



**FREEPORT-  
McMORAN**

## **FACILITATOR GUIDE**



### **SFT FCX1019C BLUE STAKE**

APRIL / 2019  
VERSION 2

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## COURSE OVERVIEW

This awareness course is intended to inform employees of the basics of the Blue Stake Policy (FCX-13), which is a buried utilities locate system, so that they can understand the necessity of the request. They will also be informed of the process so that they have an understanding of what happens after their Blue Stake request is submitted.

## COURSE DESCRIPTION

Through this course, employees will learn to recognize the need to request a Blue Stake and will understand how to submit the Blue Stake request. Please note: this course is designed for all of the Freeport-McMoRan sites to use, therefore any state or local regulations that are pertinent to discussions will need to be added as supplemental material by the trainers. Site-specific procedures that meet or exceed FCX-13 will also need to be added as supplemental material by the trainers as needed.

## COURSE OBJECTIVES

Upon completion of this course, students will be able to:

- Module 1: Definitions and Explanations
  - Explain the purpose and process of hazard recognition
  - Explain the purpose of the Blue Stake process
- Module 2: Permit Process
  - Define the roles and responsibilities of all Blue Stake process participants
  - Explain how to begin the MOC process
- Module 3: Permit Specifics
  - Describe the basics of excavation requirements as per the Blue Stake Policy
  - Describe the basics of floor, roof, ceiling, and wall penetration requirements as per the Blue Stake Policy
- Module 4: Permit Exceptions
  - Describe what a variance is and when to request one
  - Describe what the exemptions are for using the Blue Stake process

## COURSE PRE-REQUISITES

Before taking this course, students should be familiar with hazard recognition and workplace examinations.

## COURSE LENGTH

This course takes approximately two (2) hours to complete.

## **CLASS SIZE**

This course is designed for a maximum of 16-18 students. Class size may be less depending on each site's needs and the students' skills and experience levels.

## **TARGET AUDIENCE**

This training is intended to train FMI employees to the Blue Stake Policy (FCX-13).

## **FACILITATOR QUALIFICATIONS**

Facilitators should be well versed in the FMI Blue Stake Policy, the process of requesting a Blue Stake at your FMI Property, and the Blue Stake process, along with basic knowledge of the excavation/process to follow.

## **REGULATIONS/POLICIES/PROCEDURES**

This course teaches to the Freeport-McMoRan Blue Stake Policy (FCX-13).

## **FACILITATOR PREPARATION**

The following information will help the facilitator prepare for the course.

## **ABOUT THIS GUIDE**

This guide is intended to give the facilitator a general outline for the flow of the course. It is designed to assist the facilitator in presenting content, conducting classroom activities, and managing time to meet the learning objectives. This Facilitator Guide (FG) is intended to be used in conjunction with the Student Guide (SG) and the PowerPoint (PPT). The guide belongs to the facilitator to make notes and write in as much as needed.

## **SAFETY**

Safety must be a fundamental component of this course. Students must adhere to safety information in the SG and from the facilitator, and safety procedures must be focused on throughout the training. Equipment may not be operated without facilitator authorization.

## **ACTIVITIES**

Students will participate in many hands-on activities designed to give students time to practice the knowledge learned throughout the course. They also provide the facilitator with opportunities to give immediate feedback on what each student does/does not do well. Facilitators must review each activity's directions in the FG before guiding students through the learning activities.

## **GENERAL MATERIALS**

The following is a list of materials consistently needed for courses. Gather and/or order the necessary materials prior to the start of class and verify that everything functions properly.

- Attendance sign-in sheets
- Name cards – 1 per student
- Pens or pencils
- Push pins or tape such as painter's tape
- Sticky notes
- Easel
- Flipchart
- Markers of various colors
- Student Guide (SG) – 1 per student
- Projector and sound system for course PPT and videos
- Laptop with access to the internet
- Course Evaluations (Found in the back of SG and FG)
- Appropriate Personal Protective Equipment (PPE)

## ACTIVITY MATERIALS






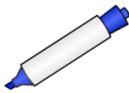




The following materials are needed for activities in each module:

Module	Materials
Introduction	<ul style="list-style-type: none"> <li>• Activity 1: Icebreaker               <ul style="list-style-type: none"> <li>○ Appropriate materials as needed</li> </ul> </li> <li>• Activity 2: Safety Quote               <ul style="list-style-type: none"> <li>○ Chart Paper</li> <li>○ Asst. color markers (at least 2)</li> </ul> </li> </ul>
Module 1: Definitions and Explanations	<ul style="list-style-type: none"> <li>• No activities in this module</li> </ul>
Module 2: Permit Process	<ul style="list-style-type: none"> <li>• Activity 3: Roles and Responsibilities               <ul style="list-style-type: none"> <li>○ Student Guide</li> </ul> </li> <li>• Activity 4: Digging Deeper               <ul style="list-style-type: none"> <li>○ Student Guide</li> <li>○ <b>Copies of Blue Stake Policy</b></li> </ul> </li> </ul>
Module 3: Permit Specifics	<ul style="list-style-type: none"> <li>• Activity 5: Colors               <ul style="list-style-type: none"> <li>○ PPT</li> <li>○ Student Guide</li> </ul> </li> </ul>
Module 4: Permit Exceptions	<ul style="list-style-type: none"> <li>• Activity 6: Putting It All Together               <ul style="list-style-type: none"> <li>○ <b>Job titles (1 set per group)</b></li> <li>○ <b>Scenarios (1 per group)</b></li> <li>○ Copies of Blue Stake Policy (students already have this from Activity 4)</li> <li>○ Student Guide</li> </ul> </li> </ul>



## FACILITATOR GUIDE CUES

Throughout the FG, cues are used to help the facilitator quickly identify slides that have unusual but important features. The purpose of each symbol is explained below.

Description	Symbol	Purpose
Audio Link		The speaker icon indicates when a PPT slide links to an audio file.
Video Link		The director's clapboard indicates when a PPT slide links to a video file.
Animated Slide		The star indicates when an animation appears on a PPT slide and requires more than one click to view all slide content.
Note		The notepad indicates the PPT slide or FG include a note relating to the slide but not necessarily found in the SG.
Incidents		The first aid symbol indicates when the PPT slide or FG addresses a PFE, testimonial, or other safety-related incidents.
Flipchart		The marker indicates when a facilitator writes down responses given by students on a flipchart or whiteboard.
Discussion		The question mark indicates when students need to participate in a discussion either as a class or in small groups.
Example		The hand indicates when the facilitator holds up an item or passes an example around the class.
Facilitation Tip (FT)		The podium indicates a facilitation technique used by the facilitator to enhance the presentation. A corresponding red box with white text appears near this cue to explain the tip.
Site Specific		The yellow arrow indicates a place where the facilitator needs to prepare and add site-specific information before class starts.

## LAWS OF LEARNING

Implementing the Six Laws of Learning can produce a more effective learning experience for both students and facilitators. Refer to the Instructor Fundamentals SG for more information.

**Readiness:** Students learn when they are ready, and learn little when they are not ready. Motivate students to prepare for learning and participate by setting a purpose, clearly stating objectives, and giving logical reasons for learning at the start of training.

**Exercise:** Content repeated is remembered. Every time a concept is practiced, learning is reinforced. Exercise includes recall, review, restatement, drills, and physical application.

**Effect:** People learn better in a favorable situation. Strengthen learning with pleasant motivational feelings. Constant negative motivation stifles the learning process.

**Intensity:** Students learn more from the real-life applications than from substitutes. Increase intensity, the power of the learning, through performance activities such as demonstrations, skits, audio/video clips, and models.

**Primacy:** What a student learns first stays. Teach the correct information the first time. Re-teaching may not work immediately and requires more time and practice with the student.

**Recency:** The most recent learning idea is the easiest to recall. Practice this law with restating, summaries, and conclusions.

## FACILITATION REMINDERS

Incorporating feedback and eye contact, while eliminating semantic barriers can produce a more effective learning experience for both students and facilitators.

**Feedback:** Feedback in the classroom is evaluative or corrective information about a student's performance given by a facilitator to a student. Feedback guides students toward attaining the course objectives.

**Eye contact:** Eye contact means looking directly into the eyes of the students and at each student equally, not just at a few. It is communication that lets students know the facilitator is interested, allows for nonverbal feedback from students as the facilitator reads their expression, and enhances facilitator credibility as students can view facilitators with more eye contact as being more confident and competent.

**Semantic Barriers:** One word can confuse what the facilitator says and what the audience interprets. Avoid the overuse of jargon, symbolism, abbreviations, acronyms, and slang. Using clear and concrete words eliminates misunderstandings and helps students receive the message without misinterpretations.



Facilitators have many roles when teaching a course including instructor, manager, leader, planner, and evaluator. To learn more about these roles refer to the Instructor Fundamentals SG.

## USING THE PPT PRESENTATION

When preparing to facilitate the course, there are several ways to integrate the PPT with the FG.

1. The facilitator can project the PPT and carry the paper copy of the FG as they walk around the room.
2. The facilitator can begin the PPT in presentation mode on their computer. This displays only the current slide to the class on the projection screen, but shows the facilitator a different view on his/her computer. The facilitator's screen shows a notes screen that has the same information for the slide that is included in the FG. This view also shows the next slide and lets the facilitator see the marker tools to write on the slides and emphasize teaching points.
3. The facilitator can also choose to do both. This is the preferred method for facilitating this course. Moving around the room helps the facilitator engage more students and keeps the students' brains stimulated, thus promoting learning.



PPT is not the course; it acts as a guide to keep the facilitator and students on track, and as a reminder to cover essential material. Know the FG talking points thoroughly so as not to read the PPT word for word, and do not rely on the PPT for all content as the FG talking points contain standardized content all students need to learn.

