

# PRESSURE VESSEL & COLUMN INSPECTION REPORT

**LSD:** 03-06-049-18W5 **Date:** 2013-03-06 **SAP Equipment ID** 66146035

## VESSEL STATIC DATA

<b>Plant:</b>	MINEHEAD	<b>OP Unit:</b>	FH01	<b>System:</b>	
<b>Prov. Insp . #:</b>	0528420	<b>CRN:</b>	R8180.2	<b>Equip Tag#:</b>	66146035
<b>Equipment Description:</b>	FLARE KNOCKOUT DRUM			<b>Serial #:</b>	13728
<b>Manufacturer:</b>	Bilton Welding & Manufacturing			<b>Vessel Class:</b>	vessel
<b>Internal Access:</b>	No	<b>Description:</b>		<b>Year Built:</b>	2005
<b>MAWP:</b>	345 kpa	<b>At Temp</b>	150 C	<b>MDMT:</b>	302 C
<b>Code:</b>		<b>RT:</b>	None	<b>PWHT:</b>	No
<b>Diameter:</b>	1829 mm	<b>Length:</b>	3048 mm	<b>(T/T):</b>	mm
<b>OAL:</b>		<b>mm</b>		<b>Orientation:</b>	Horizontal
<b>SHELL</b>	<b>Mat'l:</b> Unknown	<b>Thickness:</b>	0 mm	<b>Corr Allowance:</b>	3 mm
<b>HEAD</b>	<b>Mat'l:</b> Unknown	<b>Thickness:</b>	0 mm	<b>Corr Allowance:</b>	3 mm
<b>Nozzle</b>	<b>Mat'l:</b>	<b>Thickness:</b>		<b>Corr Allowance:</b>	
<b>Internal Coating:</b>	No	<b>Internal Clad:</b>	No	<b>Capacity:</b>	m3
<b>Manway:</b>	No	<b>Inspection Port:</b>	No	<b>Skirt</b>	<b>Legs</b> <b>Saddle</b>
<b>Nozzle Rating:</b>	lb ANSI	<b>Painted:</b>	No	<b>Insulated:</b>	Yes

## PROCESS DATA

<b>Production Description:</b>	Sweet	<b>Sour:</b>	
<b>Operating Pressure</b>	kpa	<b>Operating Temp:</b>	C

## PSV STATIC DATA

Serial No.	Location	Size(mm)		Set Press (kPa)	Capacity Imperial SCFM	Manufacturer	Model	Last Service
		Inlet	Outlet					
		0.00	0.00	0	SCFM			

## INSPECTION SUMMARY

FIT FOR SERVICE.

## RECOMMENDATIONS

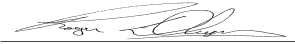
## NONCONFORMANCES/INSPECTION DEFICIENCIES

## INSPECTION PLANNING

<b>Inspection Strategy</b>		<b>Availability</b>		<b>Inspection Interval</b>	
<b>Inspection Date</b>	2013/01/24	<b>Date of Last Insp</b>		<b>Date of Next Insp</b>	

## REPORT CERTIFICATION

The SignatureS below certify that inspections/tests have been completed in accordance with the identified inspection strategy and that the specified equipment is considered fit for service until the date of next inspection.

Inspected by	Roger Diugosz		Cert #	000566	Date	2013/01/24
Reviewed and Approved by					Date	
Criticality Assessment Rerun			Inspection Planning Rerun			
Assessed Next Inspection Date						

