

2021 wt No SIGNIFICANT ISSUES NOTED

**Husky Oil Operations Limited**

Form: QR-19.7a  
Rev.: 2, Date: Jan 22<sup>nd</sup>, 2018

**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

LSD 6-16-47-13 W5M Date July 13, 2021 SAP Equipment ID 66148745 Report #

VESSEL STATIC DATA									
Plant					Op Unit			System	
Prov. Insp. # 0588070 NB#					CRN U 5616.2			Equip Tag #	
Equipment Description Vertical Separator					Serial #			V-9462	
Manufacturer Paintearth					Vessel Class				
Internal Access YES NO Description					Year Built 2008				
MAWP 1415 PSI kPa / PSI @ 150 F °C / °F X					MDMT -20 F °C / °F				
CODE UM U U2					RT 1 2 3 4			PWHT	
Diameter 16"		Length (T/T) 76"			OAL		mm / in		Vertical Horizontal X
Shell Mat'l		Thickness			1"		mm / in		Corr Allowance 0.125" mm / in
Head Mat'l		Thickness			0.900"		mm / in		Corr Allowance mm / in
Nozzle Mat'l		Thickness					mm / in		Corr Allowance mm / in
Internal Coating: YES NO					Internal Clad YES NO			Capacity m <sup>3</sup>	
Manway YES NO					Inspection Port YES NO NA			Skirt Legs Saddle	
Nozzle Rating 600 lb ANSI		Painted YES NO			Insulated YES NO				

PROCESS DATA			
Product Description		Sweet Sour	
Operating Pressure		kPa / psi Operating Temperature °C / °F	

PROTECTED BY PRD or OPPSD

PRD STATIC DATA						
Serial No.	Location	Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model / Type	Last Service Date & Company
C043293	OUTLET PIPING	1330 PSI	2703 SCFM	MERCER	91-17D51T14E1	KINGS 6/30/2021

PRD DETAILS			
	Type (Thread/Flange)	ANSI Rating	Size (mm)
PRD Inlet	THREADED		1"
PRD Outlet	THREADED		1"

**INSPECTION SUMMARY**

Vessel appears to be in good condition.

**RECOMMENDATIONS**

**NONCONFORMANCES / INSPECTION DEFICIENCIES**

**INSPECTION PLANNING**

Inspection Strategy	Availability	Inspection Interval
Inspection Date	Date of Last Inspect	Date of Next Inspect

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**DETAILED INSPECTION VISUAL EXTERNAL**

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)	good			No issues noted
V2	General Corrosion	good			None noted
V3	General Leaks	good			None noted
V4	Vibration	Good			Site shut in
V5	Dissimilar Flange Rating	good			None noted
V6	Ladder/Stairway/ <u>Platforms</u>	N/A			
V7	Heads	Good			
V8	Guy Wires	N/A			
V9	Electrical Ground	good			Skid grounded
V10	Painted Inactive Corrosion	good			None noted
V11	Coating/Painting	good			
V12	Expansion Joint or Bellows	N/A			
V13	Gauge/Site Glass	good			
V14	Shell	good			
V15	Jacket	N/A			
V21	Support Other (Please explain)	good			
V22	Foundation	good			skid on pilings
V23	Anchor Bolts	good			secure
V24	Saddle/Skirt	N/A			
V25	Davit	N/A			
V26	Fireproofing	N/A			
V31	Connections Other (Please explain)				
V32	Small Branches	good			
V33	Nozzles	good			
V34	Manways	N/A			
V35	Reinforcing Pads				
V36	Inadequate Thread Engagement	good			None noted
V37	Bolting	good			No issues noted
V38	Flanges	good			
V39	Leak Clamps	N/A			
V41	Insulation Other (Please explain)	N/A			
V42	Damage	N/A			
V43	Penetrations	N/A			
V44	Insulation Jacket	N/A			
V45	Banding				
V46	Seals/Joints				
V51	Relief Devices Other (Please explain)				
V52	Corrosion	Good			None noted
V53	Leaks	good			None noted
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)				
V2	Corrosion (depth, length, width)				
V3	Erosion				
V4	Distortion				
V5	Blisters				
V6	Deposits				
V7	Heads				
V8	Welds				
V9	Nozzles				
V10	Shell				
V11	Gasket Surfaces				
V21	Internals Other (Please explain)				
V22	Demister				
V23	Baffle/Weir				
V24	Sparger				
V25	Thermowells				
V26	Metallic Linings				
V27	Nonmetallic Linings				
V28	Trays				
V29	Tray Rings				
V30	Other Welded Attachments				

**Magnetic Particle Equipment records**

Procedure #	Description			
Manufacturer	Model	Serial #	Current Type	Mag Part Type
Lighting	Material + Grade	Thickness	Cal Block SN	Cal Due Date

