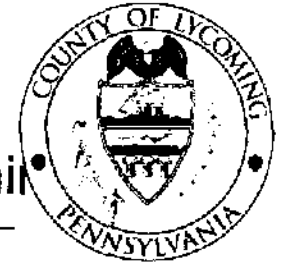




County of Lycoming

Community Gas Exploration Task Force
Public Safety Sub-committee

County of Lycoming



Lycoming Counties Response to the Natural Gas Industry

Hearing before
Senate Veterans Affairs and Emergency Preparedness Committee
June 29, 2010



Craig Konkle, Chairman
Lycoming County Community Gas Exploration
Task Force Safety Sub-Committee

- **PIOGA/MSC Safety Committee**
- **Crisis Management Sub-Committee**



Safety Sub-Committee

(August 2008)

- **Hazardous Materials Planner**
- **DEP Emergency Response**
- **Pennsylvania State Police**
- **Local Health Care System**
- **Volunteer Fire Chief**
- **Former County Commissioner**
- **911 Manager**
- **Deputy Fire Chief**
- **County Coroner / EMS**



Mission Statement

“Contribute to the improvement of life by fostering a safe and secure arena for the exploration and production of the area’s natural gas resource. This is accomplished by maintaining a leadership role that promotes programs, methods, and approaches to educate both emergency responders and the general public of the County of Lycoming.”



Goals & Objectives

“Snapshot”

Short Term:

1. Identify companies operating in the county and establish relationships.
2. Amend county 911 addressing ordinance to reflect gas wells, compressor stations and impoundments.
3. Provide awareness training to emergency responders and regional rescue resources.

Mid Range:

1. Identify specialized emergency response training, support documentation and equipment needed to sustain response to such incidents. i.e., “Gap Analysis”

Long Range:

1. Develop Safety & Training Consortium consisting of responders and industry.



Short Term

1. Identify exploration & production companies operating in the County and establish relationships





eFACTS
Environment,
Facility, Application
Compliance Tracking
System



Pennsylvania: The Keystone to America's Energy Future



Short Term

2. Amend County 911 addressing ordinance to reflect gas wells, compressor stations and impoundments.



COUNTY OF LYCOMING
COMMONWEALTH OF PENNSYLVANIA
ORDINANCE

96-3

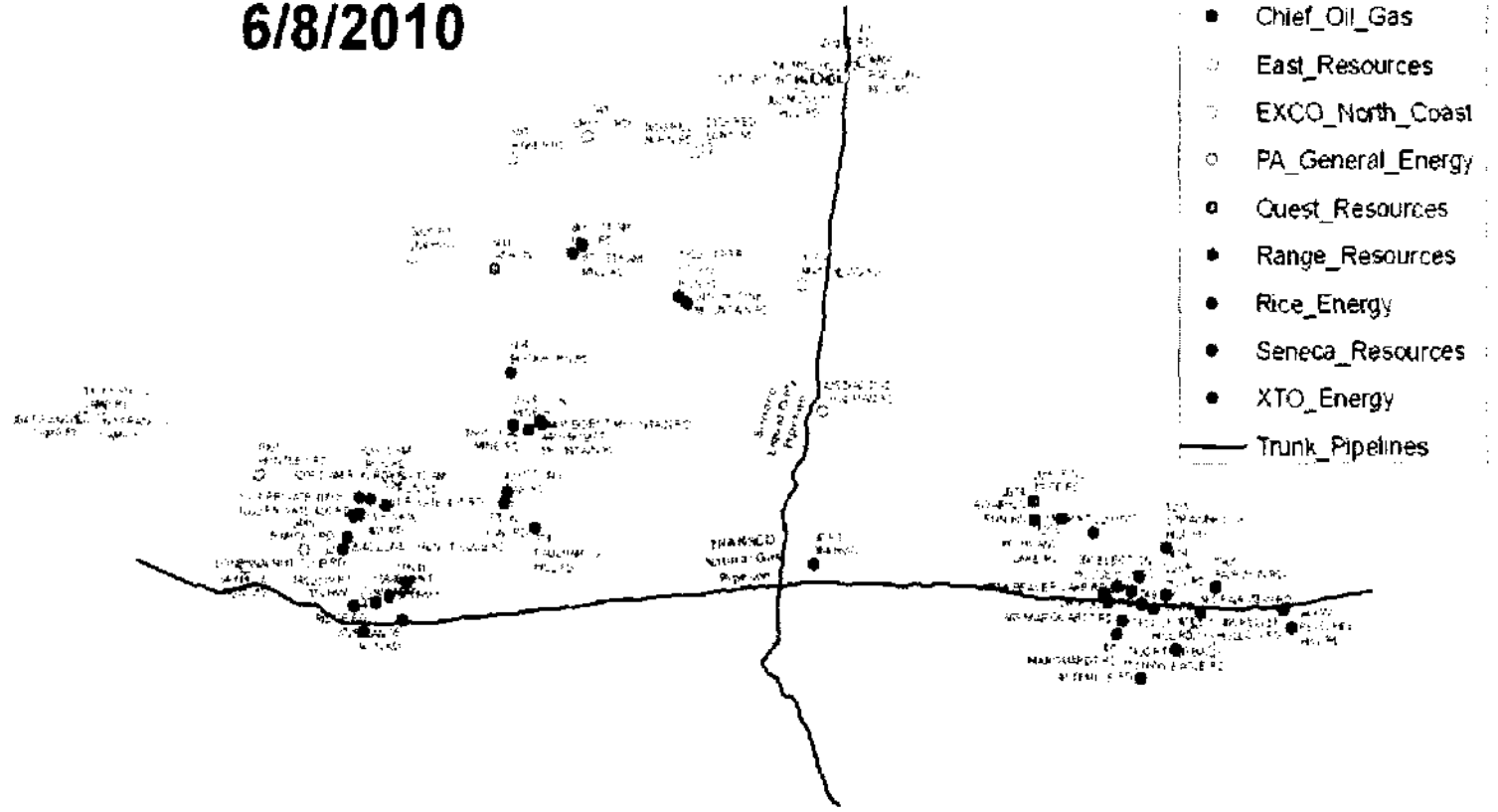
PROPERTY ADDRESSING

- **“SECTION 4: *New Structures and Mobile Homes*** All persons, firms, corporations and other legal entities constructing or proposing to construct new structures or locating or relocating mobile homes in Lycoming County shall obtain an official address number(s) on an Address Notification Form from the Lycoming County 911 Addressing Coordinator prior to taking occupancy of said structure(s) or mobile home or relocated mobile home. For the purpose of natural gas drilling operations, “occupancy” shall mean the date a drilling permit is issued by the Department of Environmental Protection
- **“B. *Definition of “Structure”*** For purposes of this Ordinance and the implementing Rules and Regulations the term “structure” shall mean any manmade object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.”



June 2010 (handout)

County of Lycoming Gas Sites 6/8/2010



Short Term

3. Provide awareness training to emergency responders and regional rescue resources.



“Gas Exploration, Drilling & Production Hazards Awareness”

Audience

•Fire/EMS, Law Enforcement, Emergency Management Coordinators, Elected Officials

Venues

FD meetings, EMA Qtrly, Law Enforcement Associations, Technical Rescue Taskforce

Total Attendees

500 +



Mid Term

1. Identify specialized emergency response training, support documentation and equipment needed to sustain response to such incidents.

“Gap Analysis”



Full Scale Exercise

September 2009



Long Term

1. Develop Safety & Training Consortium

- a. To develop a practical, reliable, and competent community emergency response capacity.
- b. Explore industry expectations for the responder community.
- c. Look for gaps and how to fill them in a manner that is supported by the responders and the industry.



Safety & Training Consortium

Members

(formed November 2009)

Industry

Anadarko
Chief Oil & Gas, LLC
Dallas-Morris Drilling
East Resources
EXCO North Coast
PA General Energy
Precision Drilling
Range Resources
Schlumberger
Seneca Resources
XTO Energy

Responders

Local fire dept leadership
County hazardous materials team
Law enforcement



Topics addressed

- Safety moment
- PPC plans (Preparedness, Prevention & Contingency)
- Emergency response planning
- Criminal activity
- Road restrictions
- Emergency contact information*



Emergency Contact Card

EMERGENCY NUMBER

911

SATELLITE EMERGENCY NUMBER

570-433-3696

NON-EMERGENCY

FLARINGS OR BLOWDOWNS

570-433-3166

PA STATE POLICE MONTOURSVILLE

570-368-5700

LYCOMING CO POLICE AGENCIES

570-433-3166



HOSPITALS

Bradford County

Robert Packer 1-888-448-8474
Towanda Memorial 570-265-2191

Lycoming County

Williamsport 570-326-8000
Jersey Shore 570-398-0100
Muncy Valley 570-546-8282

Tioga County

Soldiers & Sailors 570-723-7764

Potter County

Charles Cole 814-274-9301





Responder Preparedness



Who needs it?

- Fire / EMS
- Law Enforcement
- Emergency Management
- Elected Officials



Training

November 2008 – Gas Well Symposium

May 2009 - Crush Injury Seminar

September 2009 – Full scale rig exercise

March 2010 – Gas Well Education Day

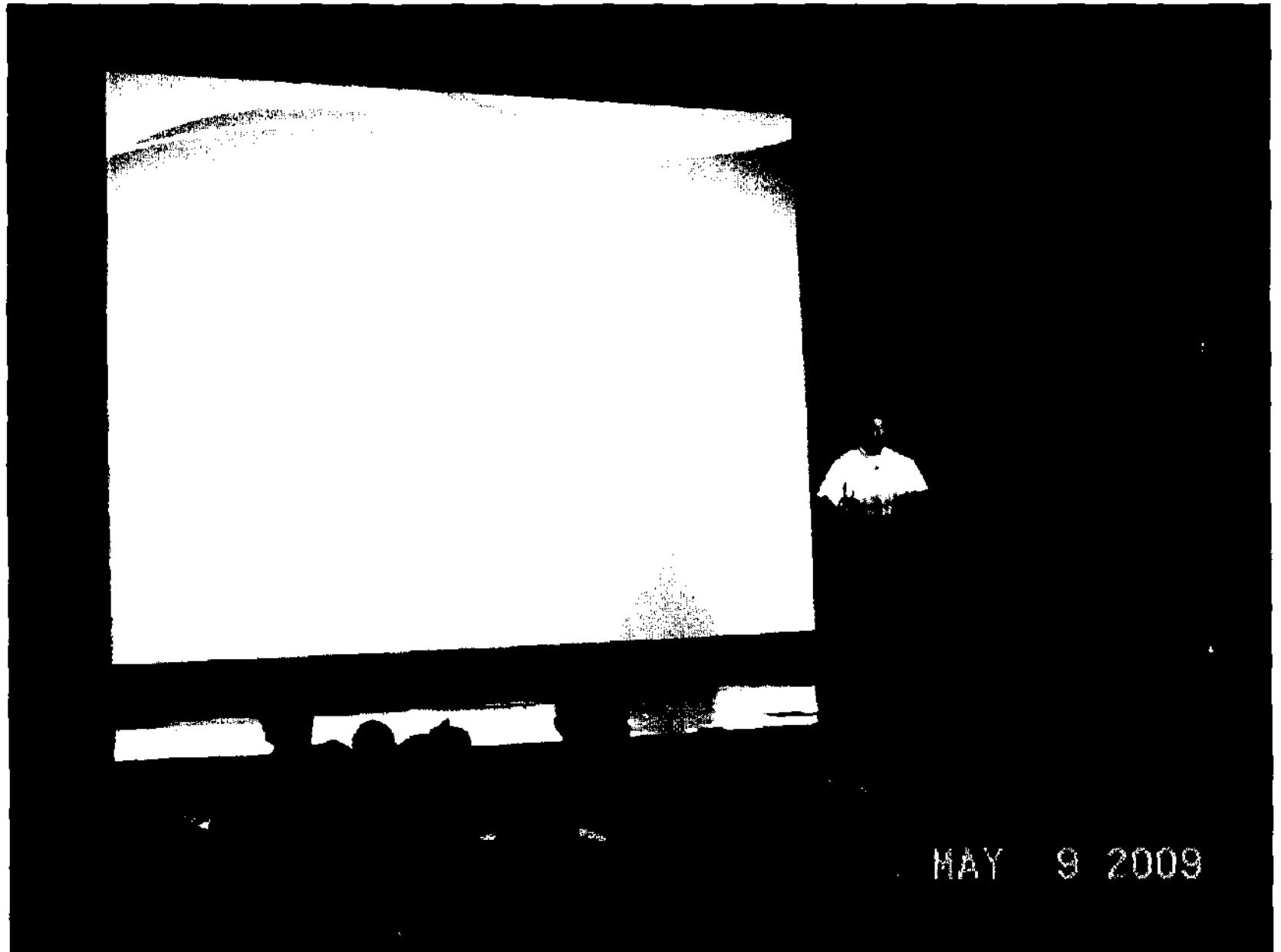
August 2010 – Well Control Incident
Management (scheduled)



Multi-agency Training



Crush Injury Training



MAY 9 2009

High Angle Rescue



Foam Response



Funding

- Funding for training is a concern for many in the response community.
- Industry has invested in excess of \$110K to training responders in Lycoming County to date.



