wyo

# FATALITY NARRATIVE

**Dean Harris**
**DHS Drilling**
**D6780//307818229/100980929/200980647**

**Date & Time of Accident:**
10/14/05 at approximately 12:30 PM.

**Notification:**
Dan Tjalma, Rig Manager for DHS Drilling, reported the fatality to OSHA on 10/14/05 at 2:36 PM.

**The Investigation:**
On Saturday, 10/15/05, following notification of the fatality and assignment of the case, investigators John Watterson and Ken Masters from Wyoming Workers' Safety contacted Dan Tjalma, Rig Manager for DHS Drilling, to arrange to meet at the rig location to begin the investigation. The rig was located approximately 13 miles Southwest of Farson, on Hwy 28. The rig was located on the North side of Hwy 28 approximately 3 miles from the highway. The rig was identified as DHS Rig # 4. Upon arrival on location (9:30 AM), we were met by Dan Tjalma, Rig Manager for DHS Drilling. I confirmed that the rig had been secured since the accident. All operations had ceased pending the arrival of OSHA investigators.
We conducted the opening conference with Bill Sauer (President and CEO of DHS Drilling), Dan Tjalma (Rig #4 Manager DHS Drilling), Dan Guillotte (Corporate Health and Safety Manager for XTO Energy), Terry Downey (XTO Energy Environmental/Safety Manager), RJ Goodman (XTO Energy Environmental and Safety Tech)., Terry Egelston (XTO Energy Drilling Superintendent), and Larry McAllister (McAllister Consulting). We learned during the opening conference that the well owner is XTO Energy, being drilled by DHS Drilling. A consulting company, McAllister Consulting, was contracted by XTO Energy to provide a drilling consultation service on site, representing the owner. The consultation company's on site representative was Larry McAllister. There were no other subcontractors on site at the time of the accident. During the opening conference, I explained the investigation process. Arrangements were made to interview employees who may have been involved with or had knowledge of the events leading to and including the accident.

After concluding the opening conference and upon receiving verbal permission from Dan Tjalma, Rig Manager for DHS Drilling, investigators took still photos and video of the accident scene. At 12:30 PM, interviews were started with employees that were available on site. We concluded interviews for the day at 4:30 PM. We then conducted an out-brief and the site was released for work to resume at 5:35 PM. I returned to the rig at 6:00 PM on 10/17/05 to conduct the rest of the interviews with employees that were not initially available on 10/15/05.

A Coroner's Report with photos, toxicology report, and the Sweetwater County Sheriff's Report were obtained and are included in this investigation file.

The photos, videos, reports and testimony are on file at the Wyoming Workers' Safety office in Cheyenne.

**Points of Clarification:**
There are three companies involved with this fatality investigation.
They are:

1. XTO Energy: Owner of the well and prime contractor on location.
Henceforth referred to as: XTO Energy

2. DHS Drilling Company: Drilling company drilling the natural gas well for XTO Energy (a subcontractor for XTO Energy).
Henceforth referred to as: DHS Drilling

3. McAllister Consulting: Drilling Consultants (subcontractor for XTO Energy).
Henceforth referred to as: McAllister Consulting

**Definitions:**
*Note: This is not an attempt to give detailed in-depth descriptions of the entire functions of personnel or equipment, just a brief description of basic functions.

**Derrick**

Uppermost structure of drilling rig used to support drawworks, blocks and drilling line.

**Boards**

This is a platform that is installed within the rig derrick that provides the Derrickman a place to stand while he is positioning the drilling pipe in preparation for making the connection. While he is on this platform, he must be protected by fall protection equipment.

**Drawworks**

This is the working heart of the drilling rig. It is basically a very large vertical winch system that resembles the working characteristics of a large crane. All tools used in the drilling operation are raised, lowered, or held in position by the drawworks.

**Blocks**

The blocks are attached to the lower most portion of the drawworks. It is a very large heavy duty lifting device. It has several sheaves that allow for the lifting cable that is operated by the drawworks to be threaded through. The cable from the drawworks that run through these sheaves are called parts or multiple part lines. Each time additional parts are added, the lifting capacity of the drawworks is increased. At the bottom of the blocks is a large lifting hook, where all of the tools used in the drilling operation are hung.

