

Coverage Information/Additional Comments

SAFETY NARRATIVE

Inspection Number 102764909

COVERAGE INFORMATION

NATURE AND SCOPE

Check Applicable Boxes and Explain Findings:

Accident Investigation Summary & Findings

NATURE AND SCOPE -- UNUSUAL CIRCUMSTANCES (Mark X and explain all that apply:)

None

OPENING CONFERENCE NOTES: A standard opening conference was conducted at which time CSHO introduced presented credentials, and stated the purpose for the visit.

NARRATIVE:

This inspection of Wolverine Drilling was initiated after the company reported an accident that resulted in the death of an employee. After conferring with the acting area director CSHO volunteered to travel to McGregor, ND to conduct an investigation into this event.

CSHO arrived at the offices of Wolverine Drilling located in Kenmare, ND on 02/09/04 and contacted Mr. Bob Blackford company owner. As previously stated CSHO introduced presented credentials, and stated the purpose for the visit. CSHO requested an opening conference to discuss the scope and intent of the impending investigation. After pertinent company information had been collected CSHO requested permission to initiate the investigation. Permission was given and the investigation commenced immediately.

CSHO, accompanied, by Mr. Blackford and well site manager Mr. Doug Peterson, proceeded to McGregor, ND where the accident occurred. Upon arriving at the site CSHO asked Mr. Peterson to describe what type of work was being accomplished prior to the accident. The following information was provided:

Mr. Peterson and his crew arrived at the well site location on Saturday 02/07/04. Their task was to string the wire drilling cable through the block sheaves, crown sheaves, fastline sheave and "A" leg sheave on the drilling rig and then attach the wire drilling cable to the draw works drum. Once this was accomplished the derrick could be raised in preparation for the exploratory oil well to be drilled.

In order to string the 1 1/4" wire drilling cable through the block sheaves, crown sheaves, fastline sheave, and "A" leg sheave a 1 1/4" manila rope or "catline" was attached to the wire drilling cable. This was accomplished by attaching a device called a "snake grip" to the ends of the "catline" and wire drilling cable.

For purposes of explanation the "snake grip" works in a fashion similar to a chinese handcuff. The "snake grip" is made of braided wire and is designed to hold two separate lines when pulling tension is applied. Due to the fact that the 1 1/4" wire drilling cable is not very flexible the "catline" is strung through each individual block sheave, crown sheave, and fastline sheave first. The "catline" is made fast to a forklift or four wheel drive truck and then, as the employees help guide the wire drilling cable through the sheave, the drilling cable is pulled through and wrapped around the sheave. This same process is followed for each sheave until the wire drilling cable is strung through all the sheaves. There were 10 wraps on the block and crown sheaves, one wrap on the catline sheave, and a final wrap on the "A" leg sheave located approximately 15 feet above the draw works drum.

Mr. Peterson stated that the crew had worked all day Saturday stringing the wire drilling cable through the block sheaves, crown sheaves, and catline sheave. According to Mr. Peterson the work progressed smoothly with no apparent problems and by the end of the day all that was left to do was bring the wire drilling cable through from the last crown sheave to the

"A" leg sheave and then down to the draw works drum. Because the sun was going down and the crew was losing light to complete the work it was decided that the work would stop and commence the following morning.

The next morning the crew arrived on site and prepared to pull the wire drilling cable from the crown to the draw works drum. The "catline" was strung through the "A" leg sheave, brought down to the drum, and three wraps were made on the drum with the "catline". Slack was made on the wire drilling cable spool and the wire drilling cable was then pulled from the crown sheaves towards the "A" leg sheave. A distance of approximately 160 feet.

Mr. Peterson stated that the victim had been assisting two other employees on the drilling cable spool when [redacted] was directed to help with pulling the excess "catline" out in preparation for bringing the wire drilling cable through the "A" leg sheave and then down to the draw works drum. The victim positioned [redacted] on the catwalk just below the "beaver slide" with the wire drilling cable approximately 30 feet overhead.

The wire drilling cable was pulled to a position where the "snake grip" was passing through the "A" leg sheave with the "catline" already through the sheave and the wire drilling cable directly on the other side of the sheave. At this point the driller put the draw works into neutral and the drum stopped turning. The driller wanted more slack in the wire drilling cable to make the last pull down to the drum so that 2-3 wraps could be made on the drum with the wire drilling cable. It was at this point that the "snake grip" broke.

When the "snake grip" broke the stringing tension on the wire drilling cable caused the cable to snap back and then drop. The wire drilling cable struck the victim on the right side of the head and neck. Although the victim was wearing a hard hat the blunt force trauma inflicted a skull fracture and neck fracture resulting in near instantaneous death. Emergency medical services were summoned to the site, but given the remote location, did not arrive for approximately 1/2 hour. During that time employees on site administered first aid and CPR. The victim was transported to a clinic in Tioga, ND where [redacted] was pronounced dead.

CSHO asked Mr. Peterson why the victim had positioned [redacted] on the "beaver slide" where [redacted] would have been directly under the wire drilling cable. Mr. Peterson could offer no clear explanation why the victim was standing at the base of the "beaver slide" because he did not see [redacted] or direct [redacted] to stand there. CSHO asked if this would be a safe location to stand. Mr. Peterson stated that normally an employee would be on the ground and would take the end of the "catline" and walk away from the drilling rig so that the "catline" would be tangle free in preparation for spooling the "catline" for storage.

CSHO asked if any employees had actually witnessed the event. CSHO was informed that there were 10 employees on site but only one had observed the accident. CSHO requested that all employees be available for interview. CSHO arranged to conduct interviews at the office in Kenmare and exited the site.

The following morning CSHO arrived at the offices of Wolverine Drilling to conduct interviews. CSHO was able to interview all the employees except for [redacted] who was operating the draw works. CSHO was informed that [redacted] had returned to [redacted] and would not be available until 02/17/04. The employee interviews did not provide CSHO with any new information related to the accident. CSHO informed Mr. Blackford that [redacted] was going to return on 02/17/04 to conduct an interview with [redacted] a further interview with Mr. Peterson, and final interview with Mr. Blackford. CSHO then exited the facility.

On 02/17/04 CSHO arrived again at the well site near McGregor, ND. CSHO conducted an interview with [redacted]

CSHO returned to the offices of Wolverine Drilling and conducted an interview with Mr. Doug Peterson. During the interview CSHO asked Mr. Peterson to further explain how the hiring process works. Mr. Peterson explained that he hires the driller and then the driller hires his crew. Mr. Peterson hired \_\_\_\_\_ who in turn hired \_\_\_\_\_

These employees reported directly to the well site where a job application and W-2 information was completed. The employees were also required to sign a certification form indicating that all had read and understood the employer's safety, drug, and company policies. None of these employees reported to the offices of Wolverine Drilling in Kenmare. Management does not verify if the a fore mentioned policies are in fact read by the employee or discussed.

CSHO asked Mr. Peterson if the employees are ever provided with training in the company's written safety program. Mr. Peterson responded that the employees are shown what to do on the rig in what he described as on the job training. CSHO asked again if employees are provided training in the company's written safety program. Mr. Peterson responded that sometimes during safety meetings the safety program may be brought out and gone through in part. CSHO asked Mr. Peterson, as the rig manager, if he had ever provided employees training in the company's safety program. Mr. Peterson responded that he had not.

CSHO asked Mr. Peterson if the company had a safety director and if so had that person ever visited the site and offered training in the company's safety program. Mr. Peterson stated that he did not believe that the company had a safety director and the only time anyone from management ever visited the site was when there was a problem with equipment on the rig. CSHO asked Mr. Peterson if he had read the company's safety program and he stated that he had. CSHO asked Mr. Peterson if he had read the caution statement provided by the manufacturer of the "snake grip" that warned no one should stand under the wire drilling cable when the cable is being pulled through the block and crown. Mr. Peterson indicated that he had read the caution statement.

Mr. Peterson further stated that most of the people working in the oil fields do so because they have limited education. Even though the company has a written safety program and the employees might be required to read it does not mean that the employees would understand it or retain the information. Mr. Peterson stated that he has had crews in the past where some of the employees could neither read nor write although he believed all on this crew were literate. Mr. Peterson completed the interview by stating that adding more information to the safety program or adding elements for critical operations such as stringing the wire drilling cable would only frustrate the hands working on the rig because additional precautions and safety procedures would be viewed by the crew as a hinderance to the work being performed.

At the conclusion of the interview with Mr. Peterson CSHO arranged to interview company owner Bob Blackford. During the interview CSHO asked Mr. Blackford to explain the company's safety program and how it was created. Mr. Blackford stated that \_\_\_\_\_ had been designated as the company's part time safety director. CSHO asked Mr. Blackford if \_\_\_\_\_ ever visited the well sites. Mr. Blackford stated that there is no set time for the safety director to visit the well sites but attempts to visit the sites are approximately every 60 days. These site visits may not necessarily be for training or discussion of the company safety policies. \_\_\_\_\_ had yet to visit this site.

CSHO then asked Mr. Blackford about the company hiring policies. Mr. Blackford explained that he allowed the tool pusher \_\_\_\_\_ to hire the driller \_\_\_\_\_ who in turn hired the drilling crew \_\_\_\_\_

Mr. Blackford stated that that was the way the company liked to hire so as not create any dissention or incompatibility amongst the crew. Mr. Blackford stated that he did not know any of the employees that were working on the rig even though they worked for him. Mr. Blackford prefaced his remarks by stating that he relied on \_\_\_\_\_ to pick the right people for the crew.

CSHO asked Mr. Blackford if once the drilling crew is assembled does the safety director go to the site to verify that the employees have reviewed the safety program and or conduct a safety meeting. Mr. Blackford responded that the safety director may go to the site to participate in a safety meeting but it would be very infrequent that the safety director would be on site to initiate or direct a safety meeting. Mr. Blackford stated that the company provides safety topics for discussion at safety meetings and attempts to keep a record of these meetings. Mr. Blackford stated that it would be difficult for the safety director to visit each site based on the fact that there are six drilling rigs spread out over three states.

CSHO asked Mr. Blackford if he had assistance in the development and writing of the company's safety program. Mr. Blackford stated that he developed and wrote the safety program based on guidelines provided by the North Dakota Worker's Compensation Bureau and other information he had seen in other programs he was familiar with. Mr. Blackford stated that the completed safety program was submitted to the North Dakota Worker's Compensation Bureau and later returned with an acceptance letter into North Dakota Worker's Compensation risk management program offering premium reductions. No one from the bureau visited the offices of Wolverine Drilling to further audit the program for effectiveness and or implementation. CSHO concluded the interview and requested a closing conference.

Based on the information collected during the investigation and interview process it is apparent that the employer makes no concerted effort to ensure that employees have received information and training as prescribed by the company's written safety program. The employees are hired on the well sites by the tool pusher and driller. The employees are unknown to, and rarely have contact with, the offices of Wolverine Drilling. The employees are required to sign off as having read the company's one page safety policy, but there is no mechanism in place to provide training to the employees in all aspects of the company's written safety program. The company has a part time safety director who infrequently, if ever, visits the well sites and if does visit the sites rarely initiates or participates in safety meetings.

NOTE: As part of this investigation CSHO took into custody the "snake grip" with catline and wire drilling cable attached. These items were sent to the analytical lab in Salt Lake City. A report describing the type of damage to the "snake grip" and the probable cause of failure are included in this report. It is the opinion of the lab personnel who conducted the testing that the wire drill line was improperly installed in the protective plastic boot section of the "snake grip". This caused excessive kinking and stress to that portion of the "snake grip" attached to the wire drill line as the wire drill line was strung and pulled through the block and crown sheaves. As result of this excessive kinking and stress the "snake grip" failed causing the wire drill line to release and strike the victim.

**EVALUATION OF EMPLOYER'S OVERALL SAFETY AND HEALTH PROGRAM**

General Industry:

- Yes     No    Employer has a Safety & Health Program
- Yes     No    Written
- Yes     No    Copy Attached

**Evaluation of Safety and Health Program**

(0=Nonexistent 1=Inadequate 2=Average 3=Above average)

- Written S&H Program
- Communication to Employees
- Enforcement
- Safety Training Program
- Health Training Program
- Accident Investigation Performed
- Preventive Action Taken

Comments: Wolverine Drilling has a written safety and health program and participates in North Dakota Worker's Compensation Risk Management Program. The program offers a premium discount of 5% for participating in the risk management program, a 3% discount for implementing a substance abuse program, a 2% discount for selecting and using a designated medical provider, and an additional 1-5% discount for reducing injuries. After reviewing the program, and conducting employee interviews, full implementation of the safety and health program has not been achieved nor has the North Dakota Worker's Compensation Bureau audited the program for it's effectiveness and implementation.

**CLOSING CONFERENCE NOTES:**

A standard closing conference was conducted at which time the employer's rights and responsibilities following an OSHA investigation were explained using the OSHA 3000 publication as a guide. Both the informal conference and formal contest procedures were explained in detail. CSHO stressed the informal conference as an effective means to settle the issuance of citation.

Were any unusual circumstances encountered such as, but not limited to, abatement problems, expected contest and/or negative employer attitude? If yes, explain below.

Yes  No

19. Closing Conference Checklist ("x" as appropriate)

- Gave Copy Employer Rights
- Reviewed Hazards & Standards
- Discuss Employer Rights/Obligations
- Encouraged Informal Conference
- Offered Abatement Assistance
- Discussed Consultation Programs

CSHO Signature  
Accompanied By

Date 4/12/04