

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD: 10-22-49-19W5

Date: May 3, 2018

SAP Equipment ID:

VESSEL STATIC DATA						
Plant	Ansell Galloway			Op Unit		
Prov. Insp. #	607778			CRN	P7217.231	
Equipment Description	Separator				Serial #	12095
Manufacturer	RJV				Vessel Class	Pressure Vessel
Internal Access:	Description: No Access				Year Built	2011
MAWP	1480	PSI	@	100	°F	MDMT
CODE : U	ASME			RT : 2	PWHT : No	
Diameter	406mm	Length	(T/T) 2285 mm	OAL	mm	Vertical
Shell	Mat'l	SA 106 B	Thickness	21.44	mm	Corr Allowance 1.6 mm
Head	Mat'l	SA 516 70	Thickness	20.63	mm	Corr Allowance 1.6 mm
Nozzle	Mat'l	Not Specified	Thickness	10.25	mm / in	Corr Allowance 1.6 mm
Internal Coating:	NO		Internal Clad :	NO		Capacity NS m ³
Manway :	NO		Inspection Port :	NO		Skirt
Nozzle Rating	600	lb ANSI	Painted :	YES		Insulated NO

PROCESS DATA						
Product Description	Natural Gas				Sweet	
Operating Pressure	0	PSI	Operating Temperature	60	°F	

PSV STATIC DATA						
Serial No.	Location	Set Pressure	Capacity SCFM	Manufacturer	Model / Type	Service Date / Company
010610-14	Shell	1440 PSI	5180	Taylor	82E8351311	21-7-15/Wizzard

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

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

INSPECTION SUMMARY

The Separator associated nameplate is secure, The vessel is found in acceptable condition.

RECOMMENDATIONS

None noted

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	<u>Greg Cook</u>	Date	<u>May 2, 2018</u>
Company	<u>Streamline Inspection Ltd</u>	PESL #	<u>000423</u>
Reviewed and Approved by		API #	<u>31769</u>
		Date	
		PESL #	
		API #	
Criticality Assessment Rerun		Inspection Planning Rerun	
Assessed Next Inspection Date			

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD: 10-22-49-19W5

Date: May 3, 2018

SAP Equipment ID:

DETAILED INSPECTION VISUAL EXTERNAL

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)	Acceptable			
V2	General Corrosion	Acceptable			No corrosion concerns noted
V3	General Leaks		threaded Plug		Minor weeping
V4	Vibration	Acceptable			None noted
V5	Dissimilar Flange Rating	Acceptable			None noted
V6	Ladder/Stairway	Acceptable			
V7	Heads	Acceptable			No concerns noted
V8	Guy Wires	N/A			
V9	Electrical Ground	Acceptable			Indirect Ground
V10	Painted Inactive Corrosion	Acceptable			None Found
V11	Coating/Painting	Acceptable			No significant failures observed
V12	Expansion Joint or Bellows	N/A			
V13	Gauge/Site Glass	Acceptable			No leaks or damage noted
V14	Shell	Acceptable			No concerns noted
V15	Jacket	N/A			
V21	Support Other (Please explain)	N/A			
V22	Foundation	Acceptable			No concerns noted
V23	Anchor Bolts	Acceptable			Securely in place Welded
V24	Saddle/Skirt	Acceptable			Securely in place
V25	Davit	N/A			
V26	Fireproofing	N/A			
V31	Connections Other (Please explain)				
V32	Small Branches	Acceptable			No significant sign of strain or concerns
V33	Nozzles	Acceptable			No stresses, corrosion or misalignment
V34	Manways	N/A			
V35	Reinforcing Pads	N/A			
V36	Inadequate Thread Engagement	N/A			
V37	Bolting	Acceptable			Intact with no missing bolts or short bolting
V38	Flanges	Acceptable			No active leaks
V39	Leak Clamps	N/A			
V41	Insulation Other (Please explain)	N/A			
V42	Damage	Acceptable			None noted
V43	Penetrations	N/A			
V44	Insulation Jacket	N/A			
V45	Banding	N/A			
V46	Seals/Joints	N/A			
V51	Relief Devices Other (Please explain)	N/A			
V52	Corrosion	Acceptable			None noted
V53	Leaks	Acceptable			None noted
V54	Restricted Inlet/Outlet	Acceptable			None noted
V55	Manual Operation Lever	Acceptable			