**Stand**

This is a section of pipe, which can be of different lengths or diameters. A collar is attached to each stand of pipe and is used to connect separate stands of pipe together. The collar is attached to the derrick end of each stand.

**V door**

This is an opening on the rig drilling floor where all stands of pipe pass through as they are pulled and lifted from the ground up the beaver slide onto the drilling floor.

**Beaver Slide**

45-degree platform that allows pipe to be winched from ground level to drilling floor.

**Personal fall arrest system**

A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

**Positioning device system**

A body belt or body harness system rigged to allow an employee to be supported on an elevated working surface, such as a stabbing board, and work with both hands free while leaning. This is classified as a work positioning system only and is not a fall protection system.

**Self-retracting lifeline** (Retractable Lanyard)

A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall. This is designed as a fall protection device, where in the event of an actual fall, the device will limit the fall to less than six (6) feet. This device is referred to as a Sala Block on the rig.

**Cat Walk**

Ground level platform where pipe is rolled from the pipe rack in preparation for being winched up the beaver slide to rig floor.

**Pipe Racks**

Where stands of pipe are stored/staged at ground level prior to being used in the drilling operation.

**Deceased:**
Dean Harris (48 years old)

**Address:**
10449 Hwy. 789 South
Riverton, Wyoming 82501

**Occupation:**
Derrickman

**Employer:**
DHS Drilling

**Accident Site:**
3 miles north of mile marker 117 on Hwy 28, Northwest of Farson, Wyoming
DHS Drilling Rig # 4
Black Diamond 23-28
NE SW SEC 28 T24N R108W
Lease # WYW-136817
Sweetwater CO., WY.

**Employees Present at the time of the Accident:**

| Name | Firm | Job Title |
|---|---|---|
| Daniel Tjalma | DHS Drilling | Rig Manager/Toolpusher |
| Troy Mabbitt | DHS Drilling | Driller |
| Gary Clawson | DHS Drilling | Motor Hand |
| Trinity Struna | DHS Drilling | Floor Hand |
| John Jaeger | DHS Drilling | Chain Hand |
| Dean Harris | DHS Drilling | Derrickman |
| Larry McAllister | McAllister Consulting | Consulting Service |

**Employees Interviewed During the Investigation:**

| Name | Firm | Job Title |
|---|---|---|
| Daniel Tjalma | DHS Drilling | Rig Manager/Toolpusher |
| Troy Mabbitt | DHS Drilling | Driller |
| Gary Clawson | DHS Drilling | Motor Hand |
| Trinity Struna | DHS Drilling | Floor Hand |
| John Jaeger | DHS Drilling | Chain Hand |
| Norman Bitsie | DHS Drilling | Derrickman (opposite shift) |

** Note: Larry McAllister was not interviewed because he had no direct knowledge of the accident.

**Events Leading up to the Accident:**

On the morning of October 14, 2005, the crew of Rig #4 reported for work. Shift change was at 6:00 AM. The crews were working two 12-hour tours, with 7 days on and 7 days off. This was the 2nd day of 7 days on for this crew. The rig had been on this location for 15 days. The rig was contracted to drill a hole to a total depth of 6,178 feet for natural gas exploration. At shift change, the crew had a brief safety meeting on wearing personal protective equipment and tripping pipe, as this was the task of the day. The prior shift had been coring, had finished this task and had

tripped half way out of the hole. The task for this shift would be to finish tripping out of the hole, change out the bottom hole assembly, take out the coring tools, lay them down, attach drilling bit, trip back into the hole and commence drilling operations. This was to be the last trip on this hole until total depth of the hole was reached in approximately two days. After the safety meeting was held and the crew was briefed on the tasks of the day, the crew took their stations and set about doing their designated duties.

**The Accident:**

The first task for the crew after shift change was to finish tripping out of the hole. At shift change, the Driller, Troy Mabbittt, overheard the Derrickman being relieved, Norman Bitsie, and the deceased, Dean Harris, discussing the rig not being level. Mr. Bitsie told Mr. Harris that the pipe was hard to handle on the boards because the rig was unlevel causing the pipe to want to fall to the Derrickman's left. Mr. Bitsie told Mr. Harris that he was having to "Pull hard" on the pipe to compensate for the rig being unlevel. They also discussed difficulty in getting the elevators to latch and unlatch also because the rig was not level. After their discussion, Mr. Harris took Mr. Bitsie's safety harness and put it on. Interviews with Mr. Bitsie indicated that Mr. Harris specifically requested that Mr. Bitsie give him this specific safety harness, as "It was his favorite". Mr. Bitsie questioned his choice stating that he thought it was probably too large for him. This conversation and statements were confirmed with Mr. Bitsie during his interview. Mr. Mabbitt observed Mr. Harris put on the safety harness and took notice that it was properly adjusted and buckled. Mr. Harris then hooked up to the ladder climbing device and climbed up to the boards. Mr. Mabbitt observed Mr. Harris adjust his tail rope for the proper length and signal that he was ready. The crew finished tripping the pipe out of the hole, which consisted of 40 to 45 stands of pipe, taking about 2 hours. After completing tripping out of the hole, Mr. Harris climbed back down from the boards, took his safety harness off and assisted the rest of the crew with work on the drilling floor. He helped the crew lay down the collars and ran the Cat Line for the crew while they changed out the bottom hole assembly and laid down the coring tools. The crew then got ready to trip back into the hole and proceed with drilling operations. Mr. Harris climbed back to the boards in preparation for tripping back into the hole. The crew on the floor had to do some repairs to equipment, so there was a delay in tripping, so Mr. Harris climbed back down and went to the restroom. Mr. Harris returned, put his safety

harness back on, and climbed back to the boards. As everyone was busy, no one observed if Mr. Harris had his safety harness adjusted or buckled properly. The driller observed Mr. Harris walk to the end of the boards and give the signal that he was ready. The Driller observed that Mr. Harris did not have to adjust the length of his tail rope because it had already been adjusted previously. Interviews indicated that no one noticed if Mr. Harris was attached to the Sala Block, which was his fall protection device.

The crew started tripping back into the hole. Mr. Harris missed a few stands of pipe in the process as he was having trouble getting the elevators to latch up. The Driller stated in his interview that the rig being out of level probably contributed to Mr. Harris having a hard time getting the pipe to latch up in the elevators. The first sign of trouble was when Mr. Harris missed two stands of pipe back to back. The crew pulled the first missed stand back to him with the air tugger. He then missed the next stand. The Driller stated in his interview what he observed: " He started to latch it up, he missed. He tried to catch the pipe. It pulled him out, his belt opened up on the front, he grabbed the pipe and the pipe bounced and threw him off. The pipe pulled him out, bounces him off and he pendulumed back to the derrick". The Driller stated that he saw Mr. Harris's tie back rope was over one of the pipe rack fingers. The rope slipped off the pipe rack finger and Mr. Harris dropped a second time and pendulumed back toward the derrick the second time. The Driller stated that at no time did he see Mr. Harris hit the back of the derrick. Mr. Harris started yelling for "Help".

The rescue started. The winch line of the air tugger was used in an attempt to rescue Mr. Harris. The Driller, Troy Mabbitt, told Mr. Harris to wrap his legs around the air tugger line as the Motorman, Gary Clawson, ran it up past him. This attempt at rescue did not work and the line of the air tugger was pulled through the top sheave during the rescue attempt. The associated cable, chain, and chain end hook fell past Mr. Harris (with force) on its way to the drilling floor. The Driller, Troy Mabbitt, directed the Floor Hand, Trenity Struna, to put his safety harness on and hook up to the Cat Line. Troy Mabbitt then hoisted Trenity Struna up on the Cat Line in an attempt to grab Mr. Harris and lift him up. This attempt also failed, as Trinity Struna could not be lifted high enough to lift Mr. Harris. Due to the angle of the Cat Line, he was being pulled away from Mr. Harris.