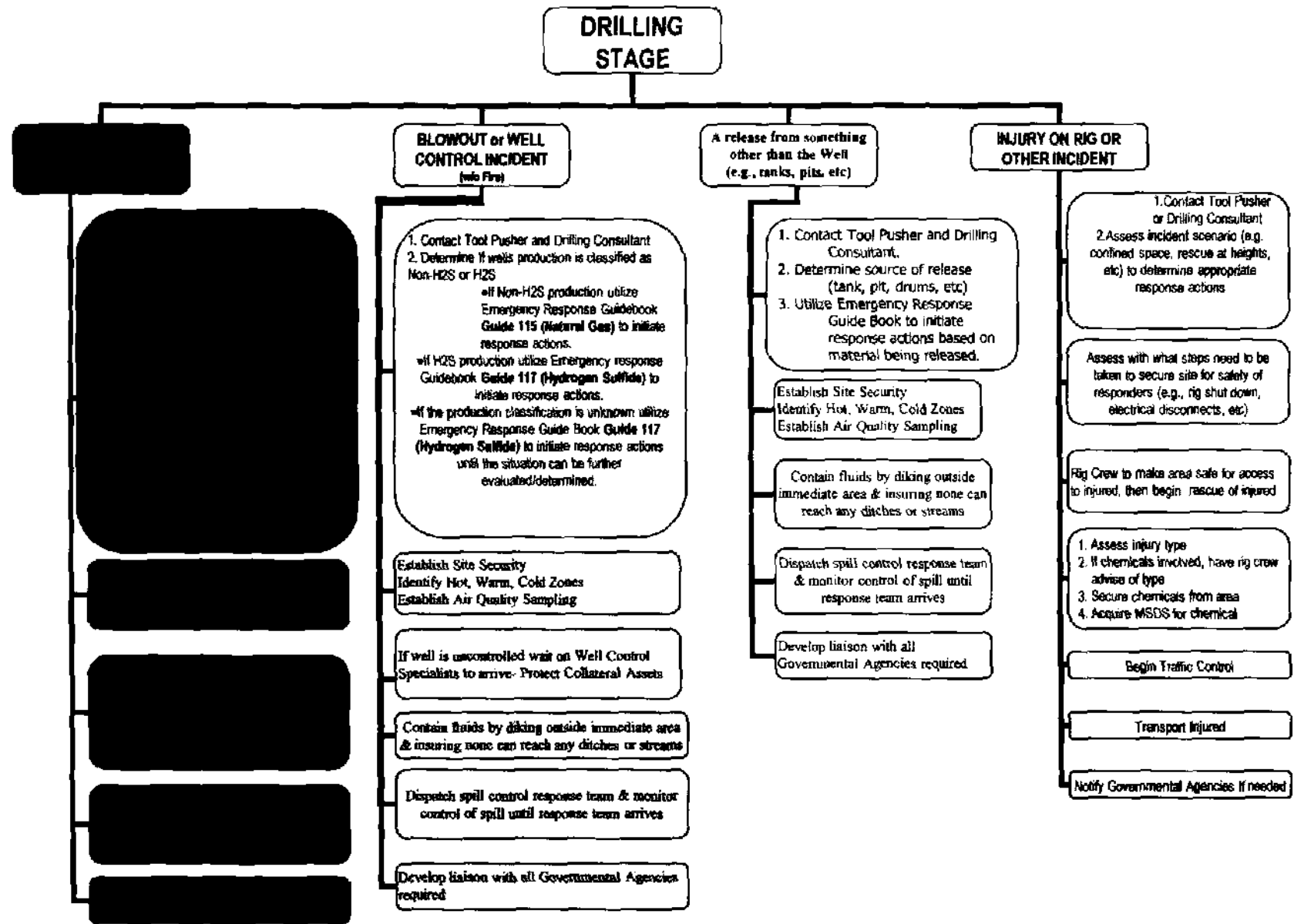
Response Checklist (handout)

GAS WELL INCIDENT RESPONSE CHECKLIST

- Location of well
- Contact information for well site personnel and company officials
- Prevailing wind direction
- Non- H2S or H2S on site
- Information regarding chemicals stored on-site
- Companies PPC plan
- Accountability (for all contractors on site)
- Access routes (minimum of two from opposite wind direction)
- Location of staging area
- Water supply
- Community exposures
- Evacuation plans for affected communities
- Nearest landing zone
- Other hazards that may be present (ie: waterway)



Response Algorithm (handout)



Terminology (handout)

Glossary of Terms

Annulus: the space around a pipe in a well bore, sometimes termed the annular space.

Barrel: a measure of volume for petroleum products in the United States. One barrel is the equivalent of 42 U.S. gallons.

Blowout Preventer (BOP): one or more valves installed at the wellhead to prevent the escape of pressure either in the annular space between the casing and the drill pipe or in open hole during drilling or completion operations.