## SETTING THE PRESENTATION MODE

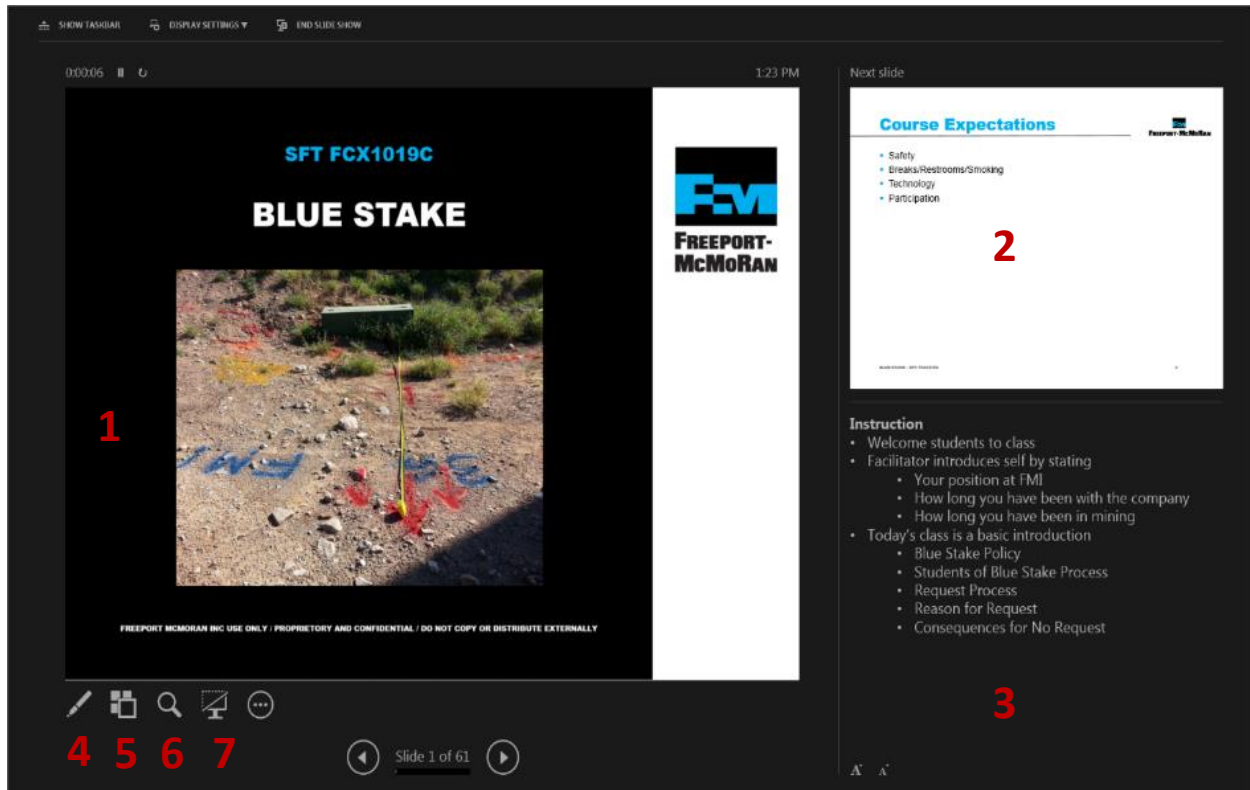
To initiate the presentation mode, do the following:

Step	Action
1	Open the PPT presentation.
2	At the bottom of the screen is a colored bar (The look or color may vary depending on the version of PPT used).
3	Select the icon that is noted in the image below.



## PRESENTATION MODE FEATURES

Once you are in presentation mode, the students will only see the slide displayed but the facilitator will see the layout below. Some of the commonly used features available from this view are numbered in red and identified in the image.



1. **Current slide** – This is the same slide that students see on the projection screen.
2. **Next slide** – A visual preview for the next slide is shown.
3. **Notes** – These notes are the same as the talking points available in the FG. The notes correspond with the current slide projected to the students.
4. **Pens** – This icon gives the user access to a laser pointer, pen, highlighter, and arrow options. Whichever tool is used on the facilitator's screen will show on the projection screen for the students and allows for specific points on the PPT to be emphasized. This helps the facilitator customize the PPT presentation to better suit the needs of the site and students.
5. **Zoom** – This icon lets the facilitator zoom in on specific aspects of the PPT.
6. **Black screen** – If the facilitator would like to explain content further but feels the PPT slide shown on the screen may distract from the learning, the screen can be blacked out to help focus the students.
7. **All slides** – This will show small images of all of the slides together on the facilitator's screen.

## INTRODUCTION

The introduction contains initial information about hazard recognition. Hazard recognition is a critical step in our daily work. There is not one thing that we do that justifies someone in our crew getting hurt, or more seriously, fatally injured. Part of what we do on a daily basis is to take a detailed look at our surroundings and think forward as to the steps of our pending job so that we can recognize and control any hazards and risks. Our primary goal is to have everyone go home safely after a good day of work.

## ACTIVITIES

- Activity 1: Icebreaker
- Activity 2: Safety Quote

For further details, refer to *Activity Materials* under *Facilitator Preparation* on page 6.

## TOTAL TEACHING TIME

The introduction takes approximately 15 minutes to complete, depending on amount of students.

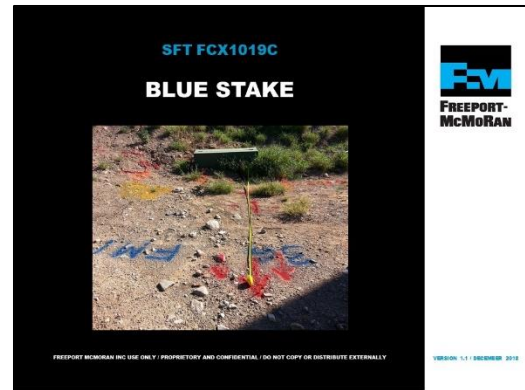


Suggested break times are included throughout the FG. Provide a 10-15 minute break after about every hour of instruction to allow students time to stretch, rest, relax, use the facilities, and refocus their minds.

## PPT slide 1, SG page N/A

### Instruction

- Welcome students to class
- Facilitator introduces self by stating
  - Your position at FMI
  - How long you have been with the company
  - How long you have been in mining



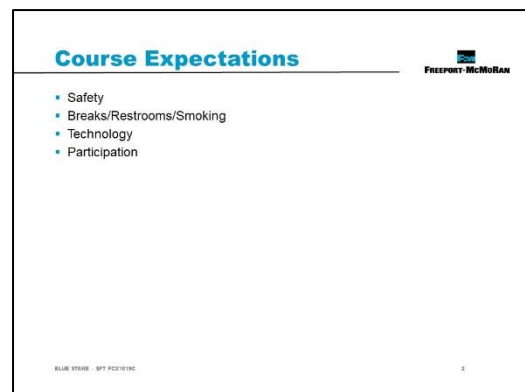
## PPT slide 2, SG page N/A



### Instruction

#### Administrative/Classroom Policies

- Safety: Identify the appropriate evacuation procedures, gathering areas, and emergency exits and fire extinguisher locations, etc.
- Breaks and Restrooms
  - Establish a break schedule and announce it to the class. Suggested break times occur approximately every hour.
  - Identify the location of restrooms and smoking areas
- Technology Policy: Review your expectations on cell phone and laptop use during the training
- Participation
  - This course requires significant participation.
  - Students should be prepared for discussions and small group activities.
- Set the class ground rules by verbalizing your expectations. Some suggestions are provided below
  - Participate
  - Be on time
  - Stay on task
  - Listen when others talk
  - Respect the opinions and attitudes of others



Letting students participate in developing course ground rules can empower them, create buy-in, build trust with the facilitator, and result in students more likely to follow and hold each other accountable to the rules.

## ACTIVITY 1: ICEBREAKER

PPT slide 3, SG page N/A



### Time

Approximately 10 minutes

### Materials

Choose an icebreaker and gather appropriate materials.

### Purpose

- Successful icebreakers encourage students to contribute their ideas and experiences thus increasing motivation and engagement in the class
- Below is an assortment of icebreakers the facilitator can incorporate at the beginning of the course as well as after breaks

### Icebreaker

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**Directions**

1. Participate in an activity to get to know each other

Activity 1

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Using an Icebreaker promotes a safe learning environment, which can reduce student stress levels. Reducing stress in the environment can increase a learner's retention of the content. (Georgi Lozanoz)

Icebreaker	Instructions
<p><b>What would you do if you had a million dollars?</b> (5-10 minutes)</p>	<ol style="list-style-type: none"> <li>1. The facilitator will begin by answering this question themselves, such as “I will buy a tiny island in the Bahamas and live there the rest of my life selling coconuts and bananas”, “I will sell my house and live in an RV touring the U.S and Canada”, or “I plan on paying off all my debt and giving \$xxx to ABC charity.”</li> <li>2. The facilitator will then ask each student to respond to the question. There may be some similarities or common themes.</li> </ol>
<p><b>Who Would you Call?</b> (5-10 minutes)</p>	<ol style="list-style-type: none"> <li>1. The facilitator will begin this icebreaker by explaining the activity. Each student will tell the group their name, department, and then the answer to this question: “Who would be the first person you would call if you won the lottery?” Give them a minute to think of their answers and then go around the room for them to share.</li> <li>2. The facilitator shares their information and answer.</li> </ol>

