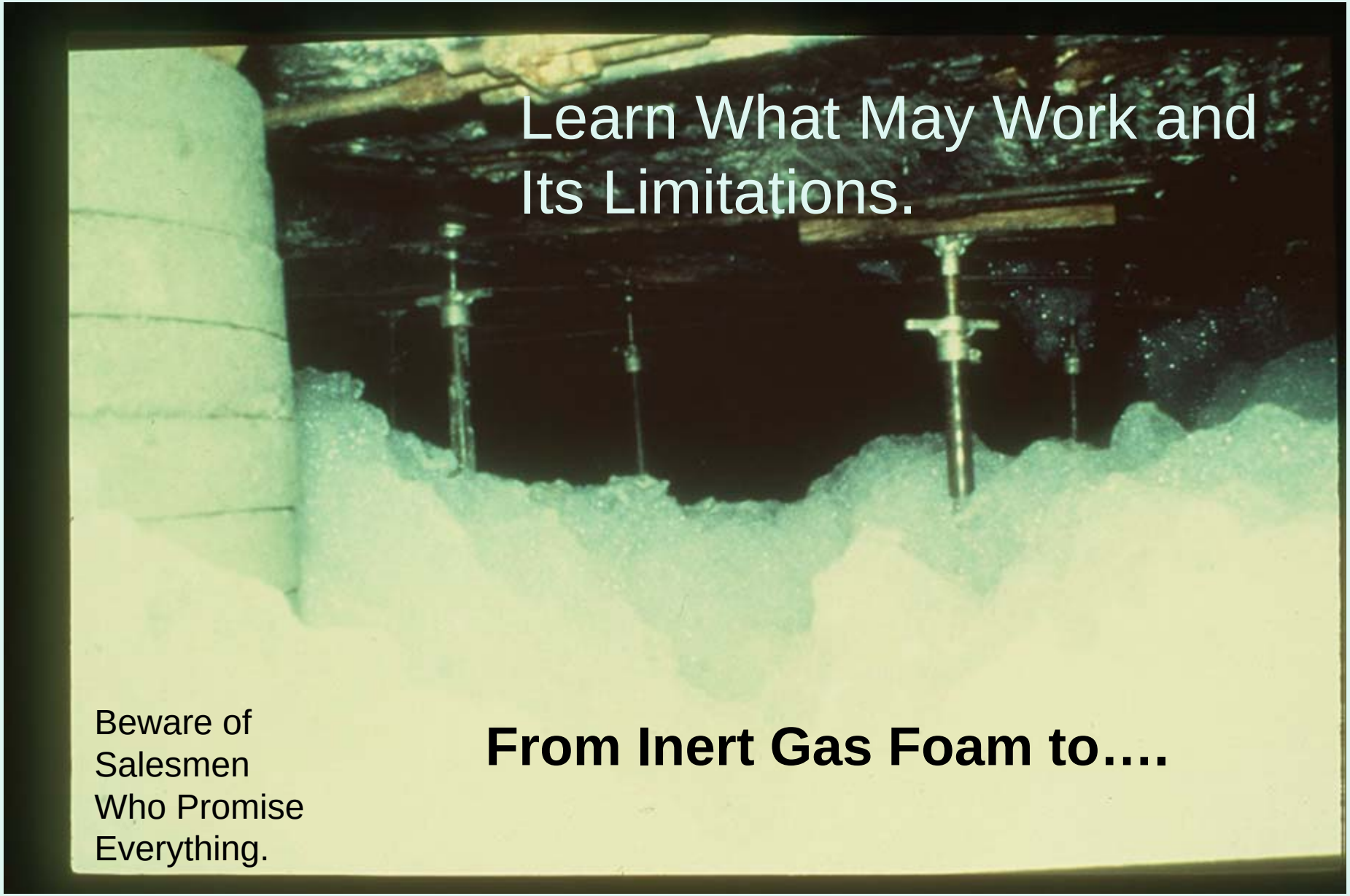
Cabinet (formerly the Department of Mines and Minerals) said the mine is

Media

To National News…

Plan for the Worst!!!

U.S. Department of Labor
MSHA
Mine Safety and Health Administration
Keep
Looking at
Options!!!


Learn What May Work and
Its Limitations.
Beware of
Salesmen
Who Promise
Everything.
From Inert Gas Foam to….

