

Husky Energy

PRESSURE VESSEL INSPECTION REPORT

EQ # 66145389 ✓ NO # 6080120 ✓
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FACILITY Ansell Field DATE February 22, 2009 REPORT # IR090222JNa

VESSEL STATIC DATA

Prov. Insp. #	A#584781	CRN	P7217.2	Equip Tag #	-
Equipment Location (LSD)	07-09-051-19 w5m			Serial #	11392
Equipment Description	Vertical Separator			Vessel Class	-
Manufacturer	RJV Gas Field Services			Year Built	2008
MAWP	1480 PSI	KPag / psig	@ 100°F	MDMT	-20°F
CODE : UM	☐ U ☒ U2 ☐	RT : 1 ☐ 2 ☒ 3 ☐ 4 ☐		PWHT :	YES ☐ NO ☒
Diameter	406mm (NPS)	Length	2285mm (S/S)	OAL	mm/in
Shell	Mat'l SA 106 B	Thickness	21.44mm	mm	Corr Allowance 1.6mm mm/in
Head	Mat'l SA 516-70	Thickness	20.63mm	mm	Corr Allowance 1.6mm mm/in
Nozzle	Mat'l	Thickness		mm/in	Corr Allowance mm/in
Internal Coating :	YES ☐ NO ☒	Internal Clad :	YES ☐ NO ☒	Capacity	N/A m ³
Manway :	YES ☐ NO ☒	Inspection Port :	YES ☐ NO ☒	Skirt ☒ Legs ☐ Saddle ☐	
Nozzle Rating	600 lb ANSI	Painted :	YES ☒ NO ☐	Insulated :	YES ☐ NO ☒

PROCESS DATA

Product Description	Sweet Gas	Sweet ☒ Sour ☐ PPM:
Operating Pressure	KPag / psig	Operating Temperature °C / °F

PSV STATIC DATA

Tag / Serial No.	Location	Inlet	Outlet	Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model / Type	Service Date
37979-527	Vessel	1"	1"	1440 PSI	5180 SCFM	Taylor	82E8351 311	11/07

INSPECTION HISTORY

RBI Category	A ☐ B ☐ C ☐ D ☐	Last Inspection Date	W.O. #
Inspection Task List #		Inspection Type	Inspection Reason Integrity Inspection
Inspection Techniques Required		Next Inspection Type	Due Date
VE ☐ VI ☐ RT ☐ UT ☐ MT ☐ PT ☐ TT ☐		Outstanding Repairs	

INSPECTION SUMMARY

An external inspection was performed to verify the vessels integrity.
 The vessel is in-service and fully utilized.
 No concerns were found and the vessel is considered acceptable for continued service.
 A level 3 IDR090304JNa was issued for mica-graphite gaskets found in piping connections.

RECOMMENDATIONS

Replace the mica-graphite gaskets in piping connections with approved flexible graphite-gaskets at the next available service interval.

REPAIRS COMPLETED

Object Name	Cause	Damage	Repair Activity
None			

VESSEL STATUS

Integrity Status	☒ Suitable for Continued Service	☐ Immediate Repairs Required	☐ Replace
		☐ Future Repairs Required	
Inventory Status	☒ In service Fully Utilized	☐ Idle	☐ Surplus
			☐ Scrap
This IR completes a thorough inspection. Reschedule as indicated		☒	Partial IR only. Do not reschedule ☐

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INSPECTION OBSERVATIONS

NONCOMPLIANCES OR INSPECTION DEFICIENCIES ISSUED

A level 3 IDR090304JNa was issued for mica-graphite gaskets found in piping connections.

EXTERNAL VISUAL INSPECTION

The overall condition of this vessel is good.

The vessel dataplate is legible and has the required information. / Data Plate Condition - Good

The vessel is protected with a PSV. The PSV is attached to the vessel, has a set pressure at or under MAWP and a current service date. / PSV Condition - Good

The gauges are clearly legible and appear to be functioning properly. / Gauges Condition - Good

The vessel appears to be properly secured and level. / Vessel Secure - Yes

The vessel is indirectly grounded. / Vessel Grounded - Yes

The piping, bolting, tubing and external attachments are secure with no active leaks. / Piping & Bolting Condition - Good

Mica-graphite gaskets were found in piping connections.

The vessel and piping are painted with no notable corrosion found. / Vessel Paint Condition - Good

The floor is painted with no notable corrosion found. / Floor Condition - Good

The exterior piping is insulated and clad. / Insulation Condition - Good

EXTERNAL NDE EXAMINATION

An external ultrasonic corrosion survey was completed as requested.

No relevant indications were noted at the time of inspection.

For more details see formal UT report by Hunt Inspection - Project C2946

Wall loss of 0.037" noted on TML 233-45. Inspect in 2 years. EM ✓

INTERNAL VISUAL INSPECTION

There was no internal Visual at time of inspection.

INTERNAL NDE EXAMINATION

There was no internal NDE at time of inspection.

PRESSURE TEST

Test Completed ☐ Yes ☒ No Test Acceptable ☐ Yes ☐ No Test Report #

INSPECTOR CERTIFICATION

I, the undersigned certify that the above equipment has been inspected in accordance with the assigned task list and that statements within this report are correct and represent inspection findings

Inspectors Name Joel Norman ✓ Inspector's Signature J. Norman

Inspection Company Hunt Inspection Ltd. Date February 22, 2009

LEAD INSPECTOR'S ACCEPTANCE & SCHEDULE CONFIRMATION

Lead Inspector Bob Marchak Signature B. Marchak Date Apr. 27, 2009

Vessel Inspection Interval 5 Years 2yr ✓ Leave "as-is" ☐ Change to

PSV Inspection Interval 5 Years Leave "as-is" ☐ Change to

Office Use Only Report Entered to SEQA Database by

Static Data Verified by

Date

Date

SEIM Changes
Equip Test & Tech. Acc - 1480 ps.
X-Ray - RT2
Stress Relief - No
MAWP - 1480 ps.
Orientation - Vertical

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Photos

Data Plate



Vessel



PSV

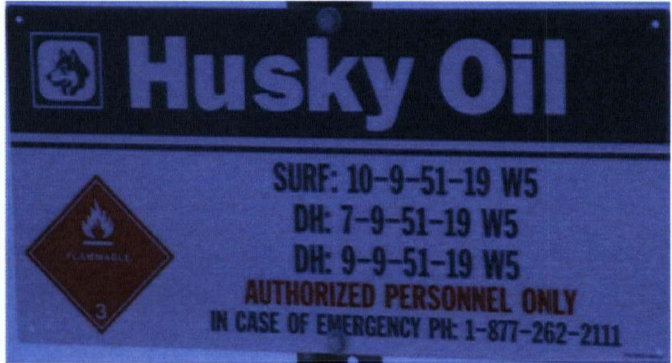


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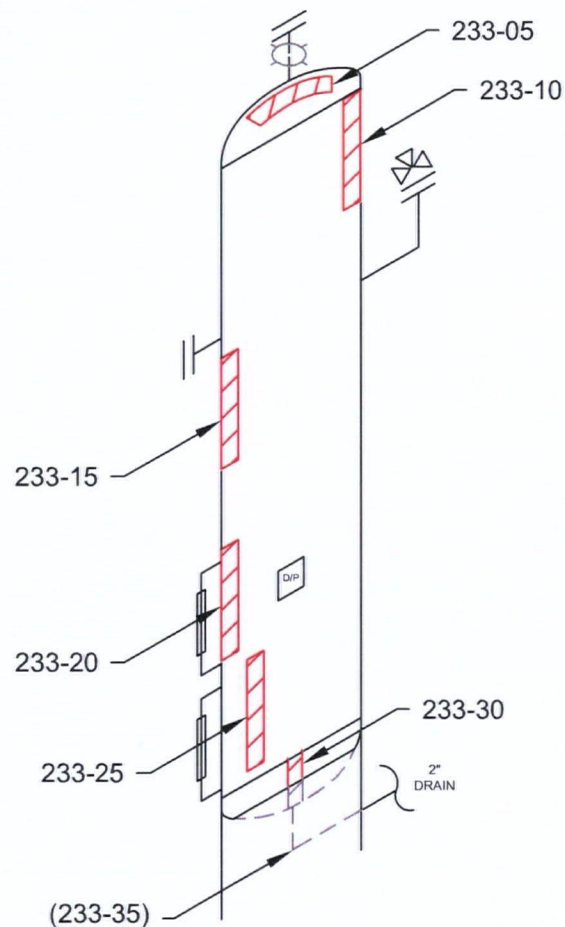
Photos