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD: 10-22-49-19W5

Date: May 3, 2018

SAP Equipment ID:

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/Wier				
V24	Sparger				
V25	Thermowells				
V26	Metallic Linings				
V27	Nonmetallic Linings				
V28	Trays				
V29	Tray Rings				
V30	Other Welded Attachments				

DETAILED INSPECTION OTHER TECHNIQUES

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

DETAILED INSPECTION UT THICKNESS

CML	Nom. Thk	Current Reading	Short Term Corr Rate	Long Term Corr Rate	Remaining Life	Comments

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD: 10-22-49-19W5

Date: May 3, 2018

SAP Equipment ID:

PHOTOS



LSD



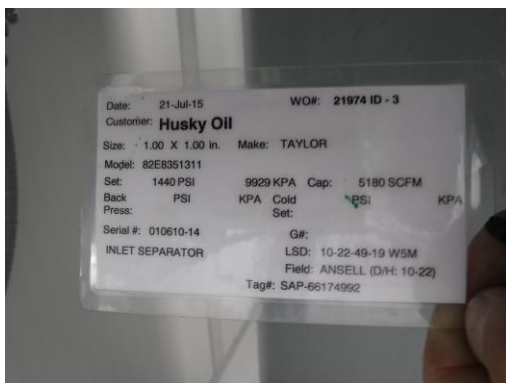
Nameplate



Overview



PSV Nameplate



Service Tag

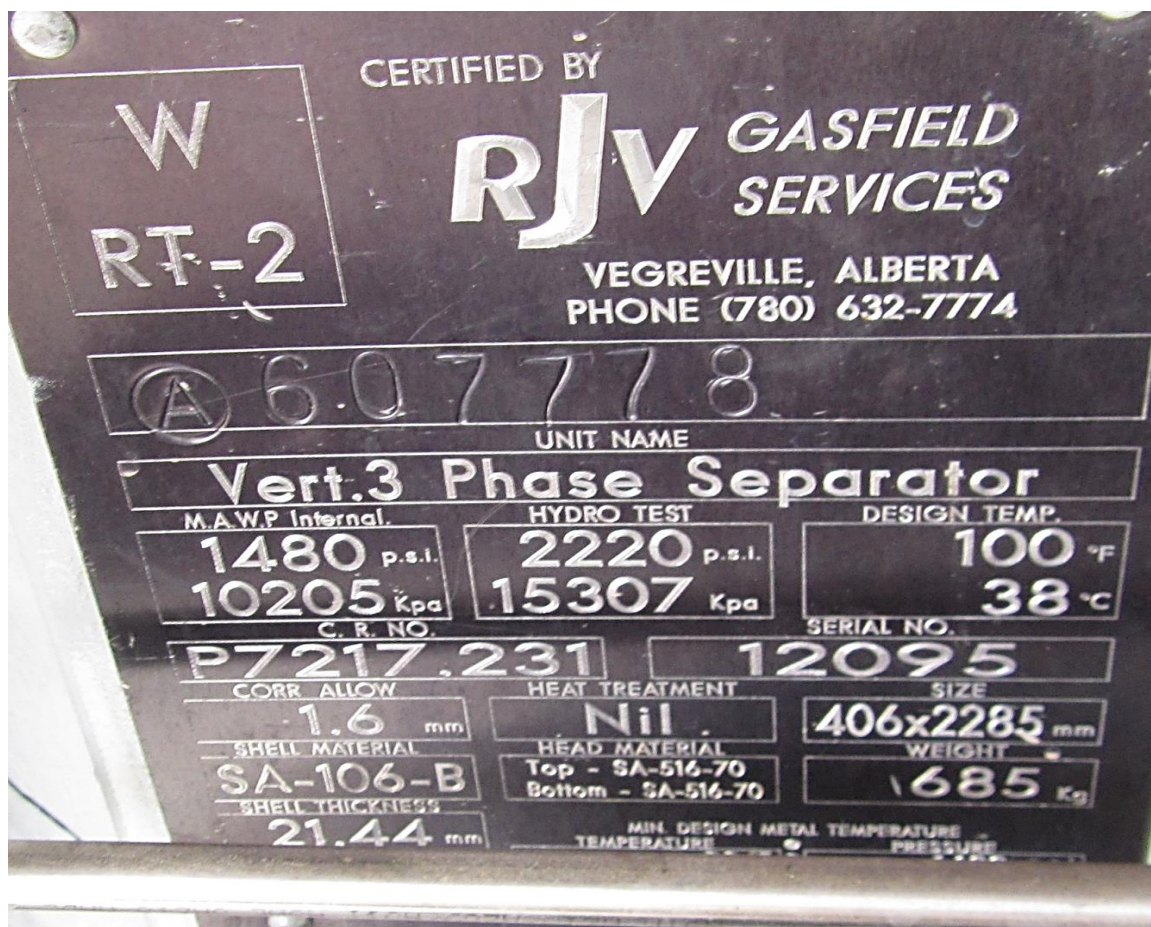


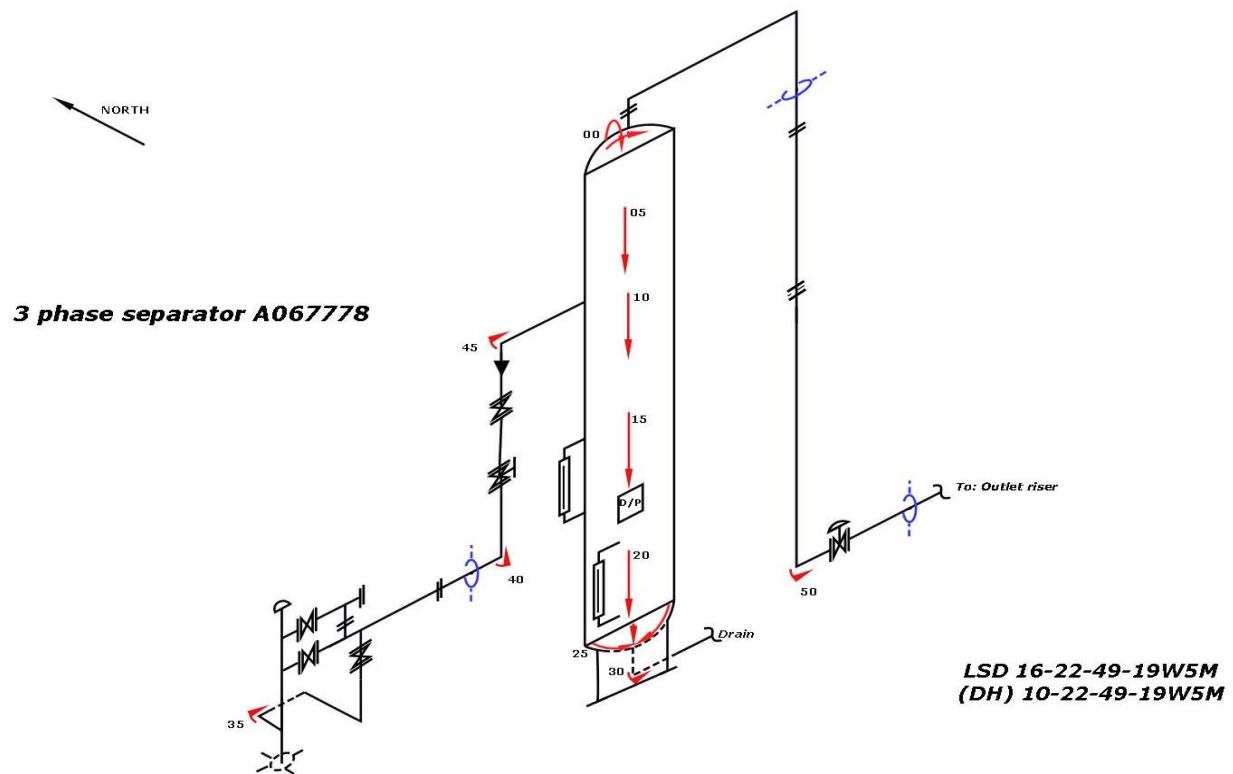
Overview



Location Name:	MINEHEAD	LSD:	16-22-49-19W5M
