

Rig- Aban VIII

Auditor- Dr Omar Thakur – Regional QHSE Manager

#### Purpose-

The purpose of the audit was to highlight general safety related issues, deficiencies and requirements as an assessment of the rigs compliance with Aban's Management System and general safety standards. An attempt has been made to suggest changes along with the appropriate ordering information for each finding, so that it is easy for each department to order the equipment needed. Some of the suggestions are as per general safety standards upheld by most major oil companies worldwide. It is my strong recommendation that as a company we should strive to achieve a higher safety standard by going above and beyond just the minimum standards required especially when it comes to QHS & E issues.

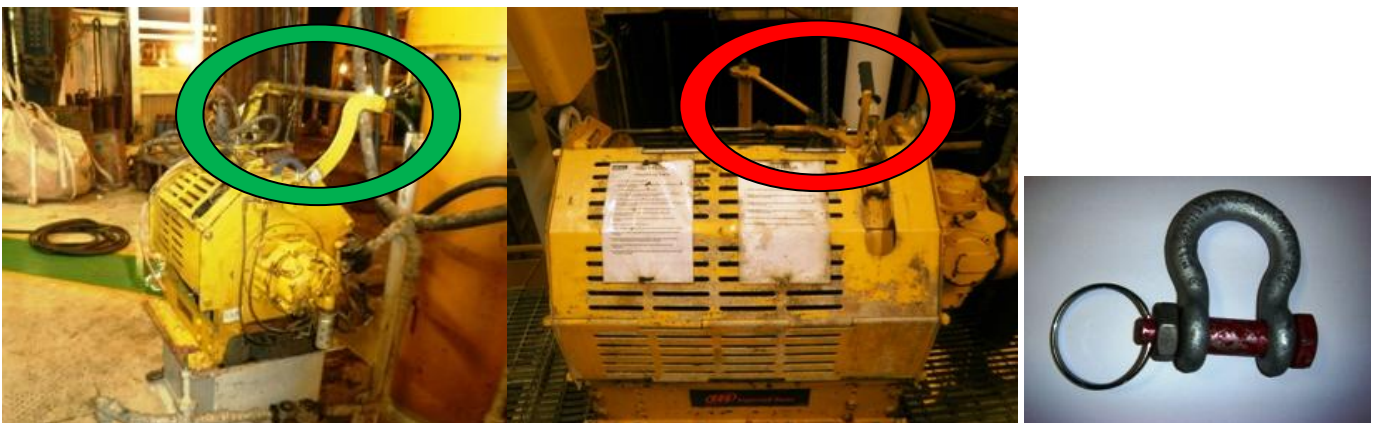
The specific and general findings from the audit are as follows.

#### Induction

On arrival on the rig, the rig safety officer Mr. Sreenathan, gave a very detailed Induction using a power point presentation. The PPP covered a wide variety of topics and was very well presented. This induction was followed by an H2S induction by the 3<sup>rd</sup> party which included donning of the BA pack and breathing through the cascade system. This was also very well done.

#### Derrick and Rig-Floor areas

- 1- A general DROPS survey should be carried out by third party in the derrick and substructure to identify all overhead items and report deficiencies and recommendations. This document can then be used for a routine DROPS inspection to be done by the rig crew. (OES – is currently on board to carry out this inspection)
- 2- ALL rig floor utility winches should have spring loaded cable wind devices to spool the cable properly on the drum. This prevents the operators from attempting to guide the cable on the spool with their hands and they can concentrate on the banks-man and the man in the belt. The winches should also have a clearly marked (RED) emergency stop.



Currently there is no designated equipment in use for the man riding operations. The following has been suggested to the rig OIM.

The **¾" (4.75t) Crosby G-2130 bolt-type shackle** along with the retaining **key ring i.e. McMaster Carr part number 90177A225**. The key ring is easy to use, cost effective and does not easily get knocked out of the slot. It can be easily changed out when needed.

This is the recommended combination for man-riding to be used when using the man-riding winch. This shackle and other man-riding equipment should be used only for man-riding and stored separately. The drilling supervisors should ensure that this equipment is ordered in adequate quantity.

**Review Policy SAF 340.00 for guidelines of Man-riding operations.**

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90177A225    →    ?

90177A225

Zinc-Plated Steel Split Ring  
2.24" OD, 2.016" ID, .180"  
Thick

**In stock** at \$18.25 per Pack


This product is sold in  
Packs of 25

Packs of 25

**ADD TO ORDER**

**Pins**  
This product matches all of your selections.

Part Number: 90177A225



Material Type	Steel
Finish	Zinc-Plated
Pin Type	Cotter Pins and Rings
Cotter Pin and Retaining Ring Type	Split Ring (Key Ring)
System of Measurement	Inch
Outside Diameter (OD)	2.24"
Inside Diameter (ID)	2.016"
Split Ring Thickness	.18"
Specifications Met	Not Rated

- 3- The manual tongs to have their hand placement areas painted in green and hazardous areas to be identified in yellow and black stripes. Not all parts of the tongs are clearly identified. This is a piece of equipment very commonly involved with hand injuries and the safe and unsafe areas should be prominently marked.



- 4- Many TWO-Part shackles were in use on the rig floor and some areas of the derrick. It has become a standard practice for most companies now to do away with all 2-part (screw-pin) shackles in the derrick and overhead areas. These are unsafe to use in permanent overhead applications as they have a tendency for the pin to back out due to vibration and other stresses on the shackle and pin. The rig needs to ensure that all the shackles on the rig floor and in the derrick are changed over to 4 - part safety shackles.



- 5- The four part shackles in use should have proper retaining pins and not welding rods or other wires. Many such 4-part shackles were seen with welding rods / wires used as securing pins.

Cotter pins (properly bent), Air king pins or the above mentioned Mc-master key rings should be used as retaining pins on shackles.

**Standard Safety Clip**



- Same size for all coupling sizes

Wire Diameter	Part #	Price/E
.080	AC1	\$ .20

Sold only in bags of 25

**Air King Safety Pins**



- Heavy duty  
- Oversized

Wire Diameter	Part #	Price/E
.058	AKSP1	\$.95
.091	AKSP25	1.10

“R” clips are not to be used for shackles as they can be easily knocked out

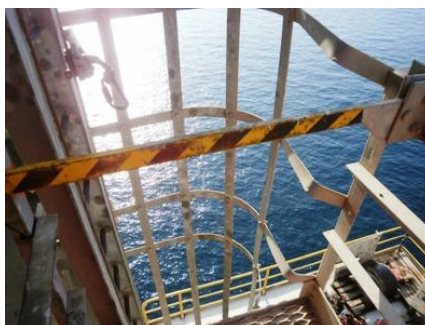
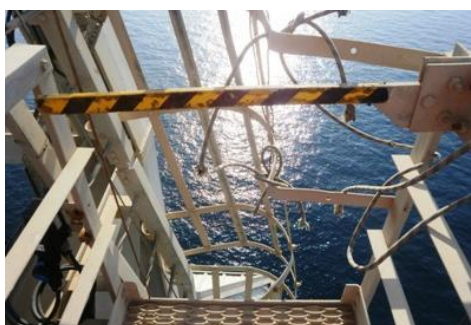
The Air King safety pin can be used for general applications like shackle , hose connections etc, but is not to be used for man-riding operations.

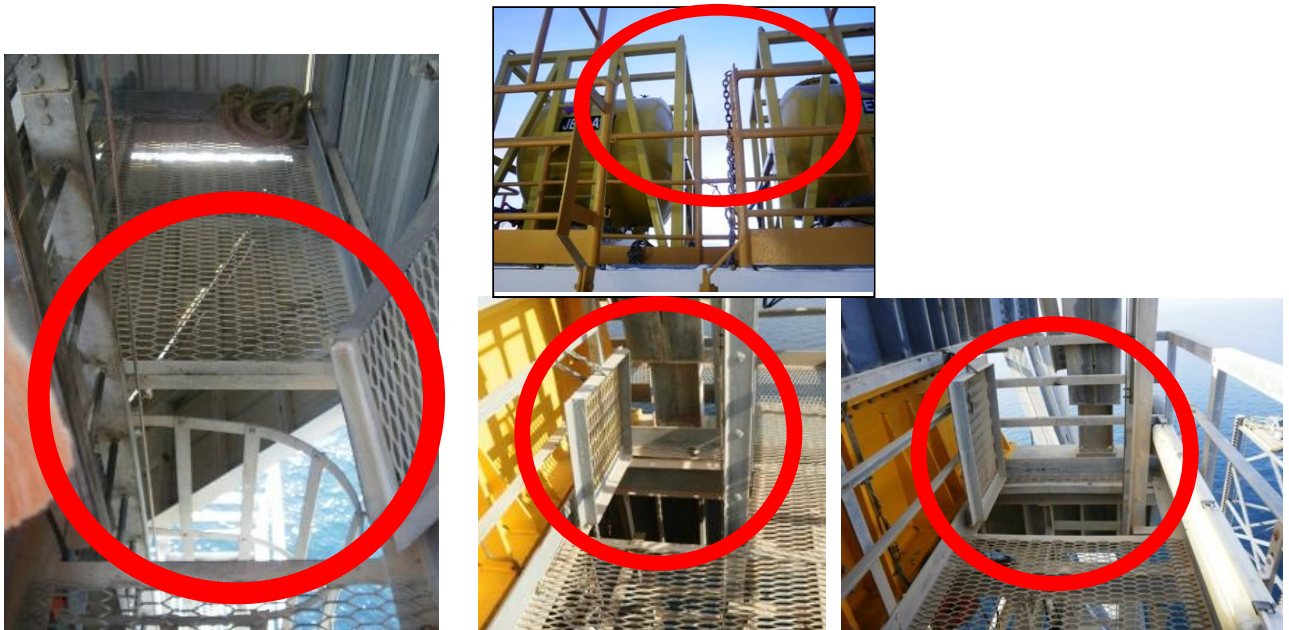


6- There is no Secondary fall protection device (Self retracting lifelines) installed under the rig floor for use for crew working on the BOP area/ Texas deck.

Some pad eyes are available for this purpose below the rig floor. Drilling crew to assess and have additional Pad-eyes installed if needed for same. Provision is to be made for 4 pad eyes for installation of four SRL’s for working below the rig floor.

7- All existing platforms at different levels do have metal bars but these are not self closing. All Platforms at the top of each ladder and other areas around the rig floor and accommodation area also need to have Self Closing gates installed. The drilling supervisors to do a survey of all the openings in handrails and platforms at height that will require these self closing gates and order them accordingly as per required sizes. Chains are not acceptable.





- 8- Level of monkey board has no protective gates and the grating at this level and at the crown level (as shown in two areas) is left open and tied with rope. This practice should be stopped immediately and ALL gratings or hatches either at a height or at deck level which have a potential for falling through should be closed immediately after use.

Self closing gates are to be installed at each end of these openings and openings in hand rails.

**Rig crew to review Policy SAF 350.00 on Fall Protection**

Ordering information for Self Closing gates is available on Pg 49 of Safety catalogue



- 9- A lad-saf (Ladder safety device with carabiner) was left at the monkey board level. This piece of equipment should be taken down and stored properly after each use and not left open to the elements. This particular one was severely rusted and was found in an unusable condition.

All safety equipment must be regularly checked, maintained and supervisors and crew should do regular checks to ensure that equipment is stored correctly and damaged equipment is not in use.

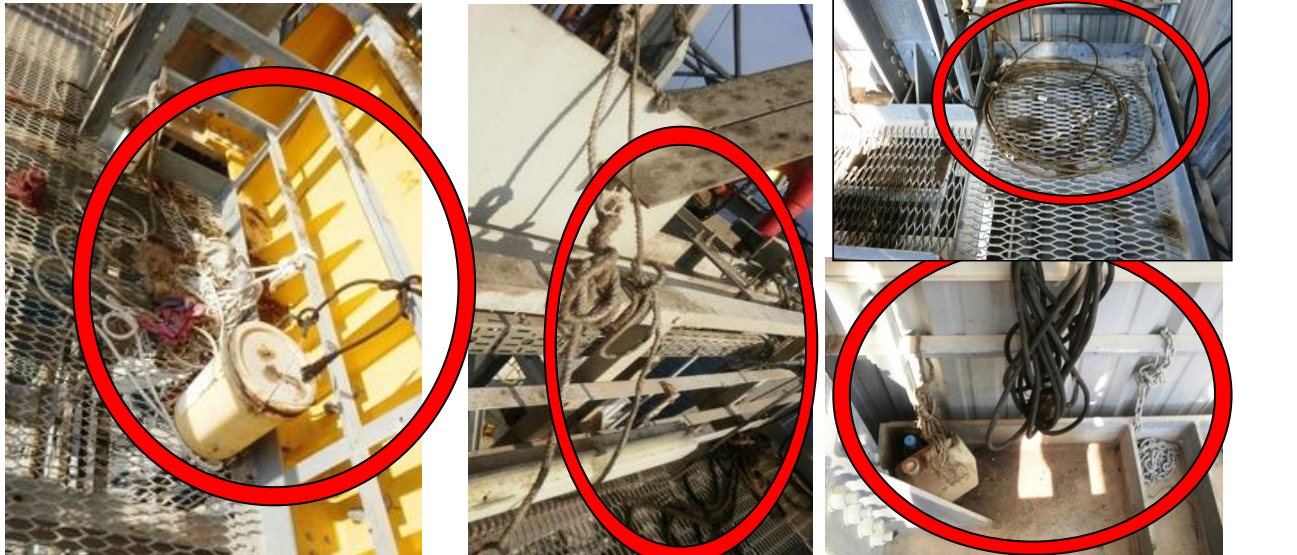
Potential Overhead dropped objects

10- As seen below, various items were left in and around the monkey board level which are all “Potential Dropped Objects”. Any items that are not required in the derrick should be brought down immediately. These should have been identified in previous derrick inspections. Supervisor’s such as drillers and Tool/Tour Pushers should review routine derrick inspections and ensure that all the overhead areas are kept clear of unwanted material AT ALL TIMES.

**Rig crew to review Policy SAF 500.00 on DROPS**



**Shims, ropes, drums, cans, bottles, lifting gear, chains, elect cables, rags etc are left in the derrick creating a potential hazard and poor housekeeping standards.**



11- All overhead fixtures should be secured with a safety sling. Light fixtures, sheaves, Speakers, electrical junction boxes etc should all have appropriate secondary fall protection. Rope is not to be used as a securing device as it deteriorates over time.

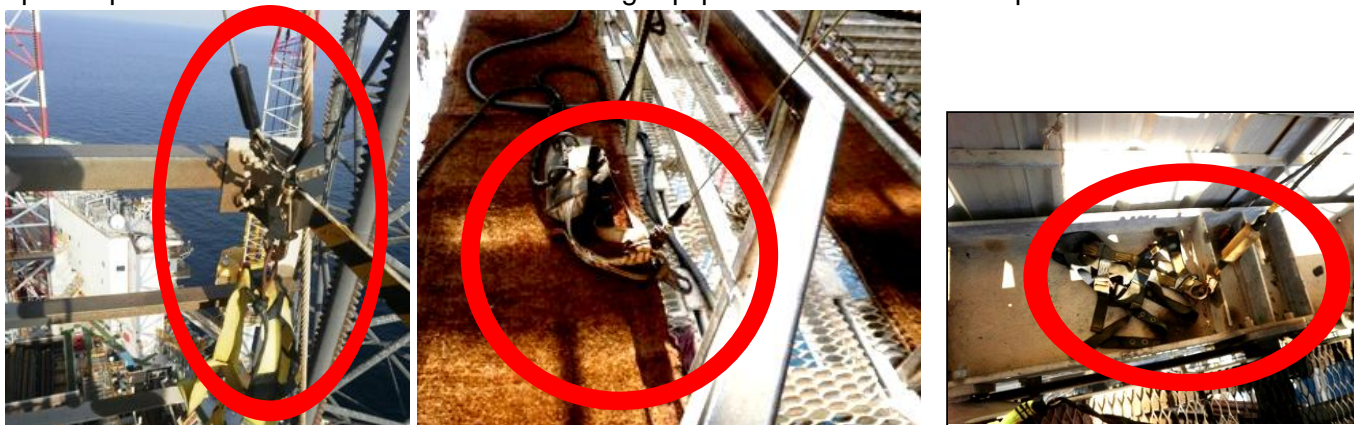
The cable securing the SALA block for the derrick man is directly rubbing against the I- beam. Some packing should be put in between to avoid damage to the sling.



Crew should be trained on the correct use of SALA blocks. The cable should be retracted into the protective housing after each use and should not be left extracted as this damages the spooling mechanism and also exposes the cable to the elements and potential damage.

12- The sheave as shown above is also not secured by a safety sling and there is one of these on either side of the SALA block that require securing.

13- The Derrick escape safety belt and the derrick-mans belly buster belt was also found left out in the open exposed to the elements. This is life saving equipment and should be kept in a secure area.



14- Two cables were found to be rubbing against other equipment, one at the small winch on monkey board and the other at the derrick ladder higher up towards the crown



Some amount of damage to the cable was seen. These cables should be diverted to ensure that they are not rubbing against anything. The steel hook seen in the second picture should be removed as it is not serving any purpose and only causing an obstruction as the Lad-saf has to be disconnected from below and reconnected above this hook while climbing and also causing damage to the Lad-saf cable by rubbing against it. This also leaves the climber without fall protection during this moment.

