



Uncovering  
Tomorrow's  
Energy

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today



**RANGE** RESOURCES

## Marcellus Shale Advisory Committee – Emergency Response Overview

April 13, 2011 – Harrisburg, PA

Ralph Tijerina: Director - Health, Safety, Security and Environmental

# Emergency Response



- PPC/ERP
- Mock Drills
- Industry/ Government Meeting
- Washington County Meeting
- Unified Management Training
- BMPs



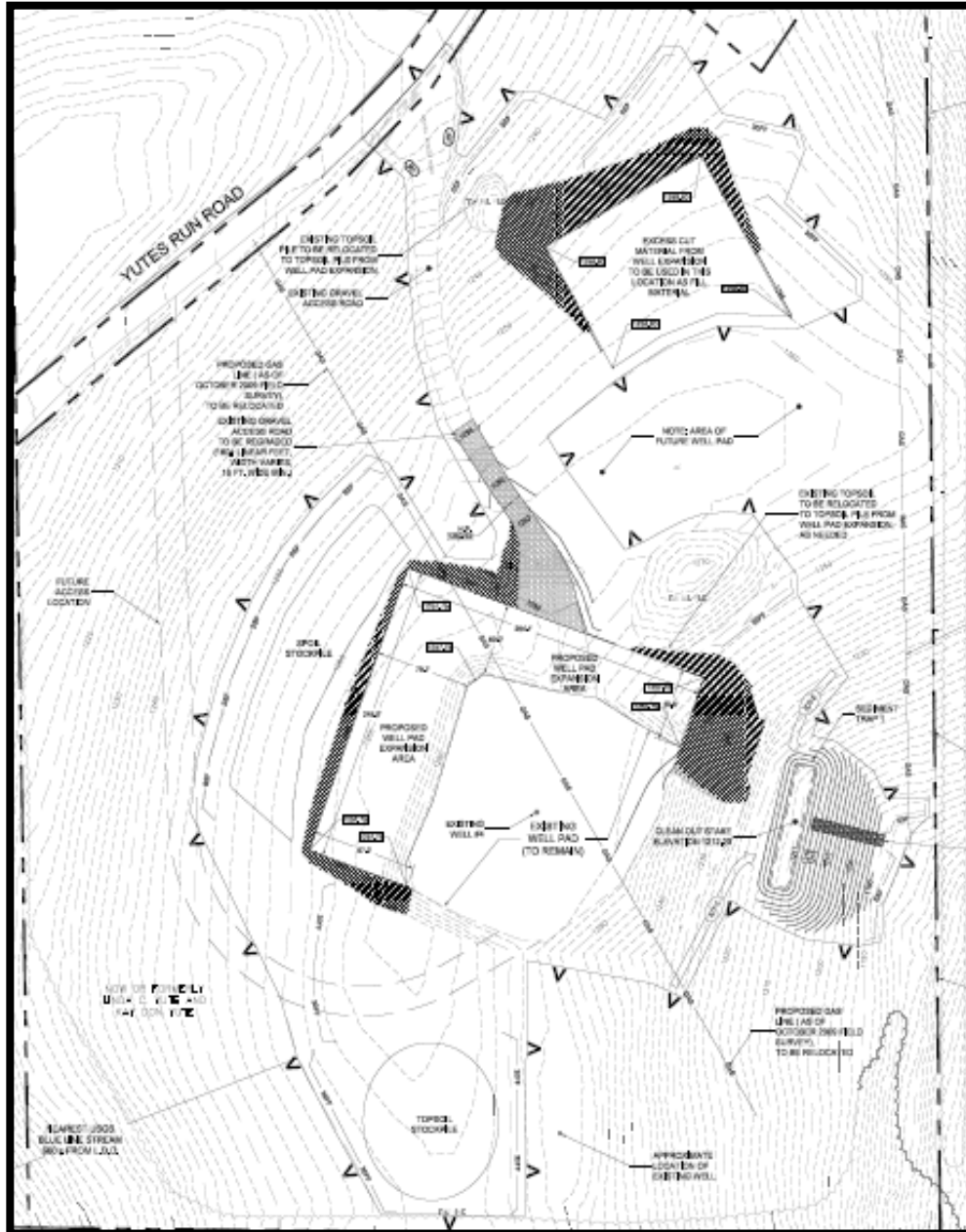
# Emergency Response Plans



- Medical
- Property Damage
- Law Enforcement
- Fire



# Site Layout



# Consequence Categories



People	Assets	Environmental	Well Control Event	Personnel Responding	Level
<b>Minimal Injury</b>	<b>Minimal Damage</b>	<b>Minimal Damage</b>	<b>Minimal Damage</b>		
No foreseeable injury. Incident is under control.	<\$500	Negligible environmental consequences; within site limits; minor release of non-toxic material (<5 gal). No threat to the public.	Loss of circulation, kick, water flow	Local Supervisor	1
<b>Minor Injury</b>	<b>Minor Damage</b>	<b>Minor Damage</b>	<b>Minor Damage</b>	<b>Minor Damage</b>	
Personal injuries involving first aid treatment. Incident is under control.	\$500-\$10,000	Minor/short-term environmental damage, within site limits, minor release of non-toxic material, ranging from 5-55 gal. No threat to the public.	Loss of circulation, kick, water flow	Local Supervisor or Well Control First Responder	1
<b>Serious Injury</b>	<b>Serious Damage</b>	<b>Serious Potential Damage</b>	<b>Serious Potential Damage</b>	<b>Serious Potential Damage</b>	
Personal injury involving medical assistance beyond first aid, including lost time incidents and recordables. Imminent control of the hazard is uncertain.	\$10,000 - \$50,000	Possible chronic environmental damage, within site limits, release of non-toxic materials >55 gal or release of toxic material. Limited threat to the public.	Loss of circulation, kick escalates (increased pressure), loss of water flow, casing failure	Well Control First Responder	2