# PRESSURE VESSEL & COLUMN INSPECTION REPORT

**LSD:** 03-06-049-18W5

**Date:** 2013-03-06

**SAP Equipment ID**

66146035

## DETAILED INSPECTION VISUAL EXTERNAL

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)	Accept			MAJORITY OF VESSEL INSULATED. EXPOSED SHELL ON UNDERSIDE OF VESSEL.
V2	General Corrosion	Accept			
V3	General Leaks	Accept			NO LEAKS OBSERVED.
V4	Vibration	Accept			NO VIBRATION OBSERVED.
V5	Dissimilar Flange Rating	Accept			
V6	Ladder/Stairway	Accept			SECURE TO VESSEL
V7	Heads	Accept			
V8	Guy Wires	N/A			
V9	Electrical Ground	Accept			
V10	Painted Inactive Corrosion	N/A			
V11	Coating/Painting	Accept			PAINT IN GOOD CONDITION.
V12	Expansion Joint or Bellows	N/A			
V13	Gauge/Site Glass	Accept			
V14	Shell	Accept			
V15	Jacket	N/A			
V21	Support Other (Please explain)	Accept			SECURE. GOOD CONDITION.
V22	Foundation	Accept			ON PILINGS. GOOD CONDITION.
V23	Anchor Bolts	N/A			
V24	Saddle/Skirt	Accept			GOOD CONDITION.
V25	Davit	N/A			
V26	Fireproofing	N/A			
V31	Connections Other (Please explain)	Accept			ALL CONNECTIONS IN GOOD CONDITON.
V32	Small Branches	Accept			GOOD CONDITION.
V33	Nozzles	Accept			GOOD CONDITION. STUD THREADS ARE FULLY ENGAGED.
V34	Manways	Accept			GOOD CONDIITON.
V35	Reinforcing Pads	N/A			
V36	Inadequate Thread Engagement	N/A			
V37	Bolting	Accept			GOOD CONDITION.
V38	Flanges	Accept			GOOD CONDITION.
V39	Leak Clamps	N/A			
V41	Insulation Other (Please explain)	Accept			GOOD CONDITION. GOOD SEAL AROUND NOZZLES AND INSULATION LAPS.
V42	Damage	N/A			NO DAMAGE OBSERVED.
V43	Penetrations	N/A			
V44	Insulation Jacket	Accept			GOOD CONDITION.
V45	Banding	N/A			
V46	Seals/Joints	Accept			GOOD CONDITION.
V51	Relief Devices Other (Please explain)	N/A			VENT TO FLARE.
V52	Corrosion	N/A			NO CORROSION OBSERVED.
V53	Leaks	Accept			NO LEAKS OBSERVED.
V54	Restricted Inlet/Outlet	N/A			

## PRESSURE VESSEL & COLUMN INSPECTION REPORT

**LSD:** 03-06-049-18W5

**Date:** 2013-03-06

**SAP Equipment ID**
**66146035**

V55	Manual Operation Lever	N/A			
-----	------------------------	-----	--	--	--

### DETAILED INSPECTION VISUAL INTERNAL

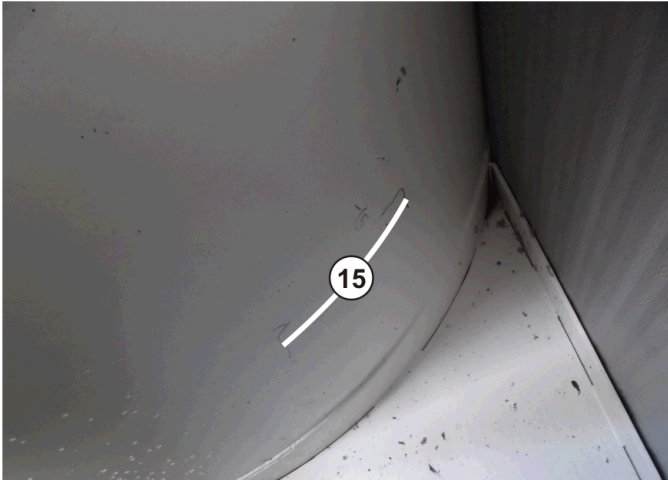
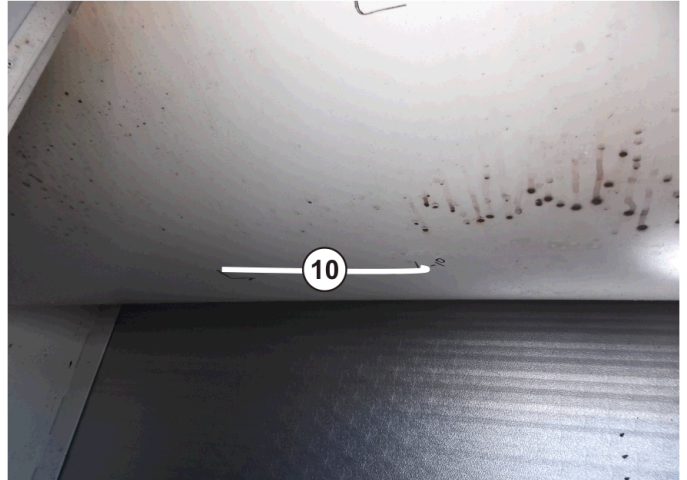
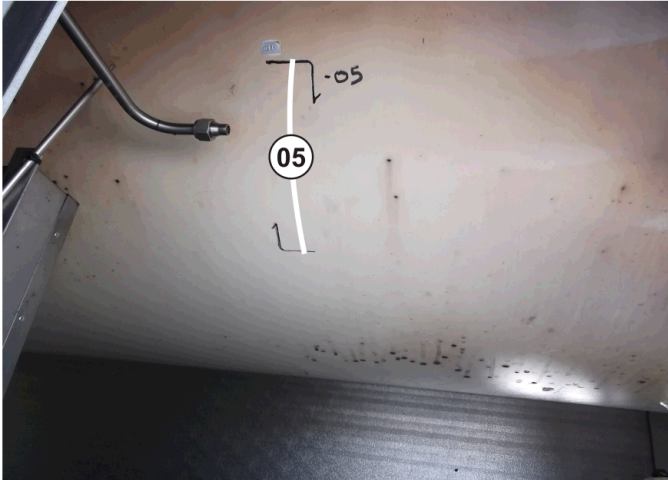
ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)	Accept			INTERNAL ANODE, ABOUT 5-10 PERCENT CONSUMED
V2	Corrosion (depth, length, width)	Accept			NO PITTING, ONLY MINOR SURFACE CORROSION
V3	Erosion	N/A			
V4	Distortion	N/A			
V5	Blisters	N/A			
V6	Deposits	N/A			TIDE LINE VISIBLE ON BOTTOM OF VESSEL
V7	Heads	Accept			VGC
V8	Welds	Accept			VGC, MINOR SURFACE CORROSION
V9	Nozzles	Accept			INLET AND OUTLET NOZZLES HAVE MINOR SURFACE CORROSION
V10	Shell	Accept			ONLY MINOR SURFACE CORROSION
V11	Gasket Surfaces	Accept			VGC, NO DAMAGE
V21	Internals Other (Please explain)	Accept			2 FLOAT INTERNAL COLUMNS, MINOR SURFACE CORROSION
V22	Demister	N/A			
V23	Baffle/Wier	N/A			
V24	Sparger	N/A			
V25	Thermowells	Accept			MINOR SURFACE CORROSION
V26	Metallic Linings	N/A			
V27	Nonmetallic Linings	N/A			
V28	Trays	N/A			
V29	Tray Rings	N/A			
V30	Other Welded Attachments	Accept			INLET/OUTLET PIPES IN GOOD CONDITION, NO DAMAGE, MINOR SURFACE CORROSION

### DETAILED INSPECTION OTHER TECHNIQUES

ID	Location	Observation/Measurement	Acceptance Criteria	NCR	Comments

### DETAILED INSPECTION UT THICKNESS

CML	Nom. Thickness	CURRENT READINGS	short term corr rate	long term corr rate	remaining half life	Survey Date	Comments
05 (Shell)	9.53	9.86	0.0000	0.0000	99.0	2013/01/24	
10 (Shell)	9.53	10.01	0.0000	0.0000	99.0	2013/01/24	
15 (Shell)	9.53	9.88	0.0000	0.0000	99.0	2013/01/24	
20 (BAND 3 XS)	7.62	7.57	0.0003	0.0003	587.2	2013/01/24	



OWNER: HUSKY		SERIAL # 13728	NOTES
EQUIPMENT NAME: FLARE KNOCKOUT		NB#	
REGISTRATION # 0528420		OWNER ID	
EQUIPMENT # 66146035			





NAMEPLATE



OVERALL



INTERNAL



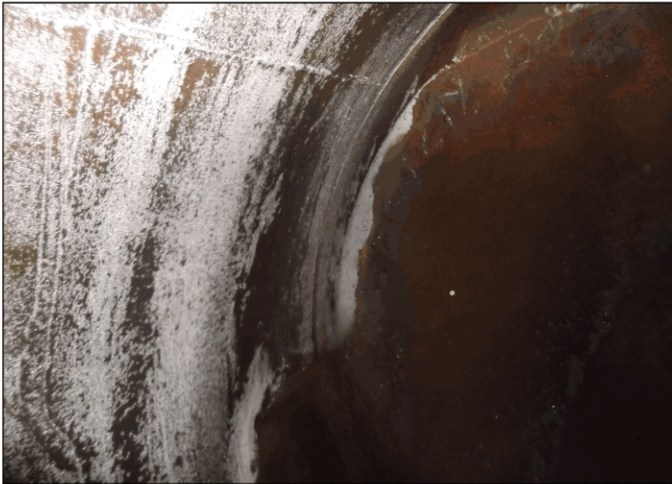
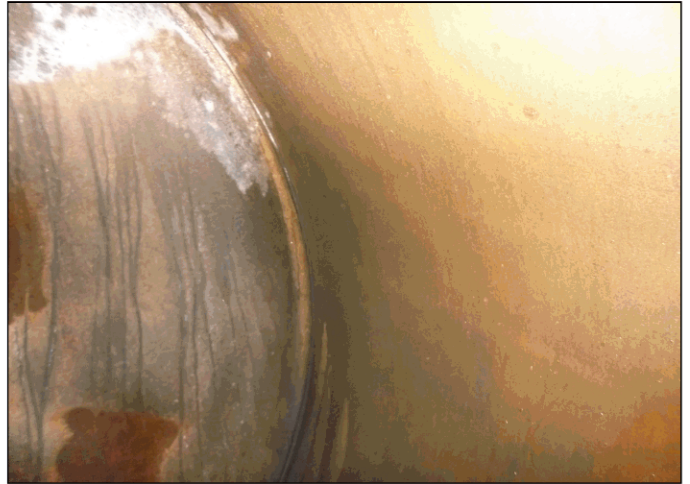
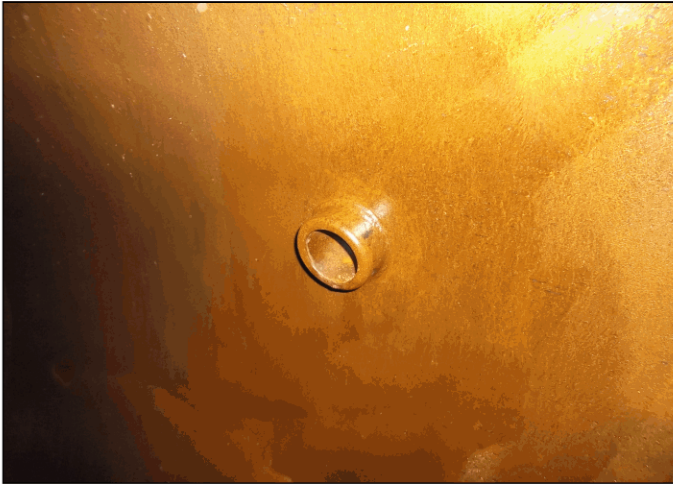
**OWNER: HUSKY**  
**EQUIPMENT NAME: FLARE KNOCK OUT**  
**REGISTRATION # 0528420**  
**EQUIPMENT # 66146035**