15- The derrick climb assist was found to be exerting excessive pull on the climber. Some adjustment may be needed to ensure that excessive stress is not exerted on the climbing belt.

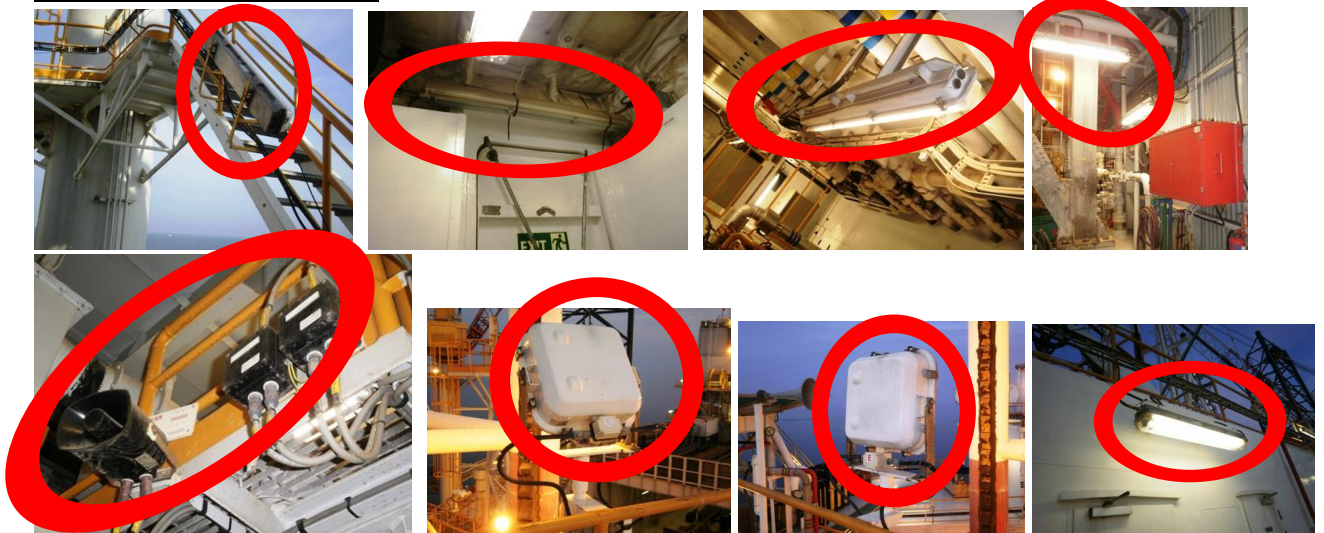
16- A glove was found secured by tie-wrap to the end of a steel pressure tubing. All low / high pressure lines should be secured/ terminated by proper fittings rated for the job.



17- Tops of tool cabinets and other storage boxes should be kept clear of material and no storage of any overhead material should be allowed unless properly secured.

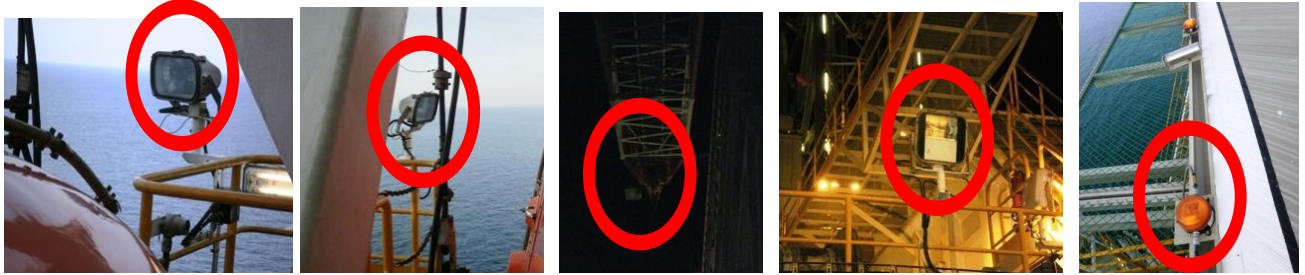
18- The T-card station at the entry point to the platform should bear the names of individuals. Currently it bears only designations.

#### General Overhead fixtures



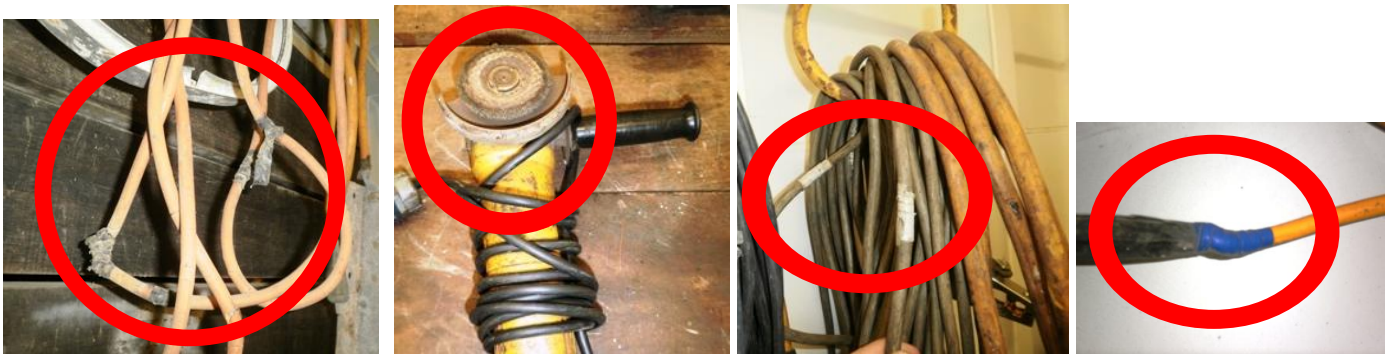
19- All overhead fixtures outside the accommodation should be secured by appropriate safety cables. A survey to be done for this overhead equipment and safety slings of the appropriate sizes to be ordered and installed.

Lighting-



20- Lights at the boat stations were found not working. These are critical for night evacuations and or night personnel transfers if any and should be in working condition with sufficient spares at all times. Both the stbd and port Fwd crane boom tip lights were not working. Some main deck lights and heli-deck lights were found not working.

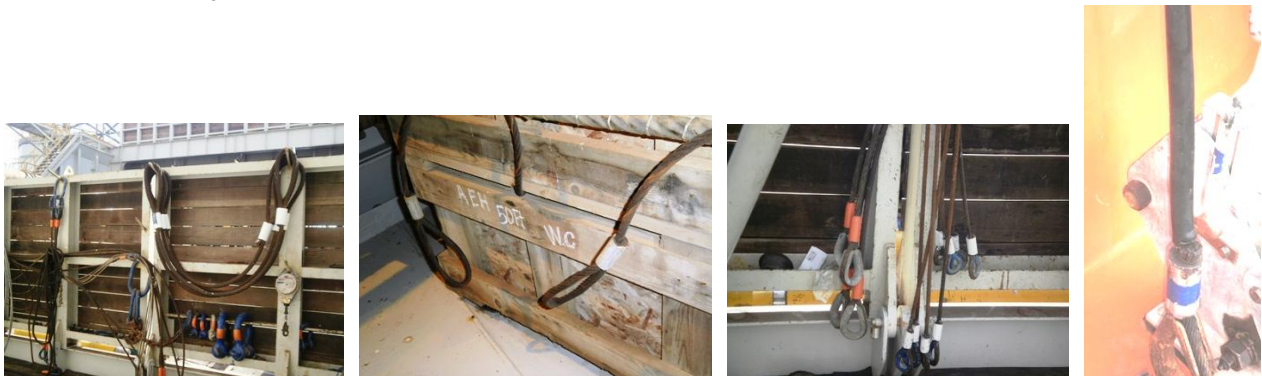
General electrical equipment



21- Some electrical cables in welding shop found in very poor condition which should be discarded. Insulation tape is not to be used on frayed / damaged cables. If cables with broken insulation are to be used they should be cut at this point and a male- female plug –socket should be installed. Electricians should have a schedule to check all electrical cables on hand tools and remove from service any found damaged. End users should also be educated to inspect their equipment every time before each use. **Review Policy SAF 460.00 Electrical safety**

22- One grinder was found with an excessively worn out grinding wheel. Crew should be educated against using such worn out wheels which can disintegrate during use.