**Liquid Penetrant Equipment records**

Procedure #	Description				
Penetrant	Solvent	Developer	Cleaner	Lighting	Material Grade + Thickness

**DETAILED INSPECTION OTHER TECHNIQUES**

ID	Location	Observation/Measurement	Acceptance Criteria	NCR	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

**Ultrasonic Equipment records**

Procedure #	Description			
Test Unit	Instrument Mfr	Model #	Serial #	Cal Due Date
Probe	Frequency	Probe SN	Probe Diameter	Couplant
Cal Block	Cal Block Size	Cal Block SN	Cal Block Mtl	

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**DETAILED INSPECTION UT THICKNESS**

<b>CML</b>	<b>Nom. Thk</b>	<b>Current Reading</b>	<b>Short Term Corr Rate</b>	<b>Long Term Corr Rate</b>	<b>Remaining Life</b>	<b>Comments</b>

**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

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SAP Equipment ID

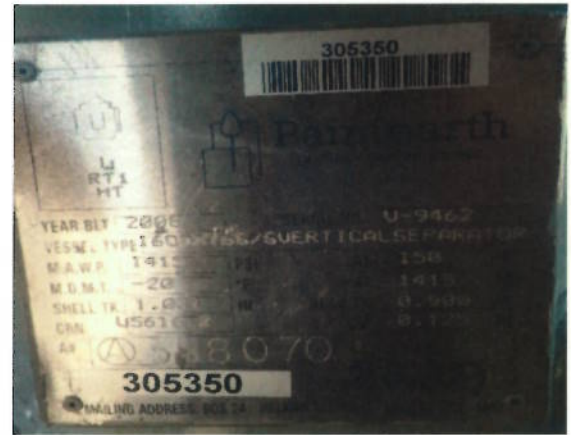
66148745

Report #

**PHOTOS**



LSD SIGN



VESSEL DATA PLATE



VESSEL OVERVIEW



VESSEL OVERVIEW

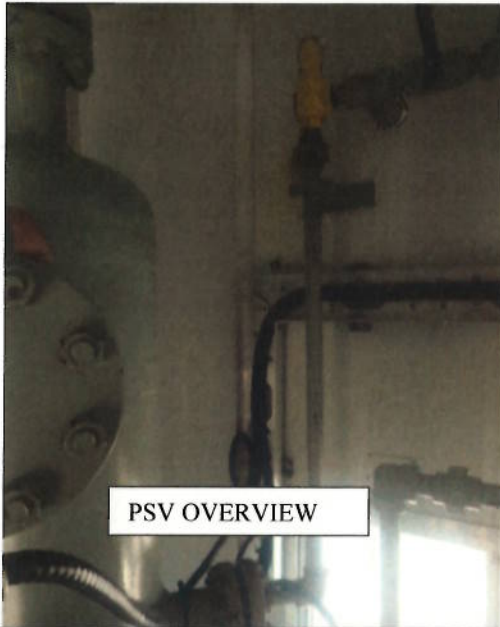
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PSV OVERVIEW



PSV DATA PLATE



PSV SERVICE TAG

Date	6/13/2021
Company	CENOVUS ENERGY
Plant / Area	STOLBERG
Location	SEPARATOR
LSD	100/06-16-047-13W502
UoN / Vessel	88148750
Asset No.	128223
Job No.	187812
Manufacturer	Mercer
Serial No.	C043293
Model No.	91-17D51T14E1
Capacity	2763 SCFH
Set Pressure	1330 psig
Cold DHT Set	1330 psig
Size	1.00 MNPT X 1.00 FNPT



# INSPECTION AND TEST REPORT

\*C043293\*

Work to be performed in accordance with "QF9.51 PSV Production and Service Control Procedure Listing"

<b>Owner:</b>	CENOVUS ENERGY	<b>AFE:</b>	,	<b>Date:</b>	06/30/2021	<b>Job:</b>	107018
<b>Instructions:</b>	<input type="checkbox"/> Rental <input type="checkbox"/> Quote <input checked="" type="checkbox"/> Pretest <input checked="" type="checkbox"/> Repair <input type="checkbox"/> Test Only <input type="checkbox"/> New <input type="checkbox"/> Reset <input type="checkbox"/> B.E.R <input type="checkbox"/> VR Update	<b>Loc:</b>	SEPARATOR	<b>V-Ord:</b>	VORD-08472	<b>Plant \ Area:</b>	STOLBERG
<b>L.S.D.:</b>	100/06-16-047-13W5/02						
<b>Unit/Vessel:</b>	66148750 <b>A588070</b>						