Bottomhole: the lowest or deepest part of a well.

Brine: water that has a quantity of salt, especially sodium chloride, dissolved in it; salt water.

Bulk tank: on a drilling rig, a large metal bin that usually holds a large amount of a certain mud additive that is used in large quantities in the makeup of the drilling fluid.

Casing: 1. steel pipe placed in an oil or gas well to prevent the wall of the hole from caving in, to prevent movement of fluids from one formation to another, and to aid in well control.

Casing string: the entire length of all the joints of casing run in a well.

Cellar: a pit in the ground to provide additional height between the rig floor and the well head.

Cement: a powder consisting of alumina, silica, lime, and other substances that hardens when mixed with water. Extensively used in the oil industry to bond casing to the walls of the wellbore.

Company man: an employee of an operating company who supervises the operations at a drilling site or well site. Also called company hand, operator's representative.

Derrick: a large load-bearing structure, usually of bolted construction. In drilling, the standard derrick has four legs standing at the corners of the substructure and reaching to the crown block. The substructure is an assembly of heavy beams used to elevate the derrick and provide space to install blowout preventers, casings, and so forth.

Doghouse: a small enclosure on the rig floor used as an office and/or as a storehouse for small objects. Also, any small building used as an office or for storage.

Downhole: pertaining to the wellbore.

Frac fluid: a fluid used in the fracturing process. Under extremely high hydraulic pressure, frac fluids (such as distillate, diesel fuel, crude oil, dilute hydrochloric acid, water, or kerosene) are pumped downward through production tubing or drill pipe. The pressure causes cracks to open in the formation, and the fluid penetrates the formation through the cracks. (b) Sand, aluminum pellets or similar materials (propping agents) are carried in suspension by the fluid into the cracks.

Geronimo line: an escape line that provides a rapid escape path for the derrickman should well conditions or massive mechanical failure warrant.

Horizontal drilling: deviation of the borehole from vertical, so that the borehole penetrates a productive formation in a manner parallel to the formation.

Hydraulic fracturing (fracing): an operation in which a specially blended liquid is pumped down a well and into a formation under pressure high enough to cause the formation to crack open.

Kill: in drilling, to control a loss by taking suitable preventive measures. (For example, to shut in the well with the blowout preventer, circulate the kill out, and increase the weight of the drilling mud). 2. in production, to stop a well from producing oil and gas so that reconditioning of the well can proceed.

Monkeyboard: the derrickman's working platform which may be as high as 90 feet or higher in the derrick or mast.

Mousehole: shallow bores under the rig floor, usually lined with pipe, in which joints of drill pipe are temporarily suspended for later connection to the drill string.

Mud: the liquid circulated through the wellbore during rotary drilling and workover operations.

Mud pit: an open pit dug in the ground to hold drilling fluid or waste materials discarded after the treatment of drilling mud.

Mud tank: one of a series of open tanks usually made of steel plate, through which the drilling mud is cycled to remove sand and fine sediments.

Perforation: a hole made in the casing, cement, and formation through which formation fluids enter a wellbore. Usually several perforations are made at a time.

Perforating gun: a device fitted with shaped charges or bullets that is lowered to the desired depth in a well and fired to create penetrating holes in casing, cement, and formation.

Pusher: see Toolpusher.

Rathole: 1. a hole in the rig floor, some 30 to 40 feet (9 to 12 meters) deep, which is lined with casing that projects above the floor, into which the kelly and the swive are placed when hoisting operations are in progress. 2. a hole of a diameter smaller than the main hole and drilled in the bottom of the main hole, (a) to reduce the size of the wellbore and drill ahead.

Rig Manager: see Toolpusher.

Roughneck: a worker on a drilling or workover rig, subordinate to the driller, whose primary work station is on the rig floor. Sometimes called floorhand, floorman, rig crew member.

Stimulation: a well stimulation method.

Tongs: the large wrenches used for turning when making up or breaking out drill pipe, casing, tubing, or other pipe; variously called casing tongs, rotary tongs, according to the specific use. Power tongs or power wrenches are pneumatically or hydraulically operated tools that serve to spin the pipe up and, in some instances, to apply the final makeup torque.

Toolpusher: an employee of a drilling contractor who is in charge of the entire drilling crew and the drilling rig. Also called a rig superintendent, drilling foreman, or rig supervisor.

V-door: an opening at floor level in a side of a derrick or mast. The V-door is opposite the draw works and is used as an entry to bring in drill pipe, casing, and other tools from the pipe rack.

