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WP 04-HO1004

Revision 8

Air Intake Shaft Operation

Technical Procedure

EFFECTIVE DATE: 10/21/09

Robert F. Kirby
APPROVED FOR USE

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TABLE OF CONTENTS

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INTRODUCTION[1,2,3,4]

This procedure provides the steps necessary for operating the Air Intake Shaft (AIS) Hoisting System. These steps includes normal and emergency operations of the AIS Hoisting System under test, material transport, or personnel transport conditions.

Records generated by performance of this procedure are in the AIS Hoist Operator's Log Sheet.

The performance of this procedure generates the following record, as applicable:

- RCRA Operator Log Sheet

REFERENCES

BASELINE DOCUMENTS

- 30 CFR Part 57, "Federal Metal and Non-Metal Mine Safety and Health Regulations"
- DOE/WIPP 91-005, RCRA Part B Permit Application
- WP 12-IS.01, Industrial Safety Program
- WP 13-QA3003, Corrective Actions Program

REFERENCED DOCUMENTS

- WP 04-IM1000, Issues Management Processing of WIPP Forms

PRECAUTIONS AND LIMITATIONS

- The AIS hoisting plant is in conformance with 30 CFR standards for construction/inspection use or for emergency mine egress. Approval to use the AIS hoisting plant for emergency mine egress **SHALL** be obtained from the on-duty Hoisting Manager during day shift and Facility Shift Manager during off shift.
- Hoist Operators **SHALL NOT** use the LOT or HOT positions of the OT/BO selector switch under any circumstances since the lack of proximity switches in these two positions defeats the Lilly Overtravel limits.
- The hoist and signal system shall be operated only by qualified personnel.

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- Roof Doors: The AIS has a roof over the collar area equipped with trap doors that cover the conveyance passageway. These doors must be **open** and solidly secured whenever the hoist is operational. The roof doors may be closed for plant maintenance purposes if necessary, but should be returned to the **open** (normal) position upon completion.

- Collar Doors: These doors are normally in the **closed** position and serve as additional overhead protection for persons working in the shaft. The collar doors are electrically interlocked with the hoist controls to prevent an inadvertent hoisting through the collar doors in the closed position. If the doors are closed, the hoist will trip 135 feet below the doors when hoisting.

- All visible components of the hoist system **SHALL** be visually inspected prior to use.

- When working around an open shaft, approved fall protection **SHALL** be worn.

- Conveyance man cage doors **SHALL** remain closed during mantrips, and **SHALL NOT** be opened until the conveyance has come to a full stop.

- All items and body parts **SHALL** remain within the conveyance whenever the conveyance is in motion.

- Test all communications systems prior to hoist or Galloway use.

- While people are underground, the mine phone system will be monitored at all times by hoist operating personnel, who will be prepared to respond immediately to all emergency situations that may require hoisting or lowering services.

- Load Interrupter Switches (LIS) **SHALL NOT** be operated from CLOSED to OPEN with a connected load.

- Protective relays limit operation as follows:

  - A circuit breaker (CB) that has a flag displayed **SHALL NOT** be CLOSED.

  - Equipment being served by tripped CB **SHALL NOT** be energized.

  - Relay flags may be reset only after Maintenance or Engineering, and Facility Shift Manager concur.

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PREREQUISITE ACTIONS

1.0 Verify power is supplied from area substation #6.

2.0 Verify air pressure is supplied by auxiliary air compressor or plant air.

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3.0 Review Hoist Log at the beginning of each operating shift. Checks will be documented using AIS Hoist Operator's Log Sheet.

4.0 If a required inspection goes delinquent, perform the following:

4.1 GO TO WP 13-QA3004 and generate a nonconformance report.

4.2 Immediately notify the Hazardous Waste Facility Permit (HWFP) Compliance Section of Environment, Safety, and Health of the delinquent inspection.

4.3 Schedule and complete the inspection.

4.4 Document the following in a letter to HWFP Compliance within five working days:

- The schedule for inspection
- The reason(s) why the inspection was not performed
- Any measures taken to offset negative impacts resulting from not performing the inspection
- Actions to prevent further delinquencies

4.5 HWFP Compliance, **GO TO** WP 04-IM1000 and determine if a WIPP Form is required.

PERFORMANCE

1.0 HOIST AND ANCILLARY EQUIPMENT STARTUP

1.1 Perform the following upon entering the hoist house:

1.1.1 Notify Central Monitoring Room Operator (CMRO) that hoist will be started.

1.2 Ensure the following:

- Hoist Main 33P-HM04/1 is closed.
- Oil level in brake system reservoir is visible in sight glass.
- Hydraulic pump disconnect 33P-DP03/2 CB-4 is closed.
- Rope window lower cover is open.

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1.3 Visually inspect Galloway Winches for the following:

- Compressed air > 80 psi supplied to the Galloway Winches
- Water drained from air receivers and traps
- Gear assembly lubrication
- Winch brake lubricator oil level
- Winch brakes for damage
- Leaks (air or oil)
- Mounting bolts and attachments for looseness
- Linkages and pins for damage or looseness

NOTE

Upon completion of Step 1.4, the hoist is ready for preoperational hoist and conveyance checks.

1.4 Perform the AIS Hoist Daily Inspection per Hoist Operator's Log Sheet Book (this shall include inspection for deterioration).

NOTE

Any checks with abnormal results must be reported to Hoisting Operations Management and resolved prior to operation of the hoist.

2.0 PREOPERATIONAL HOIST AND CONVEYANCE CHECKS

2.1 Operator, verify all indicator lights on operator's console are functioning properly.

2.2 Operator, conduct mine phone check with Toplander.

2.3 Operator, ensure the following:

- Conveyance in RELEASED condition
- Collar clear of obstructions
- Roof doors open

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NOTE

The Deadman Switch must be depressed whenever the hoist is in motion. The hoist should **NOT** be operational when Operator has released the Deadman Switch.

2.4 Verify that Lilly Brake Solenoid de-energizes and brake sets when Deadman Switch is released.

2.5 Perform the following to conduct a static test of the Emergency Stop (E-Stop) switch at the AIS hoist console:

2.5.1 Depress E-Stop push button.

2.5.2 Ensure the following:

- Power ON GIL goes out.
- Ready GIL goes out.
- Hoist Main 33P-HMO4/1 opens.
- Brakes remain set.

2.5.3 Pull up E-STOP push button.

2.5.4 Reset Hoist Main 33P-HMO4/1.

2.6 Perform the following to conduct Manual Brake Test:

2.6.1 Ensure Manual Brake is set.

2.6.2 Place Hoist Controller in Lower position momentarily applying at least 600 amps of Motor Power.

2.6.3 Verify brake does **NOT** slip.

2.6.4 Return Hoist Controller to NEUTRAL.

2.7 Perform the following to conduct a High Overtravel Test:

2.7.1 Ensure OT/BO switch in OFF position.

2.7.2 Verify collar door open GIL is illuminated.

2.7.3 Hoist to Lilly Overtravel limit as indicated on the hoist drum.

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2.7.4 Verify the following occur:

- Hoist Brakes set.
- Ready indicator GIL goes OFF.

2.8 Perform the following for High Back Out (HBO) Test:

2.8.1 Place the OT/BO switch in the HBO position.

2.8.2 Depress the Overtravel Foot Switch.

2.8.3 Verify Overtravel Bypass Indicator illuminates and flashes.

2.8.4 Verify Hoisting power can **NOT** be applied.

2.8.5 Lower the conveyance away from the Overtravel position using Dynamic Brake.

2.8.6 Stop conveyance when out of Overtravel position.

2.9 Perform the following to conduct an Overspeed Test:

2.9.1 Apply one point of LOWERING power.

2.9.2 Ensure rope speed is at approximately 75-100 fpm.

2.9.3 Verify the following occur:

- Over speed Alarm Bell rings.
- Brakes are set.
- Ready GIL goes out.

NOTE

Over speed Alarm Bell will silence when conveyance stops.

2.9.4 Set Hoist Controller to NEUTRAL.

2.9.5 Place Manual Brake to set.

2.9.6 Verify Hoist reset by observing the following:

- Power ON GIL ON.
- Ready GIL ON.
- Brake Solenoid energizes.

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2.9.7 Release conveyance to Toplander for completion of AIS Collar Daily Inspections per Hoist Operator's Log Sheet Book.

NOTE

Conveyance is tripped through the shaft at a speed commensurate with shaft condition and Galloway position, while observing the Hoist Speed and Motor Amps meters for indication of a shaft obstruction.

2.10 Hoist Operator, perform the following:

2.10.1 Verify collar door open GIL on the hoist console is illuminated.

2.10.2 Lower conveyance per signals.

2.10.3 Set Dynamic Braking Amps Rheostat as necessary.

2.10.4 Apply Dynamic Braking.

2.10.5 Release brake to lower conveyance.

NOTE

Hoist speed will increase when Dynamic Brake lever is released.

2.11 Perform the following to increase hoist speed when out of retard zone (100- to 120-ft-depth from collar):

2.11.1 Release the Dynamic Brake lever.

2.11.2 Verify all **SEVEN** points of power are sequentially applied as indicated by accelerating contactor WIL lights A1-A7 on hoist console.

2.11.3 Set the Dynamic Brake Rheostat to position appropriate for depth of Galloway in shaft.

2.12 Perform the following when approaching the Galloway:

2.12.1 Slow hoist using the Manual Brake.

2.12.2 Apply Dynamic Braking.

2.12.3 Stop conveyance at approximately 60 feet above Galloway.

2.13 Perform the following to conduct Manual Brake Test:

2.13.1 Ensure Manual Brake is set.

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2.13.2 Place Hoist Controller in Lower position momentarily applying at least 600 amps of Motor Power.

2.13.3 Verify brake does **NOT** slip.

2.13.4 Return Hoist Controller to NEUTRAL.

CAUTION

When Steps 2.14 and 2.15 are to be performed, personnel are needed on the Galloway to guide the conveyance through the Galloway en route to the Overtravel area. This will prevent damage to equipment.

2.14 Perform the following to conduct Low Overtravel Test:

2.14.1 Ensure OT/BO switch in OFF position.

2.14.2 Lower conveyance **SLOWLY** to the Lilly limit position as indicated on the dial indicator and Hoist Drum.

2.14.3 Verify the following occur:

- Hoist Brakes are set.
- Ready Light goes OFF.

2.14.4 Set manual brake.

2.15 Perform the following to conduct a Low Back Out (LBO) Test:

2.15.1 Place the OT/BO switch in the LBO position.

2.15.2 Depress the Overtravel Foot Switch and Deadman Switch.

2.15.3 Verify Overtravel Bypass RIL illuminates and begins flashing.

2.15.4 Verify Lowering power can NOT be applied.

CAUTION

To prevent injury to personnel and/or damage to equipment, manual brake must not be released until motor torque is sufficient to move conveyance in hoisting direction.

2.15.5 Apply hoisting power.

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2.15.6 Release manual brake.

2.15.7 When conveyance clears limit switches, stop conveyance.

2.15.8 Return OT/BO switch to OFF and release Overtravel Foot Switch.

2.16 Hoistman, inform CMRO that hoist checks are complete and satisfactory.

3.0 PREOPERATIONAL GALLOWAY CHECKS

| 3.1 Ensure Galloway winch starters 33P-HS-HS-010A and 33P-HS-011A are on.

3.2 Verify operation of Winch Operator's Console (WOC) Deadman Switch as follows:

3.2.1 Depress WOC Deadman Foot Switch.

3.2.2 Depress WOC RESET push button.

| 3.2.3 Verify both RESET GIL on.

3.2.4 Remove foot from WOC Deadman Foot Switch.

| 3.2.5 Verify both RESET GIL extinguish.

3.2.6 Depress WOC Deadman Foot Switch.

3.2.7 Depress WOC RESET push button.

| 3.2.8 Verify both RESET GIL on.

3.3 Verify operation of E-STOP switch as follows:

3.3.1 Depress E-STOP push button.

3.3.2 Ensure both RESET GIL extinguish.

3.4 Perform the steps to reset motor starters 33-HS-010A and 33-HS-011A as follows:

3.4.1 Place ON/RESET/OFF switches to RESET position.

3.4.2 Return ON/RESET/OFF switches to the ON position.

3.4.3 Depress WOC Deadman Foot Switch.

3.4.4 Depress WOC RESET push button.

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3.4.5 Verify both RESET GIL illuminate.

4.0 GALLOWAY NORMAL OPERATION

NOTE

The Hoist conveyance and Galloway proximity alarm will sound when the Galloway approaches the conveyance.

4.1 Hoist Operator, perform the following at WOC:

4.1.1 Depress WOC Deadman Switch.

4.1.2 Depress RESET push button on the WOC.

4.1.3 Verify both RESET GIL illuminate.

4.1.4 Move Hoist/Lower Lever in requested direction.

4.1.5 Verify Motor Amps remain at 30 amps or less.

5.0 GALLOWAY SLACK ROPE OPERATION

NOTE

The AIS Galloway is equipped with a slack rope alarm that will trip power from winches and the AIS main hoist. To execute Steps 5.1 and 5.2, Hoisting Operations Management must be notified for authorization.