<b>Valve Data:</b>	<b>Seal:</b> Intact	<b>Style:</b> Threaded	<b>Inlet:</b> MNPT	<b>Outlet:</b> FNPT
	<b>Seal ID:</b> FACTORY	<b>Bonnet:</b> Closed	<b>Inlet Size:</b> 1.00 inches	<b>Outlet Size:</b> 1.00 inches
<b>Make:</b> Mercer	<b>NamePlate:</b> Original	<b>Cap:</b> Closed	<b>Inlet Rating:</b> Threaded	<b>Outlet Rating:</b> Threaded
<b>CRN:</b> 0G8841.5CR1	<b>Service:</b> Gas	<b>Orifice:</b> D	<b>Capacity:</b> 2703 SCFH	<b>Cold Diff Set:</b> 1330 psig
<b>Asset No:</b> 128223	<b>Product:</b> Gas	<b>Orifice Area:</b> 0.122 sq in.	<b>Code Stmp:</b> NB/UV	<b>Set Press:</b> 1330 psig
<b>Model No:</b> 91-17D51T14E1	<b>Serial No:</b> C043293		<b>Replacing:</b>	

<b>Pilot Data:</b>	<b>Model:</b>	<b>Serial No:</b>
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<b>Pretest Data:</b>	<b>Test Data:</b>	<b>Value:</b>	<b>Units:</b>	<b>Pretest Date:</b> 06/30/2021
<b>Media:</b> Air	<b>Test 1:</b> 1303	psig		<b>Pretest By:</b> Joe Marsh
<b>Method:</b> Bench	<b>Test 2:</b> 1300	psig	<b>Notes1:</b> Customer Request	
	<b>Test 3:</b> 0	psig	<b>Notes2:</b>	

<b>Disassembly:</b>	<b>Height:</b> 7 Turns/Revs	<b>Guide Ring:</b>	<b>Nozzle Ring:</b>	<b>Dismantled Date:</b> 06/30/2021
				<b>Dismantled By:</b> Joe Marsh

<b>Inspection:</b>	<b>Crit Dim Data:</b>	<b>Minimum:</b>	<b>Actual:</b>	<b>Insp Tool Data:</b>	<b>Inspected Date:</b> 06/30/2021
<b>Seat Matl:</b> Teflon	<b>Disc:</b>			<b>Inspected By:</b> Joe Marsh	
<b>Replaced:</b> N	<b>Disc Step:</b>			<b>Insp Tool 1:</b>	
<b>Converted:</b> N	<b>Nozzle:</b>			<b>Insp Tool 2:</b>	
<b>Inlet Cond:</b> Clean	<b>Nozzle Step 1:</b>			<b>Insp Tool 3:</b>	
<b>Outlet Cond:</b> Clean	<b>Nozzle Step 2:</b>			<b>Spring No:</b>	

Component	Clean	Oily	Rusty	Carbon	Other	Action	Part Number
PCDF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Supply	PCDF
Major \ Minor Kit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WORN	Replaced	81-095001.
Poly Tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Supply	107032

<b>Assembly:</b>	<b>Converted From:</b>	<b>Converted To:</b>	<b>Assemble Date:</b> 06/30/2021
	Replace Nameplate affixed & Original Lined out:	No	<b>Assembled By:</b> Joe Marsh

<b>Final Test:</b>	<b>Set Press:</b> 1330 psig	<b>Gauge 1:</b> JT-001	<b>Vacuum Set:</b>	<b>Test Date:</b> 06/30/2021
<b>Media:</b> Air	<b>Back Press:</b> 0 psig	<b>Gauge 2:</b> 162430	<b>Leakage Vac:</b>	<b>Tested By:</b> Joe Marsh
<b>Method:</b> Bench	<b>Cold Diff Set:</b> 1330 psig	<b>BLD %:</b>	<b>Vacuum Act:</b>	<b>Witness:</b>
<b>Simmer:</b>	<b>Act Test Press:</b> 1325 psig	<b>Leakage:</b> 0 BPM	<b>Set Press Def:</b> POP	<b>Back Pres Test:</b> 50 psig
<b>Re-Seat:</b>		<b>Leak Test Press:</b> 1197 psig		

<b>Final Insp:</b>	<b>Tag:</b> Yes	<b>Painted:</b> Yes	<b>Pallet:</b> No	<b>Sealed:</b> Yes	<b>End Protect:</b> Yes	<b>Flex Gasket:</b> No	<b>Inspected By:</b> Joe Marsh
							<b>Signed Off By:</b> Joe Marsh

Pre-Test Comments: -  
 Reset Comments: -  
 Inspection Comments: -  
 Final Test Comments: -  
 Sign Off Comments: -

Reviewed & Accepted by  
 Andrew Schulte  
 A & OI Specialist  
 IBPVI # 000481  
 API 510 # 35266