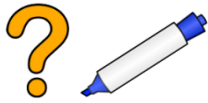
Icebreaker	Instructions, cont.
<p><b>Two Truths and a Lie</b> (15 minutes)</p>	<ol style="list-style-type: none"> <li>1. The facilitator will begin this icebreaker by explaining the activity. Each student will think of two true statements about themselves and one false statement. Allow a few minutes for students to come up with their examples. The facilitator will then proceed telling the class two truths and a lie about him or herself.</li> <li>2. The class will come to a common vote on what they believe is the lie. The facilitator will reveal the correct answer. After the lie has been detected, the facilitator can elaborate on one or two of the statements that they made.</li> <li>3. Continue the exercise with the students as you have each one present their statements.</li> </ol>
<p><b>A Little Known Fact</b> (10-15 minutes)</p>	<ol style="list-style-type: none"> <li>1. The facilitator will begin by stating their name, title, organization (if different than students), length of time in position and one little known fact about themselves.</li> <li>2. Continue this exercise by asking each student to share the same information about themselves.</li> </ol>
<p><b>One Question One Answer</b> (5-10 minutes) <a href="http://humanresources.about.com/od/icebreakers/a/Ice-Breakers-For-Meetings.htm">http://humanresources.about.com/od/icebreakers/a/Ice-Breakers-For-Meetings.htm</a></p>	<ol style="list-style-type: none"> <li>1. Divide class into groups of about four people by either having them work with the people near them or numbering them and having them move to be with others of the same number. This gives individuals the chance to meet new people.</li> <li>2. Assign a question to each group from the list below. Have individuals share with their groups. <ul style="list-style-type: none"> <li>• What are you most worried about at work this month?</li> <li>• What characteristic do you value the most in your coworkers?</li> <li>• What is the most important personal attribute that you bring to your job?</li> <li>• What are you most excited about in relation to your job this year?</li> <li>• What coworker characteristic do you find most irritating?</li> <li>• What's the one word that you'd like to hear from your boss?</li> <li>• What's the single most important factor that you would change about your job?</li> </ul> </li> </ol>



Icebreaker	Instructions, cont.
<p><b>Ten Things in Common</b>  <i>(15 minutes)</i>  <a href="http://humanresources.about.com/od/icebreakers/a/icebreaker_com.htm">http://humanresources.about.com/od/icebreakers/a/icebreaker_com.htm</a></p>	<ol style="list-style-type: none"> <li>1. Divide class into groups of about four people by either having them work with the people near them or numbering them and having them move to be with others of the same number. This gives individuals the chance to meet new people. Give each group a paper and pen.</li> <li>2. Tell class their assignment is to find ten things they <u>all</u> have in common that have nothing to do with work, body parts, or clothes.</li> <li>3. One person should list the things that everyone has in common on paper.</li> <li>4. After about seven minutes of brainstorming stop the groups so there will be time to share. Tell the groups that if they didn't get ten things, it is okay.</li> <li>5. Have one person from each group share their list with the class.</li> </ol>
<p><b>Would You Rather</b>  <i>(10-15 minutes)</i></p>	<ol style="list-style-type: none"> <li>1. Divide class into groups of about four people by either having them work with the people near them or numbering them and having them move to be with others of the same number (this gives individuals the chance to meet new people).</li> <li>2. Ask each statement below one at a time and give the groups about two minutes to discuss and explain their answers. Each individual should be given a chance to share.  Would you rather . . .  . . . be a farmer or a politician?  . . . ride a roller coaster or a mechanical bull?  . . . have the power to fly or disappear?  . . . live in the city or the country?  . . . drive a Ford or a Chevy?  . . . be known for your looks or your personality?  . . . go for a month without the internet or your car?  . . . lose your wallet or your keys?  . . . spend every minute of the rest of your life indoors or outdoors?  . . live in a home without electricity or running water?</li> </ol>

## ACTIVITY 2: SAFETY QUOTE

PPT slide 4, SG page i



### Time

Approximately 10 minutes

### Materials

- Poster sheets
- Variety of color markers (at least 2)

### Purpose

The quote spurs conversation that continues throughout the course. It also encourage students to contribute their ideas and experiences thus increasing motivation and engagement in the class.

### Instruction

- Read the safety quote
- Discuss the quote's meaning:
  - Agree/disagree?
  - Examples?
  - Deeper meanings?
  - Applications?
- Write student ideas/answers on the poster paper
- **Note:** This quote is revisited throughout the course, so keep the poster paper(s) visible and easily accessible


Safety Quote	
<b>Directions</b>	Activity 2
Read the following quote <i>"No job will be considered so important, and no schedule so urgent, that time cannot be taken to perform work in a safe manner. Working safely is a condition of employment."</i> -Freeport-McMoRan Inc. Safety and Health Policy	
What does this mean to you?	
<small>BLUE STAKE - 877-PCOY1110</small>	

PPT slides 5-6, SG page v



**Instruction**

- Go over learning objectives for each module
- Learning objectives are also located at the beginning of each module

**Learning Objectives** 


**Module 1: Definitions and Explanations**

- Explain the purpose and process of hazard recognition
- Explain the purpose of the Blue Stake Policy

**Module 2: Permit Process**

- Define the roles and responsibilities of all Blue Stake process participants
- Explain how to begin the request for a Blue Stake Permit

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**Learning Objectives** 

**Module 3: Permit Specifics**

- Describe the basics of excavation requirements as per the Blue Stake Policy
- Describe the basics of floor, roof, ceiling, and wall penetration requirements as per the Blue Stake Policy

**Module 4: Permit Exceptions**

- Describe what a variance is and when to request one
- Describe what the exemptions are for using the Blue Stake process

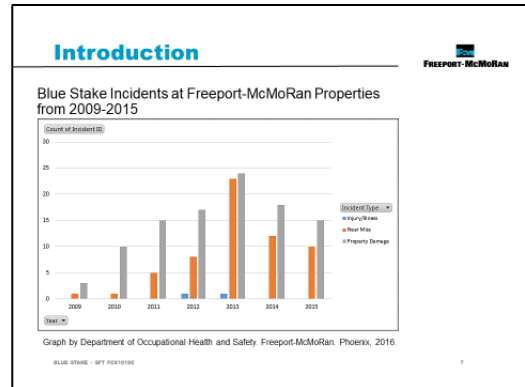
BLUE STAKE – SPY P0310100 4

## PPT slide 7, SG page vii



### Instruction

- Ask students why they need to learn about Blue Stake, also known as Utility Locating
- Discuss the chart
  - Shows trends pertaining to Property Damage, Near Miss, and Injury/Illness related to Blue Stake
  - Shows there is still a need to discuss Blue Stake
- Blue Stake is a utility locating system
- Course informs employees of the basics of a Blue Stake process so they can understand the necessity of the request and what happens after a Blue Stake request is submitted
- FCX-13 DOHS Policy
  - Blue Stake request must be made when there will be a penetration of the earth's surface, floors, roofs, ceilings, and walls of greater than one inch (1") depth
- Blue Stake process
  - Begins with request and includes location and marking of all buried/concealed utility lines
  - Goal – keep all employees safe from concealed dangers when penetrating
- Safety
  - Without the correct information, operators cannot have a clear picture of the utilities buried within their work boundaries
  - Correct knowledge and communication allows workers to make sure the proper plans and controls are in place for the execution of a job
  - If we blindly dig, we could potentially create a situation where one or more of our employees is not able to return safely home after a job
- Fatal Risk Management
  - No Fatal Risks with the act of requesting a Blue Stake; there are Fatal Risks associated with the tasks that require a Blue Stake permit
  - Consider the environment, any Fatal Risks, and whether the corresponding Critical Controls are in place
  - Present, accurate, and functioning Critical Controls help keep you from being killed and continuing without them puts you and coworkers at greater risk of severe injury or death
  - When working conditions change, stop the job immediately, reassess the job, and implement controls before continuing



Personal stories and examples from your work experiences helps student connect to you and the content. This helps them transfer the knowledge to their long-term memory and see the relevancy to their job. (i.e. What's In It For Me?)

## **MODULE 1: DEFINITIONS AND EXPLANATIONS**

This module informs students about the purpose for hazard recognition, as well as the purpose for having a Blue Stake process.

### **LEARNING OBJECTIVES**

Upon completion of this module, students will be able to:

- Explain the purpose and process of hazard recognition
- Explain the purpose of the Blue Stake Policy

### **ACTIVITIES**

No activities in this module

### **TOTAL TEACHING TIME**

This module takes approximately 20 minutes to complete.

**PPT slide 8, SG page 3**



**Instruction**

- This module informs students about the purpose for hazard recognition, as well as the purpose for having a Blue Stake process
- Go over the learning objectives for the module
  - Upon completion of this module, the students will be able to:
    - Explain the purpose and process of hazard recognition
    - Explain the purpose of the Blue Stake Policy



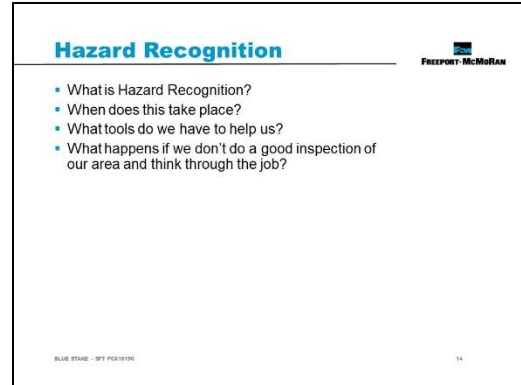
By going over all of the objectives, the facilitator is using the Law of Readiness and preparing the student for learning.

PPT slide 9, SG page 5



**Instruction**

- **Discuss the questions on the slide to define hazard recognition**
  - Definition – identifying all items and situations that can cause someone to receive an injury
  - At work, observe the physical space where you work and recognize steps in job tasks that can create hazards or unintended consequences
- **Discuss hazards in the workplace**
  - Crews complete adequate hazard assessments at the work site, look for potential hazards while planning a job, implement proper controls, and not skip steps
  - Students list examples of hazards they could find in the workplace in their SG

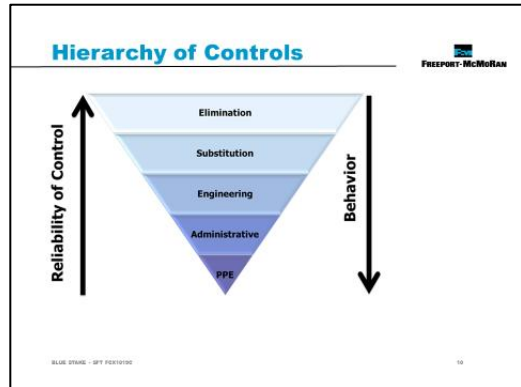


PPT slide 10, SG page 6



**Instruction**

- **Discuss the Hierarchy of Controls**
  - Elimination—most effective, as it takes the hazard away from the situation
  - Substitution—something that is not as hazardous or toxic to use instead
  - Engineering—engineered tools to help keep the employees from touching the hazards
  - Administrative—policies, SOPs, signage,
  - PPE—least effective, as it is fully dependent on human behavior
- **Below are possible questions to discuss**
  - Which layer of the Hierarchy of Controls is the most effective at controlling for hazards? Why?
  - Which layer is the least effective? Why?
  - Is it always possible to control hazards using the most effective category? Why/Why not?



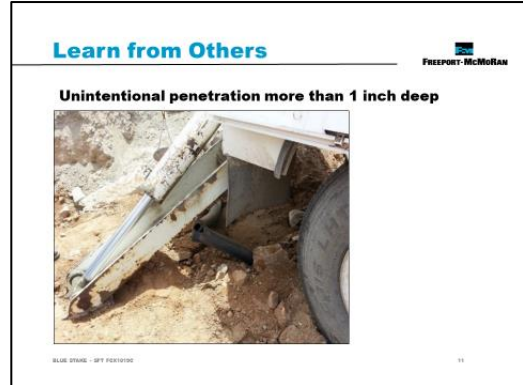
Questions play a key role in student learning. Questions can be used to seek clarification, and stimulate thinking. Use different types of questions such as overhead, direct, knowledge, and relay. For more information on effective questions, see the Instructor Fundamentals SG.

PPT slide 11, SG page 7



**Instruction**

- Read the Learn from Others – *In 2013, a contractor ruptured a water line by placing an outrigger above a buried pipe. The weight of the crane caused pressure on that spot and resulted in an indentation in the earth greater than one inch (1”). The crew stopped the job, contacted the Blue Stake Team, and called the appropriate department to repair the damage.*
- **Below are possible questions to discuss**
  - What is an ‘outrigger’? Does anyone know how you normally place outriggers when setting up a crane?
  - How would they normally set up this job so that the outrigger would not dig into the ground?
  - Do you think they did an adequate job of examining their workplace and thinking ahead for potential consequences for doing the job the way that they did?
  - What did they forget to consider? (potential utility lines running beneath the earth’s surface)
  - If there was a potential that the outrigger would penetrate the earth, what could they do to determine what had been buried in this spot?
  - Do you think they thought through this job well enough?
- **Discuss potential consequences if the Policy is not followed by asking the following questions**
  - Ask what happens if you do not plan ahead or follow the Blue Stake Policy?
  - From 2010-2015 there 162 Near Misses and Property Damages due to insufficient or incorrect application of the Blue Stake Policy and procedures
  - Why was this policy written? ...*to minimize risk for injuries, harm to the environment and production losses during such work*
- Read both Learn from Others
  - *In 2010, contractors found a gas line while pot holing. The gas line did not follow a straight path, and no one had noted this situation*
  - *In 2012, an operator, digging outside a Blue Stake area, struck a water line unmarked on the Blue Stake permit. The production area ceased work until the completion of the repair to this line*
- **Discuss stopping the job if you need to go beyond the approved boundaries**



According to the Law of Intensity, students learn best from the real thing vs substitutes. Take time to discuss these Learn from Others and apply them to other situations.

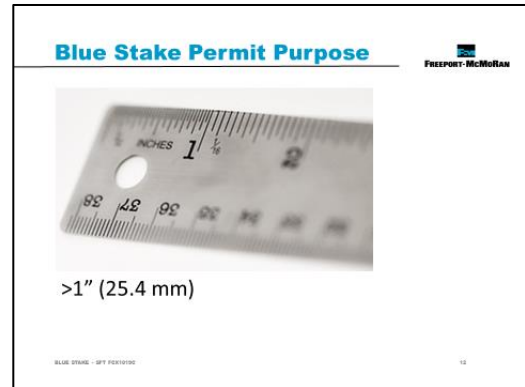


## PPT slide 12, SG page 8



### Instruction

- When penetrating or excavating a building or earth's surface, significant risk is involved
- Risk is multiplied if employees do not know what is beneath the ground or behind a wall
- Blue staking – “the act of identifying and marking utilities such as electric, gas, water, telephone, fiber optic, etc., so that they do not pose a risk of injury to workers or a risk of being damaged during penetration, excavation, trenching, or digging activities in buildings, surface excavations and underground workings”
- All employees and contractors are responsible for following the policy
- Ask when a Blue Stake permit is required
  - **Click to reveal answer**
  - Required if penetration is one inch or greater ( $>1''$ )
- **Discuss who needs to be contacted prior to penetration**
  - Site environmental representative
  - This task is often completed at Freeport-McMoRan sites through the Management of Change (MOC) process
- **Discuss the purpose of blue staking**
  - It helps ensure the right people look at the potential hazards
  - It allows operators to implement the correct controls to protect employees, property, and the environment



For a more successful transfer of knowledge you need to assist the students with answering the question “What’s In It For Me?” When adult learners know this, they will be more motivated to learn new material.

## MODULE 1 QUIZ

PPT slides 13-16, SG page 9



### Instruction

1. Students write answers to the quiz questions in the SG
2. Review the answers as a class
3. Question 3 has some terms that have not been covered. Students should still attempt to answer to test their prior knowledge

Question	Answer
1	D (SG pg. 7)
2	A (SG pg. 8)
3	E, A, D, C, B (SG pgs. 15-17)

### Module 1 Quiz

**Directions**

1. Complete the Quiz in the Student Guide (pg #)
2. Review the answers as a class

**Note:** Check your prior knowledge by attempting to answer the questions not taught yet

Quiz

BLUE STAKE - SPT PCD10100

### Module 1 Quiz

FREEPORT-McMORAN

1. Due to the high level of risk during excavations and penetrations of building surfaces, what was the Blue Stake Policy developed to minimize?
  - a. Risk for injuries
  - b. Harm to the environment
  - c. Production losses
  - d. All of the above

BLUE STAKE - SPT PCD10100

### Module 1 Quiz

FREEPORT-McMORAN

3. Match these items with the correct description.
 

A. Requestor	E. Administrative control
B. Blue Stake Representative	A. Person who puts in the request
C. Excavation Operator	D. Items used to mark buried or concealed utilities
D. Temporary or Permanent Markings	C. Person who digs into the earth
E. FMI Blue Stake Policy	B. Investigates what is concealed in the walls or beneath the earth

BLUE STAKE - SPT PCD10100

### Module 1 Quiz

FREEPORT-McMORAN

2. How deep does an impending penetration of the earth's surface need to be in order to warrant a Blue Stake request or survey?
  - a. Greater than 1 inch
  - b. 1/2 inch or greater
  - c. It is always required no matter the depth

BLUE STAKE - SPT PCD10100


## PPT slide 17, SG page N/A



### Instruction

- Discuss questions on the slide
- Update quote chart
- Update roles and responsibilities charts

### Debrief



- What are some key concepts in this module?
- What do you need to understand better?
- What information surprised you?

BLUE STAKE - QPT 16010100 22

Debriefs are included at the end of each module to help summarize, review, refresh, retain, and clarify content covered in the module. Additional debriefs can occur when returning from breaks, and at the beginning or end of a day. Facilitators debrief material whenever they need to gauge student understanding.



## MODULE 2: PERMIT PROCESS

This module contains introductory information about the actual process that takes place for a Blue Stake, from request to excavation or other work.

### LEARNING OBJECTIVES

Upon completion of this module, students will be able to:

- Define the roles and responsibilities of all Blue Stake process participants
- Explain how to begin the request for a Blue Stake Permit

### ACTIVITIES

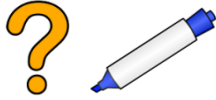
- Activity 3: Roles and Responsibilities (ongoing through course)
- Activity 4: Digging Deeper

For further details, refer to *Activity Materials* under *Facilitator Preparation* on page 6.

### TOTAL TEACHING TIME

This module takes approximately 20 minutes to complete.

PPT slide 18, SG page 13



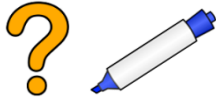
**Instruction**

- The policy describes responsibilities for several participants within the blue stake process
- This module explains the roles and responsibilities of those involved in the process
- Go over the learning objectives for the module:
  - Upon completion of this module, the students will be able to:
    - Define the roles and responsibilities of all Blue Stake process participants
    - Explain how to begin the request for a Blue Stake Permit



## ACTIVITY 3: ROLES AND RESPONSIBILITIES

PPT slides 19-20, SG pages 15-18 (and to end)



### Time

15 minutes (ongoing through the rest of the course)

### Materials

Student Guide (page 18)

### Purpose

This activity helps the students learn the roles and responsibilities of all who are connected to a Blue Stake activity.

### Instruction

1. Divide class into four groups and assign each group a role
  - Requestor
  - Managers, Superintendents, Supervisors
  - Representative
  - Operator (all workers/employees who complete work that requires penetration of the earth, ceiling, wall, or floor)
2. Students write their role on the chart in the SG and on the chart paper
3. Groups read the “Roles and Responsibilities” section, taking notes on their assigned role
4. Display the next slide
5. Each group presents their information to the class while the other groups take notes
6. Students add to the SG throughout the day when additional responsibilities are discussed

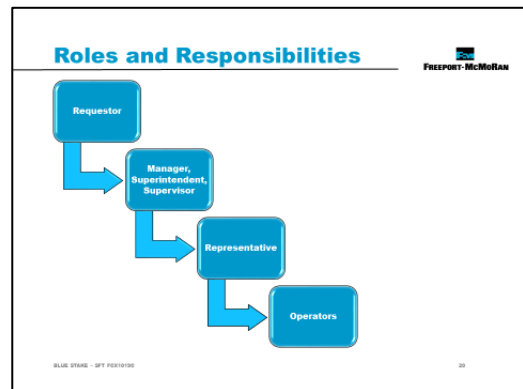
### Roles and Responsibilities

**Directions**

1. Each group is assigned one of four specific roles:
  - Requestor
  - Manager, Superintendent, Supervisor
  - Representative
  - Operator
2. Title the chart paper with your role and put it in the SG (page 18).
3. As a group, add responsibilities to the chart paper and in the SG.
4. Each group presents their role to the class while other groups take notes.
5. Add updates throughout the day as you learn additional responsibilities.

