



Ultrasonic Inspection Report

Job #:

Report #:

Inspection Date:

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--UT-BV-1

June 26, 2012

Client:	CNRL	Location:	Grand Forks Battery LSD:04-01-013-13W4M
Procedure:	UT-0001	Item Inspected:	Vessel Free Water Knock Out A0242049
Code:	ASME Section VIII Div 1		

Surface Condition:	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.		

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

Instrumentation:	Mfg: G.E.	Type: Krautkramer	Equip #: DMS2	Serial #: 020XP6
Calibration:	Date: 01/12/2012		Reference Flaw Size: Backwall	
Calibration Block (s):	Type:	Block#:	Type:	Block#:
	Type: .5" Stepwedge	Block#: 10-2192	Type:	Block#:

Couplant:	Brand: Sono Tech	Type: Echogel	Cable:	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 A0242049 Free Water Knock Out #1. Check for corrosion of the shell, heads and associated piping 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 on the shell and heads. Extreme pitting was found on two of the drain elbows. TML 60 (middle drain elbow) recorded reading of 0.154" and TML 65 (West end drain elbow) recorded reading of 0.184". These readings are unchanged from previous 2009 UT Survey. Decision was made to internally re-coat the nozzles and schedule to replace in kind at next opportunity. See attached Pictures, drawing and UTM Readings for locations and thicknesses recorded.

Recommendation:


Continue to carry out UT corrosion survey and Visual inspection at the required inspection frequency. Schedule to have the drain elbows replaced in kind at next opportunity.

Final Comment:

Free Water Knock Out #1 is fit for continued service.

Inspection Limitation(s): None

Time and Billing Information:

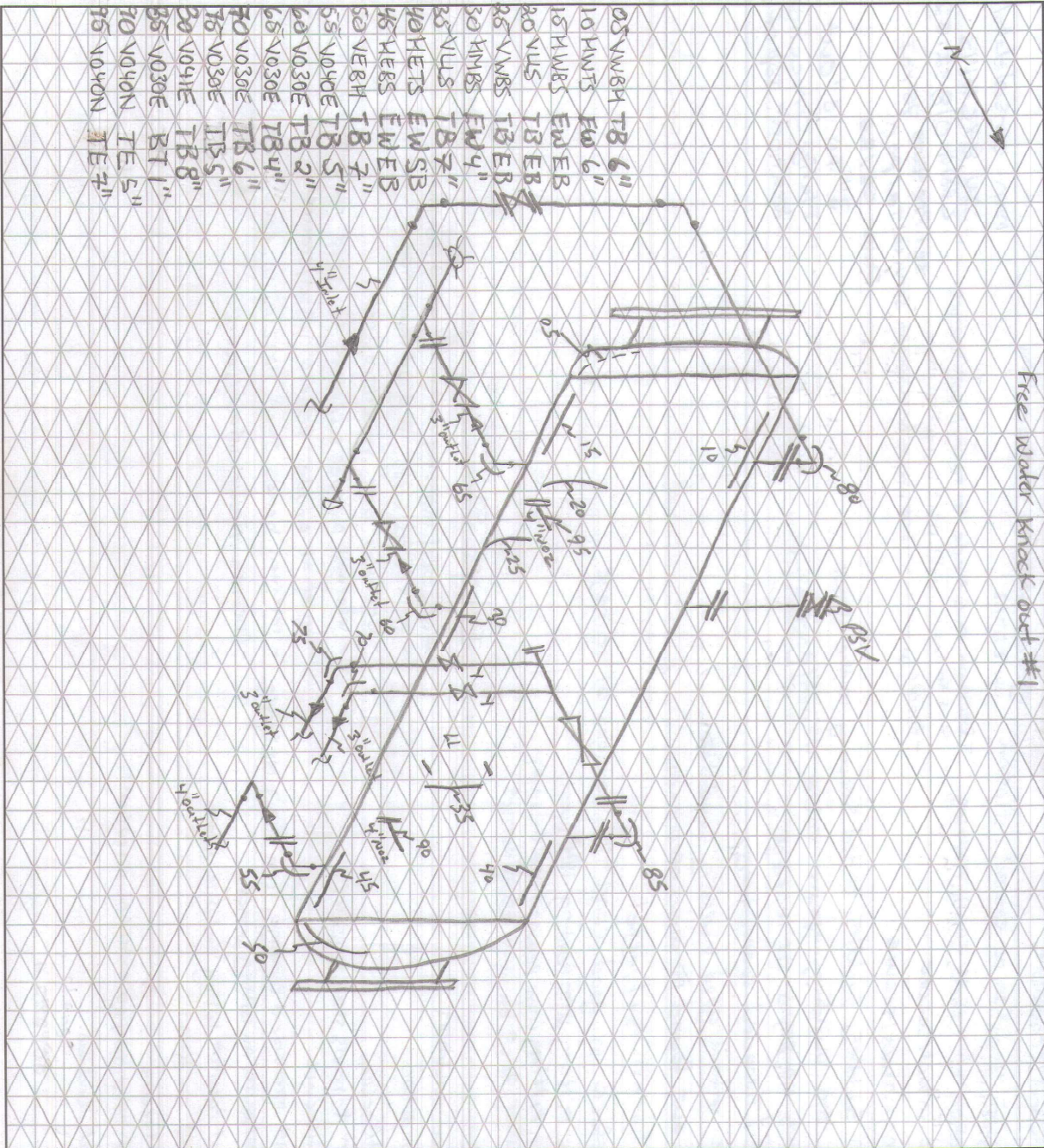
Vehicle #:	001	Kms:		Hrs	Tech. (Name):	Blair Verge	SNT-TC-1A:	1
Time In:	00:00	Time Out:	00:00		Tech. (Sign):		CGSB Level:	I
Time In:	00:00	Time Out:	00:00		Client (Name):		CGSB #:	5586
Personnel:	Ayralee Martin Blair Verge			Client (Sign):				

Additional Billing Information: : -



CORROSION INSPECTION SERVICES

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CUSTOMER: CURL **FACILITY:** Grand Forks Battery **LSID:** 4-1-013-13W4M
P & ID: _____ **DRAWN BY:** B. Verge **DATE:** June 2nd **DRAWING NO.:** _____

VESSEL INFORMATION:
 Equip. No. _____ Pro. Reg. No. (A) 0242049 C.R.N. F-9229.2 Serial No. Lm-2261 Yr. Inst. _____
 Code/Div. _____ Size: 3' ID (OD): _____ Manufacturer: CENATCO Limited Yr. Blt. 1987
 C. Stamp: YCS Service: Sour PWHT: _____ J.E.: _____ Radiography: RT-4 Insulated: NO

HEAD: **SHELL:**
 Top Mat'l. SA516-70 Top Nom. 1500" Top C.A. _____ Material: SA-516-70 Nominal: .375" C.A. .0625"
 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: 75 psi @ Temp. 200°F MAWP Tube Side: _____ @ Temp. _____

PIPING INFORMATION:
 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 Free Water Knock Out A0242049

	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
LOC 5	0.566	0.573	0.571
LOC 10	0.391	0.393	0.391
LOC 15	0.386	0.388	0.388
LOC 20	0.386	0.389	0.388
LOC 25	0.388	0.39	0.389
LOC 30	0.382	0.396	0.386
LOC 35	0.404	0.411	0.408
LOC 40	0.414	0.418	0.416
LOC 45	0.382	0.382	0.382
LOC 50	0.453	0.587	0.572
LOC 55	0.326	0.342	0.337
LOC 60	0.155	0.307	0.255
LOC 65	0.188	0.297	0.272
LOC 70	0.209	0.216	0.216
LOC 75	0.228	0.254	0.237
LOC 80	0.223	0.251	0.23
LOC 85	0.219	0.231	0.227
LOC 90	0.333	0.364	0.351
LOC 95	0.335	0.361	0.347