# Consequence Categories



People	Assets	Environmental	Well Control Event	Personnel Responding	Level
<b>Major Injury</b>	<b>Major Damage</b>	<b>Major Potential Damage</b>	<b>Major Potential Damage</b>	<b>Major Potential Damage</b>	3
Personal injuries more severe than the serious category, including loss of life, major injuries (broken limbs, amputations, injuries requiring hospitalization)	\$50,000 - \$100,000	Possible chronic environmental damage, possible off-site release, acute health risk, releases of toxic materials >55 gal. Outside assistance required to control the event.	Blowout	Well Control Specialist	
<b>Catastrophic Injury</b>	<b>Catastrophic Damage</b>	<b>Major Potential Damage</b>	<b>Major Potential Damage</b>	<b>Major Potential Damage</b>	3
One or more fatalities. Uncontrolled hazard. Worker health or safety is jeopardized.	>\$100,000	Widespread environmental damage, major public concern, off-site release of toxic materials, possible off-site health risk. Outside assistance required to control the event.	Blowout	Well Control Specialist	



# Mock Drills



- ❖ 2009 – Lycoming County
- ❖ 2010 – Washington County
- ❖ 2011 – Penn College Fire Fighting Training
- ❖ Well Site Well Control Drills



# Industry/ Government Meetings

- PAHMT (Pennsylvania Association of Hazardous Material Technicians)
- PEMA Quarterly Meeting Presentations
- PEMA Annual Meetings
- WWC Fire School
- State Fire Academy
  - ✓ Well Site Training
  - ✓ Responder Leadership Training





## ➤ Attendees

- Avella VFD
- West Middletown VFD
- Midway VFD
- McDonald VFD
- South Franklin VFD
- Mount Pleasant VFD
- Washington County DPS