BLUE STAKE - SPY PHOTOGRAPH

Activity 3



Key points for each role, and the module to find the points, are listed below.

### Manager, Superintendent, or Supervisor

Module 2	<ul style="list-style-type: none"> <li>• attend initial planning meeting</li> <li>• oversee the excavation or penetrating work (all Blue Stake activities), if the project manager is not the Requestor</li> <li>• work with others to determine if Blue Stake is not needed (must be agreed on by all four Roles)</li> <li>• work with Representative to determine if additional site visits are required</li> <li>• appoint Project Manager</li> <li>• kept up to date of progress, changes, issues</li> </ul>
Module 4	<ul style="list-style-type: none"> <li>• assess the situation and authorize Operators to proceed with emergency excavation when needed. Stop work if there is any doubt.</li> </ul>

*Continued on next page*

## Requestor

Module 2	<ul style="list-style-type: none"> <li>• initiate and properly complete the permit</li> <li>• mark the area for the excavation or penetration using white, site-approved paint</li> <li>• make sure that a Management of Change (MOC) is complete</li> <li>• inform and invite several people to an initial job-planning meeting</li> <li>• explains to the Representative the detailed scope of work from the initial request as well as any other pertinent details</li> <li>• work with others to determine if Blue Stake is not needed (must be agreed on by all four Roles)</li> <li>• request a renewal if the job will surpass the 30-day time limit</li> <li>• request new Blue Stake if conditions change or the scope of work expands outside the permitted area</li> </ul>
Module 3	<ul style="list-style-type: none"> <li>• mark the area perimeter to be investigated with white, site-approved paint</li> <li>• make certain that all obstacles have been removed from the area that needs the representative to investigate (floor, roof, ceiling, and wall)</li> </ul>
Module 4	<ul style="list-style-type: none"> <li>• contact the Representative if an extension needs to be requested for the job</li> <li>• must notify the Representative or manager an excavation is determined to be an emergency</li> <li>• file Variance with Health and Safety if needed for special circumstances when full compliance with the policy is not met</li> </ul>

## Representative

Module 2	<ul style="list-style-type: none"> <li>• attends initial planning meeting</li> <li>• is an engineer, technician, or another qualified individual who has the ability to review drawings or prints and mark out utilities and pipelines accordingly</li> <li>• is the only one who can issue a Blue Stake Permit</li> <li>• gives the Requestor additional information that could be critical to the project, such as directions to call an outside agency to survey the area and issue a permit, as required per lease agreement and in accordance with local laws</li> <li>• collects the tools needed, connects with any specialists needed, such as electricians, and goes to the requested location to conduct the Blue Stake survey</li> <li>• determines if a permit is necessary; work with others to determine if Blue Stake is not needed (must be agreed on by all four Roles)</li> <li>• works with supervisor to determine if additional site visits are required</li> <li>• provides markings and detailed information on the permit that will guide the Operator, and will lead the meeting of all who will be involved in this job</li> <li>• completes uniquely numbered permit for each excavation area within project scope</li> <li>• grants a renewal Blue Stake as needed for jobs that are not able to be completed within the original 30 days</li> <li>• approves any deviations, additions, or changes to the permit</li> <li>• accepts the completed permit once the job is complete, and store according to FCX-Records Retention Policy</li> <li>• produces blue prints to investigate any unknown utilities that are found</li> </ul>
Module 3	<ul style="list-style-type: none"> <li>• investigates and then marks underground utilities with specific markings using specific paint colors that are site-approved</li> </ul>

*Continued on next page*



	<ul style="list-style-type: none"> <li>• uses temporary or permanent markers as communication with Operators when marking hidden underground utilities, based on location, weather conditions, etc.</li> <li>• investigates both sides of wall surfaces and ceilings to see if any utilities were installed in the wall joints or studs without making wall penetrations (floor, roof, ceiling, and wall)</li> <li>• obtains drawings, pictures, or prints, etc. when doubts exist as to the location of hidden utility lines within floor, roof, ceiling, and wall</li> </ul>
Module 4	<ul style="list-style-type: none"> <li>• may need to re-survey the area if an extension is requested</li> <li>• may need to work with manager to quickly assess and determine course of action for an emergency excavation</li> </ul>

## Operator

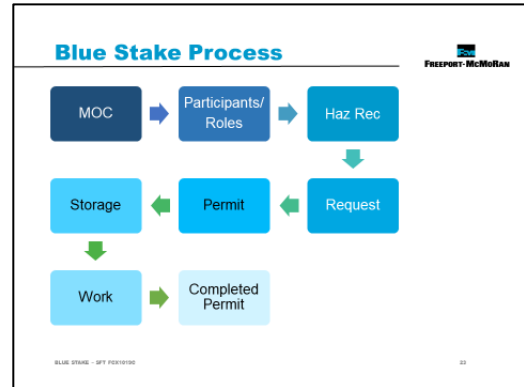
Module 2	<ul style="list-style-type: none"> <li>• performs the work, operates equipment, or is actively involved in the penetration, excavation, trenching or digging activities</li> <li>• attends initial meeting</li> <li>• works with others to determine if Blue Stake is not needed (must be agreed on by all four Roles)</li> <li>• if unknown utilities are discovered, must stop the job immediately, clear the area as needed, and contact the Representative and the Project Manager</li> <li>• when all information is received and understood, they then execute the job</li> <li>• fills out Workplace Exam and Job Safety Analysis, both part of Hazard Recognition</li> <li>• keeps the completed permit at the job site at all times, making sure everyone has read and understands the information</li> <li>• calls the Representative if there is anything missing or unclear on the permit, or if any changes are necessary</li> <li>• returns the completed permit to the Representative once the job is complete</li> <li>• stops work and clears the area if a utility line is hit, if an unknown utility line is discovered, or if there is anything unsafe about the job; contact Project Manager, Representative, and Safety or Environmental as needed</li> </ul>
Module 3	<ul style="list-style-type: none"> <li>• is aware of the tracer wires, tape, or colored cement when excavating that warns that the utilities are close by</li> <li>• places the tracer wire, tape, or concrete/slurry in place if they are part of the installation crew</li> <li>• hand digs or pot holes when working within 24" of known utilities (hand digging, vacuum extraction, or other impact minimizing techniques)</li> <li>• follows site shift change procedures when handing over incomplete work from one shift to the next</li> <li>• flags, barricades, and tags properly any hazards left unattended</li> <li>• helps clear away any items that might interfere with the Representative having access to all areas that need to be investigated (floor, roof, ceiling, and wall)</li> </ul>
Module 4	<ul style="list-style-type: none"> <li>• is listed as the designated Operator on the long-term permit at time of initial request</li> <li>• keeps a copy of the current permit at all times during the job</li> </ul>

PPT slide 21, SG pages 19-20



**Instruction**

- Have the students follow along and underline important information in the SG as you discuss each step
- Management of Change (MOC)
  - is the first step
  - is a corporate initiative required for ISO 14001
  - gives H&S and Environmental Departments sufficient opportunity to ensure changes are evaluated for potential impacts on safety, environment, production, and quality
  - when samples, permits, surveys, studies, notification may need to be performed they must be finished before any work begins
  - Check site-specific requirements
- Participants and Roles – previously discussed
- Hazard Recognition
  - part of non-routine jobs (Blue Stake jobs)
  - includes workplace examinations and job safety analyses (JSAs)
- Request
  - starts with Requestor filling in the needed information and submitting it to the Representative
  - review site-specific information for additional information
  - meet with necessary departments to go over request
- Permit
  - Representative determines necessity for further investigation and Blue Stake Permit
  - a complete permit signifies that, to the best of the Representative’s knowledge, all concealed utilities have been identified and marked
  - each Permit is uniquely numbered
  - there is a 30-day limit to get the job done
  - Requestor must request renewal/extension if necessary
  - if the Permit expires before the renewal has been issued, all work must stop
  - if conditions change or the scope of work expands outside the permitted area, the Requestor must ask the Representative for a new permit
  - Representative must approve any deviations, additions, or changes to the permit
- Storage
  - current Blue Stake Permit must be kept at the job site, and all Operators (and others directly connected to the job) must have read and understand the permit (and may need to sign the permit)
  - Operator must call the Representative for clarification if there is any missing, conflicting, or misunderstood information



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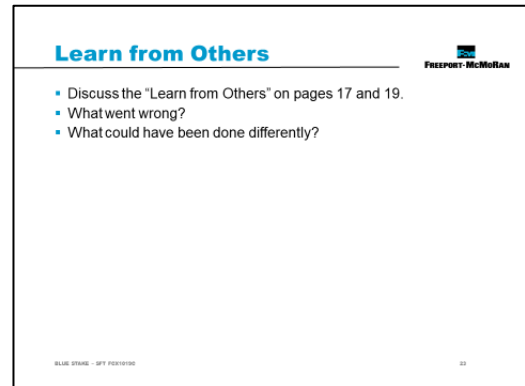
- Work – discussed later
- Completed Permit
  - Operator must return the permit to the Representative when the job is finished
  - Completed permit with any attached drawings and documents will be filed according to the FCX- Records Retention Policy