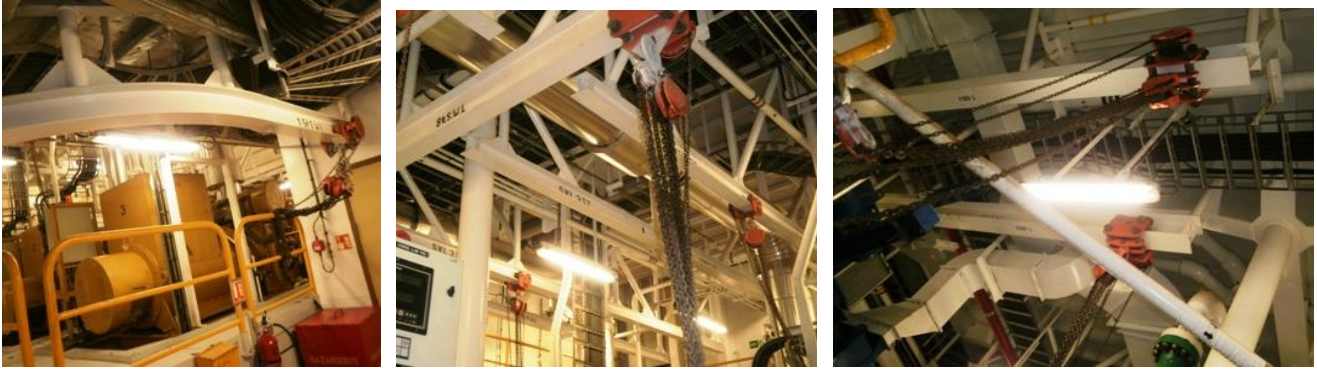
23- Lifting gear that is not coded with the current color code and not having certification should not be used. LG coded white should be quarantined until certified by 3<sup>rd</sup> party as good for use. **Review Policy SAF 358.00**



24- Life boat safety sling was found covered with hose. This hose needs to be removed as the condition of the sling cannot be assessed during an inspection.



Overhead beams, trolleys, chain hoists and pad-eyes.



25- All chain hoists and trolley beams should be marked with SWL and Color coded during each bi-annual inspection. All pad-eyes should also be marked with SWL and color coded to show last inspection. A small 3" x 3" square next to the SWL can indicate the color code for each item indicating last inspection.



General Lifting Gear



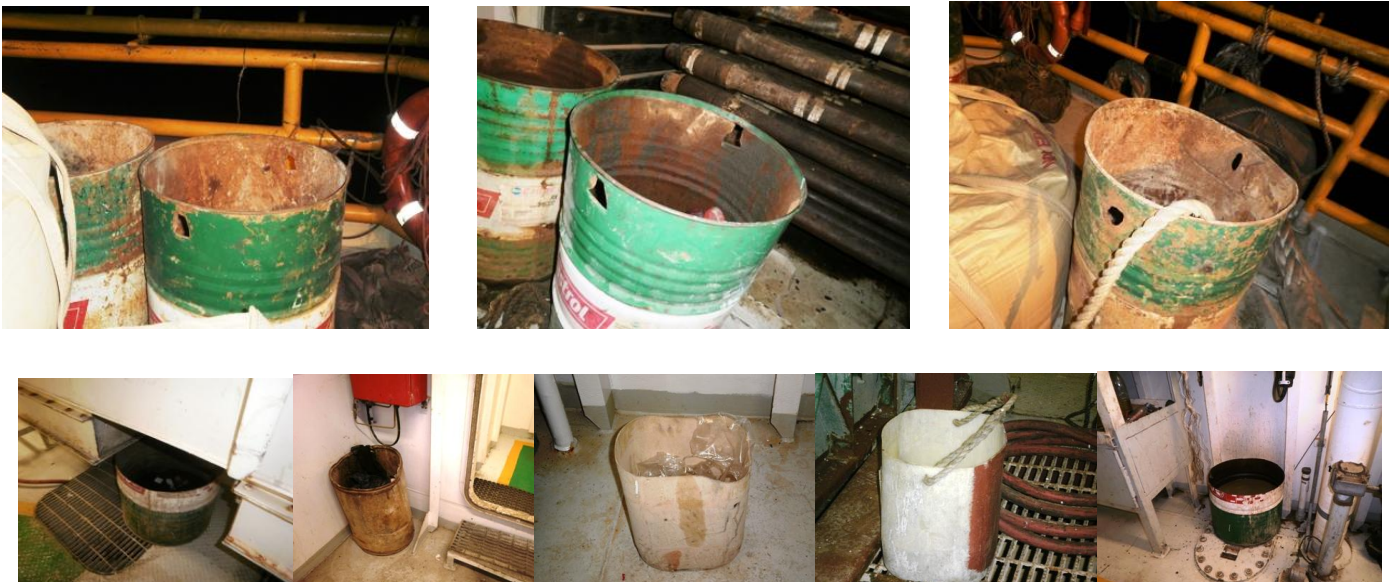
26- Various two-part shackles were seen in use without a color code and wire / tie-wrap was used to secure the pin. In some cases 4-part shackles were seen in use without a safety pin or a welding rod was in use as a safety pin.



Due to many incidents and requiring securing the pin, the industry is moving away from using 2-part shackles i.e. screw pin shackles.

4-part shackles with a keeper / safety pin should be used. This consists of the shackle, nut, bolt and safety pin

#### Usage of drums for transportation.



27- Holes are made in drums to serve as lifting eyes. This practice should be stopped immediately and empty drums should not be cut open to be used for any other purpose. Many other plastic and metal containers were seen cut and in use as bins, buckets etc. Proper color coded purpose built bins should be ordered for different types of hazardous and non hazardous waste.

**For the transportation of drums, a drum lifter is recommended as in safety catalogue, Pg 97.**

#### Skips, containers and baskets



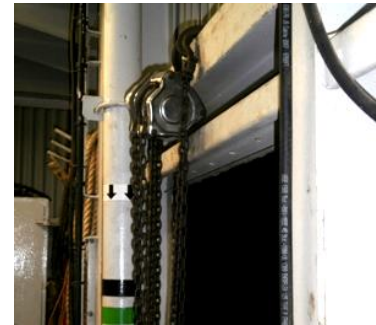
28- Baskets and containers are not color coded as per requirements of Lifting gear policy and SWL is not marked on any of the baskets found on deck. These should be part of the bi-annual LG inspection. This applies to Aban, PPL and all 3<sup>rd</sup> party lifting gear.

29- The work basket in use needs to be replaced with a proper certified workbasket as recommended in the safety catalogue. This also needs to be inspected and color coded bi-annually.



Information on approved work basket is available in the safety catalogue Pg 109.

### Chain Hoists



30- Chain hoists in various areas do not show any color coding indicating that they have not been inspected in the last bi-annual inspection. OES is on board and ALL lifting gear should be inspected and color coding for all this equipment should be maintained until the next inspection and color code. Chain hoists with opened out hooks, no safety latches and no color code, should not be used.

### Fork Lift operation..

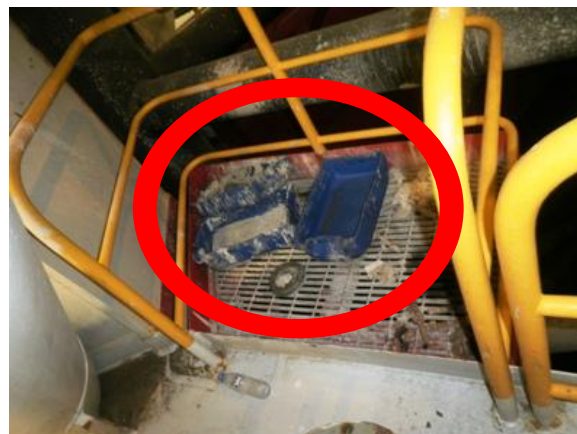


31- Operation of forklift should be restricted only to certified operators and a list of certified crew should be posted in the area. A designated parking / charging area should be demarcated for the forklift. An expanded metal guard to be installed between the driver and the forks.

Garbage management



32- A container was found on deck with all types of waste piled up in one heap. This included metals, filters, waste paint cans and other general waste. This should be discouraged and waste segregation should be followed and appropriate waste skips should be provided for the disposal. **Refer Policy ENV 170.00 and ENV 180.00 on waste segregation and disposal.**



33- Water bottles were found in various areas of the rig filled with oil, diesel, thinner, soap etc. This practice should be stopped immediately and only purpose built containers with proper labels as to the contents must be used.

34- Crew should be discouraged from keeping any type of chemicals, oils, waste water etc directly over the grating where it can enter the water and cause an environmental issue. Crews to be educated towards a ZERO discharge policy where no waste is thrown over-board.

Spill Containment & segregation.

35- Various oil and chemical drums are stored in various parts of the rig without any spill containment. The rig needs to designate a oil/ chemical storage area that is bunded for spill containment and designated as such. Storage of oil/ chemical drums in various areas poses a spill and a fire hazard.