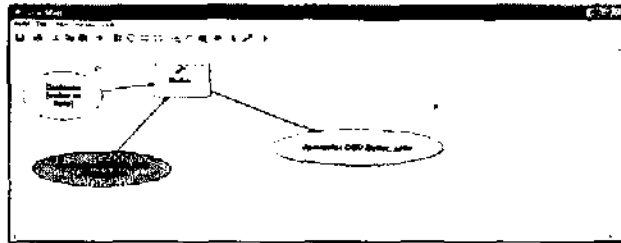
Wellbore: a borehole; the hole drilled by the bit. A wellbore may have casing in it or it may be open (uncased); or part of it may be cased, and part of it may be open. Also called a borehole or hole.



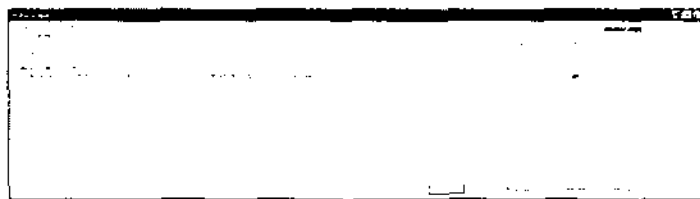
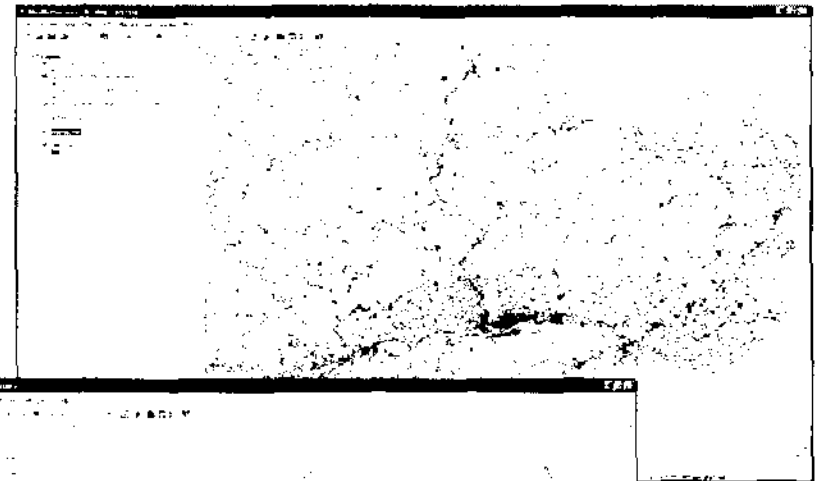
Once gas wells and related facilities are addressed and accurately located with a GIS; other analytical tools are available to Public Safety and other County agencies

A buffering tool within the GIS software...

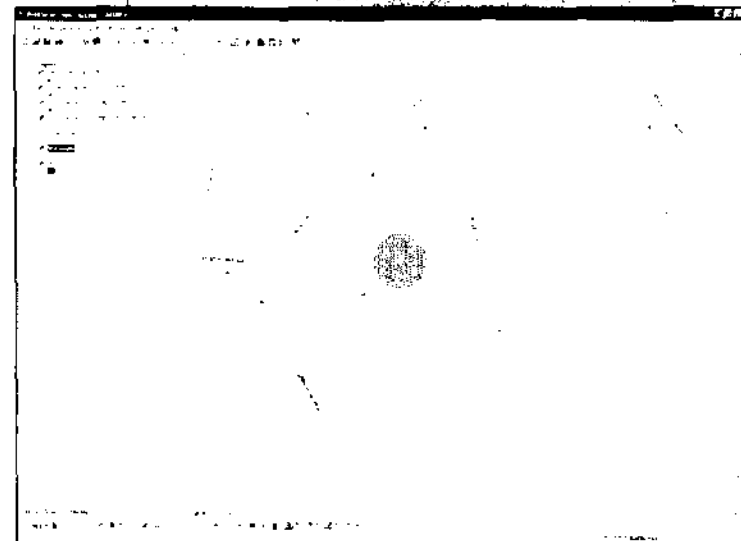
Can be used to pre-establish hot/warm zones around well sites according to industry standards and viewed at the countywide level