**PPT slide 22, SG pages 17 and 19**



**Instruction**

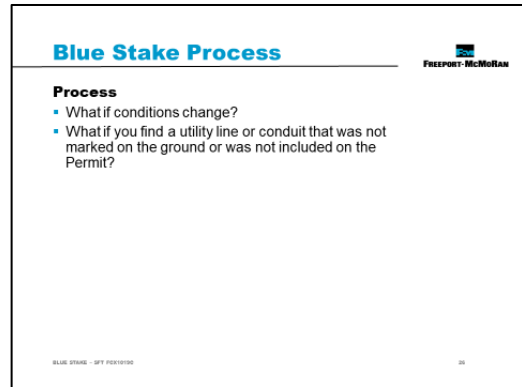
- **Have a student read the Learn from Others on page 17 and discuss** – *While performing demolition work on a drywall wall, a contractor sawed through a visible live 20 Amp, 277 Volt conduit which powered emergency lights. The wall was 80% demolished and the conduit was clearly visible from one side. A Blue Stake was performed but this conduit did not show on any of the reviewed drawings.*
  - Ask students to describe what could have been done differently
  - Remind them if they were the Operators and if they were to find utility lines that had not been previously identified, they would need to *stop work*, clear the area, and contact the Blue Stake Representative.
- **Have another student read the Learn from Others on page 19 and discuss** – *A crew was trying to expand an area in the bottom of an excavation to put HDPE pipe fuser in the excavation. To do this, they made the ramp into the excavated area longer and more gradual, digging into the earth in an area that had not been blue staked. The crew failed to look at the excavation plan and the Blue Stakes map for underground utilities. In the process of digging they struck a 6” gas line causing it to rupture.*
  - Ask students to describe what went wrong
  - What could they have done differently had they been the Operators on the job? What should this crew have done once they knew they needed to expand the excavation area?
  - Always call the Blue Stake Representative and do not do more work outside the approved area until the area has been checked again and the expanded area has been approved





**Instruction**

- **Discuss the questions on the slide**
- Tell the Representative if you discover something that was not identified initially in the Blue Stake investigation
- All employees have the right and the responsibility to stop work and clear the area if it becomes unsafe in any way
  - Immediately contact the area Supervisor, Project Manager, and Blue Stake Representative
  - Examples include - Rupture, break, or discovery of utility line during excavation
- Contact Environmental Department representative, Industrial Hygienists and, as necessary, Safety Professional if situation includes a spill to the ground, or if it appears asbestos is present
  - If you are unsure of the presence of asbestos, contact your Supervisor or Environmental Representative
  - The Representatives bring blue prints to further investigate the situation
- Further information regarding emergency work is discussed in Module 4



## ACTIVITY 4: DIGGING DEEPER

PPT slides 24-28, SG page 21



### Time

Approximately 10 minutes

### Materials

- Student Guide
- Blue Stake Policy (FCX-13)

### Purpose

This activity gives students the opportunity to check prior knowledge and allow them to check their assumptions of the roles that are part of the Blue Stake process.

### Instruction

1. Break the class into small groups
2. Give each group copies of the Blue Stake Policy
3. As a small group, read the scenarios, circle the answers and provide explanations
4. **Click on each slide to reveal the answers**
5. **Discuss the scenarios and answers as a class**
6. Question 4 has content that has not been covered. Students should still attempt to answer to test their prior knowledge

Question	Answer
Scenario 1	Yes, it has the potential to penetrate greater than one inch, sawing always requires a blue stake
Scenario 2	Yes, it has the potential to penetrate greater than one inch
Scenario 3	Items: ground conditions, hazards, proper tools/equipment, ground markings, Blue Stake Permit Explanation: hazard recognition, Workplace Exams Things that could keep you from doing this job: wrong conditions or controls; missing or unclear ground

### Digging Deeper

**Directions**

1. Break into small groups.
2. Read the scenarios in the Student Guide and use the Blue Stake policy to answer the questions.
3. Be ready to share your answers as a class.

**Note:** Check your prior knowledge by attempting to answer question 4.

Activity 4

BLUE STAKE - SPY FCX1313C

### Digging Deeper

FREEPORT-McMORAN

**Scenario 1**

Bob is about to hang a heavy picture in his office with several one and a quarter inch (1 1/4") nails. Does he need to request a Blue Stake?

- Yes
- No

Explanation:

- It has the potential to penetrate >1"/25.4 mm

BLUE STAKE - SPY FCX1313C 21

### Digging Deeper

FREEPORT-McMORAN

**Scenario 2**

Jake is in charge of planning a job that will include digging a trench on the west side of the mill. Does he need to request a Blue Stake?

- Yes
- No

Explanation:

- It has the potential to penetrate > 1"/25.4 mm

BLUE STAKE - SPY FCX1313C 22

### Digging Deeper

FREEPORT-McMORAN

**Scenario 3**

You are an equipment operator, and you have been told to dig a trench four feet (4') deep and six feet (6') long next to the Health and Safety building. Before transporting your equipment to the area, you decide to conduct a walk through.

- What are you looking for?
  - Items: ground conditions, hazards, proper tools/equipment available, ground markings, Blue Stake Permit
  - Explanation: hazard recognition, Workplace Exam
- What would keep you from doing this job?
  - wrong conditions or controls; missing or unclear ground markings; missing information on permit; not safe to move forward with job

BLUE STAKE - SPY FCX1313C 27

	markings; missing information on permit; not safe to move forward with job
Test prior knowledge	D, when sawing or if there is the potential to penetrate greater than an inch, you must have a Blue Stake Permit

**Digging Deeper**

Following the Blue Stake Policy, when must a Blue Stake be requested?

- A. When a penetration is to be made in the earth's surface of >1"
- B. When a penetration is to be made in a ceiling of >1"
- C. When a sawing penetration is to be made in a floor
- D. All of the above

Explanation:

- #s 1 & 2 have the potential to penetrate >1"/25.4 mm
- #3 sawing into a floor always requires a Blue Stake
- Per FCX-13

BLUE STAKE - SPY PERM1000 22

According to the Law of Exercise, learning increases with repetition. Review and repeat the concepts covered in this module by using the activities and quiz/review questions. Ask them to repeat important points in the course. This helps them commit the information to long-term memory from their short-term/working memory.

PPT slide 29, SG page N/A



**Instruction**

- Discuss questions on the slide
- Update quote chart
- Update roles and responsibilities charts

**Debrief**

- What are some key concepts in this module?
- What do you need to understand better?
- What information surprised you?

BLUE STAKE - SPY PERM1000 27

**Break**

- Take a 5-10 minute break after this module
- Allow students to stand up, stretch, use the facilities, etc.
- Clearly communicate what time you expect them to return to start the next module

## MODULE 3: PERMIT SPECIFICS

This module contains introductory information about digging with a Blue Stake.

### LEARNING OBJECTIVES

Upon completion of this module, students will be able to:

- Describe the basics of excavation requirements as per the Blue Stake Policy
- Describe the basics of floor, roof, ceiling, and wall penetration requirements as per the Blue Stake Policy

### ACTIVITIES

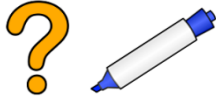
- Activity 5: Colors (slides 32-36)

For further details, refer to *Activity Materials* under *Facilitator Preparation* on page 6.

### TOTAL TEACHING TIME

This module takes approximately 15 minutes to complete.

PPT slide 30, SG page 25



**Instruction**

- This module provides basic information on what happens after a permit is issued and when work is performed
- This not intended to be formal training allowing equipment to be operated. Before using any equipment, training is required
- Go over the learning objectives for the module
  - Upon completion of this module, the students will be able to:
    - Describe the basics of excavation requirements as per the Blue Stake Policy
    - Describe the basics of floor, roof, ceiling, and wall penetration requirements as per the Blue Stake Policy



PPT slide 31, SG page 27

**Instruction**

- Blue Stake must be requested and a survey for concealed utilities performed if penetrating one inch or more into the ground
- Requestors use site-approved white paint to mark off the perimeter of the work area
- Representatives investigate the requested area
  - Mark ground, roof, wall, etc. with the specific paint colors to label the type of utilities located below the ground's surface
  - Colors should be visible

Marking Utilities	
Paint Color	Utility Type
Red	Electrical Power
Yellow	Gas-Oil-Product, and Air Lines
Orange	Communication Cable
Blue	Water Systems
Green	Sanitary Sewer Systems, Drains, Slurry Pipelines
White	Perimeter of Excavation/Boundary
Purple	All Solvent Extraction, Electro-winning



## ACTIVITY 5: COLORS

PPT slides 32-36, SG page N/A



### Time

Approximately 10 minutes

### Materials

Student Guide, page 27

### Purpose

This activity allows students the opportunity to apply their knowledge of the colors used to mark utilities.

### Instruction

- Go through each slide
- Students use the chart in the SG to identify what has been marked

1. Answers

Red	Electric
Blue	Water
Yellow	Gas
Orange	Communication

2. Answers

Red	Electric
Blue	Water
Yellow	Gas
Orange	Communications

3. Answers

Red	Electric
Blue	Water


### Colors


**Directions**

- Look at the following images
- Use the chart in the Student Guide (page 27) to identify what the Blue Stake Representatives have marked

Activity 5


### Colors #1




  
 FREEPORT-McMoRAN

BLUE STAKE - 07F P010100
32

### Colors #2



  
 FREEPORT-McMoRAN

BLUE STAKE - 07F P010100
34

### Colors #3



  
 FREEPORT-McMoRAN

BLUE STAKE - 07F P010100
35

*Continued on next page*

4. Answers:

Orange	Communications
Blue	Water



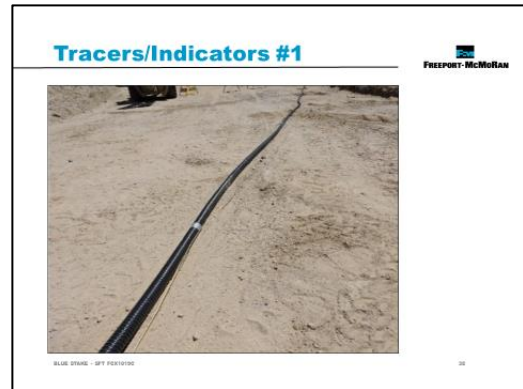
PPT slides 37-41, SG page 28



**Instruction**

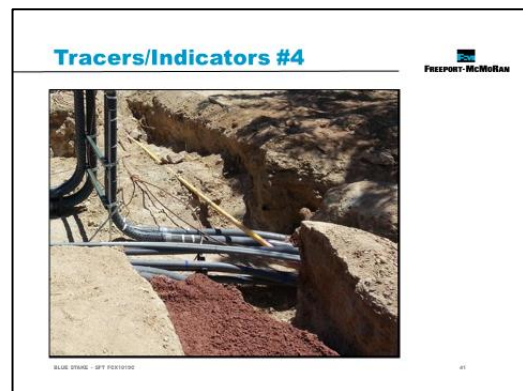
- Help communicate to workers
- Indicate to Operators when they are close to lines
- Helps Representatives when blue staking
- Usually placed when installing underground utilities
- Often used as tracers/indicators to warn workers, such as Representatives, of nearby utilities
- Sometimes installed by Operators if they are part of the underground utility installation
- Explain site-specific information
- **Note:** The table is not a complete list of all tracers/indicators found
- **Describe each example on the following slides**
  - 1 – Tracer/tracer wire on electric conduit or gas lines = electric
  - 2 – Tracer wire taped to conduit above the ground level = electric

