



## Ultrasonic Inspection Report

**Job #:**
**Report #:**
**Inspection Date:**

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--UT-BV-1

April 17, 2013

<b>Client:</b>	CNRL	<b>Location:</b>	Badger Compressor Station
<b>Procedure:</b>	UT-0001	<b>Item Inspected:</b>	Vessel Vertical Separator A0490198
<b>Code:</b>	ASME Section VIII Div 1		

<b>Surface Condition:</b>	Painted <input checked="" type="checkbox"/>	Sandblasted <input type="checkbox"/>	Machined <input type="checkbox"/>	As Cast <input type="checkbox"/>	As Forged <input type="checkbox"/>
	Weldment <input type="checkbox"/>	Other <input type="checkbox"/>	Material: C.S.		

<b>Scanning Surface:</b>	OD <input checked="" type="checkbox"/>	ID <input type="checkbox"/>	Other: <input type="checkbox"/>	<b>Surface Temp (°C):</b>	> 5° / < 60°
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<b>Method:</b>	Contact <input checked="" type="checkbox"/>	Immersion <input type="checkbox"/>	Other <input type="checkbox"/>		
<b>Type:</b>	P/E <input type="checkbox"/>	T/T <input type="checkbox"/>	Dual <input checked="" type="checkbox"/>	Automated <input type="checkbox"/>	TOFD <input type="checkbox"/>
<b>Application:</b>	Laminar <input checked="" type="checkbox"/>	Shear Wave <input type="checkbox"/>	Volumetric <input type="checkbox"/>	Thickness <input checked="" type="checkbox"/>	

<b>Instrumentation:</b>	Mfg: G.E.	Type: Krautkramer	Equip #: DMS2	Serial #: 020XP6
<b>Calibration:</b>	Date: 01/12/2013		Reference Flaw Size: Backwall	
<b>Calibration Block (s):</b>	Type:	Block#:	Type:	Block#:
	Type: .5" Stepwedge	Block#: 10-2192	Type:	Block#:

<b>Couplant:</b>	Brand: Sono Tech	Type: Echogel	<b>Cable:</b>	Type: Coaxial	Length: 36"
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PROBE						Settings - dB			Range - <input type="checkbox"/> IN. <input type="checkbox"/> MM		
Manufacturer	Type	Serial #	Angle	Frequency	Size	Ref Level	Scan Level	Transfer Value	Screen Size	Skip Value	Beam Travel
G.E.	Dual	0200LL	0	7.5Mhz	0	6db					

### Scope and Inspection Results

**Carry out UT examination of Vertical Separator at LSD: 01-31-015-16W4M.**  
 Check for corrosion of the bottom head, shell and drain elbow to verify integrity for service and identify any areas of concern.

**Results:**  
 UT examination was carried out; all readings taken were 10" band scans with three readings per TML location/band. Minimum, Maximum and Average readings were taken and recorded in each location. All readings were found to be at or above nominal. See attached Pictures, drawing and UTM Readings for locations and thicknesses recorded.

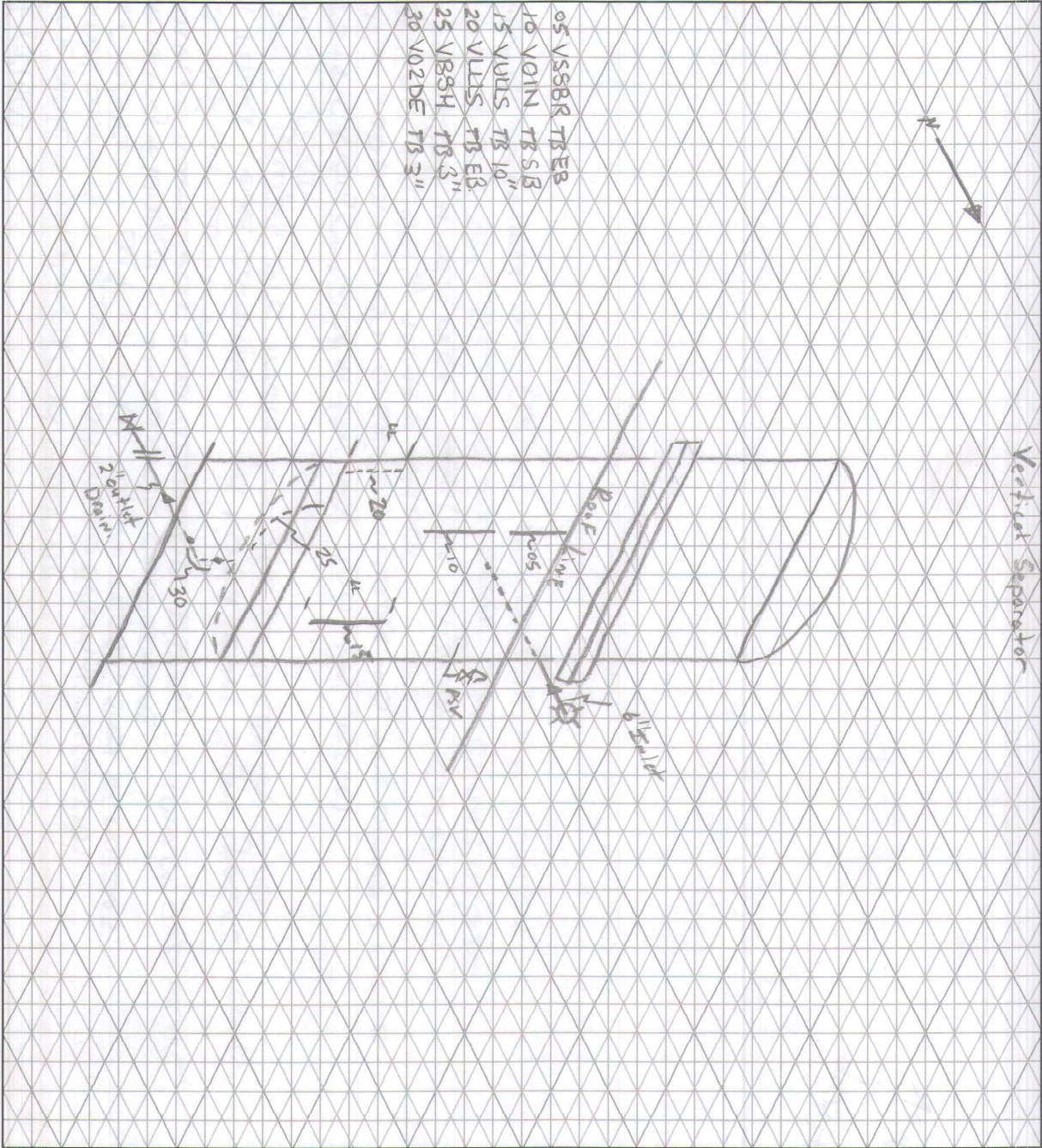
**Recommendation:**  
 Continue to carry out UT corrosion survey and Visual inspections at the required inspection frequency.