This batch of acid containers found sitting below the cantilever with no secondary containment belongs to the client. If not in use they should be back-loaded or stored on the standby vessel.

All chemicals brought on board should be accompanied by an MSDS. The MSDS should be dated within the last five years and maintained on the rig for crew reference

Information on approved spill containment available in Safety catalogue on pg 98

### Spill Kits

36- Spill kits should be designated in areas with potential spill hazards and these kits should be numbered and listed for weekly inspection.

Some kits were found half full and others were used as storage boxes for other equipment. A list of items inside should be posted on the inside of the lid and the kit should be kept sealed. Crew to be educated to use it only for spills.



Information for ordering spill containment equipment is available in the safety catalogue, Pg 96

### Environmentally Sensitive Valves and Drains (ESVD)



37- All ESVD's should be identified and kept locked and should be operated under a Permit To Work. As an example the ESVD list has been forwarded to the rig and is attached here.

Padlock	Isolation Cert No.	Valve ID	Valve Type	Valve Function	Valve Location	Contents
1	I 000583(19-Jan-10)	OF 001	3" Gate	Fuel Oil Bunker	Port Loading Station	Fuel Oil
2	I 000583(19-Jan-10)	OF 002	3" Gate	Fuel Oil Bunker	Starboard Loading Station	Fuel Oil
3	I 000583(19-Jan-10)	OB 004	4" Butterfly	Base Oil Bunker	Port Loading Station	Base Oil
4	I 000583(19-Jan-10)	OB 005	4" Butterfly	Base Oil Bunker	Starboard Loading Station	Base Oil
5	I 000583(19-Jan-10)	ML 097	6" Butterfly	LP Mud Bunker / Discharge	Port Loading Station	Drilling Fluids
6	I 000583(19-Jan-10)	ML 098	6" Butterfly	LP Mud Bunker / Discharge	Starboard Loading Station	Drilling Fluids
7	I 000583(19-Jan-10)	WL 105	4" Butterfly	Bilge	Port Loading Station	Oily Water
8	I 000583(19-Jan-10)	WL 106	4" Butterfly	Bilge	Starboard Loading Station	Oily Water
9	I 000584(19-Jan-10)	DQ 001	2" Gate	Sanitary Water	Port Loading Station	Grey Water
10	I 000584(19-Jan-10)	DQ 002	2" Gate	Sanitary Water	Starboard Loading Station	Grey Water
11	I 000584(19-Jan-10)	ML 157	6" Butterfly	Brine	Port Loading Station	Drilling Fluids
12	I 000584(19-Jan-10)	ML 158	6" Butterfly	Brine	Starboard Loading Station	Drilling Fluids
13	I 000584(19-Jan-10)	DQ 010	4" Gate	Grey Water Overboard	Starboard Auxiliary Machine	Grey Water
14	I 000584(19-Jan-10)	OF 027	1" Ball	Fuel Oil	Port Aft Pedestal Crane	Fuel Oil
15	I 000584(19-Jan-10)	OF 039	1" Ball	Fuel Oil	Port Forward Pedestal Crane	Fuel Oil
16	I 000584(19-Jan-10)	OF 047	1" Ball	Fuel Oil	Starboard Pedestal Crane	Fuel Oil
17	I 000585(19-Jan-10)	OF 032	1" Ball	Fuel Oil	Cement Unit	Fuel Oil
18	I 000585(19-Jan-10)	OF 036	1" Ball	Fuel Oil	Well Logging Unit	Fuel Oil
19	I 000585(19-Jan-10)	DD 008	6" Three Way Ball	Helideck Drain	Under Heli Fuel Platform	Heli Fuel
20	I 000585(19-Jan-10)	WB 023	12" Butterfly	Bilge Holding	Tank #18-C	Drilling Fluids
21	I 000585(19-Jan-10)	WL 087	2" Ball	Oily Water Separator	Engine Room	Oily Water
22	I 000585(19-Jan-10)	WL 086	2" Ball	Oily Water Separator	Engine Room	Oily Water

23	I 000585(19-Jan-10)	MP 037	3" Butterfly	Trip Tank Dump #1	Starboard Cantilever Beam	Drilling Fluids
24	I 000585(19-Jan-10)	MP 038	3" Butterfly	Trip Tank Dump #2	Starboard Cantilever Beam	Drilling Fluids
25	I 000586(19-Jan-10)	DD 012	3" Butterfly	Skimmer Tank #1	Starboard Cantilever Beam	Drilling Fluids
26	I 000586(19-Jan-10)	DD 013	3" Butterfly	Skimmer Tank #2	Starboard Cantilever Beam	Drilling Fluids
27	I 000586(19-Jan-10)	OL 006	1 ½ " Ditto	Dirty Oil Discharge	Port Main Deck	Waste Oil
28	I 000586(19-Jan-10)	MP 046	12" Gate	Shale Shaker Overboard	Under Shaker House	Drilling Fluids
29	I 000586(19-Jan-10)	MP 048	6" Butterfly	Cutting Sand Trap Dump	Under Shaker House	Drilling Fluids
30	I 000586(19-Jan-10)	ML 183	6" Butterfly	Mud To Centrifuge	Under Shaker House	Drilling Fluids
31	I 000586(19-Jan-10)	ML 182	6" Butterfly	Mud Dump To Trough	Under Shaker House	Drilling Fluids
32	I 000586(19-Jan-10)	DD 003	12" Butterfly	Discharge Overboard	Starboard Aft Main Deck	Deck Discharge
33	I 000587(19-Jan-10)	Nil	3' Butterfly	From Sand Trap #5 Below D-Desilter	Under Shaker House	Drilling Fluids
34	I 000587(19-Jan-10)	Nil	3" Butterfly	From Sand Trap #5 Below Desilter	Under Shaker House	Drilling Fluids

**Ordering Information for Mechanical lock out devices**

**Ball Valve Lockout Devices  
Best Available Method For Locking Out Ball Valves**

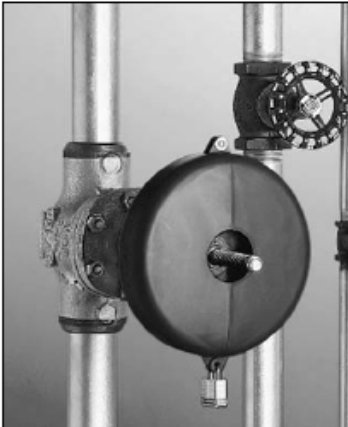


- Patented design fits all major brand ball valves.
- Two new models accept 3/8" shackle padlocks.
- Simple one piece design makes it easy to use.
- Complies with OSHA's lockout standard.

**No. 65668  
Chain Attachment**

Keep lockout device near valves that are locked out frequently.  
Standard package: 5 chain attachment assemblies.

*Brady Ball Valve Lockout Devices come in two sizes to lock out 1/4" to 1" and 1-1/4" to 3" ball valves.*



Unique knockout feature can be removed by hand to accommodate OS&Y or "rising stem" gate valves.

Make locking out valves safe and easy with the new Brady Gate Valve Lockouts. Available in four sizes to fit valve handles from 1" to 13" in diameter. Made of durable, non-adherent plastic to resist chemicals and hot and cold temperatures.

- New stainless steel hinge design for added strength and security.
- Now available in red, blue, green, and yellow for added versatility.
- Unique knockout feature accommodates OS&Y or "rising stem" gate valves.
- Designed to accept all locks with up to 3/8" shackle diameter and 3/4" or greater vertical shackle clearance.

**Gate Valve Lockouts**

**Valve Handle Part No.**

Diameter	Red	Yellow	Green	Blue
1" - 2 1/2"	65560	65590	65595	65585
2 1/2" - 5"	65561	65591	65596	65586
5" - 6 1/2"	65562	65592	65597	65587
6 1/2" - 10"	65563	65593	65598	65588
10" - 13"	65564	65594	65599	65589

Compressed Gas cylinders



**This regulator is the SP2112 with CGA 580 Nitrogen fitting.** This regulator should be used along with the BW Gas alert max detector for this testing. Any other regulators should be approved by the manufacturer for the testing of Nitrogen bottles.

A nitrogen cylinder found in the pump room does not have any indication of its contents. Cylinders should have the contents stenciled on the outside as color coding is not always standard in all parts of the world. Nitrogen cylinders should also be inspected for Oxygen content as any amount of oxygen in these cylinders could be disastrous. This testing should be recorded and logged for each cylinder and before each use. This test can be done by the BW Gas-Alert Max detector and a special regulator fitting is required for this test which is shown above. The rig should order at least TWO of these regulators.

**Refer Policy SAF 361.00**



38- Compressed gas cylinders are to have a purpose built rack. The rig will need at least two portable racks for Oxy- acetylene cylinders. Rope is not to be used as a securing means for these cylinders.

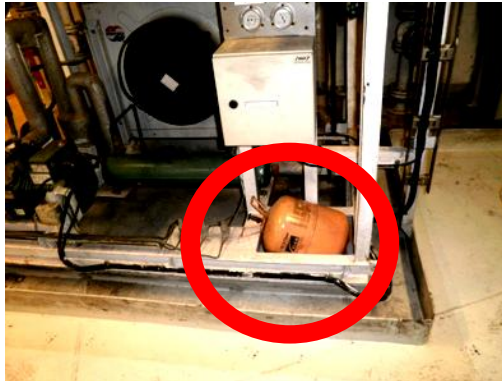


Store cylinders upright and secured in position with a chain, cable or bar. They have to have an assigned space for storage.

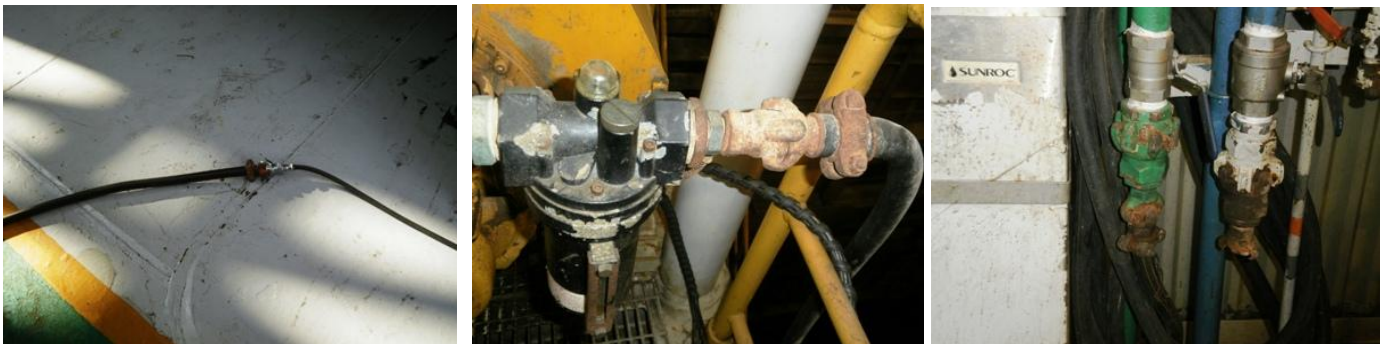
Oxygen cylinders shall be placed a minimum of twenty feet (6.1 meters) apart from flammable gas cylinders (acetylene, carbides, etc.) as well as highly combustible materials (oil, grease, etc.). If stored less than 20 feet (6.1 meters) apart, they must be separated by a non-combustible barrier at least five feet (1.5 meters) high with a fire resistance of at least one half hour when subjected to an open flame.

Flash back arrestors and back flow check valves must always be used

39- Freon/ R-22 bottles should be controlled and they should be stored in a designated area. A record of their use and recovery should be logged.



Pressure Lines and Hose connections



40- Whip checks and safety pins are not in use for hose connections. Crews to be educated on the proper use of whip checks and safety pins.

**Standard Safety Clip**



- Same size for all coupling sizes

Wire Diameter	Part #	Price/E
.080	AC1	\$.20

*Sold only in bags of 25*

**Air King Safety Pins**



- Heavy duty  
- Oversized

Wire Diameter	Part #	Price/E
.058	AKSP1	\$.95
.091	AKSP25	1.10






41- Worm clamps are not safe to use and a cause of many incidents and injuries. The rig should use approved “Air king Clamps” with whip checks and safety pins.

**Air King Clamps**

Size	Hose O.D.		Torque <sup>1</sup>	Plated Iron		Pkg Qty
	From:	To:		Part #	Price/E	
3/8"	44/64"	56/64"	6	CD <sup>3</sup>	\$5.95	100
1/2"	1"	1-12/64"	6	A4	5.50	50
3/4"	1-8/64"	1-20/64"	12	A9	5.55	50
1"	1-20/64"	1-32/64"	12	A10 <sup>2,3</sup>	9.60	50
1"	1-32/64"	1-52/64"	21	A14	11.90	50



<sup>1</sup> Recommended torque rating in ft. lbs

<sup>2</sup> Can be used with **AM6** and **AM11**

<sup>3</sup> Investment cast carbon steel

**Note:** Torque values for clamps are based on dry bolts.  
The use of lubricant on bolts will adversely effect clamp performance.

*Optional Pkg./Box Quantity Shown*

42- Chiksans in use by third party originating from the cement unit do not have any safety lines securing the connections. These are high pressure lines and should not be allowed to operate without safety slings attached. **Refer Policy SAF 361.00**



A bulk line at the shaker deck has an open line with no valve. All bulk lines should be contained and a valve should be placed at this end to secure the line.

43-

Paint locker



44- There is evidence of mixing paint inside the paint locker. The paint locker is only for paint storage. Mixing of paint should be done in an open well ventilated area.

Cardboard sheets from the flooring of the paint locker should be removed as these soak thinner and paint and are a fume and fire hazard..

Open paint cans and thinner cans should be removed and disposed accordingly. The thinner fumes and open paint cans are a fire hazard. Only closed / sealed paint and thinner cans are to be stored.

Used Paint brushes, rollers and soak cans should be stored separately.

**EAGLE RTC UNIT**



**RTC Unit**  
Protect up to four 55-gallon drums from the elements with this rotary style hard cover pallet that features easy-lift pivot-point-axis design. Height of protective cover allows storage with drum pumps in place. The cover secures to the low-profile pallet (7 3/4" H) at four points, two of which are lockable. 100% polyethylene construction resists corrosion, weathering, UV rays and is compatible with most aggressive chemicals. Patented support grating is removable for easy cleaning of the 60-gallon sump. The pallet has a UDL load rating of 6000 lbs. and fits optional ramp Model 1689. Ships fully assembled.

Compliance: EPA 40 CFR 264.175



Model 1646RTC

EAGLE Rotary Top Containment Unit				
Model	Description	Capacity	Dimensions	Weight
1646RTC	Rotary Top Containment Unit	60 gal.	59.5" x 73.5" x 68"	290 lbs.

This RTC unit can be placed outside the paint locker and used as a paint mixing unit and the drums can be used to store empty waste paint cans until final disposal and for the storage of used brushes, rollers and soak bins.

Engineering changes



45-

Any modifications to structures/ fixtures on the rig should go through proper engineering design and a management of change process. Such modifications without approvals should not be authorized

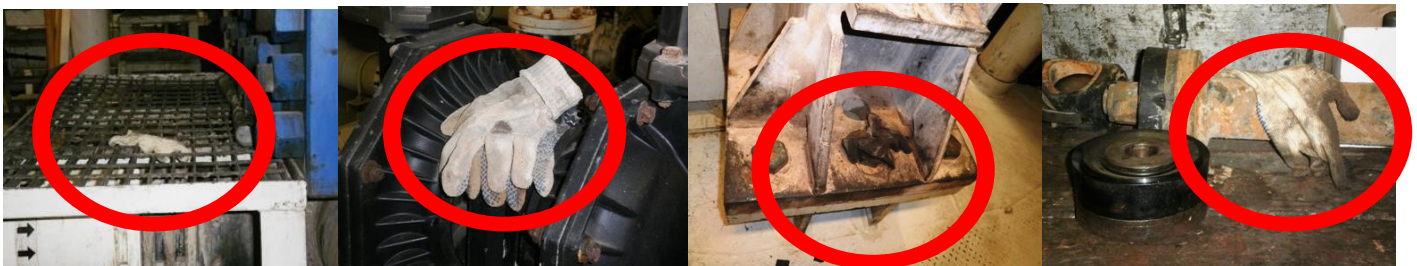
**Review Policy ISM 900.00, ISM 901.00 And ISM 902.00**



46- The general housekeeping on the rig is commendable and the crew is doing an excellent job of the same.