The Driller, Troy Mabbitt, free climbed the derrick and tried to pull Mr. Harris back up to the boards but could not. He called for help and the Motor Hand, Gary Clawson, then climbed up to the boards. The two men were able to pull Mr. Harris back on to the boards. The safety harness was removed (slipped over his head) after Mr. Harris was manually pulled back up and onto the boards with the tail rope by Driller Troy Mabbitt and Motor Hand Gary Clawson. Driller Troy Mabbitt stated that he thought Mr. Harris was attached with his tail rope to the D-ring and associated lanyard at the shoulder of the safety harness, instead of the D-ring at the safety harness waist belt, where it is designed to be hooked. If this was the case, Mr. Harris had his tail rope connected where the Sala Block fall prevention device was suppose to be attached. This could not be confirmed. Driller Troy Mabbitt stated that he thought Mr. Harris fell about 15 feet before the tail rope stopped the fall. Driller Troy Mabbitt started CPR and continued CPR until the arrival of the Eden Valley Ambulance. A member of the ambulance crew donned a safety harness, climbed to the boards, and assessed Mr. Harris. He called for the crew to lower Mr. Harris to the drilling floor with a stokes stretcher. Mr. Harris was then moved to the ambulance for transport. The ambulance crew continued to perform advanced life saving procedures with no response.

**Findings:**

- Accident happened on DHS Rig #4.
- Spud date for this hole was 10/03/05.
- Hole depth at time of accident was 6178 feet.
- Total depth of this hole was 7025 feet.
- Crew was tripping back into the hole with 5-inch drill pipe at time of the accident.
- Drill bit depth was 2159 feet at time of accident.
- Rig had approximately two days of drilling left to reach Total Depth of hole.
- This was to be the last Trip while on this hole.
- Drilling contract listed this hole as a "Wild Cat exploratory hole".
- DHS Drilling was formally Big Dog Drilling.
- The fatality occurred on 10/14/05.
- Mr. Harris was 48 years old.
- Mr. Harris was the Driller's stepfather.
- Mr. Harris had worked for DHS Drilling since 08/04/05.
- DHS Drilling was working two 12-hour tours at the time of the accident -

7 days on and 7 days off.

- Accident happened on the 2nd day of 7-day shift.
- DHS Drilling had 6 employees on site.
- Accident happened 6.5 hours into shift.
- Weather was clear and sunny.
- Derrick of rig was not level.
- The rig being unlevel forced the Derrickmen to compensate, causing them to have to pull harder and reach further for the stands of pipe. This also caused the pipe to be harder to latch and unlatch to the elevators. The two derrickmen discussed this at shift change.
- The distance from the platform to the derrick floor was approximately 90 feet.
- DHS Drilling's written safety program includes the requirement for using fall protection equipment when working over 6 feet in height.
- Interviews with employees on the mishap rig revealed that fall protection requirements were not always followed or enforced.
- The rig had been coring on the previous shift. The prior crew finished coring and had tripped half way out of the hole just prior to shift change.
- The accident happened after the crew had secured the coring equipment and were tripping back into the hole to proceed with drilling operations to total depth of hole.
- Mr. Harris was an experienced Derrickman, with 10 years experience in the oil field.
- Mr. Harris was working under the direct supervision of Driller Troy Mabbitt at the time of the accident.
- Mr. Harris was wearing a size Extra Large safety harness at the time of the accident.
- DBI Sala size chart indicates that a size Medium would have been more suitable for Mr. Harris's body structure.
- Mr. Harris met the opposite shift Derrickman, Norman Bitsie, at shift change and requested Mr. Bitsie's safety harness when he took it off, stating that it was his "favorite safety harness". Mr. Bitsie is 6 foot 2 inches tall and 230 lbs. in stature. Mr. Bitsie told Mr. Harris that he thought the harness was too big for him but Mr. Harris insisted that he wanted that particular harness to wear.
- Mr. Harris had made an initial trip up to the derrick boards at the start of shift, back down to assist the crew on the floor securing coring equipment, back up

in the derrick to start tripping pipe back in the hole, back down to go to the restroom during a break in tripping, and back up to continue tripping back into the hole until the time of the accident. Crew interviews could only confirm that Mr. Harris's safety harness was properly secured during his initial trip to the boards.

- Accident occurred after 20 sections of pipe had been tripped back into the hole, about 6.5 hours into the shift.
- First sign of trouble was when Mr. Harris missed latching 2 consecutive stands of pipe.
- The crew used the air tugger to bring the first missed stand back so Mr. Harris could get it latched.
- The accident happened when Mr. Harris missed latching the second stand, and reached out to catch it. The tail rope knot slipped from where it was attached to the guardrail, giving him extra length in the rope, which caused him to be extended beyond point of recovery on the boards. He reached out and grabbed the stand of pipe, which drug him completely off the boards causing him to fall.
- Mr. Harris was not wearing a hardhat at the time of the accident. Interviews indicated that this was a common practice on this rig.
- Company and Driller don't enforce the wearing of hardhats for Derrickmen while working in the derrick.
- Mr. Harris was not using the Sala Block fall protection device at the time of the accident.
- The Sala Block was available and in working condition at the time of the accident.
- Mr. Harris was attached to his tail rope at the time of the accident. This is a work positioning device not a fall protection device.
- The Driller, Troy Mabbitt, stated that he saw the belt strap of the harness pop free as Mr. Harris grabbed the pipe just before he fell.
- The force of the fall caused Mr. Harris to almost become separated from the safety harness because the leg straps and the waist strap were not fastened.
- The crew was afraid that Mr. Harris was going to fall out of the safety harness after the fall.
- Mr. Harris struggled to stay in the safety harness while he was suspended after the fall.
- *The winch line of the air tugger* was used in attempt to rescue Mr. Harris. Mr. Harris was told by the Driller, Troy Mabbitt, to wrap his legs around the air

tugger line. Motorman Gary Clawson operated the air tugger. This attempt at rescue did not work and the line of the air tugger was pulled through the top sheave during the rescue attempt. The associated cable, chain, and chain end hook fell past Mr. Harris (with force) on its way to the drilling floor.

- Driller Troy Mabbitt directed Floor Hand Trenity Struna to put his safety harness on and hook up to the Cat Lline. Troy Mabbitt then hoisted Trenity Struna up on the Cat Line in an attempt to grab Mr. Harris and lift him up. This attempt also failed, as Trinity Struna could not be lifted high enough to lift Mr. Harris. Due to the angle of the Cat Line, he was being pulled away from Mr. Harris.
- Mr. Harris was actively communicating with his rescuers up until the failure of the air tugger line. Immediately after the air tugger line and it's associated chain, three cable clamps, and chain hook fell past Mr. Harris, he hung limp in his harness with no further communications or movement.
- Coroner's Report stated that there was a small laceration to the back of Mr. Harris's head.
- Mr. Harris did not have the leg straps of his harness attached at the time of the accident.
- Chain Hand John Jaeger stated in his interview that he saw Mr. Harris with his leg straps fastened one stand of pipe prior to accident.
- Examination of the safety harness and associated straps found no damage to the safety harness, straps, grommets, or tongue latches.
- The safety harness had ridden up on Mr. Harris's body due to the fall, causing the chest strap to be up around his throat and pinning his arms above his head.
- Driller Troy Mabbitt free climbed the derrick and tried to pull Mr. Harris back up to the boards but could not. He called for help and Motor Hand Gary Clawson then climbed up to the boards. The two men were able to pull Mr. Harris back on to the boards.
- The safety harness was removed (slipped over his head) after Mr. Harris was manually pulled back up and onto the boards with the tail rope by Driller Troy Mabbitt and Motor Hand Gary Clawson.
- Driller Troy Mabbitt stated that he thought Mr. Harris was attached with his tail rope to the D-ring and associated lanyard at the shoulder of the safety harness instead of the D-ring at the safety harness waist belt, where it is designed to be hooked. If this was the case, Mr. Harris had his tail rope connected where the Sala Block fall prevention device was suppose to be attached. This could not be confirmed.

- Driller Troy Mabbitt stated that he thought Mr. Harris fell about 15 feet before the tail rope stopped the fall.
- Driller Troy Mabbitt started CPR and continued CPR until the arrival of the Eden Valley Ambulance. A member of the ambulance crew donned a safety harness, climbed to the boards, and assessed Mr. Harris. He called for the crew to lower Mr. Harris to the drilling floor with a stokes stretcher. Mr Harris was then moved to the ambulance for transport. The ambulance crew continued to perform advanced life saving procedures with no response.
- The rig crew had not been trained for timely rescue of a Derickman from derrick in the event of a fall.
- Mr. Harris had not received fall protection training between his date of hire and the fatal accident.
- Autopsy findings indicate death was from Asphyxiation. A small laceration of the back of the head had little hemorrhaging at the scene. This indicated the possibility of the wound being rendered near or after death. It could also be possible that the laceration wasn't very significant and just didn't bleed much.
- Toxicology report showed deceased was positive for cannabinoids and methyl alcohol at 0.008.

**Analysis and Conclusions:**

During recorded interviews, it was established that the employer representatives were aware of the Wyoming Oil & Gas Drilling Rules fall protection requirements. The representatives included the owner, the rig tool pusher, and the driller. As the company's written safety program is quite abbreviated and generic in nature, fall protection is vaguely incorporated into company written safety policy.

Due to lack of training and supervision, Mr. Harris was allowed to work from the derrick boards without being attached to a fall protection device. The work-positioning device that he was attached to was not properly attached to its anchor point. The Sala Block, his established fall prevention device, was in working order and available for his use. Supervision did not enforce its use. Mr. Harris was allowed to work in the derrick without a hardhat and possibly suffered a blow to his head rendering him unconscious during the rescue attempt. Because of the lack of supervision, training and enforcement regarding fall protection, Mr. Harris

was allowed to wear a safety harness that was not properly sized for his body structure and was not properly secured to his body.

The Driller stated that Mr. Harris was suspended approximately 15 feet below the boards. The fall caused Mr. Harris to almost become separated from the safety harness because the leg straps and the waist strap were not fastened. The crew was afraid that Mr. Harris was going to fall out of the safety harness after the fall. During the rescue process, Mr. Harris struggled to stay in the safety harness.

Mr. Harris was actively communicating with his rescuers up until the failure of the air tugger line. Immediately after the air tugger line and it's associated chain, three cable clamps, and chain hook fell past Mr. Harris, he hung limp in his harness with no further communications or movement. The Coroner's Report stated that there was a small laceration to the back of Mr. Harris's head. Mr. Harris did not have the leg straps of his harness attached at the time of the accident. The Chain Hand, John Jaeger, stated in his interview that he saw Mr. Harris with his leg straps fastened one stand of pipe prior to the accident. An examination of the safety harness and associated straps found no damage to the safety harness, straps, grommets, or tongue latches. The safety harness had ridden up on Mr. Harris's body due to the fall, causing the chest strap to be up around his throat and pinning his arms above his head.

The rig crew had not been trained for timely rescue of a Derickman from the derrick in the event of a fall. Mr. Harris had not received fall protection training between his date of hire and the fatal accident. Autopsy findings indicate death was from Asphyxiation. A small laceration of the back of the head had little hemorrhaging at the scene, indicating the possibility of the wound being rendered near or after death. It could also be possible that the laceration wasn't very significant and just didn't bleed much.

When Mr. Harris was positioned for CPR after he was pulled back up to the boards, Mr. Mabbitt noticed that the waist belt strap on his safety harness and his leg straps were not buckled. Mr. Mabbitt stated that he watched Mr. Harris initially put on his safety harness just prior to climbing up to the derrick boards at the start of the shift. Mr. Mabbitt also stated that all the straps and belts were functional, buckled, and secure. Examination of Mr. Harris's harness did not reveal any broken or defective parts. Given those observations, Mr. Harris would

have had to consciously and intentionally unbuckle the waist belt strap and leg straps on his harness. He may have done that because the waist belt and leg straps were uncomfortable around his waist and legs. Another reason is that he may have been trying to get a little more reach from the positioning rope in order to reach the pipe that he was having trouble catching. It is also possible that Mr. Harris's judgment may have been impaired since the Toxicology Report indicated he was positive for cannabinoids and methyl alcohol at 0.008. Regardless of why or how Mr. Harris unfastened the waist belt and leg straps on his safety harness, his fall would not have been as traumatic had he been attached to a personal fall arrest system for fall protection as required by Wyoming OSHA rules. Even with the waist belt and leg straps unfastened, the safety harness stayed on Mr. Harris. His fall would have been arrested within a couple of feet instead of 15 feet.