**SERIAL # 13728**  
**NB#**  
**OWNER ID**

NOTES

PAGE 1 / 3





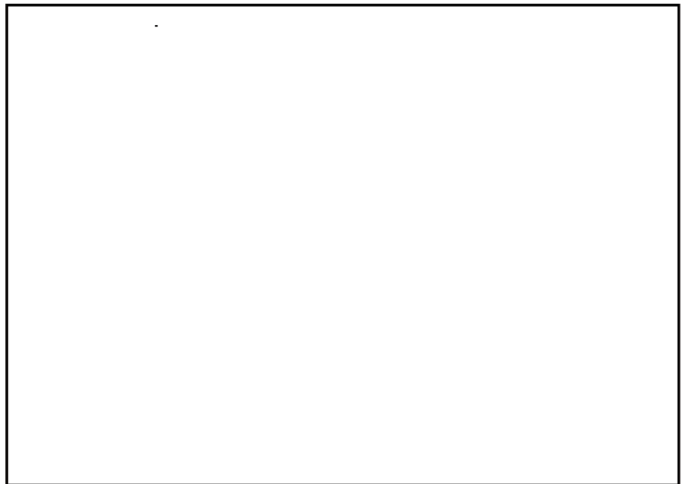
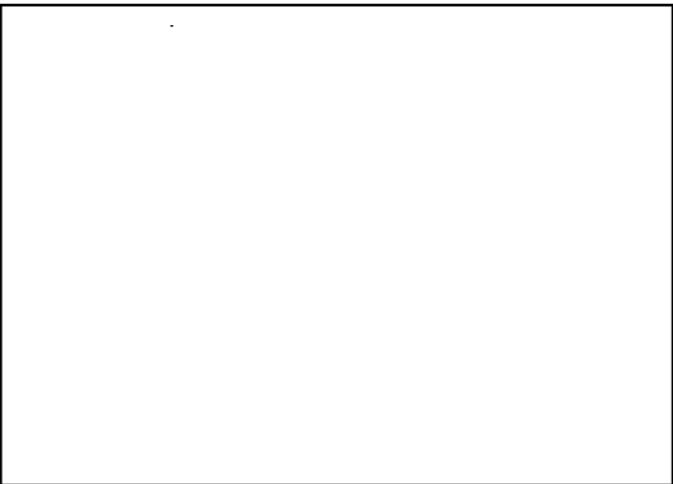
**OWNER: HUSKY**  
**EQUIPMENT NAME: FLARE KNOCK OUT**  
**REGISTRATION # 0528420**  
**EQUIPMENT # 66146035**

**SERIAL # 13728**  
**NB#**  
**OWNER ID**

NOTES

PAGE 2 / 3





**OWNER: HUSKY**  
**EQUIPMENT NAME: FLARE KNOCK OUT**  
**REGISTRATION # 0528420**  
**EQUIPMENT # 66146035**

**SERIAL # 13728**  
**NB#**  
**OWNER ID**

NOTES

PAGE 3 / 3