

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD: 02-08-050-19W5

Date: Jun 17, 2018

SAP Equipment ID: 66182397

VESSEL STATIC DATA									
Plant Minehead				Op Unit Satellite				System Field	
Prov. Insp. # A611145				CRN P7217.231				Equip Tag # NA	
Equipment Description Gas Separator								Serial # 12235	
Manufacturer RJV Gasfield Services								Vessel Class	
Internal Access: Description: NA								Year Built 2011	
MAWP 1480		PSI		@ 100		°F		MDMT -20 °F	
CODE : U				RT : 2				PWHT : No	
Diameter 16"		Length (T/T) 88 in		OAL 112 in		Vertical			
Shell	Mat'I	SA-106B		Thickness 21.44 mm		Corr Allowance 1.6 mm			
Head	Mat'I	SA-516-70		Thickness 20.63 mm		Corr Allowance 1.6 mm			
Nozzle	Mat'I	NA		Thickness NA mm / in		Corr Allowance 1.6 mm			
Internal Coating: NO				Internal Clad : NO				Capacity NA m ³	
Manway : NO				Inspection Port : NO				Skirt	
Nozzle Rating 600		lb ANSI		Painted : YES				Insulated NO	

PROCESS DATA									
Product Description Separator									
Operating Pressure 1480		PSI		Operating Temperature 100		°F			

PSV STATIC DATA						
Serial No.	Location	Set Pressure	Capacity SCFM	Manufacturer	Model / Type	Service Date / Company
012392-260	Separator	1440 psi	5180	Taylor	82E8351311	20/09/17/Access

PSV DETAILS			
	Type (Thread/Flange)	ANSI Rating	Size (inches)
PRD Inlet	Threaded	N/A	1"
PRD Outlet	Threaded	N/A	1"

NDE Equipment Records					
Procedure#	Description	Manufacturer	Model#	Serial#	Due Date

INSPECTION SUMMARY

Inspection noted surface rusting on the lower head and drain nozzle. Sight glass connections noted leaks. All other items were found acceptable, separator was fit for continued service at time of inspection.

RECOMMENDATIONS

All leaking connections should be addressed to prevent future leakage.

NONCONFORMANCES / INSPECTION DEFICIENCIES

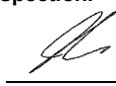
None noted

INSPECTION PLANNING

Inspection Strategy	Availability	Inspection Interval
Inspection Date	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 Justin Currie  Date Jun 16, 2018

Company Streamline Inspection Ltd PESL # 000885 API # 57452

Reviewed and Approved by _____ Date _____

PESL # _____ API # _____

Criticality Assessment Rerun

Inspection Planning Rerun

PRESSURE VESSEL & COLUMN INSPECTION REPORT

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Assessed Next Inspection Date

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DETAILED INSPECTION VISUAL EXTERNAL

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)	Acceptable			
V2	General Corrosion	Good	Surface corrosion		
V3	General Leaks	Good	Sight glass		
V4	Vibration	Acceptable	No vibration		
V5	Dissimilar Flange Rating	N/A			
V6	Ladder/Stairway	N/A			
V7	Heads	Acceptable	Surface rust, lower head		
V8	Guy Wires	N/A			
V9	Electrical Ground	Acceptable	Secured/Indirect		
V10	Painted Inactive Corrosion	N/A			
V11	Coating/Painting	Acceptable			
V12	Expansion Joint or Bellows	N/A			
V13	Gauge/Site Glass	Good	Leak		
V14	Shell	Acceptable			
V15	Jacket	N/A			
V21	Support Other (Please explain)	N/A			
V22	Foundation	N/A			
V23	Anchor Bolts	N/A			
V24	Saddle/Skirt	Acceptable	Skirt, welded		
V25	Davit	N/A			
V26	Fireproofing	N/A			
V31	Connections Other (Please explain)	Acceptable	Flanged and threaded okay		
V32	Small Branches	Acceptable			
V33	Nozzles	Acceptable			
V34	Manways	N/A			
V35	Reinforcing Pads	N/A			
V36	Inadequate Thread Engagement	Good	Leaks found		
V37	Bolting	Acceptable			
V38	Flanges	Acceptable			
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	N/A			
V46	Seals/Joints	Good	Leaks found		
V51	Relief Devices Other (Please explain)	Acceptable	Good condition		
V52	Corrosion	Good	Surface corrosion		
V53	Leaks	Good	Sight glass		
V54	Restricted Inlet/Outlet	Acceptable	No restrictions located		
V55	Manual Operation Lever	N/A			

