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SEPARATOR INSPECTION REPORT

Inspection Report

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Notification Number 6033783 Work Order 6035033
 Notification Desc SEPARATOR, BOOT INLET WATERFLOOD Maintenance Plan QPSEPAR5341
 Tasklist Operation 5Y Code Inspection Separator - Sweet Se

Equipment Static Data

Equipment Number 62045563 Equipment Description SEPARATOR, BOOT INLET WATERFLOOD
 Class SEPARATOR Tag Number 0015020470140
 Serial Number 0196404 Year Built
 Manufacturer WATERFLOOD
 Location 0015020470140 Location Description HUSKY 15C RIVERCOURSE 15-2
 Provincial Number PM Activity Code
 Status Codes NOPR ORAS Equipment Status In Service - Fully Utilized

CRN Number	A4060.32	Code Stamp	
Design Flow / Capacity		Design Flow Mass	Design Max Temp 200 DEGF
Fluid Description	GAS	Fluid Service	SWEET Head Corr Allowance
Head Material	SA51670MTEE	Head Thickness	Housed Flag
Insulation Exists	N	Insulation Thickness	Internal Coating Exists N
Internal CoatingCladding Type		Internals Corr Allowance	Internals Manufacturer
Internals Material		Internals Model	Internals Removable
Internals Size		Internals Type	Length 1.20 M
MDMT - Min. Design Metal Temp		Nozzle ANSI Rating	150 EACH Nozzle Corr Allowance
Nozzle Material		Nozzle Thickness	Nozzle Type FLANGED
Number of Inspection Ports	0 EACH	Number of Manways	0 EACH Number of Phases 1 EACH
Old system number		Orientation	VERTICAL Packaged Flag
Packaged Portable Flag		Packaged Stationary Flag	Painted or Primed Y
Shell Corr Allowance		Shell MAWP	260 PSI Shell Material
Shell Thickness		Skidded Flag	Stress Relief
Support type	SKIRT	Vessel Diameter	14.0 " Volume
X-Ray			

PRD Static Data

Equip ID	Location	Size		Set Pressure	Capacity	Manufacturer	Serial Number	Model Number	Next Service Date
		Inlet	Outlet						

Process Data

Product Description GAS Fluid Service ☒ Sweet ☐ Sour PPM
 Operating Pressure KPA Operating Temperature °C

Pressure Test

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

PSV Data

Tag/Serial No.	Location	Size		Set Pressure	Capacity	Model / Type	Service Date
		Inlet	Outlet				

62045567	VESSEL	2 IN	2	50 PSI	474 SCFM	T-8200-2	2003-05-20
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Inspection History

Inspected By RAY TRACHUK Inspection Date 2005.04.06

Inspection Summary

Generally the separator is in fair condition and suitable for continued service however shortbolting on a three inch inlet flange was observed.

Recommendations

The shortbolting observed on the inlet flange should be corrected.
Continue the UT thickness survey at next scheduled inspection.

Repairs Completed**Equipment Status**

Integrity Status ☒ Suitable for Continued Service ☐ Immediate Repairs Required ☐ Replace
☐ Future Repairs Required
 Inventory Status ☒ In Service - Fully Utilized ☐ Idle ☐ Surplus ☐ Scrap

QA Activities

☒ Leave As-Is ☐ Weld Overlayed ☐ Part / Component Replaced
☐ Equipment Replaced ☐ Grind Dressed ☐ Patch Installed
☐ MAWP Derated ☐ Coating - Cleaned & Patched ☐ Coating - Removed & Replaced
☐ Defect Removed & Rewelded ☐ Part Cleaned ☐ Lapped & Dressed
☐ Epoxy Patched

Noncompliances or Inspection Deficiencies Issued

IDR050406RDTb issued.

External Visual Inspection

The vessel is painted and is in good condition with no notable corrosion being found.
 The nameplate, piping and external attachments are in good condition.
 The vessel is securely attached to the floor.
 The overall condition of this vessel is good.

External NDE Examination

UT thickness tests were performed on the separator's heads, shell and nozzles with the two areas of the shell which inspected were found to be below the original nominal shell thickness but still within the vessel's designed corrosion allowance. See attached sketch for thicknesses found and approximate locations of tests.

Internal Visual Inspection

An internal inspection was not performed.
 cc: Malcolm Dixon
 Al Hinz

Internal NDE Examination**Data Integrity****Inspection Interval****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.

Inspector Name RAY TRACHUK Inspector Signature Ray Trachuk
 Inspection Company HUSKY ENERGY Date 2005-04-06

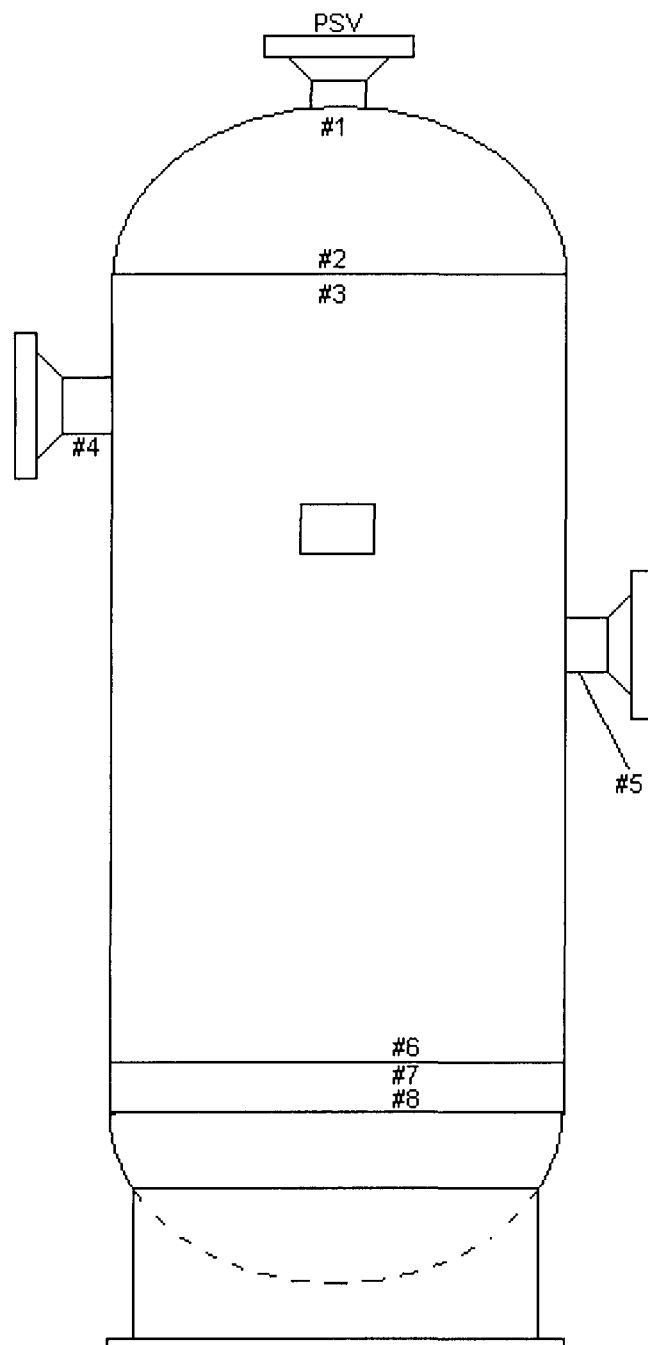
Lead Inspector's Acceptance & Schedule Confirmation

Lead Inspector S. Ray Signature S. Ray Date 05/04/15
 Vessel Inspection Interval ☒ Leave as-is / Change to:

PSV Inspection Interval _____ ☐ Leave as-is / Change to: _____

Top

Date: 2005-04-06 Location: 15-2-47-1W4 Contact Al Hinz AFE/Cost Center 77275
Equipment # 62045563 Provincial # _____ CRN A4060.23 S/N 0196404
Description Inlet Separator Head Material SA 516-70 Thk .328" Shell Material SA 106B Thk .375"
Manufacturer Waterflood Year Built 2001 CA 0625" Size 16" x 70"
260 PSI @ 200 F PSV - MAKE Taylor S/N 83353-7 MODEL T-8200-2
PSV I.D. 3238 UV NB SIZE 2 " x 2 " SET 50 PSI 474 SCFM,CFH DATE 2003-05-20
PSV SAP # 62045567



2005-04-06

#1 - .362"
#2 - .371"
#3 - .338"
#4 - .330"
#5 - .302"
#6 - .362"
#7 - .396"
#8 - .385"

INSPECTION DEFICIENCY REPORT**FACILITY:** Rivercourse Gas**DATE:** 2005-04-06**REPORT #:** IDR050406RDTb**STATIC DATA**

Prov. Reg. # _____ CRN: A4060.32 Serial # 0196404
Equipment Location (LSD): 15-2-47-1W4 Equipment ID #: 62045563
Equipment Description: Inlet Separator Service: Gas Sweet ☒ Sour ☐
Manufacturer: _____ Year Built: _____
MAWP 260 PSI kPag / psi @ 200 F °C / F MDMT: _____ °C / F Capacity: _____ m3

IDENTIFIED DEFICIENCIES

Inlet Flange short bolted.

RECOMMENDED ACTION☐ LEAVE "AS-IS" ☒ PERFORM REPAIR ☐ PERFORM ALTERATION ☐ REPLACE UNIT

COMMENTS: Correct short bolting.

INSPECTION PERFORMED BY: ☒ QUALITY INSPECTOR ☐ LEAD INSPECTOR ☐ AGENCY
PRINT NAME Ray Trachuk SIGNATURE *Ray Trachuk* DATE 2005-04-06

REPORT ISSUED TO: Leon Yakiwchuk Date: 2005-04-06

Completion Verified By: *Leon Yakiwchuk* Date: *Jul 29/05*

Notification of Completion sent to Inspector: *[Signature]* Date: *Jul 29/05*

Office Use Only:

Entered to Electronic Database By: _____ Date: _____

Note: Completed Forms are to be Faxed or sent to Calgary Technical Services Attn: Greg Murray. Fax: 403 750 1960
Calgary Tech Services, 1443 NWCP, 707, 8th Avenue SW, Box 6525, Station D Calgary Alberta, T2P 3G7



Saskatchewan
Municipal Affairs,
Culture and Housing

Boiler and Pressure
Vessel Safety Unit

POOR QUALITY

MANUFACTURER'S DATA REPORT
FOR PRESSURE VESSEL

DÉCLARATION DE CONFORMITÉ DU CONSTRUCTEUR
D'APPAREILS SOUS PRESSION

Partial/Partiel ☐

Upon shipment of a pressure vessel, this form fully and correctly filled in must be mailed to the office of the Chief Inspector in the province of installation in accordance with the regulations under the Act governing the construction and installation of pressure vessels.

Au moment de l'expédition d'un appareil sous pression, ce formulaire complété correctement, doit être envoyé au bureau de l'inspecteur en chef de la province d'installation tel que prévu dans les règlements de la loi sur les appareils sous pression.

Manufactured by Construit par	Name and address of Manufacturer/Nom et adresse du constructeur WATERFLOOD SERVICE & SALES LTD.
Manufactured for Construit pour	Name and address of Purchaser or Consignee/Nom et adresse du client ou de son représentant HUSKY ENERGY LTD
Ultimate owner Utilisateur	Name and address/Nom et adresse Husky Energy Ltd
Location of installation Lieu d'installation	Address/Adresse

Pressure vessel/Appareil		Serial No./N° de série	Year built/Année de fabrication
Type/Genre INLET SEPARATOR	Overall length/Longueur totale 70"	0196404	2001
Provincial Registration No. — C.R.N./N° d'enregistrement provincial — N.E.C. A4060-32		National Board No./N° National Board	Drawing No./N° de dessin 600 TIS-1-100

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. Code.

Les propriétés chimiques et physiques de toutes les composantes respectent les exigences des spécifications de matériaux du code ASME.

The design, construction and workmanship conform to CSA B51.

La conception, la construction et la façon sont conformes à ACNOR B51.

ASME

Division

Addenda/Supplément

Code case No
N° de cas

Sec

VIII

1

1998

Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report:

Les rapports partiels du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport:

Name of parts/Nom de la composante	Item No./N° d'item	Manufacturer's Name/Nom du constructeur	Identifying Stamp/Estampe d'identification

Shell/Virole

Description	Material Matériau	Thickness Épaisseur	Corr. Allow. Surépais. de corr.	Diameter Diamètre	Longitudinal Joints Joints longitudinaux			P.W.M.T. Traitement therm.		Girth Joints Joints de circonférence		Number of courses Nombre de sections
					Type	A.T. Radius	Efficiency Efficacité	Temp	Time Durée	Type	A.T. Radius	
16" SMT APR	A106B	0.375	0.063	16.000								

Heads/Têtes

Description	Material Matériau	Min. Thickn. Épais. min.	Corr. Allow. Surépais. corr.	Crown Radius Rayon couron.	Knuckle Radius Petit rayon	Ellipse Ratio Rapp. ellipse	Conical Apex Angle Angle conique	Hemisph. Radius Ray. Hémisph.	Flat Diameter Diam. plat	Side to pressure Côté sous pression
16" SMT ELP	A516 Gr 70	0.328	0.063	13.268	2.516	2:1				
16" SMT ELP	A516 Gr 70	0.328	0.063	13.268	2.516	2:1				

Removable bolts used (describe others fastenings)
Boulons amovibles utilisés (décrire tout autre attaché)

Material Spec /Spéc. du mat

Grade

Size/Dimension

Pressure-Temperature/Pression-température

Pressure-Temperature Pression-température	Conditions for max. allowable working stress Conditions pour la contrainte admissible maximale	Min. Temp. Temp. min.	Max. Temp. Temp. max.	Min. Temp. Temp. min.	Max. Temp. Temp. max.	Test pressure Press. de test	Test pressure Press. de test
0196404	260 PSI	200 F	200 F	200 F	200 F	425 PSI	425 PSI

POOR QUALITY

Total No. of Vessels / Total No. de Vaisseaux		Vessel No. / No. de Vaisseau		Vessel Name / Nom de Vaisseau		Vessel Type / Type de Vaisseau		Vessel Location / Lieu de Vaisseau	
Type of Vessel / Type de Vaisseau		Vessel No. / No. de Vaisseau		Vessel Name / Nom de Vaisseau		Vessel Type / Type de Vaisseau		Vessel Location / Lieu de Vaisseau	
Jackpot / Châssis		Type of Jackpot / Type de Châssis		Vessel No. / No. de Vaisseau		Vessel Name / Nom de Vaisseau		Vessel Type / Type de Vaisseau	
Safety Valve Outlets / Soupapes de sûreté		Number / Nombre		Dimension		Location / Endroit			
1		01		TOP OF VESSEL					
Nozzles and Openings / Tubulures et ouvertures									
Purpose / But	Number / Nombre	Dimension	Type	Material / Matériau	Minimum Thickness / Épaisseur nominale	Reinforcement Material / Matériau de renfort	How attached / Genre d'attaches	Location / Endroit	
INLET	1	02	FLG	A105N	0.300	NR	WELD	25'4" FROM BOTTOM SHEET	
OUTLET	1	03	FLG	A105N	0.337	NR	WELD	4'4" " "	
DRAIN	1	04	FLG	A105N	0.179	NR	WELD	11'4" " "	
Supports / Supports									
Skirt / Jupe	Legs / Pivots	Legs / Pivots	Other / Autres (Description)				Attached / Attachés (Where and How / Où et comment)		
Yes / Oui No / Non	No / Nbre	No / Nbre							

Remarks / Observations (Cubical capacity / Volume)51400 in³ ~ 29.754 ft³

IMPACT TESTING NOT REQUIRED AS PER 46-20

Certificate of Compliance / Certificat de conformité

We certify that the statements made in this data report are correct and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standards CSA B51.

Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B51.

Provincial Registered Design / Enregistrement provincial A4060.32

Manufacturer / Constructeur WATERFLOOD SERVICE & SUPPLIES

Signature [Signature] Date 10/9/11

Certificate of Shop Inspection / Certificat d'inspection en usine

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression employed by SASK BOILER BRANCH

of PROVINCE OF SASKATCHEWAN

have inspected the above vessel and state that to the best of my knowledge and belief, the manufacturer has constructed the vessel in accordance with the Provincial registration CAN and the requirements of standard CSA B51 A4060.32

ai inspecté l'appareil précité et autant que je sache, crois que le constructeur a construit l'appareil en accord avec l'enregistrement provincial NEC et les exigences de la norme ACNOR B51

Inspector's Name / Nom de l'inspecteur Kathryn A Black SK1063

Signature [Signature] Date Oct 11/2001

Certificate of Compliance / Certificat de conformité Field Work

We certify that the field inspection of all parts of the vessel conforms with the requirements of Provincial Regulations.

Nous certifions que l'inspection sur le terrain de toutes les parties du vaisseau est conforme aux règlements provinciaux.

Inspector's Name / Nom de l'inspecteur

Date / Date

Certificate of Field Inspection / Certificat d'inspection Installation au chantier

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression employed by [Signature]

have inspected the above vessel and state that to the best of my knowledge and belief, the manufacturer has constructed the vessel in accordance with the Provincial Registration.

ai inspecté le vaisseau ci-dessus et déclare que, à ma connaissance et à ma conviction, le constructeur a construit le vaisseau en accord avec l'enregistrement provincial.

REVISION 1
7 Dec '95

EXHIBIT #6A
PRESSURE VESSEL NAME PLATE

POOR QUALITY
SECTION XVII
PAGE 17.13

N.B. [REDACTED]	
	CERTIFIED BY:  BOX 1490, ESTEVAN, SK. CAN.
M.A.W.P. [REDACTED] 260	TEMPERATURE [REDACTED] 200 °F
M.D.M.T. [REDACTED] 20	PRESSURE [REDACTED] 260 P.S.I.
SERIAL NUMBER 0196404	
YEAR BUILT 2001	
UNIT NAME 600T INLET SEPARATOR	
C.R.N. A 4060.32	