It is also reasonable to conclude that had the waist belt and leg straps on the safety harness been fastened properly, Mr. Harris may have survived until he could have been rescued. Since the positioning rope is not a fall arrest system, serious injury could still result from a fall where the only protection is the harness and positioning rope.

**The following have been determined to be significant factors related to this fatality:**

- Mr. Harris was not connected to a fall protection device.
- Mr. Harris was not wearing the proper size safety harness for his body structure.
- Mr. Harris did not properly tie off to the anchor point with his tail rope.
- Mr. Harris was not wearing the safety harness properly.
- Mr. Harris was not wearing a hardhat.
- Rig was not level.
- Lack of fall protection training.
- The crew was not trained to provide for an effective and timely emergency rescue in the event of a fall that resulted in a suspended employee.
- Supervision not enforcing established company safety rules.
- Lack of a company pre-employment and random drug-screening program.
- The deceased should have hooked his fall protection harness to an

overhead retractable lanyard.

- Testimony from other crewmembers indicated that fall protection was not always used. This reflects a lack of fall protection training and enforcement.
- Lack of safety awareness and breakdown in safety on this rig.
- Driller on mishap rig indicated that he did not enforce the wearing of hardhats for Derrickmen working in the derrick.
- Deceased's Toxicology Report showed he was positive for cannabinoids and methyl alcohol at 0.008.

**Recommendations**

- When safety problems arise, such as high employee turnover and subsequent lack of training, safeguards need to be implemented to ensure safety is never compromised.
- Implement a training program to provide for an effective and timely emergency rescue in the event of a fall that results in a suspended enployee.
- Develop a more in-depth and comprehensive written safety program and incorporate it into daily work practices and procedures.
- Establish policy that a detailed Job Safety Analysis (JSA) is done prior to starting any job and when the task or plans change.
- More training in the recognition and evaluation of potential hazards.
- Ensure that all personnel required to use fall protection equipment are properly trained.
- Provide a pre-work indoctrination to all personnel.
- Improve communications within the company to ensure safety issues are handled properly.
- Implement mandatory pre-employment drug screening.
- Implement aggressive random drug testing program.
- A Safety Manager should be hired that has only safety related responsibilities. Adequate resources should be made available to provide for timely rig inspections and training of employees, especially new hires.
- An aggressive policy of holding all supervisors directly responsible for safety needs to be established and strictly enforced.
- Discourage any activity that encourages production over safety.
- Brief all employees on the facts and circumstances of this accident.
- Top management needs to become more involved to ensure that safety is a top

priority in the culture of the organization.

- Since it appears to be difficult for people on the rig floor to visually tell if the Derrickman is hooked up to the fall protection system (Sala Block), a policy could be put in place where the Sala line is extended to the bottom of the ladder at the rig floor. Prior to the Derrickman climbing the derrick, the Driller can inspect the Derrickman's harness and lanyard, ensure the Sala Line is attached to the harness properly, and remind the Derrickman of the importance of wearing fall protection properly. The policy could further state that the Sala Line would then stay attached to the Derrickman, only to be removed when the Derrickman returns to the Drilling floor.

This report, together with its incorporated findings, relates specifically to this particular incident. The employer and employees continue to have the responsibility for inspection and investigation towards compliance with safe operating practices as outlined in the applicable rules and regulations.

The above investigation and findings of the accident occurring to:

Dean A Harris
10449 Hwy. 789 South
Riverton, Wyoming 82501

Is set down and attested to this date:

John Watterson

Date: 10/26/06

John R. Watterson
Safety Compliance Officer