5.1 Hoist Operator, perform the following:

5.1.1 Verify power to main hoist and Galloway winches is tripped off line.

5.1.2 Depress RESET/SLACK ROPE bypass push button on WOC.

5.1.3 While holding RESET/SLACK ROPE bypass push button, move Galloway winches in direction directed by bell signals.

5.1.4 When slack rope condition is cleared, release push button.

5.1.5 Hoisting Operations Management, authorize any further movement of hoisting systems.

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NOTE
The main hoist can be utilized during a slack rope condition of Galloway, for disembarking of personnel on the Galloway.

5.2 **IF** main hoist is needed to move before Galloway slack rope condition is cleared,
THEN perform the following:

5.2.1 Place mode switch on the hoist console to CSRBP (communication slack rope bypass).

5.2.2 Depress and hold Overtravel Foot Switch and Deadman Foot Switch simultaneously.

5.2.3 Verify that RED indicator light OT/CSR bypass light illuminates.

5.2.4 Hoist or lower conveyance as directed by bell signals.

6.0 HOIST PLANT SHUTDOWN

6.1 Hoist Operator, perform the following:

- Park conveyance in released position.
- Notify CMRO hoist will be shut down.
- Close rope window lower cover.

6.2 Place following disconnects in OFF position:

6.2.1 Hoist Main Breaker 33P-HMO4/1

6.2.2 Hydraulic Pump Disconnect 33P-DP03/2 CB-4

6.2.3 East Galloway Starter 33-HS-011A

6.2.4 West Galloway Starter 33-HS-010A

6.2.5 Air Compressor Disconnect 33P-SWO4/1

7.0 REVIEW

7.1 Hoisting Manager, perform the following:

- Review AIS Hoist Operator's Log Sheet for completeness.
- Sign the Log Sheet as an indication of review approval and validation.

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8.0 MANAGEMENT OF RECORDS

All records produced during the implementation of this procedure are Resource Conservation and Recovery Act (RCRA) operating records and must be maintained in accordance with the (Hoisting Operations) Records Inventory and Disposition Schedule (RIDS). Final disposition after facility closure will be in accordance with the RIDS. Record retention is automatically extended by any enforcement action involving these records.

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Attachment 1 - General Safety Precautions

The following safety precautions **SHALL** remain in effect during **ALL** operations of the AIS Hoist.

- Only authorized personnel **SHALL** be in the Hoist Control room/Hoist Electric room. Other personnel requiring entry may obtain authorization from Hoisting Operations.

- Smoking is prohibited within 25 feet of the shaft.

- Only qualified personnel familiar with the posted signal system **SHALL** be responsible for giving and receiving signals for movement of the conveyance.

- Hoist Operators will accept hoisting instructions only from the regular signal system unless it is out of order. In that event, or in an emergency, the Hoist Operator **SHALL** accept instructions directing conveyance movement only from Hoist Management.

- Signal system signs **SHALL** be posted at all control stations where signals can be given or received.

- "Men Working in Shaft" signs **SHALL** be posted at all devices controlling hoisting operations that may cause personnel endangerment. These signs must be posted when maintenance is being performed on the hoist and the conveyance is at a station level where personnel may inadvertently board.

- Hoist **SHALL** be retested following all maintenance activities relating to the operation of the Hoist in accordance with 30 CFR 57. Record all work performed in AIS Hoist Operator's Log Sheet Book.

- **IF** it is found or suspected that any part of the Shaft or hoisting equipment is **NOT** functioning properly, **THEN** the hoist **SHALL NOT** be used until the malfunction has been repaired or adjustments made.

- Before hoisting personnel, and to ensure that the Shaft is clear of obstructions, at least one round trip **SHALL** be performed after any of the following:

    - Any Hoist or Shaft repairs, or related equipment repairs that might restrict or obstruct conveyance clearance.

    - Any oversize or overweight material or equipment trips that might restrict or obstruct conveyance clearance.

    - Hoist remaining idle for one shift or Operator shift change.

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Attachment 2 - Bell Signal System

Movements of the AIS Hoist are normally directed by the use of a Bell Signal System. Bell system actuators are located at the collar/stations and Master Control Station (MCS). A bell cord extending through the shaft may be used from any point in the shaft if the conveyance is not in motion. Radio-operated electronic signals are available on the hoist conveyance and the Galloway work platform.

The mine pager phone system, a voice system, is utilized to call the conveyance to a certain level or station. At WIPP, the Shaft Tender uses the mine phone system to the Hoist Operator instead of a "Call Bell" system.

AIS HOIST SIGNALS

BELL SEQUENCE	INSTRUCTION/MEANING
Station Signals	
1-2 Bells	Collar
1-3 Bells	Station
Command Signals	
1 Bell	Stop immediately if in motion
2 Bells	Lower Normal - Materials
3 Bells	Hoist Normal - Materials
3-1 Bells	Hoist Slow - Men/Materials
3-2 Bells	Lower Slow - Men/Materials
3-3 Bells	Mark
3-3-1 Bells	Hoist - Creep
3-3-2 Bells	Lower - Creep
2-1-2 Bells	Release Cage (conveyance)
2-2-2 Bells	Bring Cage (conveyance) to Galloway
1-2-3-1 Bells	Collar - men aboard
1-3-3-2 Bells	Station - men aboard
7 Bells	Danger Signal - When followed by a Station Signal, calls cage to station

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Attachment 2 - Bell Signal System (continued)

AIS GALLOWAY SIGNALS

BELL SEQUENCE	INSTRUCTION/MEANING
Command Signals	
9 Bells	Prepare to Operate Galloway
4 Bells	Hoist
5 Bells	Lower
1 Bells	Stop
4-3 Bell	Release from Galloway
Leveling Signals	
2 long Bells	West Winch
3 long Bells	East Winch
(Then use Command Signals)	

When the conveyance is spotted at the collar of station level, the Shaft Tender will not open the conveyance doors until the stop bell is received from the Hoist Operator.

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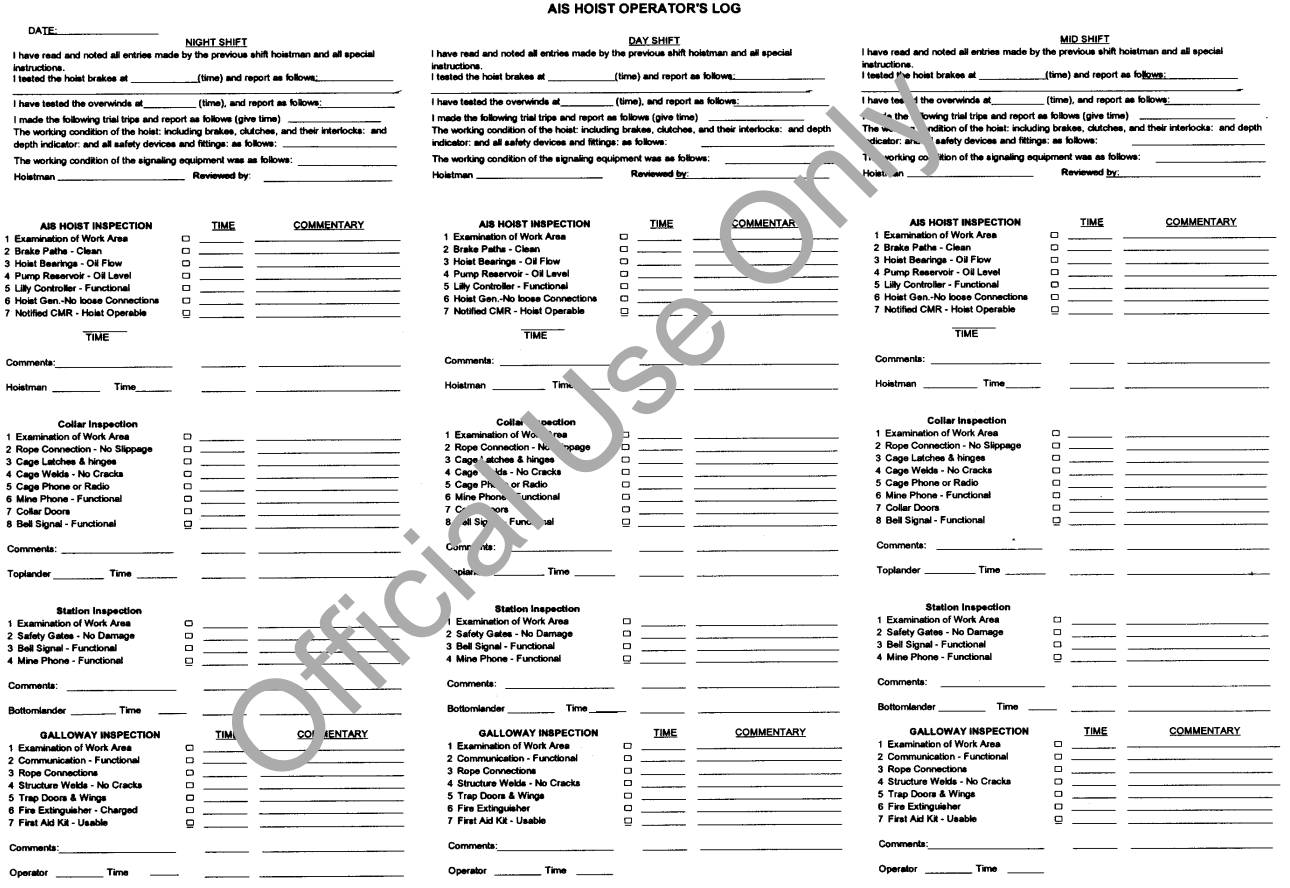
Attachment 3 - AIS Hoist Operator's Log Sheet Sample



AIS HOIST OPERATOR'S LOG

DATE: _____

NIGHT SHIFT

I have read and noted all entries made by the previous shift hoistman and all special instructions.
I tested the hoist brakes at _____(time) and report as follows:_____
_____
I have tested the overwinds at_____ (time), and report as follows:_____
I made the following trial trips and report as follows (give time) _____
The working condition of the hoist: including brakes, clutches, and their interlocks: and depth indicator: and all safety devices and fittings: as follows: _____
The working condition of the signaling equipment was as follows: _____
Hoistman _____ Reviewed by: _____

AIS HOIST INSPECTION		TIME	COMMENTARY
1 Examination of Work Area	☐		
2 Brake Paths - Clean	☐		
3 Hoist Bearings - Oil Flow	☐		
4 Pump Reservoir - Oil Level	☐		
5 Lilly Controller - Functional	☐		
6 Hoist Gen.-No loose Connections	☐		
7 Notified CMR - Hoist Operable	☐		
		TIME	
Comments:_____			
Hoistman _____ Time_____			

Collar Inspection			
1 Examination of Work Area	☐		
2 Rope Connection - No Slippage	☐		
3 Cage Latches & hinges	☐		
4 Cage Welds - No Cracks	☐		
5 Cage Phone or Radio	☐		
6 Mine Phone - Functional	☐		
7 Collar Doors	☐		
8 Bell Signal - Functional	☐		
Comments: _____			
Toplander _____ Time _____			

Station Inspection			
1 Examination of Work Area	☐		
2 Safety Gates - No Damage	☐		
3 Bell Signal - Functional	☐		
4 Mine Phone - Functional	☐		
Comments: _____			
Bottomlander _____ Time ____			

GALLOWAY INSPECTION		TIME	COMMENTARY
1 Examination of Work Area	☐		
2 Communication - Functional	☐		
3 Rope Connections	☐		
4 Structure Welds - No Cracks	☐		
5 Trap Doors & Wings	☐		
6 Fire Extinguisher - Charged	☐		
7 First Aid Kit - Usable	☐		
Comments:_____			
Operator _____ Time ____			

DAY SHIFT

I have read and noted all entries made by the previous shift hoistman and all special instructions.
I tested the hoist brakes at _____(time) and report as follows:_____
_____
I have tested the overwinds at_____ (time), and report as follows:_____
I made the following trial trips and report as follows (give time) _____
The working condition of the hoist: including brakes, clutches, and their interlocks: and depth indicator: and all safety devices and fittings: as follows: _____
The working condition of the signaling equipment was as follows: _____
Hoistman _____ Reviewed by: _____

AIS HOIST INSPECTION		TIME	COMMENTARY
1 Examination of Work Area	☐		
2 Brake Paths - Clean	☐		
3 Hoist Bearings - Oil Flow	☐		
4 Pump Reservoir - Oil Level	☐		
5 Lilly Controller - Functional	☐		
6 Hoist Gen.-No loose Connections	☐		
7 Notified CMR - Hoist Operable	☐		
		TIME	
Comments: _____			
Hoistman _____ Time_____			

Collar Inspection			
1 Examination of Work Area	☐		
2 Rope Connection - No Slippage	☐		
3 Cage Latches & hinges	☐		
4 Cage Welds - No Cracks	☐		
5 Cage Phone or Radio	☐		
6 Mine Phone - Functional	☐		
7 Collar Doors	☐		
8 Bell Signal - Functional	☐		
Comments: _____			
Toplander _____ Time _____			

Station Inspection			
1 Examination of Work Area	☐		
2 Safety Gates - No Damage	☐		
3 Bell Signal - Functional	☐		
4 Mine Phone - Functional	☐		
Comments: _____			
Bottomlander _____ Time ____			

GALLOWAY INSPECTION		TIME	COMMENTARY
1 Examination of Work Area	☐		
2 Communication - Functional	☐		
3 Rope Connections	☐		
4 Structure Welds - No Cracks	☐		
5 Trap Doors & Wings	☐		
6 Fire Extinguisher	☐		
7 First Aid Kit - Usable	☐		
Comments:_____			
Operator _____ Time ____			

MID SHIFT

I have read and noted all entries made by the previous shift hoistman and all special instructions.
I tested the hoist brakes at _____(time) and report as follows:_____
_____
I have tested the overwinds at_____ (time), and report as follows:_____
I made the following trial trips and report as follows (give time) _____
The working condition of the hoist: including brakes, clutches, and their interlocks: and depth indicator: and all safety devices and fittings: as follows: _____
The working condition of the signaling equipment was as follows: _____
Hoistman _____ Reviewed by: _____

AIS HOIST INSPECTION		TIME	COMMENTARY
1 Examination of Work Area	☐		
2 Brake Paths - Clean	☐		
3 Hoist Bearings - Oil Flow	☐		
4 Pump Reservoir - Oil Level	☐		
5 Lilly Controller - Functional	☐		
6 Hoist Gen.-No loose Connections	☐		
7 Notified CMR - Hoist Operable	☐		
		TIME	
Comments: _____			
Hoistman _____ Time_____			

Collar Inspection			
1 Examination of Work Area	☐		
2 Rope Connection - No Slippage	☐		
3 Cage Latches & hinges	☐		
4 Cage Welds - No Cracks	☐		
5 Cage Phone or Radio	☐		
6 Mine Phone - Functional	☐		
7 Collar Doors	☐		
8 Bell Signal - Functional	☐		
Comments: _____			
Toplander _____ Time _____			

Station Inspection			
1 Examination of Work Area	☐		
2 Safety Gates - No Damage	☐		
3 Bell Signal - Functional	☐		
4 Mine Phone - Functional	☐		
Comments: _____			
Bottomlander _____ Time ____			

GALLOWAY INSPECTION		TIME	COMMENTARY
1 Examination of Work Area	☐		
2 Communication - Functional	☐		
3 Rope Connections	☐		
4 Structure Welds - No Cracks	☐		
5 Trap Doors & Wings	☐		
6 Fire Extinguisher	☐		
7 First Aid Kit - Usable	☐		
Comments:_____			
Operator _____ Time ____			

SPECIAL INSTRUCTIONS
Requires Time, Date, & Authorized Signatures

_____
_____
_____

WP 04-HO1004-1

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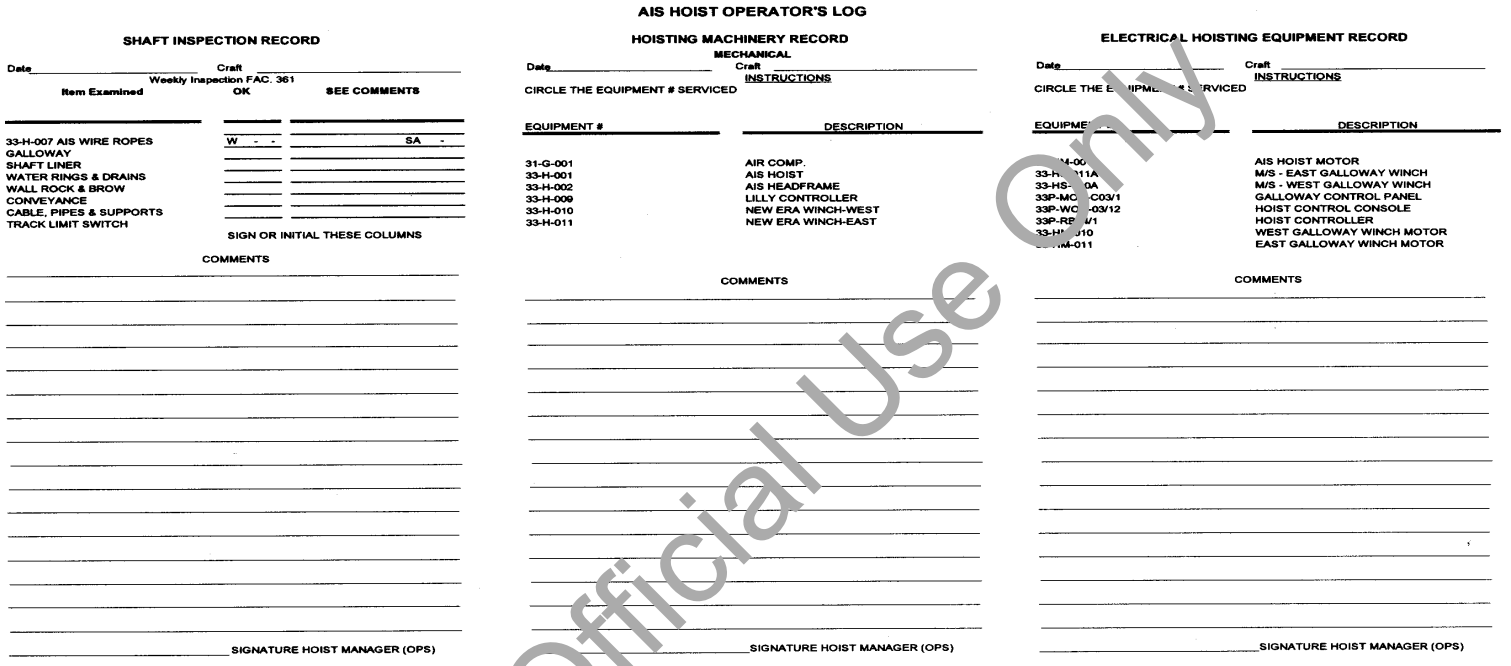
Attachment 3- AIS Hoist Operator's Log Sheet Sample (continued)



AIS HOIST OPERATOR'S LOG

SHAFT INSPECTION RECORD

Date _____ Craft _____

Weekly Inspection FAC. 361

Item Examined	OK	SEE COMMENTS
33-H-007 AIS WIRE ROPES	W - -	SA -
GALLOWAY		
SHAFT LINER		
WATER RINGS & DRAINS		
WALL ROCK & BROW		
CONVEYANCE		
CABLE, PIPES & SUPPORTS		
TRACK LIMIT SWITCH		

SIGN OR INITIAL THESE COLUMNS

COMMENTS

_____ SIGNATURE HOIST MANAGER (OPS)

HOISTING MACHINERY RECORD

MECHANICAL

Date _____ Craft _____

INSTRUCTIONS

CIRCLE THE EQUIPMENT # SERVICED

EQUIPMENT #	DESCRIPTION
31-G-001	AIR COMP.
33-H-001	AIS HOIST
33-H-002	AIS HEADFRAME
33-H-009	LILLY CONTROLLER
33-H-010	NEW ERA WINCH-WEST
33-H-011	NEW ERA WINCH-EAST

COMMENTS

_____ SIGNATURE HOIST MANAGER (OPS)

ELECTRICAL HOISTING EQUIPMENT RECORD

Date _____ Craft _____

INSTRUCTIONS

CIRCLE THE E[illegible] SERVICED

EQUIPME[illegible]	DESCRIPTION
[illegible]	AIS HOIST MOTOR
33-H-[illegible]11A	M/S - EAST GALLOWAY WINCH
33-HS-[illegible]0A	M/S - WEST GALLOWAY WINCH
33P-MC[illegible]C03/1	GALLOWAY CONTROL PANEL
33P-WC[illegible]03/12	HOIST CONTROL CONSOLE
33P-RP[illegible]/1	HOIST CONTROLLER
33-H[illegible]010	WEST GALLOWAY WINCH MOTOR
[illegible]M-011	EAST GALLOWAY WINCH MOTOR

COMMENTS

_____ SIGNATURE HOIST MANAGER (OPS)

WP 04-HO1004-1

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