U.S. Department of Labor
MSHA
Mine Safety and Health Administration

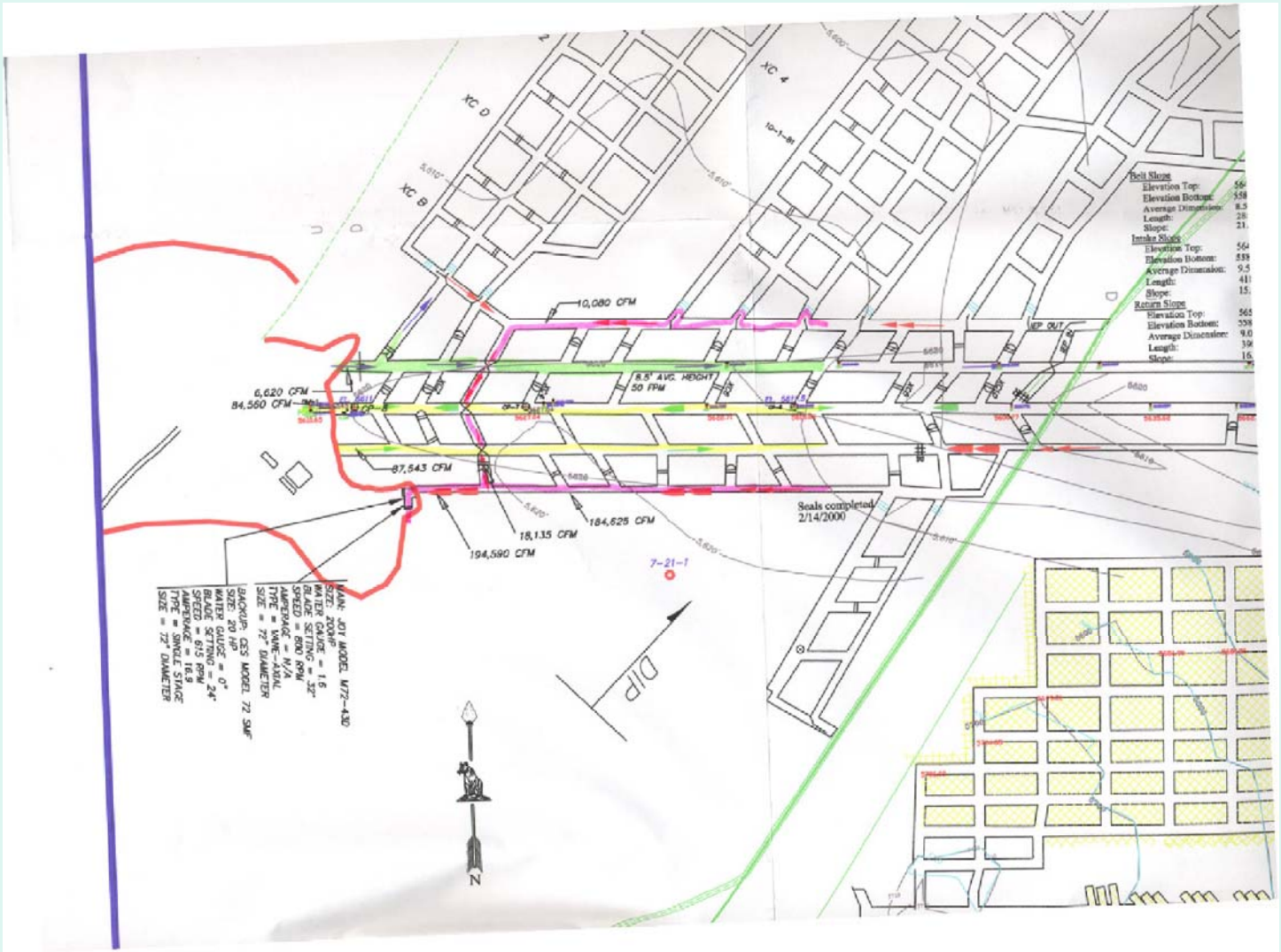
Nitrogen Injection….

Remote seals…

Inert Gas Jet Engines…

Identifying Necessary Resources

Mine maps help to guide the rescue efforts.



Identifying Necessary Resources

Dependent upon the type of emergency…

Water Inundation

Pumps, survey equipment

Identifying Necessary Resources

Some areas are so remote that it is necessary to fly in supplies.

Identifying Necessary Resources

Dependent upon the type of emergency…

Emergencies typically require coordination of medical help as well as police for access control.

Identifying Necessary Resources

Dependent upon the type of emergency…

Once all of the rescue personnel arrive, there is a big communication and IT demand.

Food and Sanitary facilities are always needed!

Gas Sampling

Instantaneous Monitoring Equipment

Gas Sampling

Gas chromatograph setup at a mine fire

Cameras and Robotics

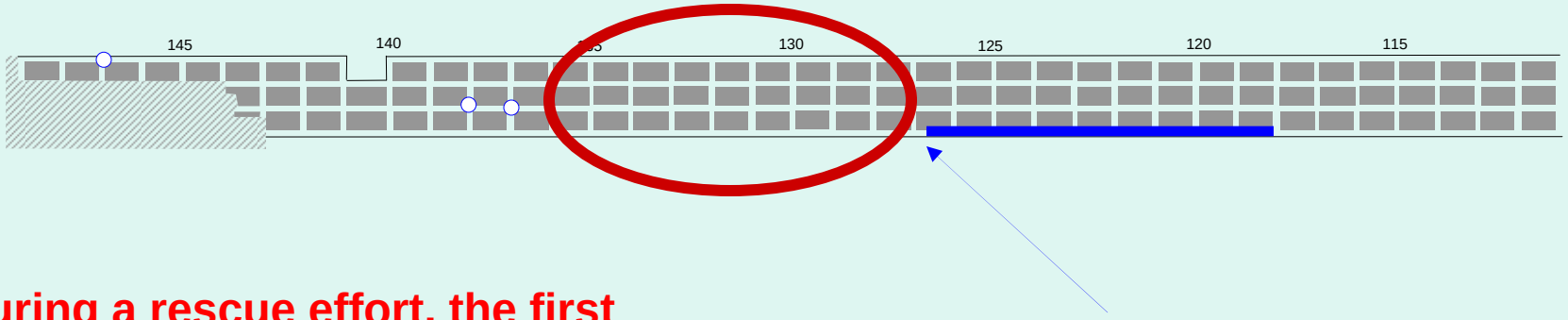
Cameras have been used in mine emergency responses for a number of years.

Cameras and Robotics

Boreholes have allowed access with these devices to areas to verify the integrity of ventilation controls, observe ground conditions and smoke within open entries, and search for missing miners.

Remote Plugs were Installed
Using this Equipment.

Based on information from Boreholes 1, 2, and 3 and underground observations, it was expected that conditions underground would be more severe in the high cover, +2000 ft, indicated in red, but that conditions would improve inby.



During a rescue effort, the first responsibility is the safety of the rescuers. Even when you cover all of the bases, the unexpected can occur…..

Training