## ➤ After Action Review

## ➤ Emergency Response to Recent Incidents



# Lessons Learned



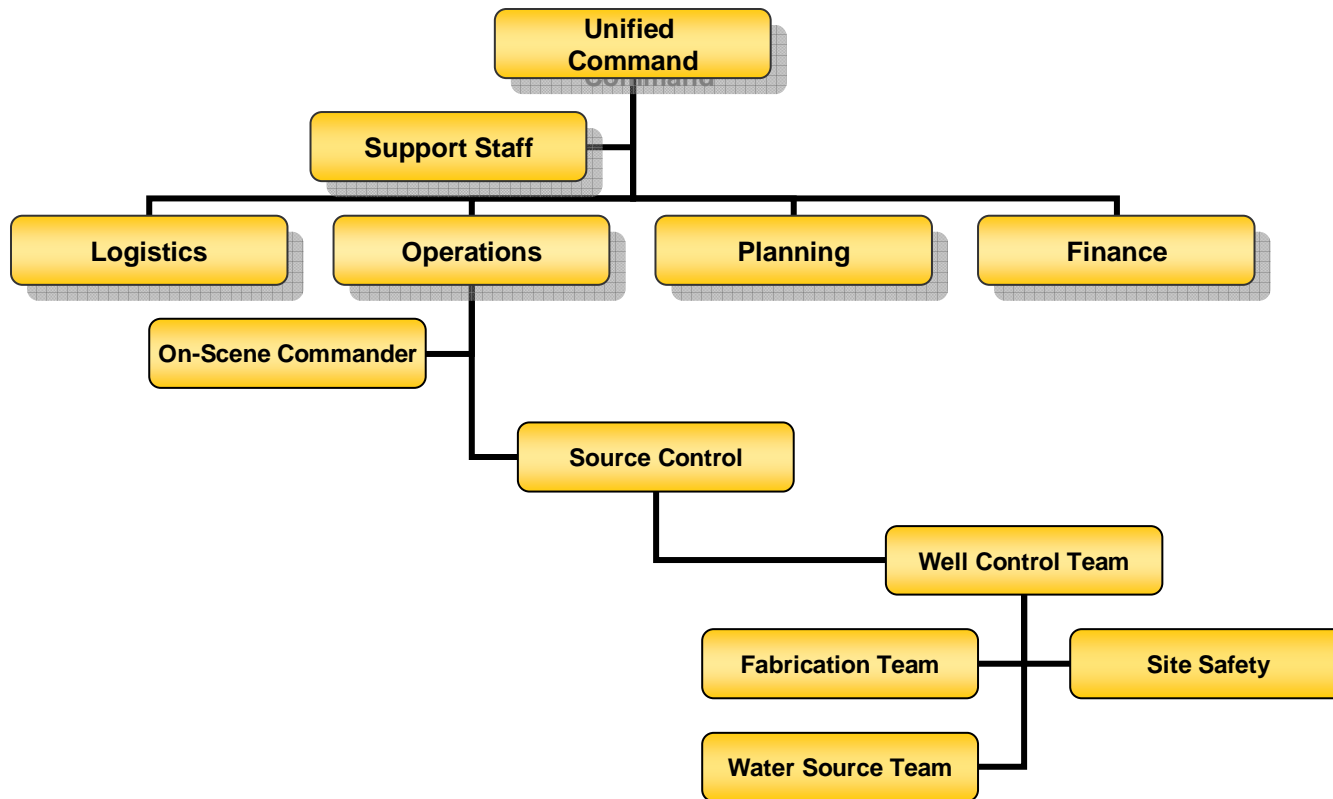
- Lack of Accurate 911 Addressing
- MSDS availability in time of Emergency
- Difficulty obtaining water
  - Industry Coordination
- Unfamiliarity of storage tanks
- Need for on-site advisory representative
- Accountability confirmation
- Casualty Management – Life Safety



# Unified Management



- Industry Practices and Management
- Unified Management Coordination
- Support Functions



- 911 Addressing
- SPOT
- Satellite Phones
- Incident First Responders
- One Call
- Networking