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PHOTOS



LSD



VESSEL DATA PLATE



Overview



Lower Sight Glass Leak



Surface rust on lower head and drain nozzle



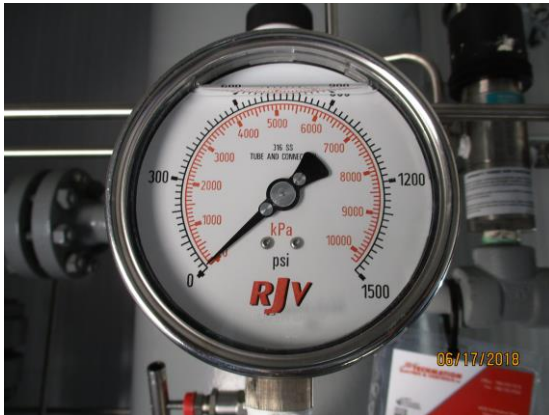
Temperature indicator

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Pressure indicator



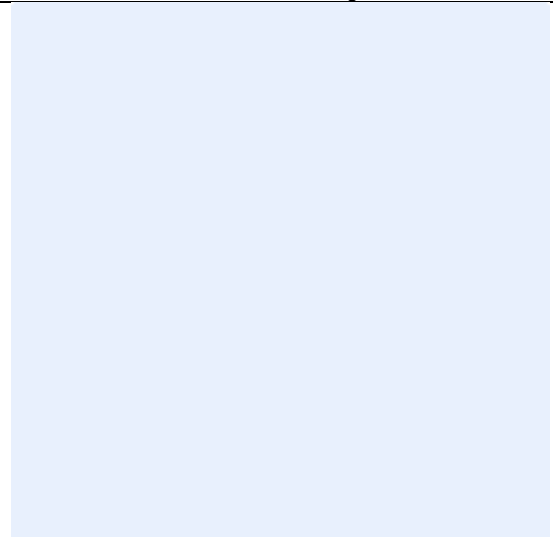
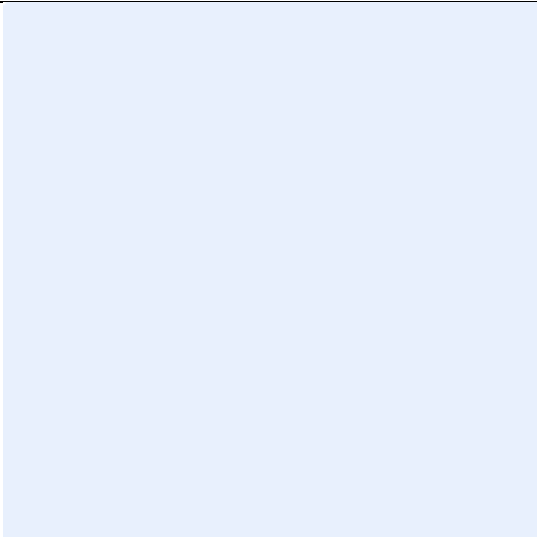
Skirt welded to floor



PSV Overview



PSV Service tag

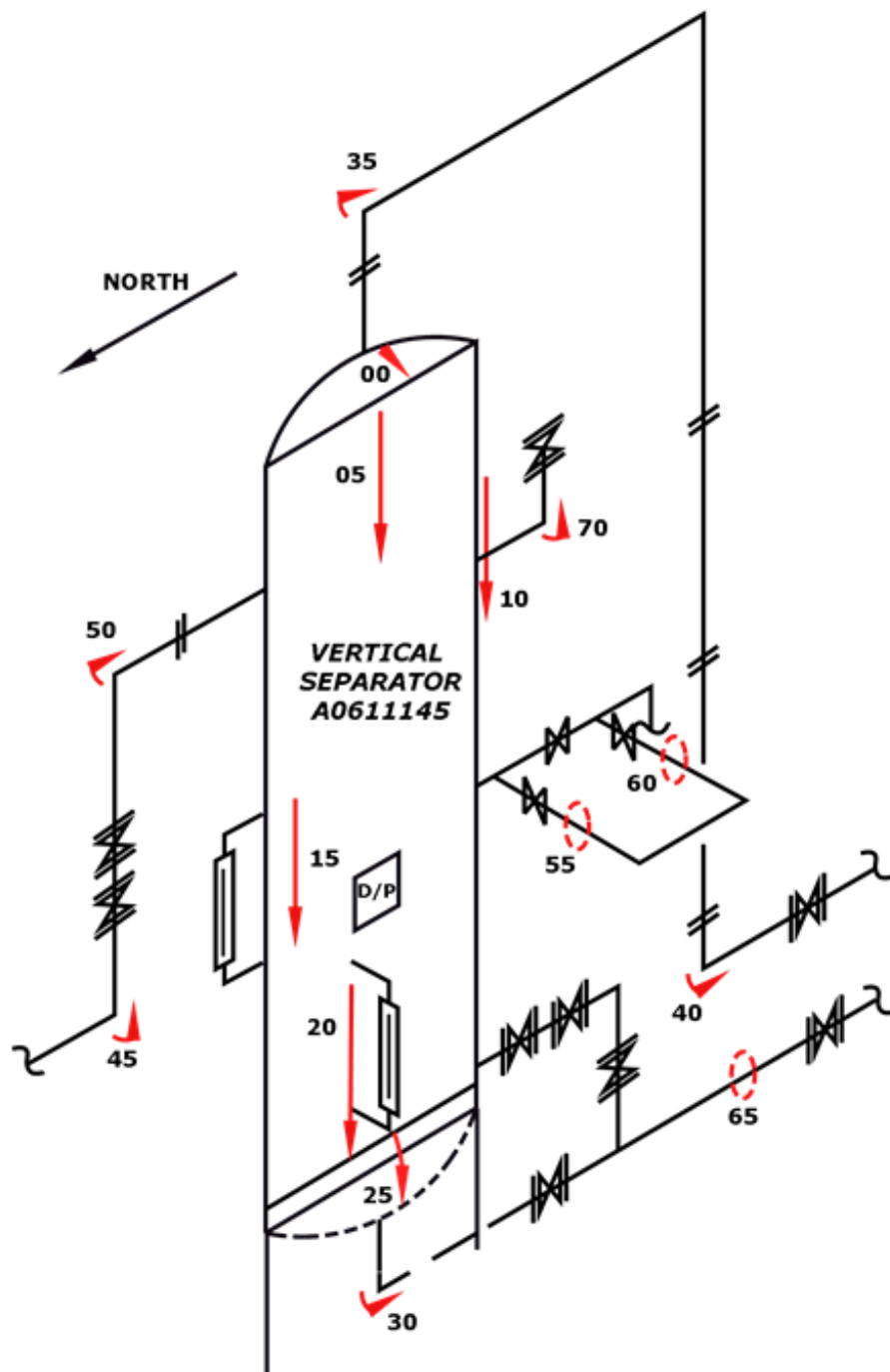




Location Name:	MINEHEAD	LSD:	05-08-50-19W5 (SURF)/02-08-50-19W5 (DH)
Jur #:	A0611145	Equipment/Tag No.	
Equipment Description:	VERTICAL SEPARATOR		
Manufacturer:	RJV GASFIELD SERVICES LTD.		
Serial Number:	12235	CRN:	P7217.231
Shell MAWP:	10205	KPA	Shell Design Temp: 38 °C
Tube MAWP:		KPA	Tube Design Temp: °C
Shell Material:	SA-106-B	Head Material:	SA-516-70
Shell Thickness:	21.44	mm	Head Thickness: 20.63 mm
Corrosion Allowance:	1.6	mm	Date Built: 2011
Size:	406	mm	Pipe / Rolled Plate: PIPE
RT:	2	Streamline Report #:	STL-18-xxx-DMS 27

NOTES: SAP# 66182397









Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: Jun 17, 2018

Streamline Report #: STL-18-xxx-DMS 27

Inspector: E. Legare

05-08-50-19W5 (SURF)/02-08-50-19W5 (DH)		Area:		MINEHEAD		Location:		FIELD	
Jur #: A0611145		Tag Number:				Vessel Name:		VERTICAL SEPARATOR	
CRN: P7217.231		Year Built:		2011		Serial Number:		12235	
RT: 2		Vessel CA:		1.600 mm		Manufacturer:		RJV GASFIELD SERVICES LTD.	
		Shell MAWP:		10205 KPA		MAWT:		38 °C	
						Tube MAWP:		KPA	
						MAWT:		°C	
								Pipe/Plate PIPE	
CML Description				Baseline		Flange ANSI:		Material: SA-516-70	
00 HEAD		2018		Flag		CA		Nominal T Min	
Shape: Ellipsoidal		Min		21.72		19.030		1.600 20.630	
OD: 406.4		Avg		22.15				STCR mm/yr	
Spec: ASME VIII Div.1		Comments:						0.000 0.000	
								Remaining Life: Retirement Date:	
CML Description				Baseline		Flange ANSI:		Material: SA-106-B	
05 SHELL		2018		Flag		CA		Nominal T Min	
Shape: Cylindrical		Min		21.23		19.840		1.600 21.440	
OD: 406.4		Avg		21.46				STCR mm/yr	
Spec: ASME VIII Div.1		Comments:						0.000 0.029	
								Remaining Life: Retirement Date:	
CML Description				Baseline		Flange ANSI:		Material: SA-106-B	
10 SHELL		2018		Flag		CA		Nominal T Min	
Shape: Cylindrical		Min		22.02		19.840		1.600 21.440	
OD: 406.4		Avg		22.15				STCR mm/yr	
Spec: ASME VIII Div.1		Comments:						0.000 0.000	
								Remaining Life: Retirement Date:	
CML Description				Baseline		Flange ANSI:		Material: SA-106-B	
15 SHELL		2018		Flag		CA		Nominal T Min	
Shape: Cylindrical		Min		21.92		19.840		1.600 21.440	
OD: 406.4		Avg		22.20				STCR mm/yr	
Spec: ASME VIII Div.1		Comments:						0.000 0.000	
								Remaining Life: Retirement Date:	



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Date: Jun 17, 2018

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Inspector: E. Legare

LSD: 05-08-50-19W5 (SURF)/02-08-50-19W5 (DH)	Area: MINEHEAD	Location: FIELD
Jur #: A0611145	Tag Number:	Vessel Name: VERTICAL SEPARATOR
CRN: P7217.231	Year Built: 2011	Serial Number: 12235
RT: 2	Vessel CA: 1.600 mm	Manufacturer: RJV GASFIELD SERVICES LTD.
	Shell MAWP: 10205 KPA	Tube MAWP: KPA
	MAWT: 38 °C	MAWT: °C
		Pipe/Plate PIPE

CML Description	Baseline	Flange ANSI:	Material: SA-106-B
20 SHELL	2018	CA	T Min
Shape: Cylindrical	Min	Nominal	STCR mm/yr
OD: 406.4	Avg		LTCR mm/yr
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70
25 HEAD	2018	CA	T Min
Shape: Ellipsoidal	Min	Nominal	STCR mm/yr
OD: 406.4	Avg		LTCR mm/yr
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI: Unknown	Material: SA-234-WPB
30 NOZZLE	2018	CA	T Min
Shape: 90° Elbow	Min	Nominal	STCR mm/yr
OD: 60.325	Avg		LTCR mm/yr
Spec: ASME VIII Div.1	Comments: ASSUMED NOMINAL		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI: Unknown	Material: SA-234-WPB
35 PIPING	2018	CA	T Min
Shape: 90° Elbow	Min	Nominal	STCR mm/yr
OD: 60.325	Avg		LTCR mm/yr
Spec: ASME B31.3	Comments:		Remaining Life:
			Retirement Date:



Ultrasonic Corrosion Survey

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Date: Jun 17, 2018

Streamline Report #: STL-18-xxx-DMS 27

Inspector: E. Legare

05-08-50-19W5 (SURF)/02-08-50-19W5 (DH)		LSD:	Area: MINEHEAD		Location: FIELD	
A0611145		Jur #:	Tag Number:		Vessel Name: VERTICAL SEPARATOR	
P7217.231		CRN:	Year Built: 2011		Serial Number: 12235	
2		RT:	Vessel CA: 1.600 mm		Manufacturer: RJV GASFIELD SERVICES LTD.	
			Shell MAWP: 10205 KPA		Tube MAWP: KPA	
			MAWT: 38 °C		MAWT: °C	
					Pipe/Plate PIPE	
CML Description			Baseline		Flange ANSI: Unknown	
40 PIPING			2018		Material: SA-234-WPB	
Shape: 90° Elbow			Min 5.46		CA Nominal T Min	
OD: 60.325			Avg 5.61		STCR mm/yr	
Spec: ASME B31.3			Comments:		Remaining Life:	
					Retirement Date:	
CML Description			Baseline		Flange ANSI: 600	
45 PIPING			2018		Material: SA-234-WPB	
Shape: 90° Elbow			Min 8.20		CA Nominal T Min	
OD: 60.325			Avg 8.51		STCR mm/yr	
Spec: ASME B31.3			Comments: LIMITED ACCESS.		Remaining Life:	
					Retirement Date:	
CML Description			Baseline		Flange ANSI: 600	
50 PIPING			2018		Material: SA-234-WPB	
Shape: 90° Elbow			Min 5.31		CA Nominal T Min	
OD: 60.325			Avg 5.59		STCR mm/yr	
Spec: ASME B31.3			Comments: LIMITED ACCESS.		Remaining Life:	
					Retirement Date:	
CML Description			Baseline		Flange ANSI: Unknown	
55 PIPING			2018		Material: SA-106-B	
Shape: 360° Circ			Min 6.68		CA Nominal T Min	
OD: 33.401			Avg 6.83		STCR mm/yr	
Spec: ASME B31.3			Comments: ASSUMED NOMINAL		Remaining Life:	
					Retirement Date:	



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Date: Jun 17, 2018

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Inspector: E. Legare

05-08-50-19W5 (SURF)/02-08-50-19W5 (DH)		Area:		MINEHEAD		Location:		FIELD	
Jur #: A0611145		Tag Number:				Vessel Name:		VERTICAL SEPARATOR	
CRN: P7217.231		Year Built:		2011		Serial Number:		12235	
RT: 2		Vessel CA:		1.600 mm		Manufacturer:		RJV GASFIELD SERVICES LTD.	
		Shell MAWP:		10205 KPA		MAWT:		38 °C	
						Tube MAWP:		KPA	
						MAWT:		°C	
								Pipe/Plate PIPE	
CML Description				Baseline		Flange ANSI:		Unknown	
60 PIPING				2018		Flag		CA	
Shape: 360° Circ		Min		6.68		5.556		0.794	
OD: 33.401		Avg		6.83				6.350	
Spec: ASME B31.3		Comments:		ASSUMED NOMINAL					
CML Description				Baseline		Flange ANSI:		Unknown	
65 PIPING				2018		Flag		CA	
Shape: 360° Circ		Min		6.35		5.556		0.794	
OD: 33.401		Avg		6.53				6.350	
Spec: ASME B31.3		Comments:		ASSUMED NOMINAL					
CML Description				Baseline		Flange ANSI:		600	
70 NOZZLE				2018		Flag		CA	
Shape: 90° Elbow		Min		8.28		7.112		1.600	
OD: 60.325		Avg		8.43				8.712	
Spec: ASME VIII Div.1		Comments:							