or the tool parameters can be changed during an actual emergency



And the impact on potential evacuation routes can be analyzed in near real time



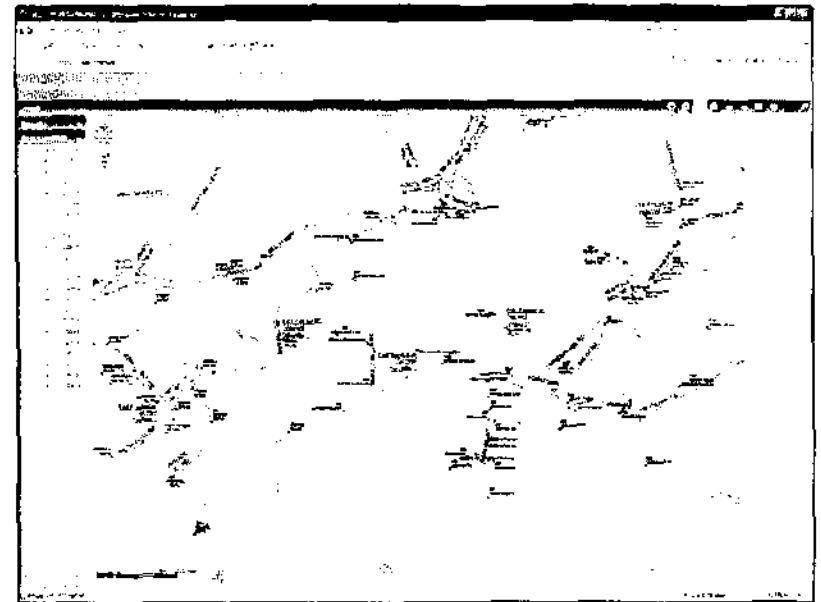
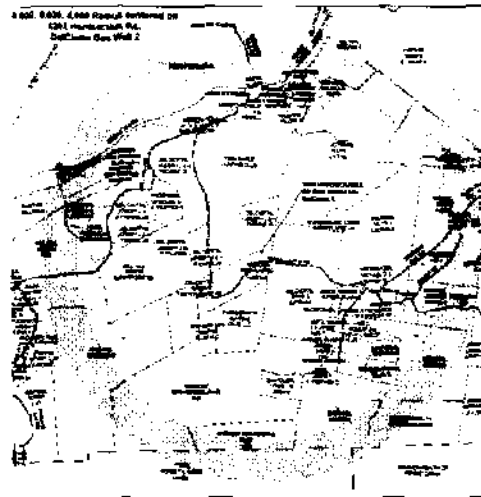
Addressing data in the Lycoming County Geographical Information System (GIS) was used during an actual emergency in McNett Township