Tracer/Indicator	Utility Type
Tracer wire	All new underground utilities
Yellow tape	Gas-Oil-Product, and Air Lines
Orange tape	Communications Cable
Red concrete/slurry (mortar-based concrete with red dye powder spread on top)	Electric (sites and best practice)



*Continued on next page*

- 3 – Orange tape = communications  
(Note: This image is not included in the SG)
- 4 – Red concrete = electric (sites and best practice) (Note: This image is included in the SG on page 31)



**PPT slide 42, SG page 30**

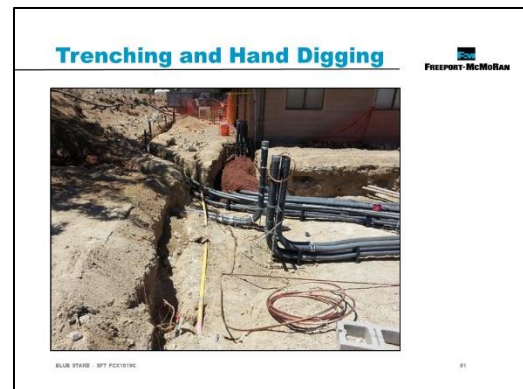
**Instruction**

**Trenching**

- Excavations must comply with all FCX requirements which meet and/or exceed regulatory standards
- When installing, rerouting, or repairing an underground utility, work must comply with local and regional buried utility/new installation requirements
- Trenching and Excavating training
  - Provides specific information on these topics and the use of equipment
  - Must be taken before participating in trenching and excavation
  - Explain site-specific courses available
  - This class only teaches awareness

**Hand digging/Pot holing**

- Must be done when within 24” (60.96 cm, or .61 m) of known utilities
- Operators must use processes such as hand digging, vacuum extraction, or other impact minimizing techniques to prevent contacting and damaging underground utilities

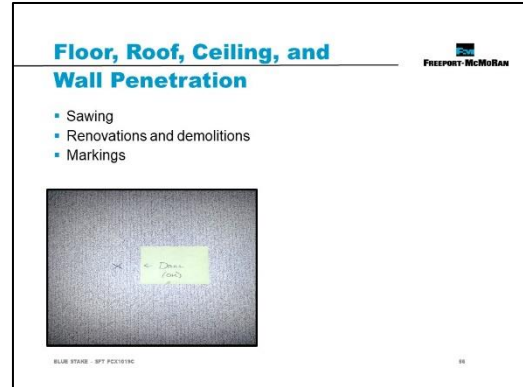


## PPT slide 43, SG pages 30-31



### Instruction

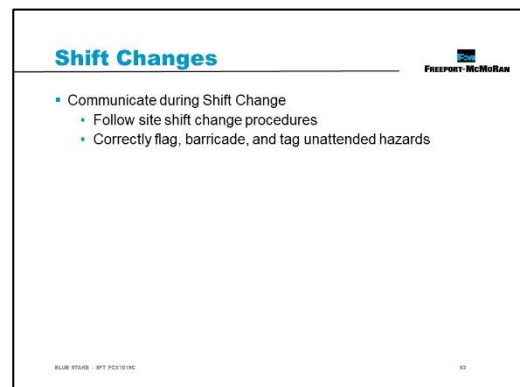
- FCX-13 expectations for inside work
- Sawing
  - Requires a permit at all times
  - Must be trained
- Renovations and Demolitions
  - May require coordination with site Environmental Department so they can test for airborne contaminants
  - Coordinate using MOC
- Markings
  - When doubt exists regarding utility location within structure, Representative uses drawings or prints
  - Markings should be prominent and visible
  - Check site-specific procedures for types of markings used
- Discuss any other relevant site-specific information that meets or exceed FCX-13
- **Read and discuss the Learn from Others** – *On September 28, 2012, a contractor operating a track hoe contacted a two inch (2”) electrical cable while digging a test pit. This dig was one of 60 test pits surveyed and blue staked for the project. It appeared the cables were “not live” and everyone was OK. The Project Manager instructed the crew to shut down the job and secure the area for further investigation. The Blue Stake Team and Safety On-Call were contacted and a Near Miss Report was completed. The next morning, the Blue Stake Team confirmed to the Project Manager that the cable was not live. They also reported the operators were working outside the blue staked area by 270 feet. The Project Manager reinforced the Blue Stake Policy with the contractors, and work resumed.*



## PPT slide 44, SG page 31

### Instruction

- Time Limits
  - Permits last 30 days after issue date
  - Must have extension before continuing when the permit expires
  - Long-term permit is valid for 1 year
  - Explain site-specific information
  - Must meet or exceed FCX-13
- Shift change
  - Explain site-specific SOP for handing over a job to the next shift
  - Must meet or exceed FCX-13



## MODULE 3 QUIZ

PPT slides 45-48, SG page 32

### Time

Approximately 10 minutes

### Materials

- Student Guide, page 32
- Blue Stake Policy (FCX-13)

### Purpose

This activity gives students the opportunity to review the basic procedures for excavation as well as other areas of penetration.

### Instruction

1. Tell students to get out the Blue Stake policy copy they were given earlier
2. Students write answers to the quiz questions in the SG
3. Review the answers as a class

Question	Answer
1	D. white
2	B. 24"
3	C. Properly flag, barricade, and tag as needed <b>Note:</b> Yes, you should clean up, and if there is an un-barricaded open hole, you need someone to watch it until you can barricade it, but the third answer is the BEST answer. It's all about labeling and communication.

### Module 3 Quiz

**Directions**

1. Complete the Quiz in the Student Guide (page 32).
2. Review the answers as a class.

Quiz

### Module 3 Quiz

**1.** As the Requestor, what color paint would you use to mark the boundary of the area you are planning to dig?

- A. Red
- B. Yellow
- C. Blue
- D. White

**Explanation:**  
As per FCX-13

### Module 3 Quiz

**2.** How close to a known utility must you hand dig (pot hole)?

- A. 12"
- B. 24"
- C. 6"
- D. 36"

**Explanation:**  
As per FCX-13

### Module 3 Quiz

**3.** If you are not finished with the job at the end of your shift, how do you prepare the work area to be left until you and your crew return the next work day? (Choose the best answer.)

- A. Clean up your tools and leave the area neat and organized.
- B. Post a security guard to keep people out of the area.
- C. Properly flag, barricade, and tag as needed.


**Explanation:**  
Communication to any who may be in that area

**PPT slide 49, SG page N/A**

**Instruction**

- Discuss questions on the slide
- Update quote chart
- Update roles and responsibilities charts

**Debrief**



- What are some key concepts in this module?
- What do you need to understand better?
- What information surprised you?

BLUE STAKE - BY F010100

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## MODULE 4: PERMIT EXCEPTIONS

This module contains introductory information about the exceptions to the Policy, including what areas are exempt from needing a Blue Stake process.

### LEARNING OBJECTIVES

Upon completion of this module, students will be able to:

- Describe what a variance is and when to request one
- Describe what the exemptions are for using the Blue Stake process

### ACTIVITIES

Activity 6: Putting It All Together (takes facilitator preparation)

For further details, refer to *Activity Materials* under *Facilitator Preparation* on page 6.

### TOTAL TEACHING TIME

This module takes approximately 20 minutes to complete.



PPT slide 50, SG page 35

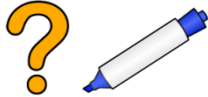


**Instruction**

- Mining is a dynamic environment and exceptions are sometimes necessary
- This module explains some of the exceptions and the proper actions to take when exceptions are necessary
- Time frames, exemptions, and variances will be discussed
- Go over the learning objectives for the module
  - Upon completion of this module, the students will be able to:
    - Describe what a variance is and when to request one
    - Describe what the exemptions are for when using the Blue Stake process

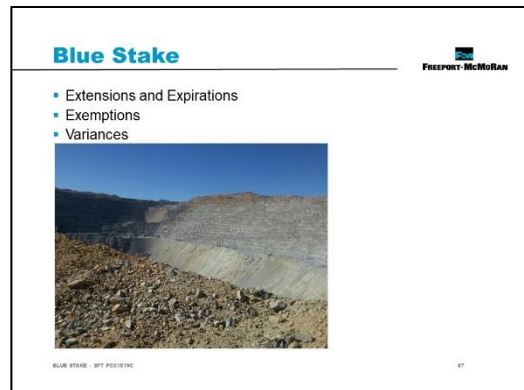


PPT slide 51, SG pages 37-38



**Instruction**

- Extensions and Expirations
  - 30 days; 1 year (long-term)
  - Stop job until extension is in hand
  - Requestor contacts Representative for 30-day extension
  - Only one extension is allowed per permit
  - Representative may resurvey area if Requestor asks for an extension
  - Designated Operator(s) must be listed on the long-term permit at the time of initial request
  - Only designated Operator(s) can perform the excavation in accordance with the restrictions of the permit
  - This documentation on the permit is necessary for renewal as well
  - Operator(s) must have a copy of the current permit with them while they perform work
- Exemptions
  - Emergency procedures – apply to mine sites only; other non-mining sites may need to call for local utility location services
    - If an excavation must begin due to a safety, environmental, or facility operation emergency, the area supervisor must visit the site and determine if the problem is an immediate hazard
    - If determined to be an emergency, the area supervisor must notify the Representative(s) or a manager