**Final Comment:**  
 Vertical Separator is fit for continued service.

**Inspection Limitation(s):** None

Time and Billing Information:										
<b>Vehicle #:</b>	001	<b>Kms:</b>		<b>Hrs</b>		<b>Tech. (Name):</b>	Blair Verge		<b>SNT-TC-1A:</b>	1
<b>Time In:</b>	00:00	<b>Time Out:</b>	00:00			<b>Tech. (Sign):</b>	<small>Digitally signed by Blair Verge            DN: cn=Blair Verge, o=VERGE'S INSPECTION SERVICES LTD, email=blair.verge@verges.com, c=CA</small>		<b>CGSB Level:</b>	I
<b>Time In:</b>	00:00	<b>Time Out:</b>	00:00			<b>Client (Name):</b>			<b>CGSB #:</b>	5586
<b>Personnel:</b>	Blair Verge				<b>Client (Sign):</b>					

**Additional Billing Information:** : -



**CUSTOMER:** CNRL **FACILITY:** Badger Compressor Station **LSD:** 1-31-015-16-W41m  
**P & ID:** \_\_\_\_\_ **DRAWN BY:** B. Verge **DATE:** 04/17/15 **DRAWING NO.:** \_\_\_\_\_

**VESSEL INFORMATION:**  
 Equip. No. \_\_\_\_\_ Pro. Reg. No. (A) 0490198 C.R.N. L8949.2 Serial No. C14968.C Yr. Inst. \_\_\_\_\_  
 Code/Div. \_\_\_\_\_ Size: 30" ID / OD X: \_\_\_\_\_ Manufacturer: Rushen gas/oil equipment Yr. Blt. 2002  
 C. Stamp: N0 Service: \_\_\_\_\_ PWHT: \_\_\_\_\_ J.E.: \_\_\_\_\_ Radiography: RT-2 Insulated: N0

**HEAD:** \_\_\_\_\_ **SHELL:** \_\_\_\_\_  
 Top Mat'l. \_\_\_\_\_ Top Nom. \_\_\_\_\_ Top C.A. \_\_\_\_\_ Material: \_\_\_\_\_ Nominal: \_\_\_\_\_ C.A. \_\_\_\_\_  
 Btm Mat'l. \_\_\_\_\_ Btm Norm. \_\_\_\_\_ Btm C.A. \_\_\_\_\_

**BOOT:** \_\_\_\_\_ **CHANNEL:** \_\_\_\_\_  
 Head Mat'l. \_\_\_\_\_ Head Nom. \_\_\_\_\_ Head C.A. \_\_\_\_\_ Top Mat'l. \_\_\_\_\_ Top Nom. \_\_\_\_\_ Top C.A. \_\_\_\_\_  
 Shell Mat'l. \_\_\_\_\_ Shell Nom. \_\_\_\_\_ Shell C.A. \_\_\_\_\_ Btm Mat'l. \_\_\_\_\_ Btm Norm. \_\_\_\_\_ Btm C.A. \_\_\_\_\_

MAWP Shell Side: 9928 KPA @ Temp. 54°C MAWP Tube Side: \_\_\_\_\_ @ Temp. \_\_\_\_\_  
**PIPING INFORMATION:** MDMT: -29°C @ 9928 KPA

Circuit No. \_\_\_\_\_ Line No. (s) **(PLEASE PUT LINE NUMBERS ON APPLICABLE LINES ON THE DRAWING)**  
 Piping Class: \_\_\_\_\_ Service: \_\_\_\_\_ Yr. Blt. \_\_\_\_\_  
 MAWP: \_\_\_\_\_ @ Temp. \_\_\_\_\_ Size & Schedule of Piping **(PLEASE PUT APPROPRIATE SIZES AND SCHEDULES OF PIPING ON DRAWING)**

## UT Readings for Vertical Separator A0490198

	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
LOC 5	1.125	1.132	1.128
LOC 10	1.126	1.127	1.127
LOC 15	1.122	1.126	1.124
LOC 20	0.987	1.129	1.124
LOC 25	1.065	1.085	1.076
LOC 30	0.307	0.322	0.311