**Because the well
was addressed and
spatially located**

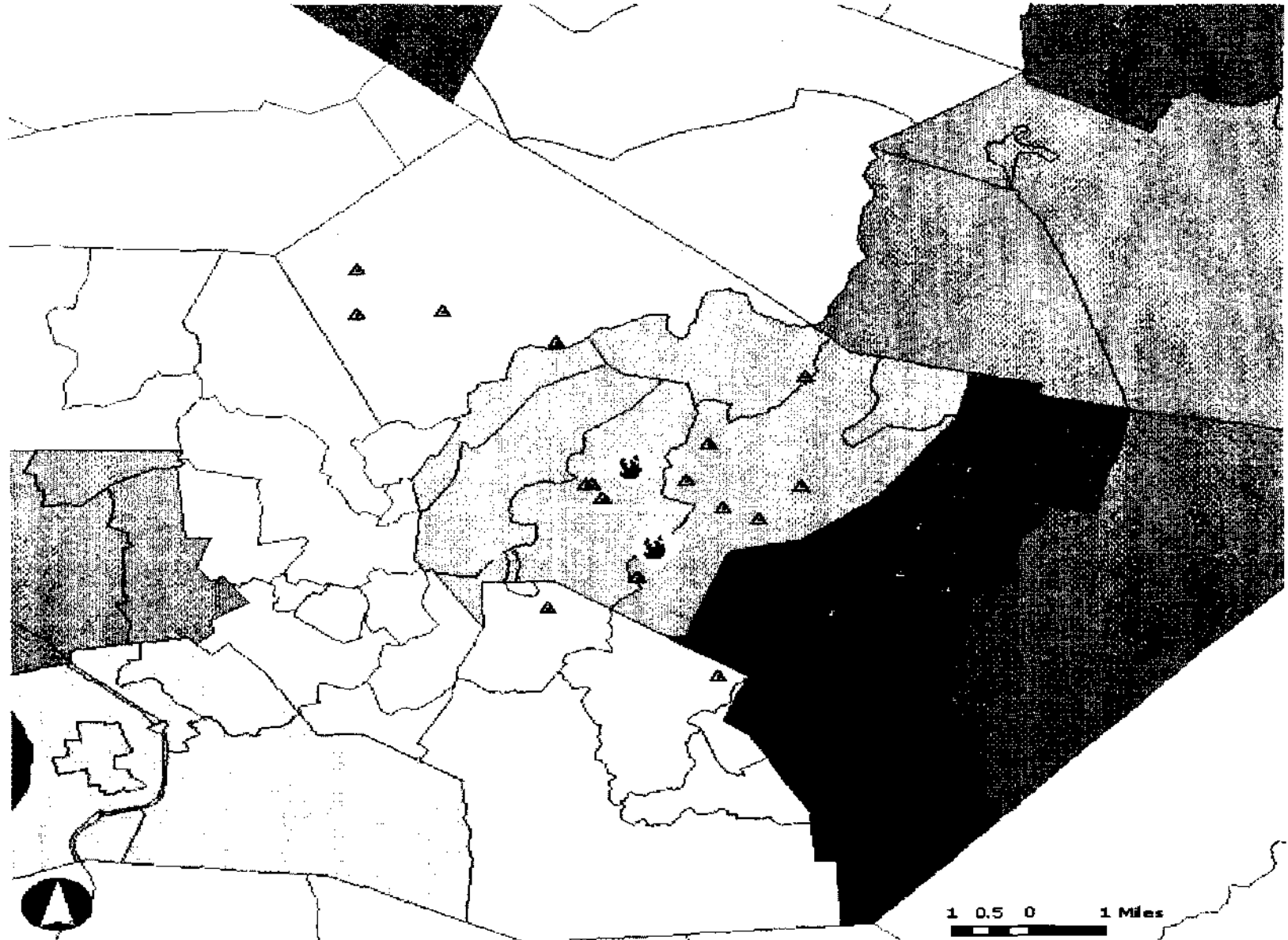


**After the initial response of the
IMU to the McNett EOC location, a
secure website was set up pulling
live data from the GIS to provide a
common operating picture for the
duration of the emergency**

**Public Safety
entities were able to
accurately map the
exact location of
the well; combined
with other data this
led to improved
decision making
due to the initial
accuracy.**



Flaring Log





In Progress....



Training Curriculum



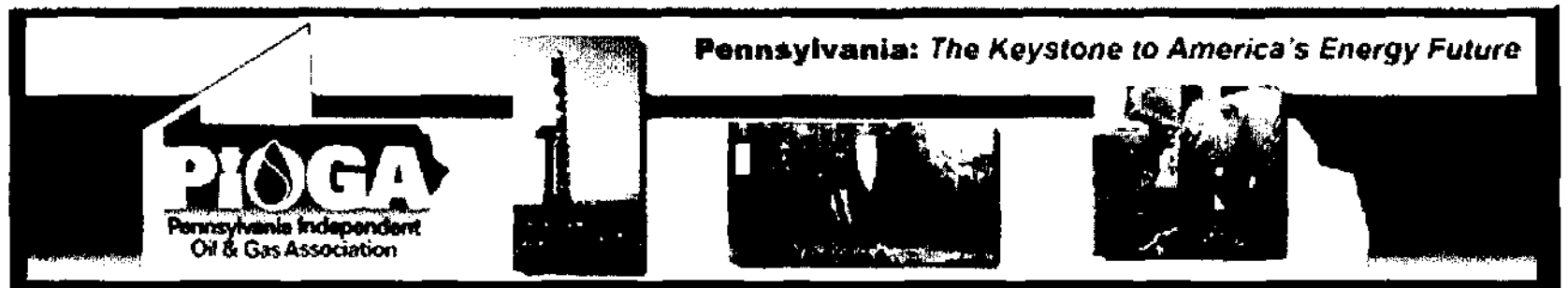
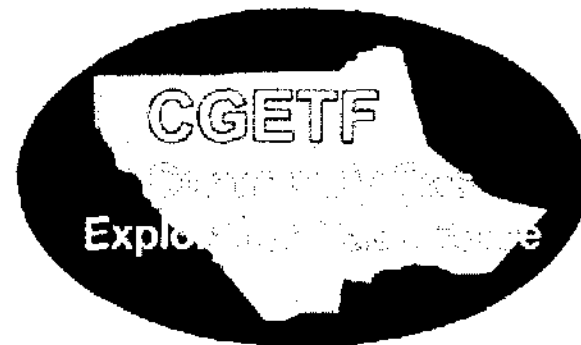
“ABC of Gas Drilling”



PIOGA
Pennsylvania Independent
Oil & Gas Association

Pennsylvania: The Keystone to America's Energy Future

Training Facility Proposal



Recommendations

- 911 Addressing of well sites, compressor stations and impoundments
- Establishing a safety committee or consortium at county, regional and state level.



QUESTIONS?

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