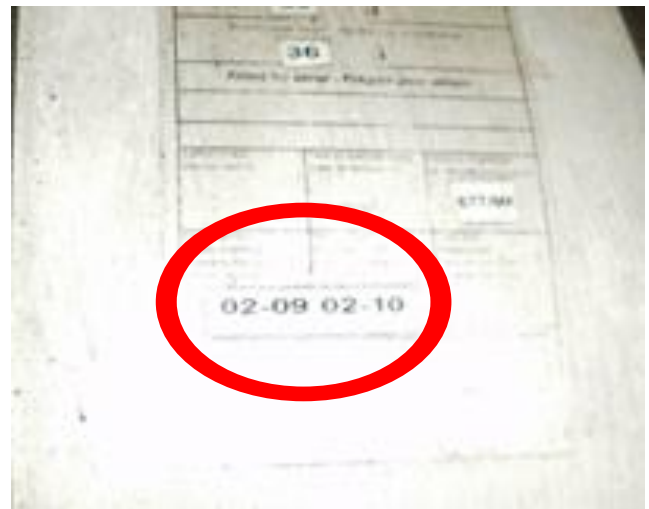
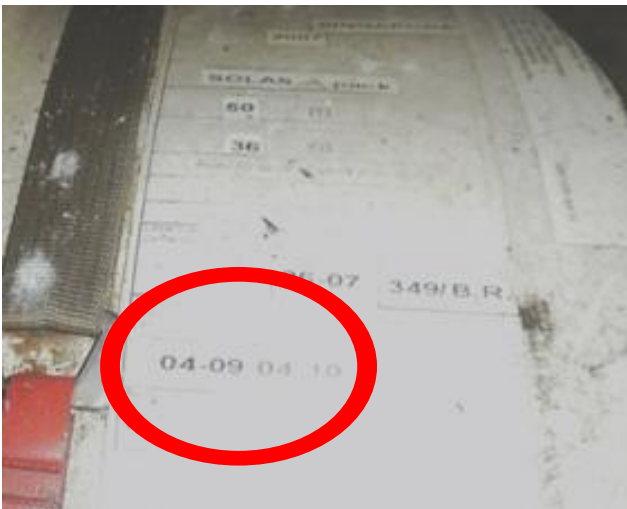
47- The hard hat and shoe racks are placed on the main deck a good 30 feet from the entrance to the accommodation. Areas outside the accommodation are PPE required areas and these racks should be moved inside the access doors to the accommodation so that crew can exit the accommodation with their PPE on. The current arrangement exposes crew to a hazard without PPE on deck.



48- Gloves are seen disposed all over the rig areas. Crew should be educated to ensure proper disposal of these gloves.



49- Fire plan is missing on each level of the accommodation.



50- The life rafts on the main deck are close to recertification and the rig should take steps to get these sent in for recertification well before the expiry dates.



51- The rig has at present very poor quality of life saving equipment like ropes and flotation lights for ring buoy. These have to be replaced with standard equipment provided in the safety catalogue. Information for both these items is available in the Safety Catalogue Pg 100 & 101.

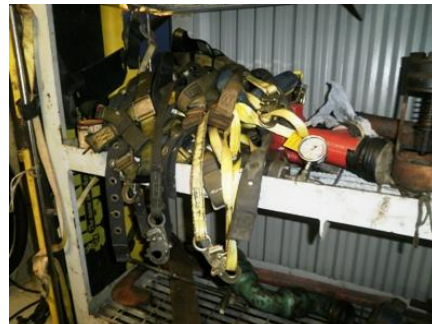
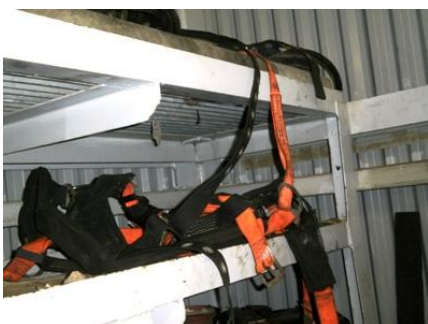
**Batteries for the ACR approved lights are to be ordered separately  
Battery Type is 6 Volt, Lantern Style battery. NEDA No 915, 915AC, 908 or 908AC  
and / or IEC # 4R25 or 4R25Y**



52- Bracket for the smoke buoy on port side is damaged and the pin to hold the ring buoy in the box is missing. A substitute pin should be installed to avoid losing the buoy.



53- Life jackets and life vests should have the vessel name and reflectors. All life saving equipment should be listed and numbered for easy inspection.



54- PPE and safety equipment like lanyards and safety belts should be kept in a designated areas and not stored with heavy equipment  
PPE boxes should be provided for crew to store their PPE in various areas of the rig.



55- Pits in the pit room need solid guards and should not be left open. A tripod should be used for access into the tanks as there is no pad eye above the hatch for attaching any type of fall protection



56- Un-controlled use of nylon straps should be avoided. Nylon straps should only be used under a PTW. **Review Policy SAF 360.00 on synthetic web slings**

### Lock Out tag Out



57- Electrical lockouts are not being carried out as per policy. The supervisors need to review the LOTO policy and educate the crew on the same. **Crew to review SAF 320.00 and SAF 460.00**

58- **Information for LOTO equipment is available in the Safety catalogue.**



59- The rig did not have the new Revision of the Aban PTW books. They were using copies printed from the MS. **Rig to review the PTW policy SAF 300.00**

60- The makeshift PTW clipboard is placed on the main deck level at the point of exit from the starboard accommodation. It is suggested that a PTW board be ordered and posted near the OIM's office as

the OIM is the controlling authority on the PTW system. This will also help in an emergency situation where he has easy access to the PTW board to find out activities on the rig at the time.

61- ALL electrical switchboard rooms to be provided with emergency electrical equipment like high voltage gloves, boots and a fiberglass rescue stick. Ordering information is as provided below.

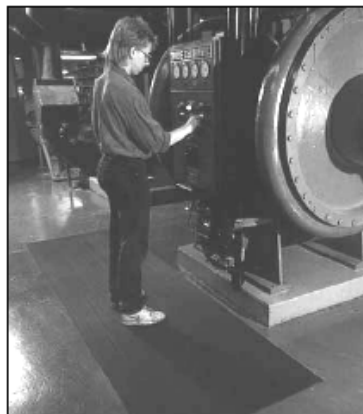
**Specifications:**

- Corrugated rib-tooth pattern
  - 1/4" overall thickness
  - Color: Black
  - Type 2 - compound: polyvinyl chloride
  - Class 2 - dielectric strength: 30,000 volts
  - Proof test: 20,000 volts
  - Recommended maximum usage: 17, 000 volts
- Note: For use with high voltage equipment, it should be replaced every 12 months for optimum safety

**Ordering Information**

Part No.	Description
830-24	Full roll 24" wide x 75 ft. long
830-36	Full roll, 36" wide x 75 ft. long
830-48	Full roll, 48" wide x 75 ft. long

Note: Cut lengths also available



**NON-CONDUCTIVE MATTING**

U/M: ROLL		MFG: NOTRAX
PART NO.	DESCRIPTION	
831-24	Matting, Non-Conductive, 1/4 " Thick, Diamond Plate Pattern, Color Black, 24" Wide x 75ft. Per Roll, Each Square Foot is Tested in Conformance with ANSI/ANSTM D-178 Specifications.	



**Salisbury Insulated Rescue Hook**

Salisbury's Insulated Rescue Hook is an invaluable tool for any workplace. It's used to withdraw an injured worker out of a hazardous area. Confined spaces, in vaults, or just near electrical cabinets and switch gear are some of the places where this tool is a must. Featuring a foam filled, fiberglass reinforced handle for superior electrical insulation and a coated heat treated body hook with an 18" opening.

**Ordering Information**

Part No.	Description
24401	6 ft. length, weight 3.5 lbs.
24403	8 ft. length, weight 4.1 lbs.

**Ranger Dielectric Footwear**

Ranger Dielectrics are high-quality, over-the-foot boots built for electrical hazard situations. They are UL classified in accordance with ANSI Z41 1999 Section 1 for Impact and Compression resistance requirements of Class 75, as well as Section 4 Electrical Hazard protection as demonstrated with the Dielectric Green Label. Every boot is individually hydroshock shock tested with 2,500 volts of direct current (both soles and uppers) to show resistance of 500 megohms (with no more than .005 milliamps leakage). They are also tested at 20,000 volts ac per the Electrical Hazard requirements of ANSI Z41 1999 Section 4 (dry test). DO NOT wear these specialized boots near explosives or on any job requiring conductive footwear.

**Ordering Information**

Part No.	Description
R6130	12" red dielectric safety pac with steel toe and Neo-Grip sole and heel, whole sizes 6-13

**Superior No-Trax® Switchboard Matting**

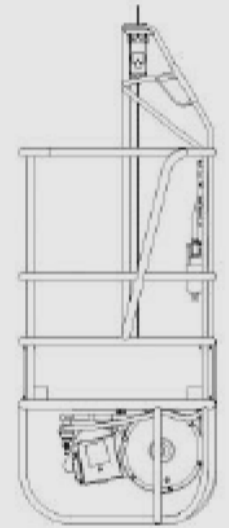
Non-conductive matting is formulated to provide insulation for the worker. The non-conductive mat prevents the worker from being grounded, thereby preventing electrical shock. Each square foot of matting is tested in conformance with ANSI/ANSTM D-178 specifications.



62- The rig needs a SPIDER basket for access to areas at-height which are not accessible by cranes. The ordering information is provided below. Spare cable spool should also be ordered as this is equipment for personnel hoisting and a spare cable should be available.



nation	
U/M: EACH MFG: SPIDER	
PART NO.	DESCRIPTION
ST-17	Spider, Air, 500' Drum
1329-150	Wire Rope, 150 ft, 5/16 FC, Drum HK
4896	Breather Vent Kit



63- Ladder safety devices are required on all vertical ladders on cranes. Back scratchers are not considered fall protection devices.




64- Two wooden makeshift ladders were found on the rig. These should be discarded immediately. Only company approved ladders are to be used on board the rig. Alluminium ladders are also not allowed. Extension ladders are not to be used on a drilling rig and should be back loaded/ discarded immediately. **Review Policy 350.00**



65- Management needs to adopt a company standard color coding for bulk lines and this color code should be either painted or in the form of stickers so as not to come off easily. Pipe color coding chart should be displayed in all major compartments and lines should be identified by color codes within 2-3 feet of entering and exiting each compartment.

66- Tripod with complete Emergency Rescue system is required, one kit for use on main deck and one kit below deck. This kit should include two winch type SALA blocks for each tripod. Crews should be trained in the assembly and use of the tripod system.

67- Individual Tool Spiders to be used with smaller hand tools while working overhead.

<b>MFG: WEB DEVICES</b>	
<b>DESCRIPTION</b>	
Tool Spider, Attaches to Harness or Waist Belt, Stretches from 18" to 30" and Has a Working Capacity of 15 Pounds Complete with a Double Acting Stainless Steel, Screw Gate Carabineer.	

**Tool Spider™**



TS 18/30

The *Tool Spider™* was designed to satisfy the need for elastic lanyards and to help reduce the frequency of dropped tools and worker injuries.

The *Tool Spider™* is elastic and attaches to a harness or waist belt. This allows easy mobility and flexibility when reaching out with hand tools.

The *Tool Spider™* has a maximum safe working capacity of 15 pounds.

[US Patent No. 6,776,317](#)

### Fire Fighting equipment



68- There is no way of identifying routine monthly inspections of portable/ fixed firefighting equipment. Most fire extinguishers and fire hoses do not have any inspection tags. The few that do have the tags have no markings on the tags. The Marine department of the rig is responsible for the upkeep of this emergency equipment and should have a record of monthly inspections.

69- Fire hoses and fire monitors should be routinely flushed, inspected and tagged for the date of inspection.

70- One 45 kg trolley extinguisher was found as the starboard side of the bow leg at a location of a smaller portable extinguisher. The responsible supervisors should match the actual extinguishers with the fire plan and ensure that the correct size and type of the extinguishers are in place.

71- The Heli-deck foam system line up should be explained to the persons responsible for this operation and a schematic displayed at the site showing the valve line-up for the foam monitors. Training on the foam line-up to the monitor and how to activate should be conducted.

### Galley and mess hall



72- Access to the exit from Mess hall is partially blocked both from the inside and the outside. This is an emergency exit and should be kept clear at all times. It is suggested the area outside the door is cleared up and the salad counter on the inside is turned sideways, clearing the emergency exit.



- 73- General housekeeping in the mess hall is good but some areas of improvement are required.
- 74- Food was found left uncovered in shelves and this was brought to the attention of the camp-boss. HSE rep and Medic should do routine spot inspections to ensure these issues are taken care of.
- 75- A large knife was found sitting on the edge of a shelf. This is an unsafe practice and galley crew should store all such sharp tools in a proper manner.
- 76- The inspection was done on the 18<sup>th</sup> but the chiller/ freezer record was not logged since the 7<sup>th</sup>. This should also be checked by the camp-boss, medic and HSE rep.



- 77- Some galley crew were found not familiar with the use of fire blankets and galley Firefighting systems. These crews should be educated on the use of the same.
- 78- Meats were found left open inside the freezer.
- 79- One freezer light not working



- 80- One fire extinguisher in the galley was found obstructed by a table. All emergency equipment must be kept clear at all times.
- 81- On speaker in the galley store was found broken and stuffed with cloth. This speaker needs to be replaced and the practice of muffling speakers should be discouraged.

82- Water faucet found leaking and no separate cutting board is available for fruits, vegetables, meats and fish. Different color coded cutting boards should be provided along with stainless steel and Kevlar cutting gloves.

**General observations and recommendations.**

83- BW Gas Alert Max, 04 No's will be needed on the rig where two can be put in service and two kept as spare. This is critical equipment and the rig must have spare detectors. The small clip-on personal detectors are generally supplied by the clients in H2S locations and they need not be ordered by the rig for H2S applications, however the rig should have sufficient personnel clip-on detectors for confined space entry work.. Crew should be trained in the use of this equipment. Course needed- "Authorized Gas tester" and "Confined space entry and Rescue".

84- The complete eye wash stations with shower should be as a minimum installed in the following locations. 1-Sack room 2 - Rig Floor 3- Pit room 4 -Shaker deck 5-Cement unit

85- Rope is not to be used as a tag line. The industry has moved away from using rope as Tag-lines as it can get snagged and has caused many incidents. Tangle free tag lines are now available in the market and these should be ordered. As a minimum at least six of each length (15'- 20') should be ordered. Two tag lines should be used for ALL lifts.

Ordering information is available on page 108 of the safety catalogue.

86- Spill containment is a major concern with many clients and one aspect is assigned bunded Storage areas for different type of liquids. The rig should have dedicated storage areas for oil drums, grease and other such environmentally hazardous substances. These areas should be marked as such and have a contained area with a bunding around it and spill prevention equipment in this area. Currently these drums are being stored in different areas of the rig with no containment.

Spill containment information is available in the safety catalogue on Pg.98

87- Lock-out-Tag Out, procedures were not evidenced as being followed as per requirements of Policy SAF 320.00. There were locks installed on panels with no long term isolations in place as per the policy. The rig management needs to implement this policy in a strict manner. Only electrically qualified persons assigned by the OIM should be authorized to carry out electrical Lock outs. Mechanical lock outs should also be used on bulk lines/ pressure lines.

88- The rig has only one Billy Pugh personnel basket.. An additional Billy Pugh X-904 basket and individual storage box should be ordered for use and protection for the basket.

<b>ation</b>	
<b>U/M: EACH MFG: BILLY PUGH</b>	
<b>PART NO.</b>	<b>DESCRIPTION</b>
X-904	Basket, Rigid Personnel Transfer, Rough Seas, 4 Man, Unit Does Not Collapse When Set on the Deck Which Enhances the Users Ability to Manage Pitch and Roll in Rough Sea.





**Product ID:** 900-4  
**Transfer Basket Cover 900-4**

COVER FOR 4 PERSON TRANSFER DEVICE

[this one for the X-904](#)



**Product ID:** PNB-1-4  
**Transfer Net Storage Box PNB-1-4**

PERSONNEL NET BOX (4 man net)

[for collapsible billy Pugh](#)

- 89- Load test and MPI of lifting gear needs to be done and this should be followed as a minimum bi-annually by a certified third party. A lifting gear locker and quarantine locker should be provided so that the equipment can be stored and damaged equipment or equipment that needs certifying can be quarantined. OES is currently on board to carry out the LG inspection.
- 90- It is recommended that Man-riders on rig floor are equipped with a nitrogen bottle emergency release system as a back-up in case of rig air failure.
- 91- Prescription safety glasses should be made available to all crew requiring them as per **Policy SAF 540.00 Eye Protection Program.**
- 92- The rig will need its own scaffolding system. The Layher Modular scaffolding is recommended as it is a very easy to install scaffolding system and has no clamps. A single scaffolding of 3 meters can be installed by one person in about 10 minutes. The existing scaffold system on wheels is not recommended and should be replaced..
- 93- Sack room/ Pit room needs a designated area marked for corrosive chemicals. An area to be designated and assigned as such. Currently the Caustic buckets are stored in the pit room and the area is not demarcated. Empty caustic buckets should be discarded as hazardous waste and not re-used.
- 94- A one hour presentation and discussion was held with the Rig Manager, OIM and senior supervisors on the topic of Job Planning Outline and Job Risk Assessment. The rig has been advised to develop JPO's and JRA's
- 95- A list of General Operating Procedures is available on the company intranet and this should be used by the rig as a guideline for their drilling operations. A Task Risk Mitigation manual is also available on the intranet for the various departments and this should be used for routine activities. In short the Aban management system is available on line and is a rich source of information on various activities carried out on the rig. The rig crew is encouraged to source information from the management system and use it as a guideline to carry out their daily activities. The Safety catalogue is to be used to order company approved equipment.

These pictures and findings were discussed with the OIM and the HSE officer before leaving the rig on the 19<sup>th</sup>. They have also been discussed with the Rig Manager.

-----End of Report -----