

Pressure Vessel External Visual Inspection Report



Organization: Husky

Inspection Date: 10/06/2010 12:00:00AM

Plant: Foothills

Equipment ID: 66146158

Asset No: 66146158

System: 00007 Minehead 03-06-049-18W5 Compressor Stn.

Operating Unit: FH-FW-013 Ansell

Background

Description:	Separator, 30` X 96`, 1400 Psi
Asset Type:	

Inspection

Inspector:	Bob Marchak	Company:	Husky Energy	Insulated:	N
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External Location Categories

Barrier Penetrations:	0	Damaged Insulation:	0	Vessel Supports:	0	Insulation Rings:	0
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Inspection Comments

ID	Description	Condition	Location	NCR	Comments
V1	General Other: SAP Status	Poor			Change the reserve status to Field Idle.

Inspection Summary

The reserve status prior to inspection was In Service Fully utilized. The sour well site is cemented in and is not in service. The reserve status needs to be changed to FIELD IDLE.

An external visual inspection was carried out to determine the integrity of the inlet separator. The separator was not in service at time of inspection.

The nameplate is attached and legible with A# 506454 stamped on it. The vessel is painted and the paint is in fair condition with several chips with no corrosion noted. The piping, bolting and external attachments are in good condition. No leaks noted.

The gauges and sight glass are clear and in good condition. The skirt is welded to the bottom head and securely bolted to the skid. The skid is grounded. The vessel appears to be secure and level.

Plan to safe out and clean for an internal inspection prior to returning this vessel to service.
Ensure the PSV has a current service date prior to returning this vessel to service.

The external inspection interval is to be set at 5 years as per ABSA AB-506 grade 2.

The internal inspection interval is to be set at 5 years as per ABSA AB-516 grade 2.

The PSV service interval is to be set at 5 years as per ABSA AB-506 grade 2.

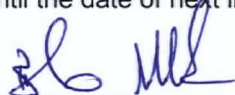
Pressure Vessel External Visual Inspection Report

Inspection Planning

Date of Inspection: Jun. 10/2010 Date of last Inspection: _____ Date of Next Inspection: 06/2015

The signature below certify that the above is a true report of the inspection / test of the equipment specified and consider fit for service until the date of next inspection.

Competent Inspector: _____



Report Generation Date: _____


7-23-2010

Reviewed and Accepted by:

Next Inspection Date: 06/2015

Approved by:

Signature: _____



Date: _____

7-23-2010

Signature: _____

Date: _____

Pressure Vessel Internal Visual Inspection Report



Organization: Husky

Inspection Date: 10/06/2010 12:00:00AM

Plant: Foothills

Equipment ID: 66146158

Asset No: 66146158

System: 00007 Minehead 03-06-049-18W5 Compr

Operating Unit: FH-FW-013 Ansell

Background

Description:	Separator, 30` X 96`, 1400 Psi
Asset Type:	

Inspection

Inspector:	Bob Marchak	Company:	Husky Energy	Internal Lining/Coating:	Y
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Inspection Comments

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain): Coating	Poor			The internal coating is in poor condition and should be repaired IF the vessel is to return to service.
V1	General Other (Please Explain)	Poor			Change the reserve status to Field Idle.

Inspection Summary

The reserve status prior to inspection was In Service Fully utilized. The sour well site is cemented in and is not in service. The reserve status needs to be changed to FIELD IDLE.

A partial internal inspection was carried out by a head and shoulders inspection through the manway. The internal coating was in poor condition with numerous chips and large areas missing. Surface corrosion noted and estimated to be 0.020" deep.

Plan to isolate and clean the vessel for a complete internal inspection prior to returning this vessel to service.

The external inspection interval is to be set at 5 years as per ABSA AB-506 grade 2.

The internal inspection interval is to be set at 5 years as per ABSA AB-506 grade 2.

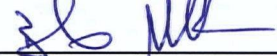
The PSV service interval is to be set at 5 years as per ABSA AB-506 grade 2

Pressure Vessel Internal Visual Inspection Report

Inspection Planning

Date of Inspection: Jun. 10/2010 Date of last Inspection: _____ Date of Next Inspection: 06/2015

The signature below certify that the above is a true report of the inspection / test of the equipment specified and consider fit for service until the date of next inspection.

Competent Inspector:  Report Generation Date: 7-23-2010

Reviewed and Accepted by:

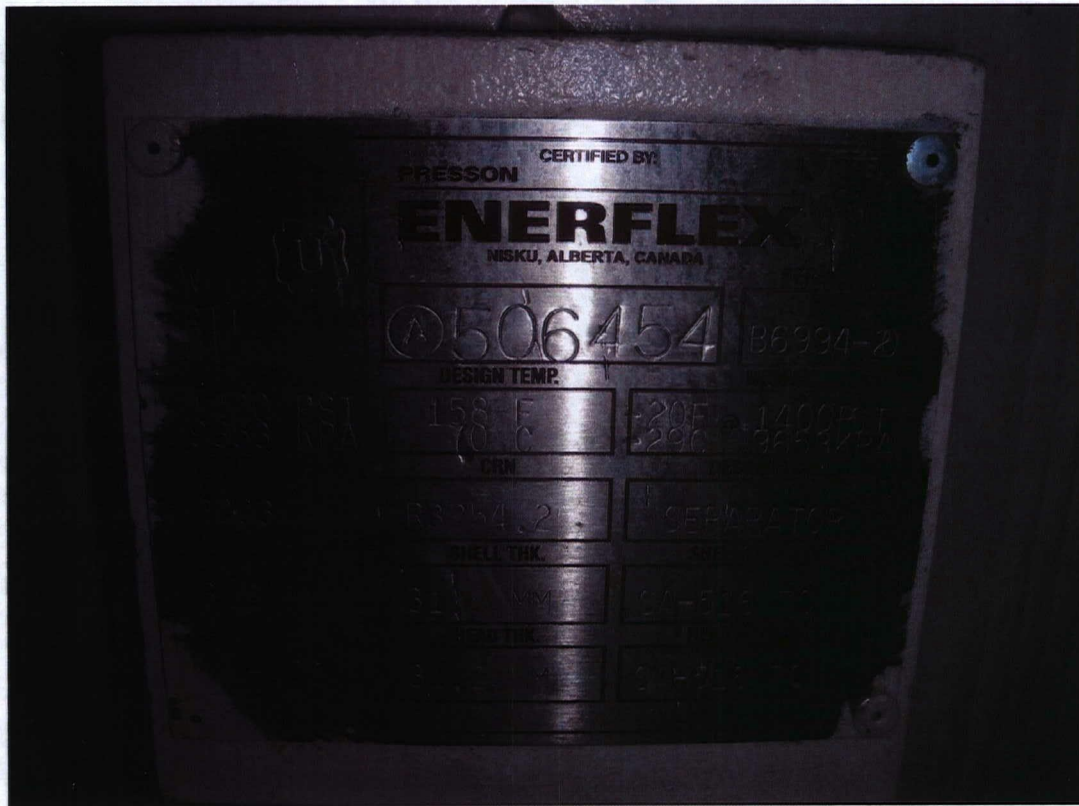
Next Inspection Date: 06/2015

Approved by:

Signature:  Date: 7-23-2010

Signature: _____ Date: _____

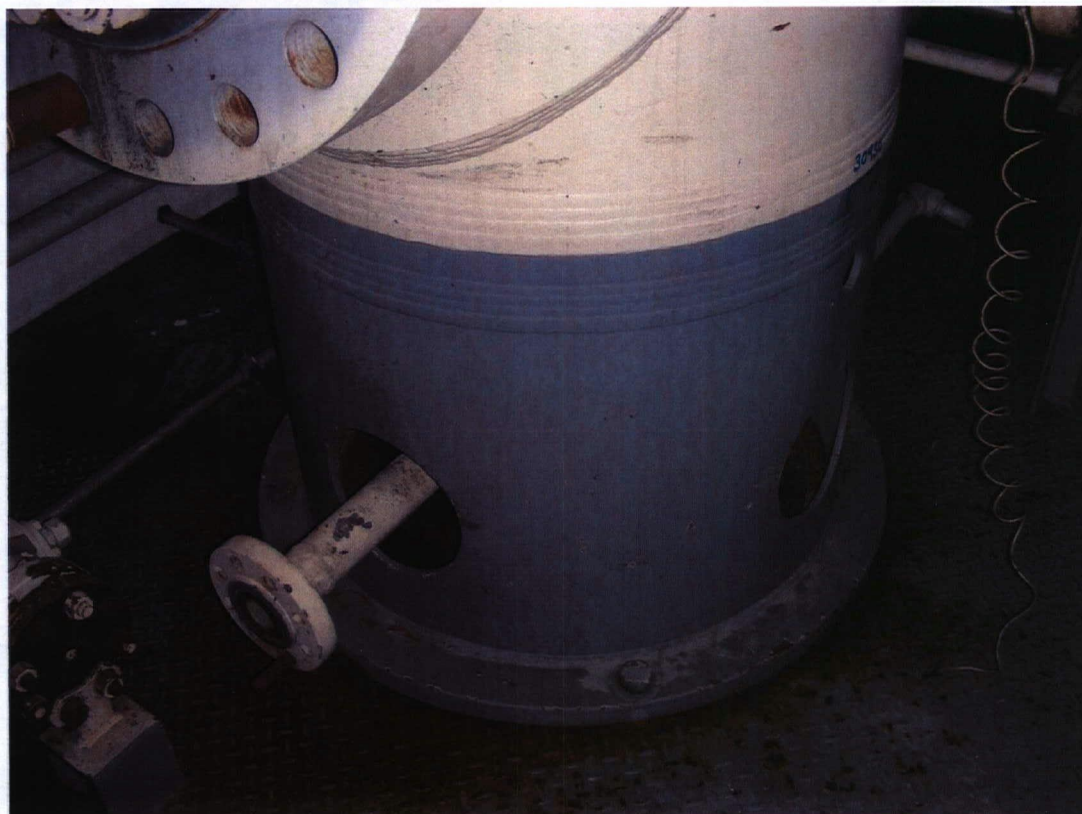
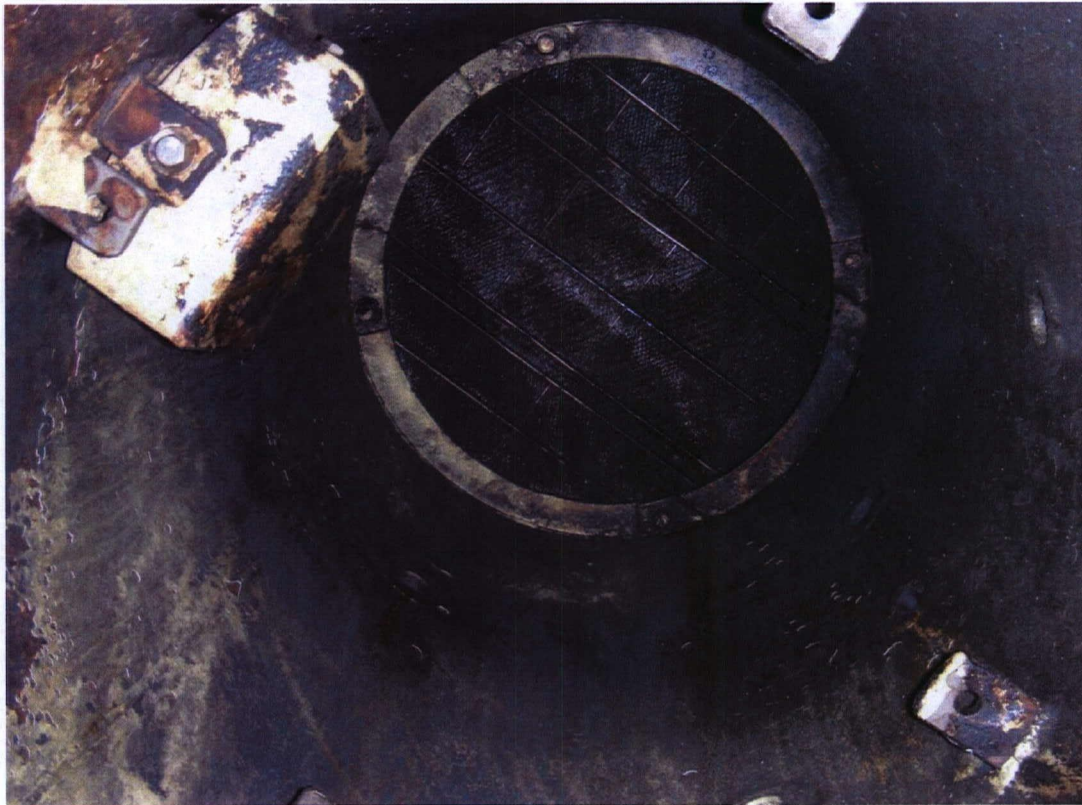
**A# 506454, Separator
03-06-049-18W5M Minehead CS**



**A# 506454, Separator
03-06-049-18W5M Minehead CS**



**A# 506454, Separator
03-06-049-18W5M Minehead CS**



PRESSURE VESSEL INSPECTION REPORT

WO# 6083515

PAGE 1 of 4

FACILITY	Minehead Comp Station	DATE	March 1, 2009	REPORT #	IR090801JNE
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VESSEL STATIC DATA

Prov. Insp. #	A#506454	CRN	R3254.2	Equip Tag #	222077
Equipment Location (LSD)	03-06-049-18 w5m	Serial #	B 6994-20		
Equipment Description	Vertical Separator	Vessel Class	-		
Manufacturer	Enerflex	Year Built	2003		
MAWP	1400 PSI	KPag / psig	@ 158 °F	°C / °F	MDMT -20 °F °C / °F
CODE : UM	<input type="checkbox"/> U <input checked="" type="checkbox"/> U2 <input type="checkbox"/>	RT : 1	<input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>	PWHT : YES	<input checked="" type="checkbox"/> NO <input type="checkbox"/>
Diameter	30" (NPS)	Length	96" (S/S)	OAL	mm/in
Shell	Mat'l SA 516-70N	Thickness	31.8mm	mm	Corr Allowance 3.2mm mm/in
Head	Mat'l SA 516-70N	Thickness	31.2mm	mm	Corr Allowance 3.2mm mm/in
Nozzle	Mat'l	Thickness		mm/in	Corr Allowance mm/in
Internal Coating :	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Internal Clad :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Capacity	N/A m ³
Manway :	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Inspection Port :	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Skirt <input checked="" type="checkbox"/>	Legs <input type="checkbox"/> Saddle <input type="checkbox"/>
Nozzle Rating	lb ANSI	Painted :	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Insulated :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

PROCESS DATA

as per B. Johnson

June 1/09

°C / °F

Product Description	Sour Gas	Sweet <input checked="" type="checkbox"/>	Sour <input checked="" type="checkbox"/>	PPM:	
Operating Pressure	KPag / psig	Operating Temperature			

PSV STATIC DATA

Tag / Serial No.	Location	Size Inlet	Size Outlet	Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model / Type	Service Date
38DC13-120/S7	Vessel	1"	2"	1400 PSI	3667 SCFM	Farris	455618-32-DA	04/07

INSPECTION HISTORY

RBI Category	A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/>	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 was idle at the time of inspection. The manway was open, inlet & outlet blinded and the drain piping removed.
No concerns were found and the vessel is considered acceptable for future service.

RECOMMENDATIONS

Monitor UT band 309-65 in the future to determine a corrosion rate. Inspect in 1 year. JH

REPAIRS COMPLETED

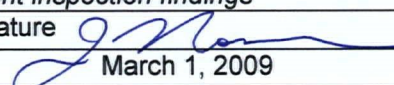
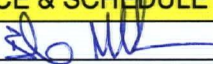
Object Name	Cause	Damage	Repair Activity
None			

VESSEL STATUS

Integrity Status	<input checked="" type="checkbox"/> Suitable for Continued Service	<input type="checkbox"/> Immediate Repairs Required	<input type="checkbox"/> Replace
		<input type="checkbox"/> Future Repairs Required	
Inventory Status	<input type="checkbox"/> In service Fully Utilized	<input checked="" type="checkbox"/> Idle	<input type="checkbox"/> Surplus
			<input type="checkbox"/> Scrap
This IR completes a thorough inspection. Reschedule as indicated		<input checked="" type="checkbox"/>	Partial IR only. Do not reschedule <input type="checkbox"/>

PRESSURE VESSEL INSPECTION REPORT

PAGE : 2 of 4

FACILITY Minehead Comp Station	DATE March 1, 2009	REPORT # IR090301JNe
INSPECTION OBSERVATIONS		
NONCOMPLIANCES OR INSPECTION DEFICIENCIES ISSUED		
No NCR's were issued.		
EXTERNAL VISUAL INSPECTION		
The overall condition of this vessel is good. The vessel dataplate is legible and has the required information. / <i>Data Plate Condition - Good</i> 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. / <i>PSV Condition - Good</i> The gauges are clearly legible and appear to be functioning properly. / <i>Gauges Condition - Good</i> The vessel appears to be properly secured and level. / <i>Vessel Secure - Yes</i> The vessel is indirectly grounded. / <i>Vessel Grounded - Yes</i> The piping, bolting, tubing and external attachments are secure with no active leaks. / <i>Piping & Bolting Condition - Good</i> The vessel and piping are painted with no notable corrosion found. / <i>Vessel Paint Condition - Good</i> The floor is painted with no notable corrosion found. / <i>Floor Condition - Good</i>		
EXTERNAL NDE EXAMINATION		
An external ultrasonic corrosion survey was completed as requested. Piping band 309-65, 2" 90 degree elbow has an ID pit. Nominal should be Sch 40 / .154". Low UT reading .114". <i>Inspect in 1 year. [Signature]</i> No other relevant indications were noted at the time of inspection. For more details see formal UT report by Hunt Inspection - Project C2946		
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 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Test Acceptable <input type="checkbox"/> Yes <input type="checkbox"/> 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 	
Inspection Company Hunt Inspection Ltd.	Date March 1, 2009	
LEAD INSPECTOR'S ACCEPTANCE & SCHEDULE CONFIRMATION		
Lead Inspector Bob Marchak	Signature 	Date Apr. 30, 2009
Vessel Inspection Interval 5 Years 1yr	Leave "as-is" <input type="checkbox"/>	Change to
PSV Inspection Interval 5 Years	Leave "as-is" <input type="checkbox"/>	Change to

Office Use Only

Report Entered to SEQA Database by

Date

Static Data Verified by

Date

 SEIM changes
 Shell t. 1.252" ✓
 MAWP - 1400psi ✓

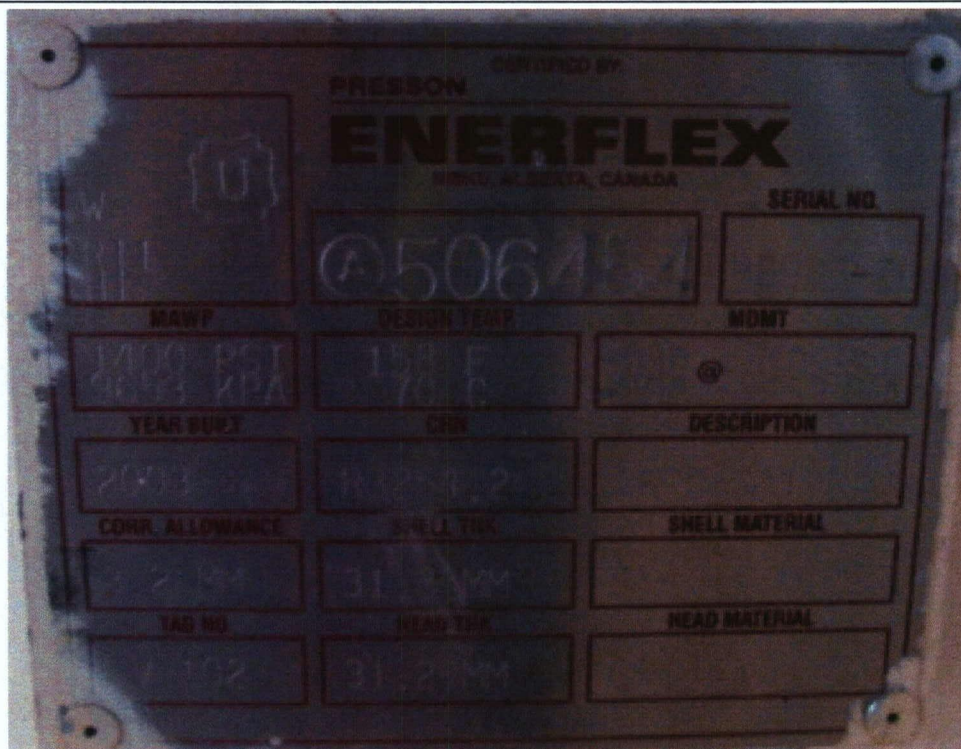
Husky Energy
PRESSURE VESSEL INSPECTION REPORT

PAGE : 3 of 4

FACILITY	Minehead Comp Station	DATE	March 1, 2009	REPORT #	IR090301JNe
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Photos

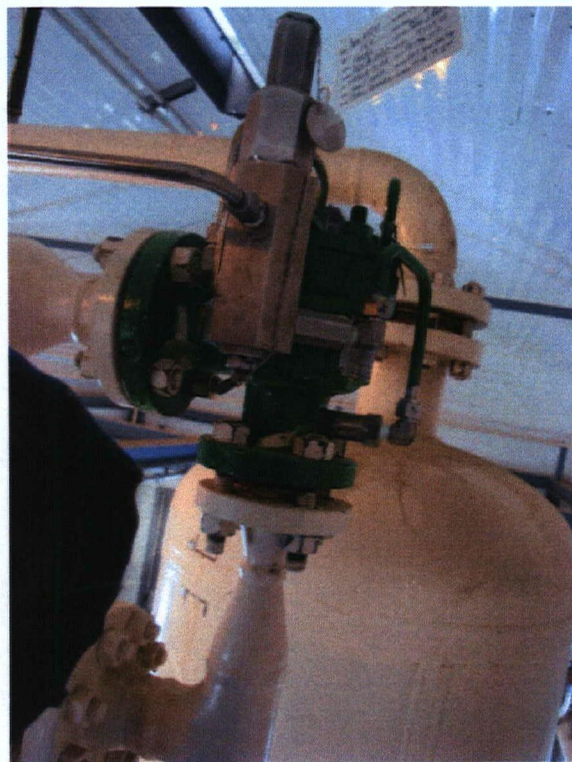
Data Plate



Vessel



PSV



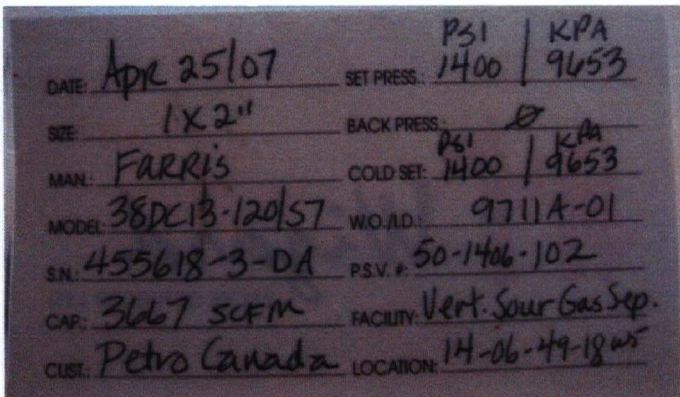


Husky Energy
PRESSURE VESSEL INSPECTION REPORT

PAGE : 4 of 4

FACILITY	Minehead Comp Station	DATE	March 1, 2009	REPORT #	IR090301JNe
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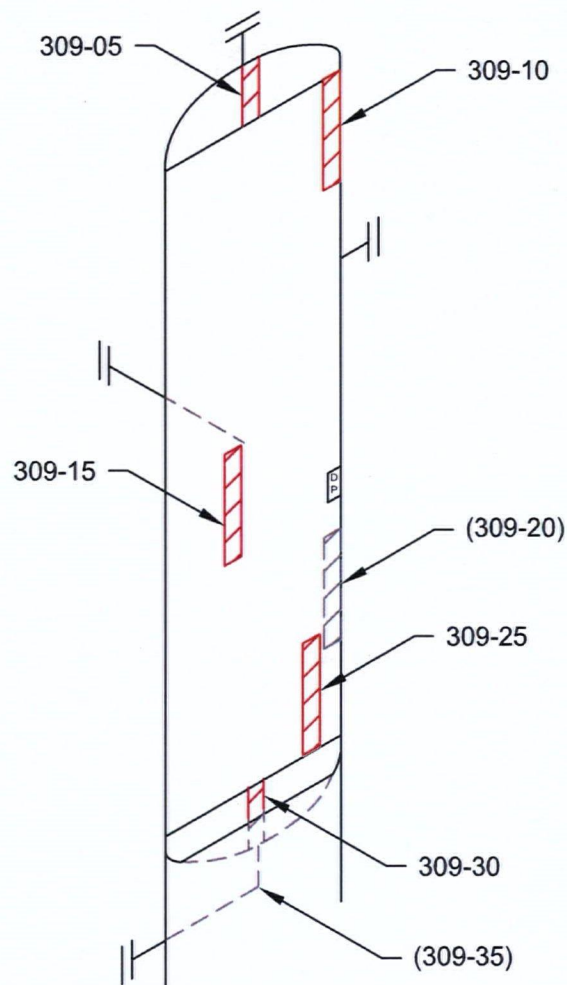
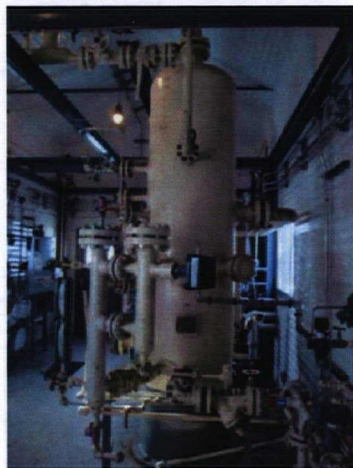
Photos

Building	LSD Sign
	
PSV Tag	
	

ITEM:

SEPARATOR

A 0506454



STETTLER, AB (403) 742-4888
 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: **03/01/09**DWG # **309**CLIENT: **HUSKY ENERGY**LSD: **03-06-049-18-W5M**

INSPECTOR : BOB MARCHAK

LOCATION : MINEHEAD FIELD

DISTRICT UNIT : FH-FW

BLDG/SKID : -

PROCESS : SOUR

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 INFORMATIONVESSEL # : **A 0506454**

CRN # : R3254.2

SERIAL # : B6994-20

MANUFACTURER : ENERFLEX

DATE BUILT : 2003

CLIENT ID / TAG : -

M.A.W.P. : 1400 PSI

M.A.W.T. : 158 °F

JOINT EFFICIENCY/RT : RT 1

STRESS RELIEVED : YES

INSULATED : NO

MANWAY : NO

VESSEL SPECIFICATIONS

	OD	NOMINAL	MATERIAL	CA
VESSEL HEAD	30"	1.230"	SA-516-70	.125"
VESSEL SHELL	30"	1.250"	SA-516-70	.125"
BOOT HEAD	-	-	-	-
BOOT SHELL	-	-	-	-

COMMENTS:

PROJECT:

C2946



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 03-06-049-18W5 Dwg: 309

Vessel Number: A0506454

Manufacturer: ENERFLEX

Survey Date: 3/01/09

District Unit: FH-FW

Vessel Name: SEPARATOR

Serial Number: B6994-20

Inspector: BOB MARCHAK

Location: MINEHEAD FIELD

Year Built: 2003

Shell MAWP PSI: 1400 MAWT F: 158

Process: SOUR

Skid: -

Tag Number: -

Tube MAWP PSI: 0 MAWT F: 0

Project #: C2946

CRN: R3254.2

Vessel CA: 0.1250

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
309-05	Top	Head	Baseline	1.366	1.359	1.352	1.353	1.357	1.356	2009	1.357	1.352	1.2300	0.1250	0.9707	2010	2029
Shape	Ellipsoidal	Shell Side	Previous										Comments-->				
OD	30		Current	1.366	1.359	1.352	1.353	1.357	1.356	2009	1.357	1.352					
Spec.	VIII Div 1												OK				
Material	SA 516 - 70												OK				
													OK				
309-10	Upper	Shell	Baseline	1.258	1.256	1.239	1.262	1.262	1.262	2009	1.257	1.239	1.2500	0.1250	1.0047	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	30		Current	1.258	1.256	1.239	1.262	1.262	1.262	2009	1.257	1.239					
Spec.	VIII Div 1												OK				
Material	SA 516 - 70												OK				
													OK				
309-15	Mid	Shell	Baseline	1.281	1.281	1.283	1.280	1.278	1.276	2009	1.280	1.276	1.2500	0.1250	1.0047	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	30		Current	1.281	1.281	1.283	1.280	1.278	1.276	2009	1.280	1.276					
Spec.	VIII Div 1												OK				
Material	SA 516 - 70												OK				
													OK				
309-20	Mid	Shell	Baseline	1.258	1.261	1.257	1.256	1.256	1.256	2009	1.257	1.256	1.2500	0.1250	1.0047	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	30		Current	1.258	1.261	1.257	1.256	1.256	1.256	2009	1.257	1.256					
Spec.	VIII Div 1												OK				
Material	SA 516 - 70												OK				
													OK				

ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

Survey Date: 3/01/09

LSD: 03-06-049-18W5 Dwq: 309

Vessel Number: A0506454

Manufacturer: ENERFLEX

Inspector: BOB MARCHAK

District Unit: FH-FW

Vessel Name: SEPARATOR

Serial Number: B6994-20

Process: SOUR

Location: MINEHEAD FIELD

Year Built: 2003

Shell MAWP PSI: 1400 MAWT F: 158

Project #: C2946

Skid: -

Tag Number: -

Tube MAWP PSI: 0 MAWT F: 0

CRN: R3254.2

Vessel CA: 0.1250

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
309-25	Lower	Shell	Baseline	1.270	1.270	1.267	1.263	1.264	1.256	2009	1.265	1.256	1.2500	0.1250	1.0047	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	30		Current	1.270	1.270	1.267	1.263	1.264	1.256	2009	1.265	1.256					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 516 - 70								LT Loss MPY		0.000						
309-30	Bottom	Head	Baseline	1.408	1.354	1.355	1.349	1.354	1.344	2009	1.361	1.344	1.2300	0.1250	0.9707	2010	2029
Shape	Ellipsoidal	Shell Side	Previous										Comments-->				
OD	30		Current	1.408	1.354	1.355	1.349	1.354	1.344	2009	1.361	1.344					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 516 - 70								LT Loss MPY		0.000						
309-35	Drain	Nozzle	Baseline	0.355	0.348	0.311	0.341	0.341	0.360	2009	0.343	0.311	0.3430	0.1250	0.0727	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	2.375		Current	0.355	0.348	0.311	0.341	0.341	0.360	2009	0.343	0.311					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 234 - WPB								LT Loss MPY		0.000						
309-40		Piping	Baseline	0.311	0.315	0.314	0.317	0.324	0.329	2009	0.318	0.311	0.3370	0.0421	0.1522	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	4.5		Current	0.311	0.315	0.314	0.317	0.324	0.329	2009	0.318	0.311					
Spec.	B31.3								ST Loss MPY				OK				
Material	A 234 - WPB								LT Loss MPY		0.000						



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 03-06-049-18W5 Dwg: 309 Vessel Number: A0506454
District Unit: FH-FW Vessel Name: SEPARATOR
Location: MINEHEAD FIELD Year Built: 2003
Skid: - Tag Number: -
CRN: R3254.2

Manufacturer: ENERFLEX
Serial Number: B6994-20
Shell MAWP PSI: 1400 MAWT F: 158
Tube MAWP PSI: 0 MAWT F: 0
Vessel CA: 0.1250

Survey Date: 3/01/09
Inspector: BOB MARCHAK
Process: SOUR
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								
309-45	Piping	Baseline		0.327	0.324	0.324	0.320	0.317	0.317	2009	0.322	0.317	0.3370	0.0421	0.1522	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	4.5		Current	0.327	0.324	0.324	0.320	0.317	0.317	2009	0.322	0.317					
Spec.	B31.3												ST Loss MPY				
Material	A 234 - WPB												LT Loss MPY 0.000				
													OK				
309-50	Piping	Baseline		0.301	0.295	0.295	0.295	0.296	0.298	2009	0.297	0.295	0.3370	0.0421	0.1522	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	4.5		Current	0.301	0.295	0.295	0.295	0.296	0.298	2009	0.297	0.295					
Spec.	B31.3												ST Loss MPY				
Material	A 234 - WPB												LT Loss MPY 0.000				
													OK				
309-60	Piping	Baseline		0.164	0.166	0.168	0.172	0.170	0.170	2009	0.168	0.164	0.1540	0.0192	0.0803	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	2.375		Current	0.164	0.166	0.168	0.172	0.170	0.170	2009	0.168	0.164					
Spec.	B31.3												ST Loss MPY				
Material	A 234 - WPB												LT Loss MPY 0.000				
													OK				
309-65	Piping	Baseline		0.155	0.141	0.154	0.144	0.141	0.114	2009	0.142	0.114	0.1540	0.0192	0.0803	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	2.375		Current	0.155	0.141	0.154	0.144	0.141	0.114	2009	0.142	0.114	ID CORROSION @ READING # 6				
Spec.	B31.3												ST Loss MPY				
Material	A 234 - WPB												LT Loss MPY 0.000				
													Caution				

ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

Survey Date: 3/01/09

LSD: 03-06-049-18W5 Dwg: 309

Vessel Number: A0506454

Manufacturer: ENERFLEX

Inspector: BOB MARCHAK

District Unit: FH-FW

Vessel Name: SEPARATOR

Serial Number: B6994-20

Process: SOUR

Location: MINEHEAD FIELD

Year Built: 2003

Shell MAWP PSI: 1400 MAWT F: 158

Project #: C2946

Skid: -

Tag Number: -

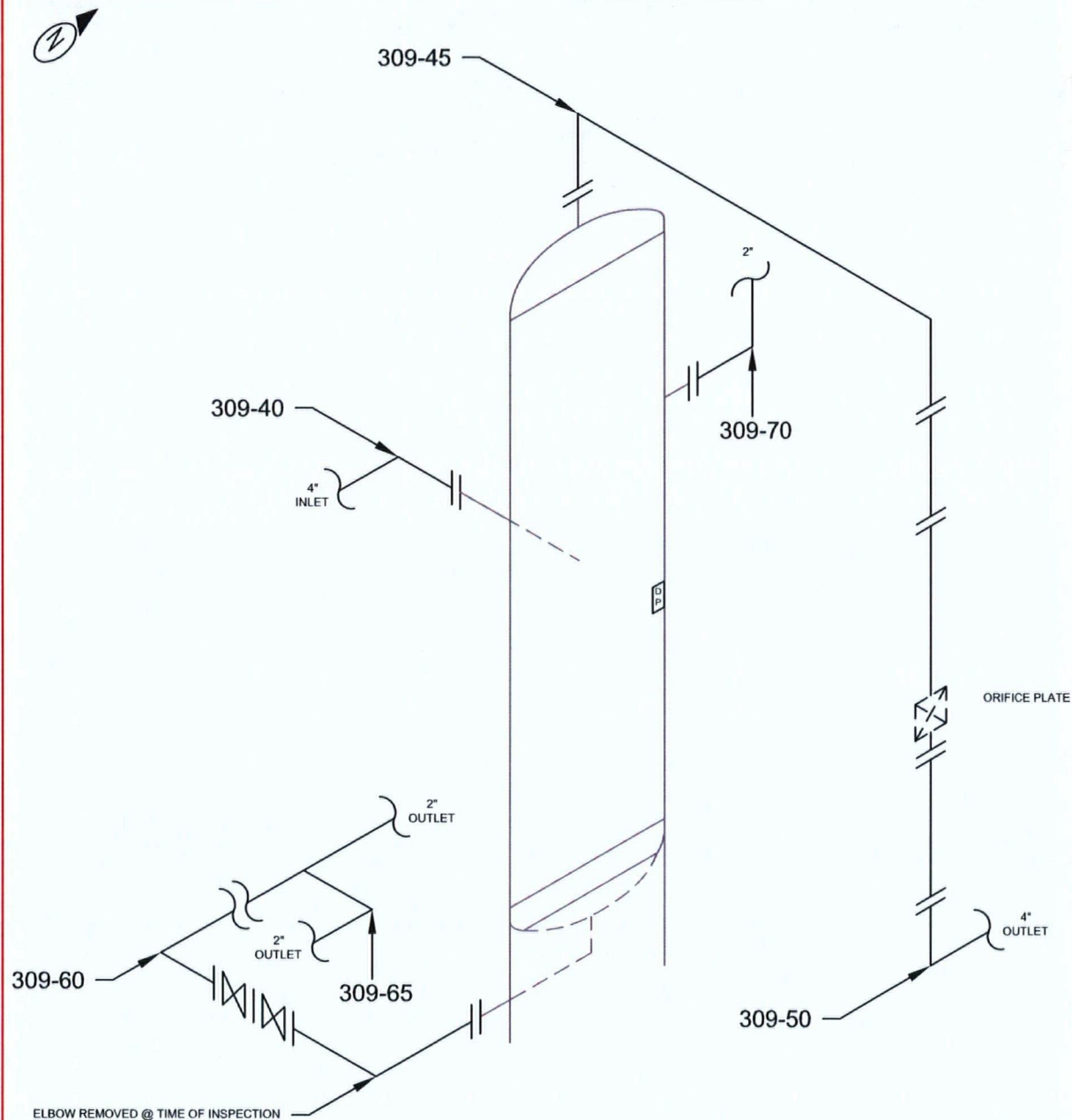
Tube MAWP PSI: 0 MAWT F: 0

CRN: R3254.2

Vessel CA: 0.1250

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
309-70	Piping	Baseline		0.319	0.314	0.317	0.321	0.323	0.329	2009	0.321	0.314	0.3430	0.0429	0.0803	2010	2029
Shape	90° Elbow	Shell Side	Previous	Comments-->													
OD	2.375		Current	0.319	0.314	0.317	0.321	0.323	0.329	2009	0.321	0.314					
Spec.	B31.3			ST Loss MPY													
Material	A 234 - WPB			LT Loss MPY										0.000	OK		

A 0506454



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: 03/01/09

DWG # 309A

CLIENT: HUSKY ENERGY

LSD: 03-06-049-18-W5M

INSPECTOR : BOB MARCHAK

LOCATION :	MINEHEAD FIELD
-------------------	----------------

DISTRICT UNIT :	FH-FW
------------------------	-------

BLDG/SKID : -

PROCESS :	SOUR
------------------	------

CODE :	ASME B31.3
---------------	------------

SPECIFICATION :	AS PER ASME SE 797
------------------------	--------------------

TECHNIQUE :	UT 1-1, REV .1
--------------------	----------------

METHOD :	UT CONTINUOUS / A SCAN
-----------------	------------------------

SURFACE COND : PAINTED

SURFACE TEMP : AMBIENT

PIPING INFORMATION

[illegible]

COMMENTS:

PROJECT:

C2946



the pressure equipment safety authority

Please submit to:

9410 - 20th Avenue

Edmonton, AB T6N 0A4

Tel (780) 437-9100 Fax (780) 437-7787

AB-10 2008-04

BOILER AND PRESSURE VESSEL STATUS REPORT

Note: This form may be used to provide notification of changes in ownership, location, operating status or scrapping of boilers and pressure vessels.

Please review the responsibilities of the vendor and the new owner under Section 36 of the Pressure Equipment Safety Regulation.

Re: Vessel (A) 1) see attach 2) _____
Serial No. _____
CRN _____

☒ Vessel(s) **sold or purchased**. Please transfer the registration

Name of New Owner: Husky Oil Operation Ltd

Mailing Address: _____

New Location of Vessel: _____

(Street Address or LSD)

Contact Person: _____

Tel: _____

Date of Sale: June 6, 2008

PO No.: _____

☐ Vessel(s) removed from service¹ on _____

☐ Vessel(s) relocated _____

(Street Address or LSD)

☐ We own but do not know the location of this vessel. (our records will indicate the vessel location is unknown, the applicable annual fee is charged unless you tell us it is not in service).

☐ We are not operating this vessel, we sold it but do not know to whom. (Your name will remain as owner in our records).

☐ Vessel(s) operating outside of the Province of Alberta since _____ (Date).
Please remove from annual registration¹.

☐ The above vessel(s) returned to service on: _____ (Date).

Inspected on: _____ (Date). Inspection Report attached ☐

☐ The above vessel(s) **are unfit for service** and were destroyed and/or disposed of as scrap material on: _____ (Date).

The Alberta Identification (A) Number has been obliterated.

NOTE: Scrapped and Destroyed vessels **Shall Not** return to service.

Company Name: PetroCanada Oil and Gas Limited

Position Title: Asset Integrity Supervisor

Tel: 403 296 6363

(Please print name): Philip Girard

E-mail: pgirard@petro-canada.ca

Signature: _____

Date: July 29, 2008

Note ¹: The owner of the boiler or pressure vessel is responsible for ensuring that the above equipment is inspected by ABSA prior to it being returned to service in the Province of Alberta

520291	IPS MANUFACTURING	V-3024-001B	01-23-049-19W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
528016	IPS MANUFACTURING	V-3304-001E	07-31-048-18W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
495600	PRESSON	B6940-50	03-06-049-18W5	E9867.2, E9865.	FL	14-06 WELLSITE HEATER
506454	2003 PRESSON	B6994-20	03-06-049-18W5	R3254.2	VS	VERTICAL SOUR GAS SEPARATOR
520757	ENERFLEX MANUFACTURING	050021-06	03-06-049-18W5	P6185.213	VB	2ND STAGE DISCHARGE BOTTLE
520758	ENERFLEX MANUFACTURING	050021-05	03-06-049-18W5	L6206.213	VB	2ND STAGE SUCTION BOTTLE
520759	ENERFLEX MANUFACTURING	050021-03	03-06-049-18W5	L6204.213	VB	1ST STAGE SUCTION BOTTLE
520788	ENERFLEX MANUFACTURING	050021-04	03-06-049-18W5	T1493.213	VB	1ST STAGE DISCHARGE BOTTLE
523529	ENERFLEX MANUFACTURING	050021-02	03-06-049-18W5	P6183.213	VS	2ND STAGE SUCTION SCRUBBER
523541	ENERFLEX MANUFACTURING	050021-01	03-06-049-18W5	P6182.213	VS	1ST STAGE SUCTION SCRUBBER
526475	RUSHTON	C2391A.H.S	03-06-049-18W5	T1583.2	VS	HORIZONTAL SEPARATOR
526476	RUSHTON	C2391.A.HB	03-06-049-18W5	T1656.2	VS	BLOWCASE
526623	ENERFLEX MANUFACTURING	040819-04	03-06-049-18W5	K-6363.213	VS	COMPRESSOR FUEL GAS FILTER
526699	AIR-X-CHANGERS	045289.3	03-06-049-18W5	R7618.213	HA	COMPRESSOR INTERCOOLER
526700	AIR-X-CHANGERS	045289.4	03-06-049-18W5	R7619.213	HA	COMPRESSOR AFTERCOOLER
528420	BILTON WELDING & MANUFACTURING LTD	13728	03-06-049-18W5	R8180.2	VS	FLARE KNOVK OUT DRUM
495593	PRESSON	B6940-20	03-07-049-18W5	R3254.2	VS	VERTICAL SOUR GAS SEPARATOR
497953	PRESSON	B7047-20	03-07-049-18W5	R4547.2	VS	WATER BOOT
506462	PRESSON	B 6994-50	03-07-049-18W5	E9865.213	FL	05-07 WELLSITE HEATER
509893	MARQUINN INDUSTRIES	135-10-04	03-07-049-18W5	R4156.2	VF	#2 PRODUCED WATER FILTER
509894	MARQUINN INDUSTRIES	135-11-04	03-07-049-18W5	R4156.2	VF	#1 PRODUCED WATER FILTER
527837	IPS MANUFACTURING	V-3151-001C	05-14-049-19W5	R4582.231	VS	3 PHASE VERTICAL SEPARATOR
577647	MARQUINN	148-87-07	06-16-048-18W5	P3289.213	VS	3 PHASE SEPARATOR
528042	IPS MANUFACTURING	V-3304-001B	06-01-049-19W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
536245	IPS MANUFACTURING	V-4043-001	06-18-049-18W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
527994	IPS MANUFACTURING	V-3193-001E	06-29-048-18W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
527944	IPS MANUFACTURING	V-3193-001C	07-21-048-18W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
497985	PRESSON	B7054-20	07-32-048-18W5	R3254.2	VS	VERTICAL SOUR GAS SEPARATOR
497987	PRESSON	B7054-50	07-32-048-18W5		FL	11-32 WELLSITE HEATER
502846	PRESSON	K3012-21	07-32-048-18W5	R4763.2C	VS	VERTICAL SEPARATOR
495735	MARQUINN INDUSTRIES	133-24-03	08-13-049-19W5	R4156.2	VF	#2 PRODUCED WATER FILTER
495736	MARQUINN INDUSTRIES	133-25-03	08-13-049-19W5	R4156.2	VF	#1 PRODUCED WATER FILTER
495768	PRESSON	B6977-20	08-13-049-19W5	R3254.2	VS	VERTICAL SOUR GAS SEPARATOR
502821	PRESSON	B6982-20	08-13-049-19W5	E4547.2	VS	PRODUCED WATER FLASH VESSEL
502824	PRESSON	B6977-50	08-13-049-19W5	E9867.213, E986	FL	01-13 WELLSITE HEATER
516664	MARQUINN INDUSTRIES	138-02-04	08-13-049-19W5	R9125.213	VS	Sour Horizontal Inlet Separator (Rental)
518339	ENERFLEX MANUFACTURING	040634-01	08-13-049-19W5	P8054.213	VS	COMPRESSOR SUCTION SCRUBBER
520710	AIR-X-CHANGERS	045585.3	08-13-049-19W5	R8538.213	HA	COMPRESSOR INTERCOOLER
520711	AIR-X-CHANGERS	045585.4	08-13-049-19W5	T0393.213	HA	COMPRESSOR AFTERCOOLER
521072	ENERFLEX MANUFACTURING	040820-01	08-13-049-19W5	L2030.213	VS	COMPRESSOR FUEL GAS SCRUBBER
522612	SUNWELL INDUSTRIES	04-393	08-13-049-19W5	R8991.213	VS	MINI-BLOWCASE
522799	SUNWELL INDUSTRIES	05-006	08-13-049-19W5	T0932.2	VS	BLOWCASE
523479	ENERFLEX MANUFACTURING	040844-02	08-13-049-19W5	T0674.213	VB	1ST STAGE SUCTION BOTTLE
523480	ENERFLEX MANUFACTURING	040844-03	08-13-049-19W5	T0675.213	VB	1ST STAGE DISCHARGE BOTTLE
526681	ENERFLEX MANUFACTURING	040844-01	08-13-049-19W5	R9967.213	VS	SLUG CATCHER
550849	IPS MANUFACTURING	V4631-001	08-36-048-19W5	T5094.2	VS	3 PHASE VERTICAL SEPARATOR
527954	IPS MANUFACTURING	V-3193-001A	10-18-048-18W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
536195	IPS MANUFACTURING	V-4042-001	10-26-049-19W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
549492	RJV	2006	11-01-049-18W5	P7217.2	VS	3 PHASE VERTICAL SEPARATOR
527830	IPS MANUFACTURING	V-3151-001C	11-11-049-19W5	R4582.231	VS	3 PHASE VERTICAL SEPARATOR
547686	IPS MANUFACTURING	V-4664-001	11-12-049-19W5	R6694.213	VS	3 PHASE VERTICAL SEPARATOR
525094	NUSCO	9930-200	11-16-048-18W5	R2959.213	VS	3 PHASE VERTICAL SEPARATOR
527961	IPS MANUFACTURING	V-3193-001D	11-16-048-18W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR
550869	IPS MANUFACTURING	V-4688-001	14-30-048-18W5	R6694.213	VS	3 PHASE VERTICAL SEPARATOR
536246	IPS MANUFACTURING	V-4044-001	14-35-049-19W5	T0211.2	VS	3 PHASE VERTICAL SEPARATOR

Inspection Report

Print Date: 11/9/2007 3:04:10 PM

Hanlan Robb
Petro-Canada

Equipment Detail		
Plant/Area: Hanlan - Minehead	Type: VS	Number: ..W-MIN-14-06-A-V-102
Equipment Name: VERTICAL SOUR GAS SEPARATOR		
Report Information		Stream Internal
Memo No.: 7835	Job File No.:	Extent Full
Report Number:	Work Order No.:	
Date Created: 11/7/2007	Date Inspected: 11/7/2007	Completed: <input checked="" type="checkbox"/> Date Completed: 11/7/2007
Due Date:		
Title: Routine Inspection VI, VE, US		
Summary		
A.I. Name:	Inspector: R. Murtha & B. Paulson	
Reason for Inspection: Routine		
Regulatory Comment: Suitable for further service		
Chief Inspector:	Chief Inspec. Date:	
Inspection Summary		
VI		
- An isolated pit was found on the bottom head of the vessel. Approx. 1" x 1" and up to 3.175mm (0.125") deep. The corrosion allowance for this vessel is 3.2mm with a Nominal of 31.2mm. The UT data shows the lowest reading on the head is 34.7mm.		
- UT cannot be done on this point as it is too close to the shell to head weld and the skirt restricts access.		
- Coating is severely disbonded due to operations blowing down the vessel. Refer to attached images. No other corrosion appears to be taking place where coating has come off.		
- Demister pads are still in this separator.		
VE		
- No apparent defects		
- A proper 0.01 Ω shunt needs to be installed on the anode. Dennis Sloman is to complete during his next rectifier inspections.		
- Nameplate is attached and secure.		
UT		
- Nothing to note from survey.		
<i>Vessel is not being put back into service (hayed-up)</i>		
Details (Whole Equipment)		
Inspection Details		
Repairs		
<input type="checkbox"/> Repairs Completed		
Action Taken		
Activity Codes		
US	Prob/Failure Code:	
VE		
VI		
Process/Continuous History		

Attachments

Attach. No.: 1 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0064.JPG **File Size:** 58,256 bytes

-- attachment not printable --

Attach. No.: 2 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0065.JPG **File Size:** 46,015 bytes

-- attachment not printable --

Attach. No.: 3 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0066.JPG **File Size:** 46,162 bytes

-- attachment not printable --

Attach. No.: 4 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0068.JPG **File Size:** 25,136 bytes

-- attachment not printable --

Attach. No.: 5 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0073.JPG **File Size:** 84,022 bytes

-- attachment not printable --

Attach. No.: 6 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0074.JPG **File Size:** 47,283 bytes

-- attachment not printable --

Attach. No.: 7 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0075.JPG **File Size:** 61,398 bytes

-- attachment not printable --

Attach. No.: 8 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0077.JPG **File Size:** 60,018 bytes

-- attachment not printable --

Attach. No.: 9 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0078.JPG **File Size:** 75,914 bytes

-- attachment not printable --

Attach. No.: 10 **Attachment Type:** Linked
Description:
File Name: \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data \Unit #50\50-1406 A-V-102 Nov 2007\IMG_0079.JPG **File Size:** 69,400 bytes

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Attachments**Attach. No.:** 11**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0080.JPG **File Size:** 72,808 bytes

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Attach. No.: 12**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0081.JPG **File Size:** 50,629 bytes

-- attachment not printable --

Attach. No.: 13**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0082.JPG **File Size:** 75,984 bytes

-- attachment not printable --

Attach. No.: 14**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0083.JPG **File Size:** 71,100 bytes

-- attachment not printable --

Attach. No.: 15**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0084.JPG **File Size:** 71,410 bytes

-- attachment not printable --

Attach. No.: 16**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0085.JPG **File Size:** 60,155 bytes

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Attach. No.: 17**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0086.JPG **File Size:** 81,513 bytes

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Attach. No.: 18**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP\Pressure Equipment Integrity\Pictures & Electronic Data
\\Unit #50\50-1406 A-V-102 Nov 2007\IMG_0087.JPG **File Size:** 62,309 bytes

-- attachment not printable --

Nov 9/07
Date

Inspector

Date

Chief Inspector



Hdms ✓

Hanlan Robb
Petro-Canada**Inspection Report**

Print Date: 8/23/2006 9:27:07 AM

Equipment Detail

Plant/Area: Hanlan - Minehead **Type:** VS **Number:** ..W-MIN-14-06-A-V-102
Equipment Name: VERTICAL SOUR GAS SEPARATOR

Report Information

Memo No.: 5618
Report Number: **Job File No.:**
Date Created: 8/22/2006 **Work Order No.:**
Due Date: **Date Inspected:** 8/22/2006 **Completed:** ☒ **Date Completed:** 8/22/2006

Stream

Internal

Extent

Full

Title: Routine Inspection**Summary**

A.I. Name: **Inspector:** R. Murtha & B. Paulson
Reason for Inspection: Routine
Regulatory Comment: Suitable for further service
Chief Inspector: **Chief Inspec. Date:**

Inspection Summary

- UT Records show no wall loss
- VE Vessel is in good condition
- VI - coating has failed
 - no apparent corrosion or pitting

*Linebacker gasket was replaced with a standard Spiral Wound Gasket

Details (Whole Equipment)**Inspection Details**

- UT
- Records show no wall loss (Baseline 2004, 2005 and 2006)
- VE
- Vessel is in good condition
 - No paint loss
 - Flanged connections
 - Separator is welded to skirt and bolted to floor
 - Nameplate is attached and secure
- VI
- Coating has completely failed and is missing in sections
 - No apparent pitting or corrosion
 - The Aluminum anode shows no material loss
 - Demister pads were not removed for inspection
 - Vessel was in good condition
 - Ashphaltines were found in the vessel and associated piping

Repairs☐ Repairs Completed**Action Taken****Activity Codes**US
VE
VI**Prob/Failure Code:****Process/Continuous History**

Recommendations				
No.	Ref. No.	Recommendation	Completed	Action Taken
1	1	Cleaning should be done when site is shut-in and not left with ashphaltines in the separator and associated piping	<input type="checkbox"/>	
2	2	Bonding wire should be hooked up to the blind flange	<input type="checkbox"/>	

Attachments**Attach. No.:** 1**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\AI Anode.jpg**File Size:** 1,512,448 bytes

-- attachment not printable --

Attach. No.: 2**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Bottom Head #2.jpg**File Size:** 2,461,478 bytes

-- attachment not printable --

Attach. No.: 3**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Bottom head #3.jpg**File Size:** 1,813,660 bytes

-- attachment not printable --

Attach. No.: 4**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Bottom Head.jpg**File Size:** 2,703,281 bytes

-- attachment not printable --

Attach. No.: 5**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Demister pad and wall.jpg**File Size:** 2,686,194 bytes

-- attachment not printable --

Attach. No.: 6**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Demister Pad close up.jpg**File Size:** 3,132,431 bytes

-- attachment not printable --

Attach. No.: 7**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Demister Pad.jpg**File Size:** 3,017,074 bytes

-- attachment not printable --

Attach. No.: 8**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Nameplate #2.jpg**File Size:** 1,482,760 bytes

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Attach. No.: 9**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Nameplate.jpg**File Size:** 2,069,224 bytes

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Attach. No.: 10**Attachment Type:** Linked**Description:****File Name:** \\PCREDSN\WORKGRP\OIP DATABASE\PHOTOS - Inspections (Visions)\2006
Inspections\50 - 1406-A-V-102 (Aug 2006)\Vertical Separator.jpg**File Size:** 1,572,506 bytes

-- attachment not printable --

Aug 22/06

Date



Inspector

Date

Chief Inspector

PROCEDURE No.

SUBJECT

IP-300

PROCESS VESSELS

50-1406-V-102
750 VS 406

Vertical Sour Gas Separator

CHECKLIST #1 - EXTERNAL INSPECTION

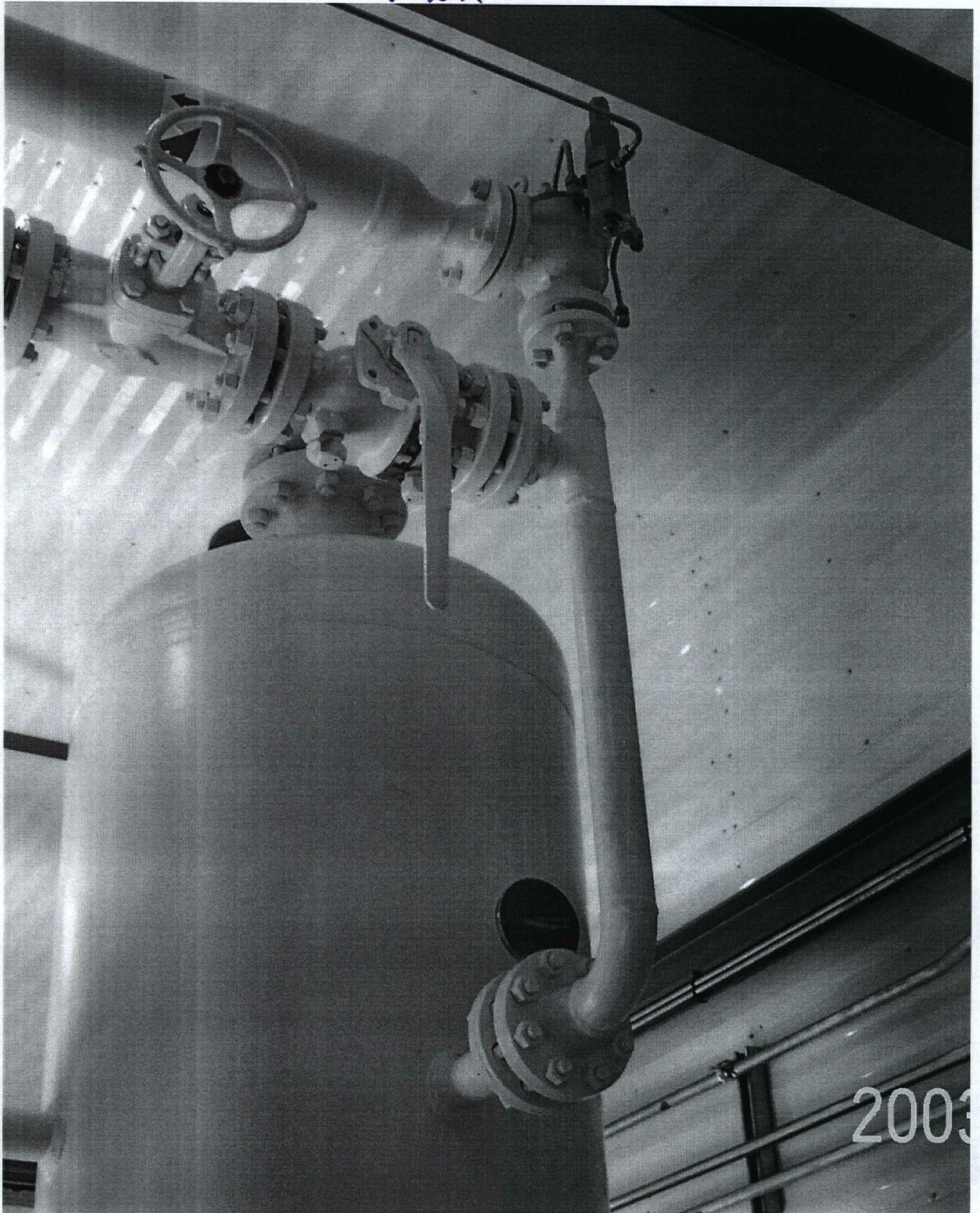
- | | | |
|-----|--|--|
| 1. | Ladders, stairways, platforms and walkways | <input type="checkbox"/> NIA |
| 2. | Foundations and supports | <input checked="" type="checkbox"/> |
| 3. | Nozzles | <input checked="" type="checkbox"/> |
| 4. | Grounding connections | <input checked="" type="checkbox"/> SKID |
| 5. | Protective coatings and insulation | <input checked="" type="checkbox"/> |
| 6. | External metal surfaces | <input checked="" type="checkbox"/> |
| 7. | Pressure relief devices | <input checked="" type="checkbox"/> |
| 8. | Name plate | <input checked="" type="checkbox"/> |
| 9. | Ultrasonic thickness survey | <input checked="" type="checkbox"/> To be added to 2003 Survey |
| 10. | Inspection report completed | <input type="checkbox"/> NIA |
| 11. | Nonconformance report completed | <input type="checkbox"/> NIA |

Anodes in vessel which can
be tested onstream

APPROVAL CHIEF INSPECTOR	DATE MAY, 1999	REVISION 1	PAGE 7 OF 8
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50-1406 AUGUST 2003

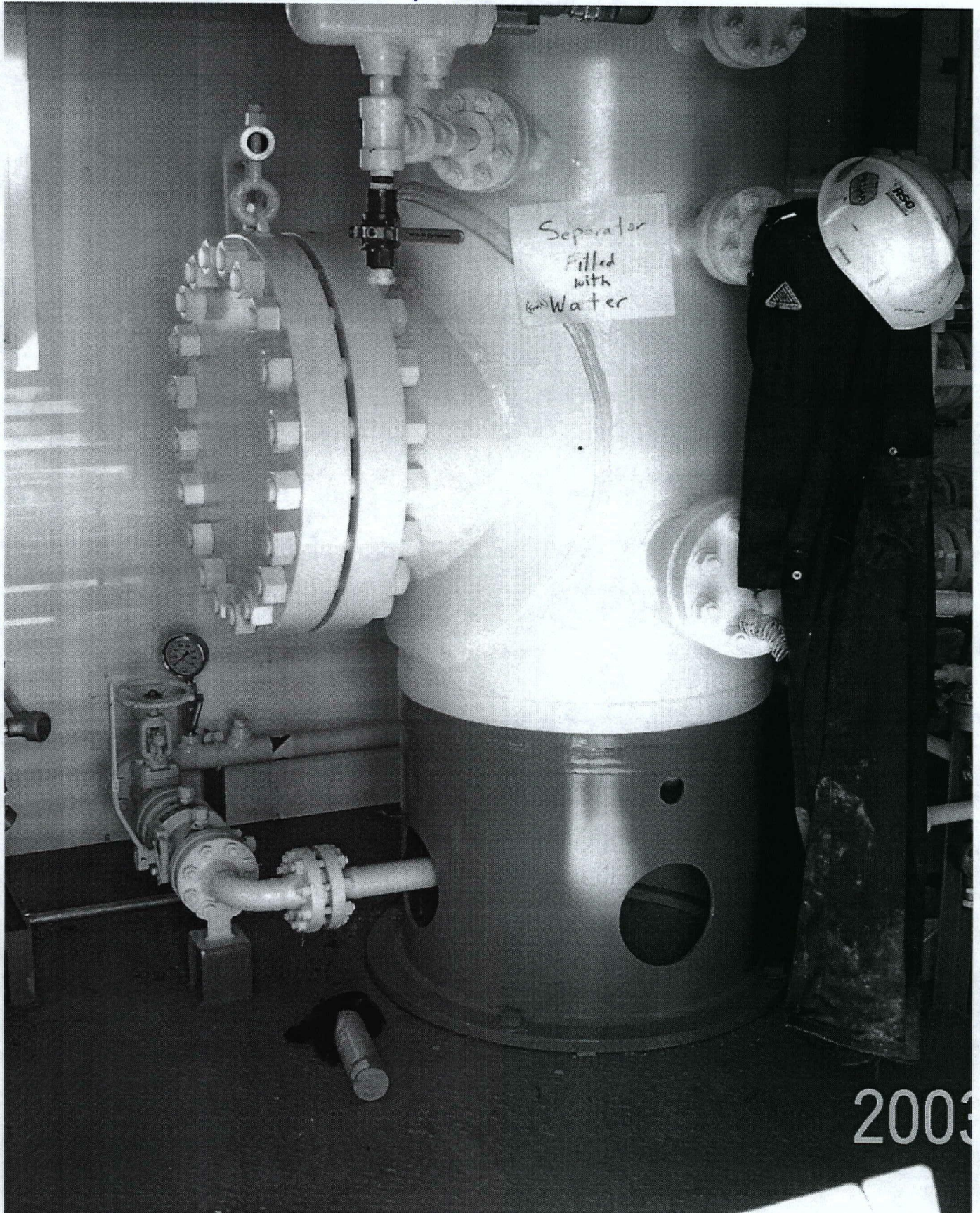
V-102

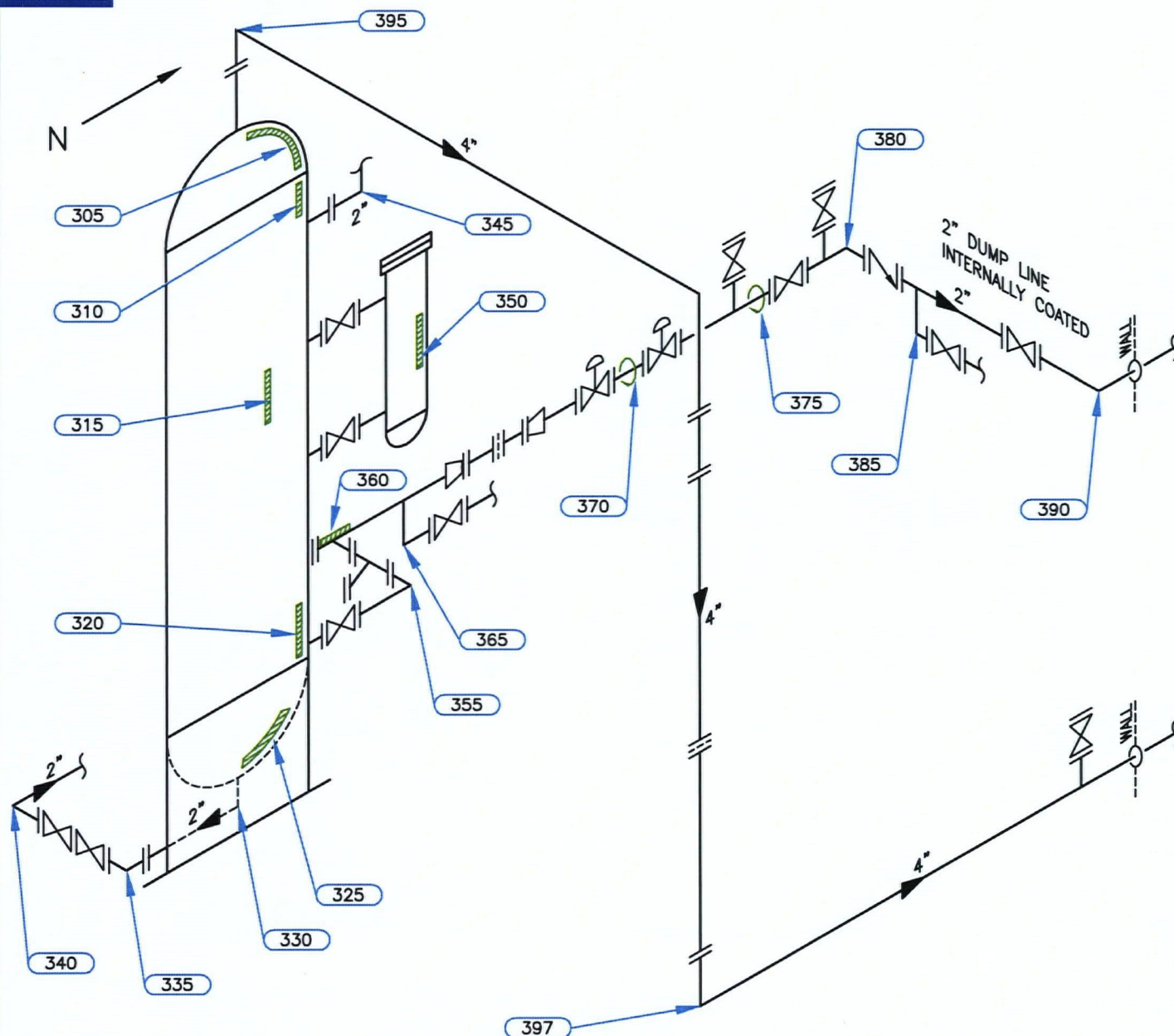


2003

50-1406 AUGUST 2003

V-102





Equip. No. V-102 Prov. Reg. No. Ⓐ 506454 C.R.N. R 3254.21 Serial No. B 6994 Yr. Inst.
 Code/Div. ASME Size: Manufacturer: ENERFLEX Yr. Bld. 2003
 C. Stamp: Service: SOUR PWHT: YES Radiography: RT-1 Insulated: NO

Design & Materials Data

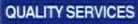
HEAD:
 Mat'l. SA 516-70N Nom. 31.2mm C.A. 3.2mm
 Mat'l. SA 516-70N Nom. 31.2mm C.A. 3.2mm
CHANNEL:
 Material: Nominal: C.A.
BOOT
 Head Mat'l. Head Nom. Head C.A.
 Shell Mat'l. Shell Nom. Shell C.A.
SHELL
 Material: SA 516-70N Nominal: 31.8mm C.A. 3.2mm
 MAWP Shell Side: 9653 kPa @ Temp. 70°C
 MAWP Tube Side: @ Temp.

CLIENT **PETRO CANADA OIL AND GAS**
 FACILITY **HANLAN ROBB GAS PLANT**
UNIT # 50 MINE HEAD
LSO 14-06
 ITEM **SEPARATOR**

BY: EG

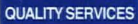
DATE: 05/2004

DWG.# 3



FACILITY: UNIT 50 MINEHEAD
SERVICE: SOUR
LOCATION: 14-06-49-19 W5M
RTD JOB #: 2121176
REF TO DRAWING: 3

Test Point	THICKNESS DATA								Flag	Crit	C.A.	Nom.	Short Term	Long Term	Ave. mm/py	Flag Date	
305																	
Description:	TOP HEAD																
	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	35.0		35.0		35.0		35.0		28.0	28.0	3.2	31.2	0	0	L		
Average:	35.5		35.5		35.5		35.5						0	0	L		
Analysis:																	
310																	
Description:	TOP SHELL																
	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	32.0		32.0		32.0		32.0		28.6	28.6	3.2	31.8	0	0	L		
Average:	32.5		32.5		32.5		32.5						0	0	L		
Analysis:	2006/04 EXTERIOR GRIND AREA																
315																	
Description:	MID SHELL																
	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	32.8		32.8		32.8		32.8		28.6	28.6	3.2	31.8	0	0	L		
Average:	33.1		33.1		33.1		33.1						0	0	L		
Analysis:																	
320																	
Description:	BOTTOM SHELL																
	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	32.3		32.3		32.3		32.3		28.6	28.6	3.2	31.8	0	0	L		
Average:	32.6		32.6		32.6		32.6						0	0	L		
Analysis:																	
325																	
Description:	BOTTOM HEAD																
	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	34.0		34.0		34.0		34.0		28.0	28.0	3.2	31.2	0	0	L		
Average:	34.5		34.5		34.5		34.5						0	0	L		
Analysis:																	
330																	
Description:	2" 90° ELBOW @ DRAIN NOZZLE																
	2003	10	2004	4	2005	4	2006	4	2007	5							
Min. Thick.	7.8		8.4		8.4		8.4		8.4		5.5	5.5	3.2	8.7	0	0	S
Average:	7.9		8.9		8.9		8.9		8.9						0	0	S
Analysis:																	



UTS DATA

CLIENT: PETRO-CANADA OIL AND GAS

FACILITY: UNIT 50 MINEHEAD

EQUIPMENT: SEPARATOR PIPING

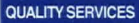
SERVICE: SOUR

LOCATION: 14-06-49-19 W5M

RTD JOB #: 2121176

REFER TO DRAWING: 3

Test Point	THICKNESS DATA										Flag	Crit	C.A.	Nom.	Short Term	Long Term	Ave. mm/py	Flag Date	
335																			
Description:	2" 90° ELBOW																		
	2003	10	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	7.0		7.0		7.0		7.0		7.0		2.5	2.5	6.2	8.7	0	0	L		
Average:	7.7		7.7		7.7		7.7		7.7						0	0	L		
Analysis:	2003/10 MIN SCAN @ MID BAND.																		
340																			
Description:	2" 90° ELBOW																		
	2003	10	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	4.1		4.1		4.1		4.1		4.1		2.5	2.5	1.4	3.9	0	0	L		
Average:	4.4		4.4		4.4		4.4		4.4						0	0	L		
Analysis:																			
345																			
Description:	2" 90° ELBOW																		
	2003	10	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	8.0		7.8		7.8		7.8		7.8		2.5	2.5	6.2	8.7	0	.06	L		
Average:	8.4		8.2		8.2		8.2		8.2						0	.06	L		
Analysis:																			
350																			
Description:	SIDE SHELL ON FLOAT																		
	2003	10	2004	4	2005	4	2006	4	2007	5									
Min. Thick.	8.3		7.9		7.9		7.9		7.9		2.5	2.5	6.2	8.7	0	.11	L		
Average:	8.5		8.1		8.1		8.1		8.1						0	.11	L		
Analysis:	2004/04 MID SCAN @ END OF BAND																		
355																			
Description:	2" 90° ELBOW																		
	2004	4	2005	4	2006	4	2007	5											
Min. Thick.	8.4		8.4		8.4		8.4				2.5	2.5	6.2	8.7	0	0	L		
Average:	8.7		8.7		8.7		8.7								0	0	L		
Analysis:	2004/04 NEW PIPE																		
360																			
Description:	2" TEE																		
	2004	4	2005	4	2006	4	2007	5											
Min. Thick.	11.2		11.2		11.2		11.2				2.5	2.5	6.2	8.7	0	0	L		
Average:	14.2		14.2		14.2		14.2								0	0	L		
Analysis:	2004/04 MID SCAN @ U.S.W																		



UTS DATA

CLIENT: PETRO-CANADA OIL AND GAS

FACILITY: UNIT 50 MINEHEAD

EQUIPMENT: SEPARATOR PIPING

SERVICE: SOUR

LOCATION: 14-06-49-19 W5M

RTD JOB #: 2121176

REFER TO DRAWING: 3

Test Point	THICKNESS DATA								Flag	Crit	C.A.	Nom.	Short Term	Long Term	Ave. mm/py	Flag Date
365																
Description:	2" 90° ELBOW															
	2004	4	2005	4	2006	4	2007	5								
Min. Thick.	8.7		8.7		8.7		8.9		2.5	2.5	6.2	8.7	0	0		L
Average:	9.0		9.0		9.0		9.0						0	0		L
Analysis:	2004/04 NEW PIPE															
370																
Description:	360° CIRC ON 2"															
	2004	4	2005	4	2006	4	2007	5								
Min. Thick.	8.2		8.2		8.2		8.2		2.5	2.5	6.2	8.7	0	0		L
Average:	8.4		8.4		8.4		8.4						0	0		L
Analysis:	2004/04 NEW PIPE															
375																
Description:	360° CIRC ON 2"															
	2004	4	2005	4	2006	4	2007	5								
Min. Thick.	8.3		8.3		8.3		8.3		2.5	2.5	6.2	8.7	0	0		L
Average:	8.5		8.3		8.5		8.5						0	0		L
Analysis:	2004/04 NEW PIPE															
380																
Description:	2" 90° ELBOW															
	2004	4	2005	4	2006	4	2007	5								
Min. Thick.	8.3		8.3		8.3		8.3		2.5	2.5	6.2	8.7	0	0		L
Average:	8.6		8.6		8.6		8.6						0	0		L
Analysis:	2004/04 NEW PIPE															
385																
Description:	2" 90° ELBOW															
	2004	4	2005	4	2006	4	2007	5								
Min. Thick.	8.5		8.5		8.5		8.5		2.5	2.5	6.2	8.7	0	0		L
Average:	8.8		8.8		8.8		8.8						0	0		L
Analysis:	2004/04 NEW PIPE															
390																
Description:	2" 90° ELBOW															
	2004	4	2005	4	2006	4	2007	5								
Min. Thick.	6.6		6.6		6.6		6.6		2.5	2.5	6.2	8.7	0	0		L
Average:	7.6		7.6		7.6		7.6						0	0		L
Analysis:	2004/04 MID SCAN @ MID BAND, NEW PIPE															



QUALITY SERVICES

UTS DATA

CLIENT: PETRO-CANADA OIL AND GAS

FACILITY: UNIT 50 MINEHEAD

EQUIPMENT: SEPARATOR PIPING

SERVICE: SOUR

EQUIPMENT ID#:

LOCATION: 14-06-49-19 W5M

PROV REG:

RTD JOB #: 2121176

TESTED ON STREAM

REFER TO DRAWING: 3

Test
Point

THICKNESS DATA

Flag Crit C.A. Nom. Short Term Long Term Ave. mm/py Flag Date

395

Description: 4" 90° ELBOW

2003 10 2004 4 2005 4 2006 4 2007 5

Min. Thick. 8.2 8.0 8.0 8.0 8.0 4.2 4.2 4.4 8.6 0 .06 L

Average: 8.5 8.3 8.3 8.3 8.3 0 .06 L

Analysis:

397

Description: 4" 90° ELBOW

2003 10 2004 4 2005 4 2006 4 2007 5

Min. Thick. 7.7 7.7 7.6 7.6 7.6 4.2 4.2 4.4 8.6 0 .03 L

Average: 8.1 8.1 8.0 8.0 8.0 0 .03 L

Analysis: