

Maersk Resolve

Incident Summary Flash



Shaping the future.



Incident Title	Near Miss – PDO Insecure Signage Plate on Gas Rack	
Date / Time	18-02-18	0200hrs
Incident Reference		

THE FACTS



What Happened?

The Highland Citadel was loaded out in Den Helder on Friday 16th February with extensive Well Completions spread and including 2 x Gas / Bottle Racks (R010 and S133) as per Manifest number D12-07-029.

The Highland Citadel was worked on arrival at the rig during very good weather conditions with 15 knot winds and 1 meters were recorded.

At approximately 0200hours on Sunday 18th February a gas rack (R010) was lifted from the boat and landed on the port side of the main deck.

At this time it was noted that a large metal hazard warning display plate was hanging by one self tapping screw to the outside of the rack.

THE FACTS



Immediate Actions

A Time out for Safety was called immediately, the night company man was informed and an investigation was instigated.

The gas rack was quarantined immediately for further inspection in daylight. The crane operator stated in interview that the load had not hung up at all during the lift, nor was he aware of anything unusual or untoward during the lift. Similarly the crew of the Highland Citadel were not aware of any mishap or undesired event once the finding had been reported to them.

The weight of the plate was 3.8kg. The dimensions of the plate were 45cm x 35cm x 3mm. The basket was operated by Schlumberger Well Test and was loaded with propane bottles at the time.

Having returned the signage plate to its original position and examining the condition and corrosion evident on the pieces of bolt and markings present it was apparent that the plate had been designed to be secured with 6 x self taper bolts each installed with a single flat washer to the outside of the gas rack framing. It was surmised by the rig investigation team and the visual evidence considered, that the plate had only three bolts in place prior to the plate being damaged to this extent.

Significant observations that support this conclusion include the fact that yellow paint had been applied below where the plate should have been securely attached to. Similarly one of the broken securing bolts was painted yellow, another two were significantly corroded from previous damage.

THE FACTS



Immediate Actions

Once the offending plate was removed it was apparent to the rig team that there was previously a different design in place to secure plastic signage plates. It would appear that the plastic plates had also become damaged and broken off as fragments remained in situ.

The inspection plate indicated that the rack had last been inspected on 12th February 2018.

A review of the plate installed at the opposite side of the same rack (R010) revealed that this was also damaged and notably 1 of the 6 bolts installed had been sheared off at some point due to contact with something painted red. This plate remained securely fixed to the rack.

The rig team cannot state whether this damage was caused at the same time or otherwise.

A review of other gas racks of the same design (S133, also received on the same shipment) revealed that various plates were not installed with all bolts as per design and these were only installed with 4 bolts rather than the 6 on R010.

Rack S133 was installed with one plate that looked okay at first glance however on closer examination it was found that one of the four bolts was entirely missing a second at the bottom was very loose and

The two remaining bolts at the top were not suitable and sufficient in that ultimately the rig team was able to pull off and remove the the entire plate by hand.

THE FACTS – PHOTOGRAPHS / DIAGRAMS

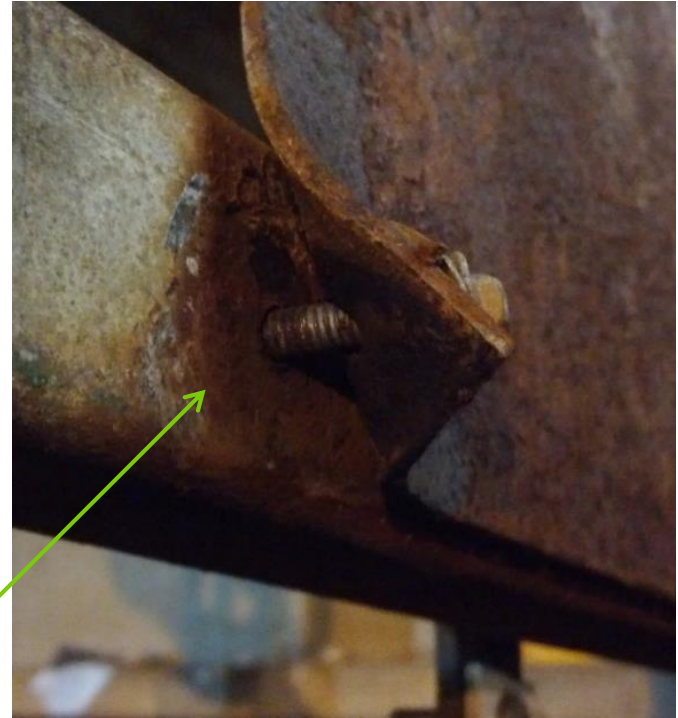


Signage plate as was found when it was landed on the rig



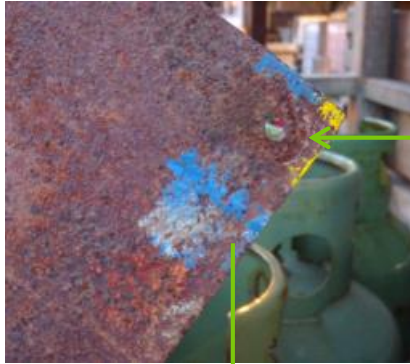
Signage plate returned to intended position as per design

THE FACTS – PHOTOGRAPHS / DIAGRAMS



Singular remaining bolt as was found when load was landed on the rig.
Bolt design is a self tapper installed with a single flat washer

THE FACTS – PHOTOGRAPHS / DIAGRAMS



Fresh blue paint evident on top corner (which suggests that rack contacted other cargo or indeed the boat which is also blue, during the transit from Den Helder)
NB -Rig team believe that there may have been a bolt in this corner prior to shipping

Rig team believe that this bolt was sheared whenever the plate was scraped or contacted by other (blue) cargo.



THE FACTS – PHOTOGRAPHS / DIAGRAMS



Due to corrosion on this bolt the rig team believe that this bolt was sheared prior to transit. This is further substantiated by the fact that yellow paint has been applied below / or behind where the plate should have been firmly secured to.

Rig team believe that this bolt was sheared whenever the plate was scraped or contacted by other (blue) cargo and therefore this corner was possibly secure prior to transit.



This bolt was obviously not secure prior to transit as it has been painted over.



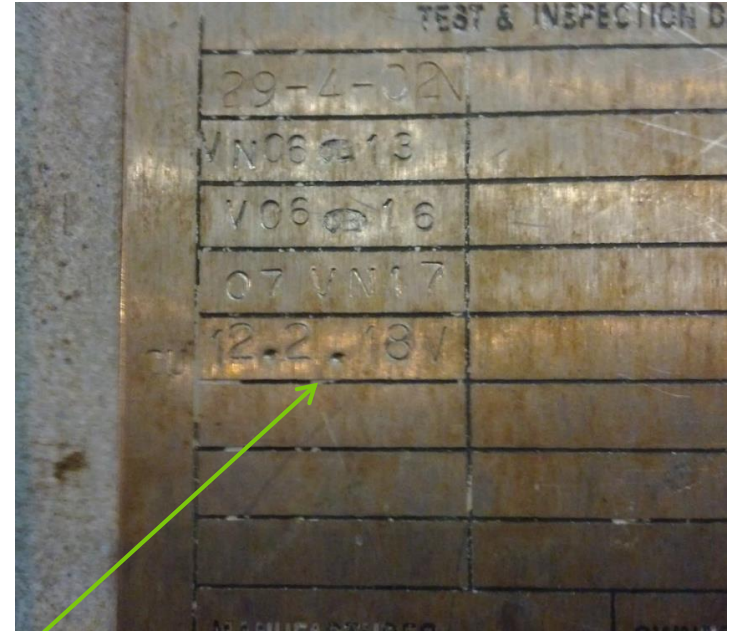
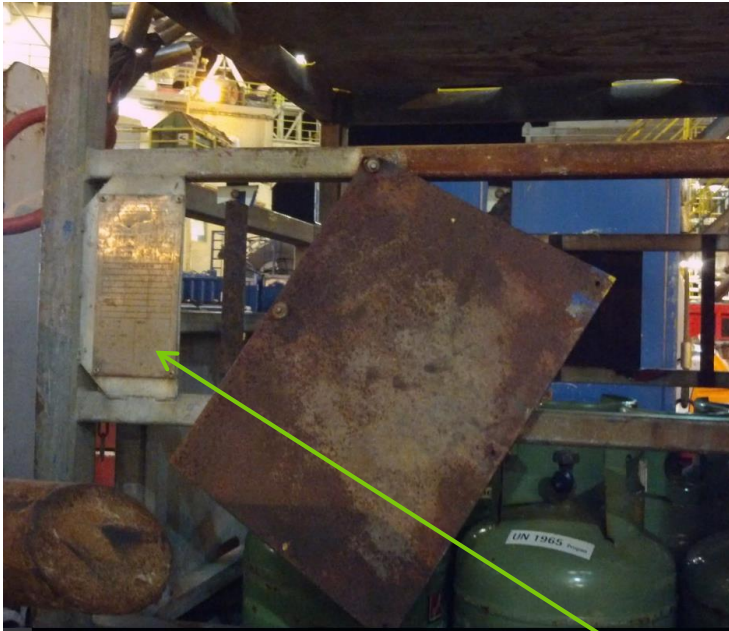
THE FACTS – PHOTOGRAPHS / DIAGRAMS



Once the offending plate was removed it was apparent to the rig team that there was previously a different design in place to secure plastic signage plates.

It would appear that the plastic plates also became damaged and / or broke off

THE FACTS – PHOTOGRAPHS / DIAGRAMS



R010 identification plate indicated that rack was last inspected on 12th February 2018

THE FACTS – PHOTOGRAPHS / DIAGRAMS



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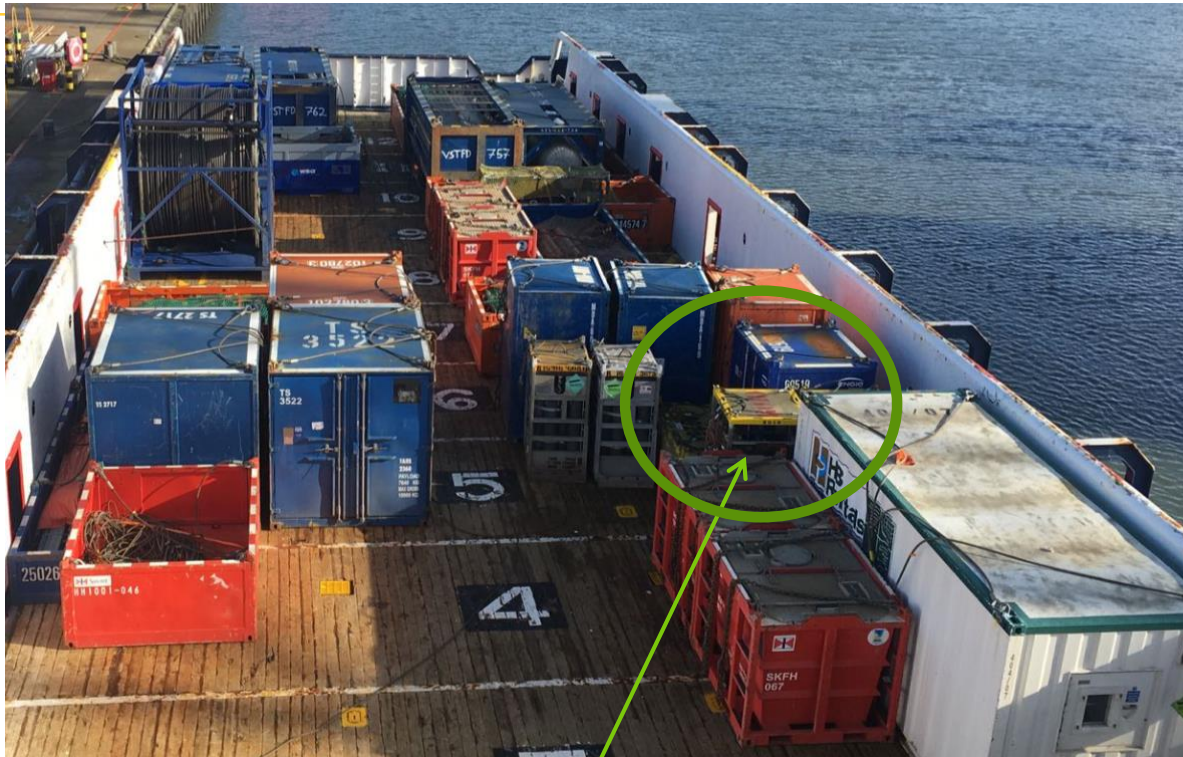


Image above shows the location of the gas racks on board the Highland Citadel prior to the vessel departing Den Helder.

It is noted that there is a blue 5ft container adjacent to the rack where the damage was sighted.

It remains the case that the damage could have been done when landing the blue container or when lifting the gas rack (or elsewhere).

No conclusions have been made in this regard

THE FACTS



Incident Type	Near Miss
Actual Severity	None
Potential Risk	A2
Authorities Notified?	No
Investigation Approach	Investigation conducted by A Tong – HSE Supervisor

CAUSES



Immediate Cause	Failure to secure Using defective equipment Use of inappropriate materials Failure to notice a danger Improper action of a third party Defective Tools Inadequate materials Inadequate supply chain management Inadequate maintenance / inspection Inadequate product
Root Cause	Inadequate design

ACTIONS

No	Action Description	Responsible Person	Target Date
1	By being secured to the outside of the gas rack and therefore liable to damage or snagging the plates were not adequately or safely secured to the gas racks - It is recommended that these plates are removed prior to being lifted again.	Maersk OIM	25/02/18
2	Similarly the plate design should be reviewed to consider the need for and most importantly the design of the plates such that they are robust and preferably internal to the cage such that they are protected. The rig team would suggest that the previous design be used with a thin metal insert plate affixed instead of plastic.	TBA	
3	Pre use checks both onshore and offshore should be reviewed to ensure that suitable and sufficient securing is in place for the plate, prior to lifting.	Maersk OIM	

ACTIONS

No	Action Description	Responsible Person	Target Date
4	Inappropriate materials were utilised in that the security of the self tapper bolts was not easily checked and obvious. The rig team would recommend that a through bolt design with suitable lock nut be utilised in future similar applications.	TBA	
5	The suitability and effectiveness of the inspections resulting in the certification apparent on the inspection plate should be reviewed.	TBA	
6	Quality assurance checks at quayside should be reviewed to ensure that they are suitably robust to identify similar concerns.	TBA	
7	Lessons learnt should be shared with the Global DROPS forum as this is a common design utilised by various companies.	Wintershall HSE Supervisor	27/2/18