Building	LSD Sign
	

ITEM:

SEPARATOR

A 0584781



STETTLER, AB (403) 742-4868
 LACOMBE, AB (403) 782-7855
 BROOKS, AB (403) 501-8029
 GRANDE PRAIRIE, AB (866) 422-9732

TECHNICIAN:

JOEL NORMAN
 SNT LEVEL III
 CGSB 48.9712
 LEVEL III # 6951

DATE: **02/22/09**

DWG #

233

CLIENT:

HUSKY ENERGY

LSD:

3110 07-09-051-19-W5M

INSPECTOR :

BOB MARCHAK

LOCATION :

ANSELL FIELD

DISTRICT UNIT :

FH-FW

BLDG/SKID :

-

PROCESS :

SWEET

CODE :

ASME SEC VIII DIV 1

SPECIFICATION :

AS PER ASME SE 797

TECHNIQUE :

UT 1-1, REV .1

METHOD :

UT CONTINUOUS / A SCAN

SURFACE COND :

PAINTED

SURFACE TEMP :

AMBIENT

VESSEL INFORMATION

VESSEL # :

A 0584781

CRN # :

P7217.2

SERIAL # :

11392

MANUFACTURER :

RJV

DATE BUILT :

2008-02

CLIENT ID / TAG :

-

M.A.W.P. :

1480 PSI

M.A.W.T. :

100 °F

JOINT EFFICIENCY/RT :

RT 2

STRESS RELIEVED :

NO

INSULATED :

NO

MANWAY :

NO

VESSEL SPECIFICATIONS

	OD	NOMINAL	MATERIAL	CA
VESSEL HEAD	16"	.812"	SA-516-70	.063"
VESSEL SHELL	16"	.844"	SA-106-B	.063"
BOOT HEAD	-	-	-	-
BOOT SHELL	-	-	-	-

COMMENTS:

PROJECT:

C2946



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 1007-09-051-19W5 Dwg: 233 Vessel Number: A0584781
District Unit: FH-FW Vessel Name: SEPARATOR
Location: ANSELL FIELD Year Built: 2008
Skid: - Tag Number: -
CRN: P7217.2

Survey Date: 2/22/09
Inspector: BOB MARCHAK
Process: SWEET
Project #: C2946
Manufacturer: RJV
Serial Number: 11392
Shell MAWP PSI: 1480 MAWT F: 100
Tube MAWP PSI: 0 MAWT F: 0
Vessel CA: 0.0630

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
233-05	Top	Head	Baseline	0.827	0.832	0.839	0.838	0.838	0.834	2009	0.835	0.827	0.8120	0.0630	0.5359	2010	2029
Shape	Ellipsoidal	Shell Side	Previous										Comments-->				
OD	16		Current	0.827	0.832	0.839	0.838	0.838	0.834	2009	0.835	0.827	INCLUSIONS IN BAND				
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 516 - 70								LT Loss MPY		0.000						
233-10	Upper	Shell	Baseline	0.819	0.820	0.831	0.834	0.840	0.838	2009	0.830	0.819	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	16		Current	0.819	0.820	0.831	0.834	0.840	0.838	2009	0.830	0.819	INCLUSIONS IN BAND				
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 106 - B								LT Loss MPY		0.000						
233-15	Mid	Shell	Baseline	0.832	0.824	0.832	0.833	0.828	0.838	2009	0.831	0.824	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	16		Current	0.832	0.824	0.832	0.833	0.828	0.838	2009	0.831	0.824	INCLUSIONS IN BAND				
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 106 - B								LT Loss MPY		0.000						
233-20	Mid	Shell	Baseline	0.841	0.838	0.842	0.858	0.856	0.858	2009	0.849	0.838	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	16		Current	0.841	0.838	0.842	0.858	0.856	0.858	2009	0.849	0.838	INCLUSIONS IN BAND				
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 106 - B								LT Loss MPY		0.000						



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 07-09-051-19W5 Dwg: 233 Vessel Number: A0584781
District Unit: FH-FW Vessel Name: SEPARATOR
Location: ANSELL FIELD Year Built: 2008
Skid: - Tag Number: -
CRN: P7217.2

Manufacturer: RJV
Serial Number: 11392
Shell MAWP PSI: 1480
Tube MAWP PSI: 0
Vessel CA: 0.0630

Survey Date: 2/22/09
Inspector: BOB MARCHAK
Process: SWEET
Project #: C2946

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
233-25	Lower	Shell	Baseline	0.903	0.902	0.897	0.905	0.909	0.897	2009	0.902	0.897	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	16		Current	0.903	0.902	0.897	0.905	0.909	0.897	2009	0.902	0.897	INCLUSIONS IN BAND				
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 106 - B								LT Loss MPY		0.000						
233-30	Bottom	Head	Baseline	0.858	0.835	0.834	0.835	0.838	0.835	2009	0.839	0.834	0.8120	0.0630	0.5359	2010	2029
Shape	Ellipsoidal	Shell Side	Previous										Comments-->				
OD	16		Current	0.858	0.835	0.834	0.835	0.838	0.835	2009	0.839	0.834	INCLUSIONS IN BAND				
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 516 - 70								LT Loss MPY		0.000						
233-35	Drain	Nozzle	Baseline	0.319	0.309	0.292	0.293	0.300	0.303	2009	0.303	0.292	0.3430	0.0630	0.0771	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	2.375		Current	0.319	0.309	0.292	0.293	0.300	0.303	2009	0.303	0.292					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 234 - WPB								LT Loss MPY		0.000						
233-40		Piping	Baseline	0.304	0.305	0.301	0.301	0.314	0.323	2009	0.308	0.301	0.3430	0.0429	0.0847	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	2.375		Current	0.304	0.305	0.301	0.301	0.314	0.323	2009	0.308	0.301					
Spec.	B31.3								ST Loss MPY				OK				
Material	A 234 - WPB								LT Loss MPY		0.000						



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 107-09-051-19W5 Dwg: 233

Vessel Number: A0584781

Manufacturer: RJV

Survey Date: 2/22/09

District Unit: FH-FW

Vessel Name: SEPARATOR

Serial Number: 11392

Inspector: BOB MARCHAK

Location: ANSELL FIELD

Year Built: 2008

Shell MAWP PSI: 1480 MAWT F: 100

Process: SWEET

Skid: -

Tag Number: -

Tube MAWP PSI: 0 MAWT F: 0

Project #: C2946

CRN: P7217.2

Vessel CA: 0.0630

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
233-45	Piping	Baseline		0.185	0.179	0.181	0.189	0.196	0.196	2009	0.188	0.179	0.2160	0.0270	0.1249	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	3.5		Current	0.185	0.179	0.181	0.189	0.196	0.196	2009	0.188	0.179					
Spec.	B31.3												ST Loss MPY				
Material	A 234 - WPB												LT Loss MPY 0.000				
													Caution				
233-50	Piping	Baseline		0.285	0.278	0.273	0.265	0.265	0.263	2009	0.272	0.263	0.3000	0.0375	0.1249	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	3.5		Current	0.285	0.278	0.273	0.265	0.265	0.263	2009	0.272	0.263					
Spec.	B31.3												ST Loss MPY				
Material	A 234 - WPB												LT Loss MPY 0.000				
													OK				



JOEL NORMAN
SNT LEVEL III
CGSB 48.9712
LEVEL III # 6951

DWG # 233A

LSD: 10 ~~07~~-09-051-19-W5M

SURFACE TEMP : AMBIENT

[illegible]

PROJECT:
C2946