

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD: 03-06-049-18W5

Date: 2013-01-28

SAP Equipment ID: 66146035

VESSEL STATIC DATA									
Plant:		MINEHEAD		Op Unit FH01			System		
Prov. Insp. #		A0528420		CRN R8180.2			Equip Tag # 66146035		
Equipment Description				FLARE KNOCKOUT DRUM			Serial # 13728		
Manufacturer				BILTON WELDING & MANUFACTURING			Vessel Class VESSEL		
Internal Access:		NO		Description:			Year Built 2005		
MAWP 345		kPa		@ 150		°C		MDMT 302 °C	
CODE :				RT :			PWHT : NO		
Diameter 1829		Length 3048		(T/T) mm		OAL mm		Horizontal	
Shell Mat'l		UNKNOWN		Thickness 0		mm		Corr Allowance 3 mm	
Head Mat'l		UNKNOWN		Thickness 0		mm		Corr Allowance 3 mm	
Nozzle Mat'l				Thickness		mm		Corr Allowance mm	
Internal Coating : NO				Internal Clad : NO			Capacity m ³		
Manway : NO				Inspection Port : NO			Skirt Legs Saddle		
Nozzle Rating		lb ANSI		Painted : NO			Insulated YES		
PROCESS DATA									
Product Description						Sweet Sour			
Operating Pressure kPa						Operating Temperature °C			
PSV STATIC DATA									
Serial No.	Location		Size Inlet Outlet		Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model / Type	Service Date

INSPECTION SUMMARY

FIT FOR SERVICE.

RECOMMENDATIONS

NONCONFORMANCES / INSPECTION DEFICIENCIES

INSPECTION PLANNING

Inspection Strategy		Availability		Inspection Interval	
Inspection Date 2013/01/24		Date of Last Inspect		Date of Next Inspect	

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		Date	
ROGER DLUGOSZ		2013/01/24	
Reviewed and Approved by		Date	
Criticality Assessment Rerun		Inspection Planning Rerun	
Assessed Next Inspection Date			

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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 CONDITION.
V32	Small Branches	ACCEPT			GOOD CONDITION.
V33	Nozzles	ACCEPT			GOOD CONDITION. STUD TREADS ARE FULLY ENGAGED.
V34	Manways	ACCEPT			GOOD CONDITION.
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			
V55	Manual Operation Lever	N/A			

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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			VERY GOOD CONDITION.
V8	Welds	ACCEPT			VERY GOOD CONDITION, 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			VERY GOOD CONDITION, 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
1					
2					
3					
4					
5					
6					
7					
8					

DETAILED INSPECTION UT THICKNESS

CML	Nom. Thk	Current Reading	Short Term Corr Rate	Long Term Corr Rate	Remaining Life	Comments
05 (HEAD)	9.53	9.86	0.0000	0.0000	99.0	
10 (SHELL)	9.53	10.01	0.0000	0.0000	99.0	
15 (SHELL)	9.53	9.88	0.0000	0.0000	99.0	
20 (BAND 3 XS)	7.62	7.57	0.0003	0.0003	587.2	

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NAMEPLATE



OVERALL



OVERALL



INTERNAL



INTERNAL



INTERNAL



INTERNAL



INTERNAL



INTERNAL



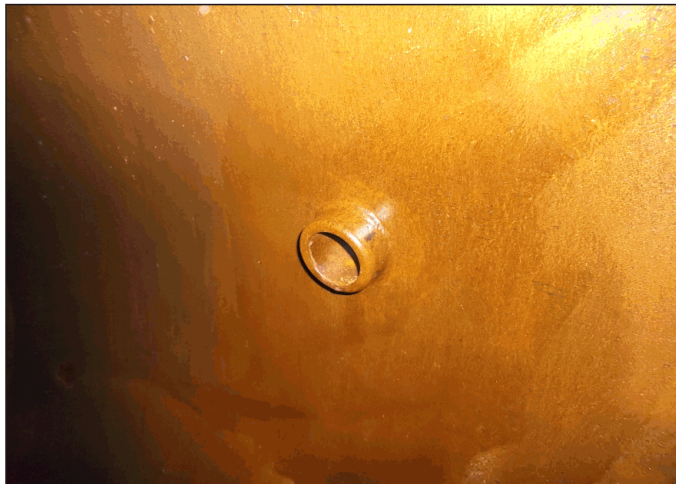
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INTERNAL



INTERNAL



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INTERNAL



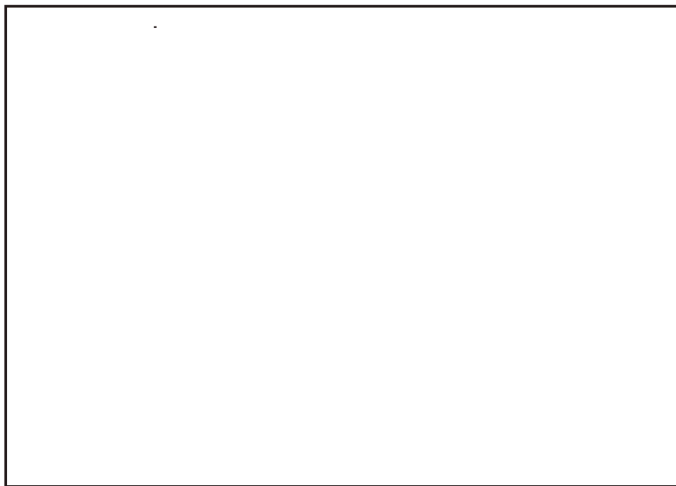
INTERNAL

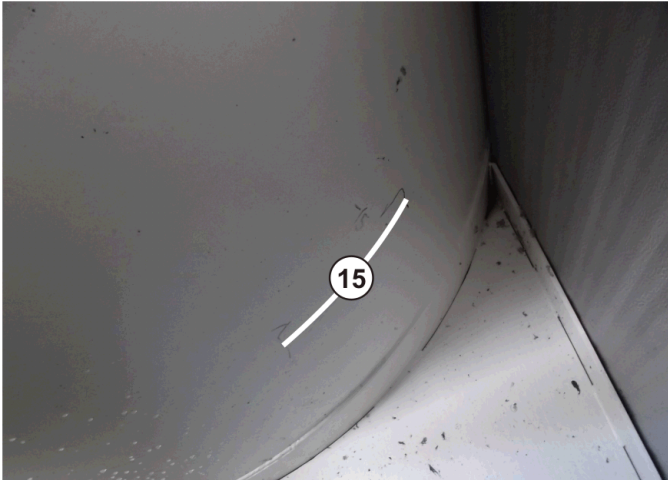
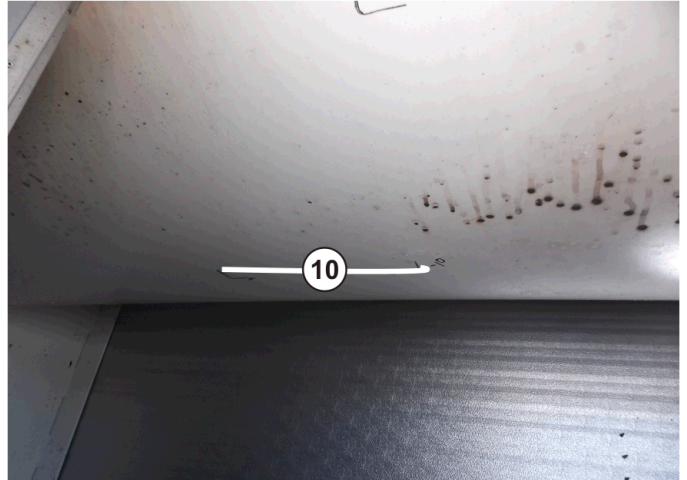
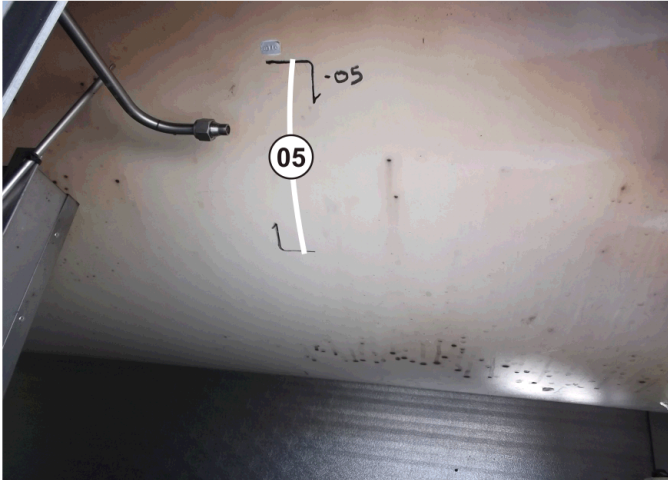


INTERNAL



INTERNAL





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