*Continued on next page*



- They, in turn, may authorize the area supervisor to proceed with the emergency excavation
      - If there is any doubt, the job must be stopped immediately
    - Native ground, top surface of active leach, waste stock piles, and active mining areas
      - Native Ground – Top surface of active leach and waste stockpiles, and active mining areas where utilities have never been present
      - The Blue Stake team does not issue a permit in these instances
    - Residential and commercial lessees of Freeport-McMoRan-owned town sites
      - No Freeport-McMoRan Blue Stake Permit will be issued
      - These individuals must contact the appropriate entities per the lease agreement and per local laws
  - Variance
    - Freeport-McMoRan GSR Variance Process Policy (FCX-21)
    - Must be filed with Health and Safety when full compliance of FCX-13 is not met
    - Fill in with site-specific material that meets or exceeds FCX-13 and FCX-21
    - Approved and completed variance form must be kept on file with an SOP or other work procedure established for future action
    - An engineer or other qualified individual must review the work to be performed, provide justification for the exemption, and give alternate safety controls to minimize or eliminate the risks
    - Check with your site Health and Safety Department for further information
-

## ACTIVITY 6: PUTTING IT ALL TOGETHER

PPT slide 52, SG page 39



### Time

Approximately 10 minutes

### Materials

- Student Guide, page 39
- Job Title cards (1 of each job title per group)
- Scenario cards (1 copy per group)
- Blue Stake Policy

### Putting It All Together

**Directions**

1. Form groups of three.
2. Each group member is assigned a different job title.
3. Read your group's scenario.
4. Using the Blue Stake Policy and speaking from the view point of your job title, discuss how to complete your scenario safely.
5. Write your plan in the Student Guide (page 39).
6. Complete the Permit on the back of the policy.
7. Give the completed permit to the Representative.
8. Discuss your plan as a class.

BLUE STAKE - OPT PERMITTING

Activity 6

### Purpose

This activity has students review content presented throughout the course.

### Instruction

1. Students form groups of three
2. Give each group member a different job title card (or just tell them their roles)
3. Explain that you (the facilitator) will be the Representative
4. Give each group a scenario card
5. Groups read their scenario
6. Using the Blue Stake Policy and speaking from the view point of their job title, students discuss with their group how to complete their scenario safely
7. Students write their plan and all responsibilities of their job role from in the SG
8. Groups complete the permit on the back of the policy
9. Give the students about 10 minutes to finish everything
10. Students give the completed permit to the Representative (you, the facilitator)
11. Groups share their scenario and plan with the class
12. If students miss something important, discuss what they are missing

### Possible Answers

All scenarios have variations of these answers, but students may have more information. Adjust to fit your site-specific procedures as needed.

Job Title	Responsibilities
Requestor	<ol style="list-style-type: none"> <li>1. Submit MOC and wait for approval</li> <li>2. Delineate area</li> <li>3. Submit Blue Stake request and wait for completed Blue Stake Permit</li> <li>4. Invite Supervisor (or designee), Representative, and Operators and run planning meeting</li> </ol>
Manager, Superintendent, or Supervisor	<ol style="list-style-type: none"> <li>1. Assign Project Manager</li> <li>2. Attend and participate in Planning Meeting</li> <li>3. Supervise work being completed</li> <li>4. Provide assistance if needed</li> </ol>

*Continued on next page*

Operator

1. Attend Planning Meeting and participate
2. Workplace Exam and JSA
3. Bring all necessary tools and equipment to the area
4. Follow the steps of the job in the safest way possible
5. Communicate with others and stop the job if anything seems dangerous or missing
6. Call Representative and Project Manager for assistance if we need to stop the job

**Requestor**

**Manager,  
Superintendent, or  
Supervisor**

**Operator**

**Scenario 1:** Your crew needs to install a replacement pipe for the water main that leads to the administration office. How will you plan and safely complete the job?

**Scenario 2:** Your crew needs to install a whiteboard in the Training Center. How will you plan and safely complete the job?

**Scenario 3:** Your crew needs to stake out the plot where a temporary office trailer will be located. How will you plan and safely complete the job?


**Scenario 4:** Your crew needs to dig a trench through a road to run some fiber optic cables from one building to another. How will you plan and safely complete the job?

**PPT slide 53, SG page N/A**

**Instruction**

- Discuss questions on the slide
- Update quote chart
- Update roles and responsibilities charts

**Debrief**



- What are some key concepts in this module?
- What do you need to understand better?
- What information surprised you?

BLUE STAKE - QFY PER01000

03

## CONCLUSION

The conclusion contains information about the Blue Stake Policy, the roles and responsibilities involved, and how proper planning can reduce the chances of injury.

## ACTIVITIES

- Student End of Course Questionnaire (in SG)

For further details, refer to *Activity Materials* under *Facilitator Preparation* on page 6.

## TOTAL TEACHING TIME

The introduction takes approximately 30 minutes to complete.

PPT slide 54, SG page 41

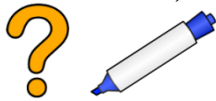


**Instruction**

- Pass out certificates, if this is your site's practice
- Serious consequences can result for those who do not follow Freeport-McMoRan's Blue Stake Policy, including potential termination of employment
- More importantly, a violation could lead to death or injury
- The health and safety of FMI Employees is a company core value
- "Production and costs are critical to the well-being of the company, but these considerations must never take precedence over safety, employee health, or protection of the environment" (FCX Safety and Health Policy)
- If you have further questions about this process, please contact a Blue Stake Representative, a Health and Safety professional, or your supervisor




PPT slide 55, SG page i



**Instruction**

- Review the roles and responsibilities charts
- Add anything that needs to be added
- Ask if anyone has further thoughts about the safety quote
- Add anything to the chart that needs to be added
- Challenge them to make safety a priority by planning out their work
- There is nothing you do that is worth someone getting hurt or dying over
- You must plan jobs and execute them as safely as possible
- Connect the Blue Stake policy to the quote
- Ask students what their responsibility is to safety and blue staking procedures

**Quote**



*"No job will be considered so important, and no schedule so urgent, that time cannot be taken to perform work in a safe manner. Working safely is a condition of employment."*

Freeport-McMoRan Inc. Safety and Health Policy

What does this mean to you?

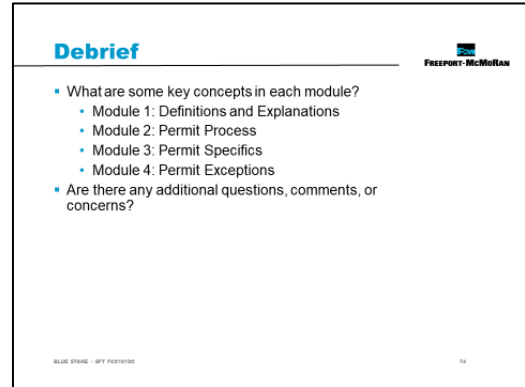
BLUE STAKE - 8/17/2016 64



**PPT slide 56, SG page N/A**

**Instruction**

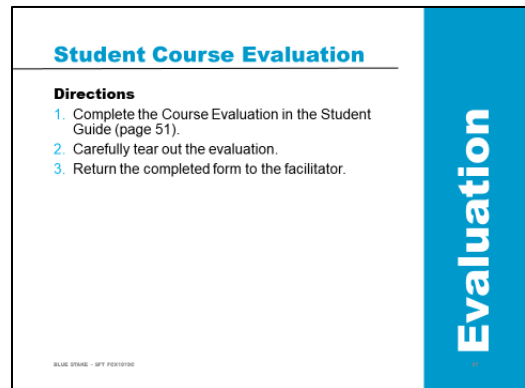
- As the objectives for each module are reviewed, discuss the students' lingering questions, comments, or concerns.
- Module 1: Definitions and Explanations
  - Explain the purpose and process of hazard recognition
  - Explain the purpose of the Blue Stake Policy
- Module 2: Permit Process
  - Define the roles and responsibilities of all Blue Stake process participants
  - Explain how to begin the request for a Blue Stake Permit
- Module 3: Permit Specifics
  - Describe the basics of excavation requirements as per the Blue Stake Policy
  - Describe the basics of floor, roof, ceiling, and wall penetration requirements as per the Blue Stake Policy
- Module 4: Permit Exceptions
  - Describe what a variance is and when to request one
  - Describe what the exemptions are for using the Blue Stake process



**PPT slide 57, SG page 51**

**Instruction**

- Students complete the Student Course Evaluation (in SG)
- Collect and return evaluations (including the Facilitator Course Evaluation in the back of the FG) to the Mine Training Institute according to the directions on the form





## FACILITATOR FEEDBACK SURVEY

**Course Name**

**Facilitator Name**

1. What worked well in the course? Please explain.

2. Were the topics effectively sequenced? If not, please provide suggestions for change.

3. Was the content up-to-date with current processes, equipment, etc.? If not, please provide specific examples.

4. Was the content at the appropriate level of difficulty? If not, please provide examples.

5. What in the course needs improvement? Please provide specific examples.

6. Were the course materials (PPT, FG, etc.) of high quality? If not, please provide examples.

7. Were there any inaccuracies or missing content? If so, please provide examples.

8. Do any of the issues you've identified need to be addressed immediately? If so, please list which ones.

**Thank you for taking the time to complete the survey.**

Please mail to: Mine Training Institute, Attention: Suzanne Anderson, 18550 S. La Canada Drive, Sahuarita, AZ 85629  
Or scan and email to: sanderso2@fmi.com