Jur #:	A0607778	Equipment/Tag No.	
Equipment Description:	3 PHASE SEPARATOR		
Manufacturer:	RJV GASFIELD SERVICES		
Serial Number:	12095	CRN:	P 7217.231
Shell MAWP:	1480	PSI	Shell Design Temp: 100 °F
Tube MAWP:		PSI	Tube Design Temp: °F
Shell Material:	A-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:	RT-2	Streamline Report #:	STL-18-273-DMS 18

NOTES: (DH) 10-22-49-19W5M; SAP# 66174977









Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: May 3, 2018

Streamline Report #: STL-18-273-DMS 18

Inspector: D. Kowal

LSD: 16-22-49-19W5M	Area: MINEHEAD	Location: EDSON,AB
Jur #: A0607778	Tag Number:	Vessel Name: 3 PHASE SEPARATOR
CRN: P 7217.231	Year Built: 2011	Serial Number: 12095
RT: RT-2	Vessel CA: 1.600 mm	Manufacturer: RJV GASFIELD SERVICES
	Shell MAWP: 1480 PSI	Tube MAWP: MAWT: 100 °F
		MAWT: °F
		Pipe/Plate PIPE
CML Description	Baseline	Flange ANSI:
00 HEAD	2018	Material: SA-516-70
Shape: Ellipsoidal	Min 21.64	CA 1.600
OD: 406.4	Avg 21.89	Nominal 20.630
Spec: ASME VIII Div.1	Comments:	T Min STCR mm/yr 0.000
		Remaining Life: LTCR mm/yr 0.000
		Retirement Date:
CML Description	Baseline	Flange ANSI:
05 SHELL	2018	Material: A-106-B
Shape: Cylindrical	Min 21.13	CA 1.600
OD: 406.4	Avg 21.31	Nominal 21.440
Spec: ASME VIII Div.1	Comments:	T Min STCR mm/yr 0.000
		Remaining Life: LTCR mm/yr 0.044
		Retirement Date:
CML Description	Baseline	Flange ANSI:
10 SHELL	2018	Material: A-106-B
Shape: Cylindrical	Min 20.32	CA 1.600
OD: 406.4	Avg 20.70	Nominal 21.440
Spec: ASME VIII Div.1	Comments:	T Min STCR mm/yr 0.000
		Remaining Life: LTCR mm/yr 0.160
		Retirement Date:
CML Description	Baseline	Flange ANSI:
15 SHELL	2018	Material: A-106-B
Shape: Cylindrical	Min 21.13	CA 1.600
OD: 406.4	Avg 21.49	Nominal 21.440
Spec: ASME VIII Div.1	Comments:	T Min STCR mm/yr 0.000
		Remaining Life: LTCR mm/yr 0.044
		Retirement Date:



Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: May 3, 2018

Streamline Report #: STL-18-273-DMS 18

Inspector: D. Kowal

LSD: 16-22-49-19W5M	Area: MINEHEAD	Location: EDSON,AB
Jur #: A0607778	Tag Number:	Vessel Name: 3 PHASE SEPARATOR
CRN: P 7217.231	Year Built: 2011	Serial Number: 12095
RT: RT-2	Vessel CA: 1.600 mm	Manufacturer: RJV GASFIELD SERVICES
	Shell MAWP: 1480 PSI	Tube MAWP: MAWT: 100 °F
		MAWT: °F
		Pipe/Plate PIPE
CML Description	Baseline	Flange ANSI:
20 SHELL	2018	Material: A-106-B
Shape: Cylindrical	Min 21.21	CA 1.600
OD: 406.4	Avg 21.44	Nominal 21.440
Spec: ASME VIII Div.1	Comments:	T Min STCR mm/yr 0.000
		LTCCR mm/yr 0.033
		Remaining Life:
		Retirement Date:
CML Description	Baseline	Flange ANSI:
25 HEAD	2018	Material: SA-516-70
Shape: Ellipsoidal	Min 21.26	CA 1.600
OD: 406.4	Avg 21.67	Nominal 20.630
Spec: ASME VIII Div.1	Comments:	T Min STCR mm/yr 0.000
		LTCCR mm/yr 0.000
		Remaining Life:
		Retirement Date:
CML Description	Baseline	Flange ANSI:
30 PIPING	2018	Material: SA-234-WPB
Shape: 90° Elbow	Min 8.79	CA 1.089
OD: 60.325	Avg 8.99	Nominal 8.712
Spec: ASME B31.3	Comments: ASSUMED NOMINAL	T Min STCR mm/yr 0.000
		LTCCR mm/yr 0.000
		Remaining Life:
		Retirement Date:
CML Description	Baseline	Flange ANSI:
35 PIPING	2018	Material: SA-234-WPB
Shape: 90° Elbow	Min 8.69	CA 1.089
OD: 60.325	Avg 8.92	Nominal 8.712
Spec: ASME B31.3	Comments: ASSUMED NOMINAL	T Min STCR mm/yr 0.000
		LTCCR mm/yr 0.004
		Remaining Life:
		Retirement Date:



Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: May 3, 2018

Streamline Report #: STL-18-273-DMS 18

Inspector: D. Kowal

LSD:	16-22-49-19W5M	Area:	MINEHEAD		Location:	EDSON,AB			
Jur #:	A0607778	Tag Number:			Vessel Name:	3 PHASE SEPARATOR			
CRN:	P 7217.231	Year Built:	2011		Serial Number:	12095			
RT:	RT-2	Vessel CA:	1.600	mm	Manufacturer:	RJV GASFIELD SERVICES			
		Shell MAWP:	1480	MAWT:	100	Tube MAWP:		MAWT:	
			PSI		°F		PSI		°F
									Pipe/Plate
									PIPE
CML Description			Baseline		Flange ANSI:		Material: SA-234-WPB		
40	PIPING		2018		Flag	CA	Nominal	T Min	STCR mm/yr
Shape:	90° Elbow	Min	8.69		7.623	1.089	8.712		0.000
OD:	60.325	Avg	8.92						
Spec:	ASME B31.3	Comments:	ASSUMED NOMINAL						Remaining Life:
									Retirement Date:
CML Description			Baseline		Flange ANSI:		Material: SA-234-WPB		
45	PIPING		2018		Flag	CA	Nominal	T Min	STCR mm/yr
Shape:	90° Elbow	Min	5.77		4.801	0.686	5.486		0.000
OD:	88.9	Avg	5.92						
Spec:	ASME B31.3	Comments:	ASSUMED NOMINAL						Remaining Life:
									Retirement Date:
CML Description			Baseline		Flange ANSI:		Material: SA-234-WPB		
50	PIPING		2018		Flag	CA	Nominal	T Min	STCR mm/yr
Shape:	90° Elbow	Min	7.32		6.668	0.953	7.620		0.000
OD:	88.9	Avg	7.62						
Spec:	ASME B31.3	Comments:	ASSUMED NOMINAL						Remaining Life:
									Retirement Date: