Pressure Equipment Static Data

General Information

Date:	July 11, 2021	**Location:**	Surface:	B-17-I/94-H-1	
Client/Owner:	CNRL		UWI/DH:	B-17-I/94-H-1	
District/Region:	Fort St John	**Location Access:**		All Year	
Area:	Ladyfern	**Inspection Type:**		☐ Inventory ☐ Internal ☑ External ☐ UT ☐ MT	
Facility:	Compressor				

Pressure Equipment Information

Equip Name:	Inlet Separator			**CA** (in)**:**	N/A	mm:	
Manufacturer:	Propak Systems			**MDMT:**	- 20 F		
Provincial #:	N/A	**Unit /Skid #:**	Inlet Separator C Skid	**PWHT:**	Yes		
S/N:	01150-201	**Equip #:**	C73757	**RT:**	RT-1		
CRN:	P2191.21	**Year Built:**	2001	**Manway:**	Yes	**Size** (in)**:**	24
NB #:	N/A	**Orientation:**	Horizontal				

Zones

	MAWP (PSI)	MAWT (F)	MAWP (KPA)	MAWT (C)	Comment
Shell Side	2000	244			
Tube Side					

Components

	Dia (OD) in.	Type	Material	Nominal (in)	Nominal (mm)	Comment
Shell	66	Plate	SA-516-70N	3.500		
Head	66	Ellipsoidal	SA-516-70N	3.250		

Pressure Safety Valve(s)

Zone:	**Shell Side**	
Equip #	N/A	
Location	Piping - Flanged	
Set Press (PSI)	1420	
Capacity	102668	SCFM
Set Press (KPA)		
Manufacturer	Mercer	
S/N	26445	
Model	95-73.1M1307NS	
CRN	0G2606.5C	
Inlet Size (in)	4	Locked Open?
Outlet Size (in)	6	
Inlet I/V	Yes	Yes
Outlet I/V	Yes	Yes
Service Co.	Unified	
Serv. Date	Jun-2018	

Service Status and Conditions

Status:	In Service	Service:	Sweet	Primary Contents - Shell:	Gas
		Concentration:		Primary Contents - Tube:	

Comments

Pressure Vessel External Inspection

Date:	July 11, 2021		**Equip Name:**	Inlet Separator
Inspector:	Curtis Graham		**Prov #:**	N/A
Client/Owner:	CNRL		**S/N:**	01150-201
District/Region:	Fort St John		**Unit /Skid #:**	Inlet Separator C Skid
Area:	Ladyfern		**Equip #**	C73757
Facility:	Compressor	**Location:**	**Surface:**	B-17-I/94-H-1
			UWI/DH:	B-17-I/94-H-1

Component	Condition	Comment
Nameplate	Concern	NCR - Admin / Regulatory: No A# found. Good condition. Securely attached and legible.
Grounding	Acceptable	Vessel is grounded through skid.
Foundation/Supports	Acceptable	Vessel is well supported on saddles, no concerns noted.
Ladder/Platform	N/A	
Insulation/Cladding	N/A	
Shell	Acceptable	Shell is in good condition, no concerns noted.
Heads	Acceptable	Heads are in good condition, no concerns noted.
Nozzles/Threadolets	Acceptable	All nozzles are in good condition. No deflection, short bolting or other concerns noted.
Piping/Valves	Acceptable	All associated piping is in good condition. All bolting is properly installed and secure. No leaks or other concerns noted.
Appurtenances & Instrumentation	Acceptable	Instrumentation is in good condition, no leaks noted. Pressure gauge is in good condition. Range is suitable and operating within design limits.
Sight Glass/Level Gauges	Acceptable	All sight glasses are in good condition. Rated for current vessel service with no concerns noted.
Other	N/A	
PSV	Acceptable	PSV is in good condition. Service seal is intact, no piping restrictions or other concerns noted. PSV has CRN and applicable code stamping present.
NDE Methods	Acceptable	UT survey and AUT performed by Avalanche. No concerns at this time.
Inspection Summary	NCR - Admin / Regulatory: No A# found.	
	No other concerns noted at time of inspection.	

Recommendations	NCR #
Review MDR to confirm if vessel has an A# and stamp A# in nameplate.	

Fit for Service:	Yes

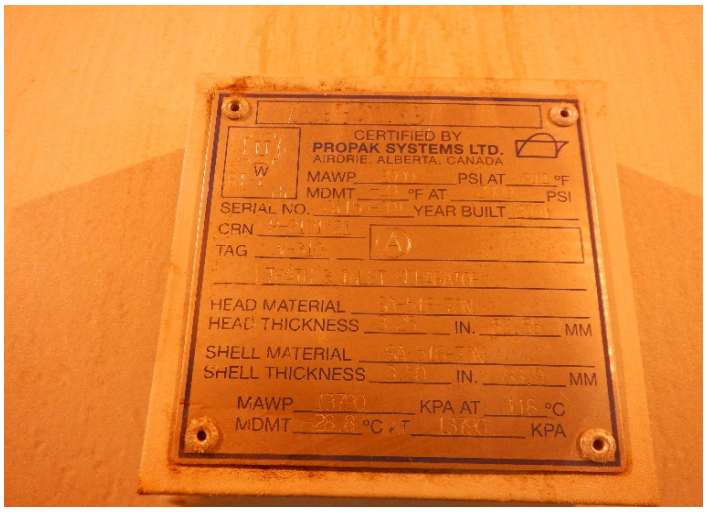
** Fit for Service is only a recommendation based on the results of the current inspection.*

Recommended Intervals:	
VE	yrs
UT	yrs
PSV	yrs

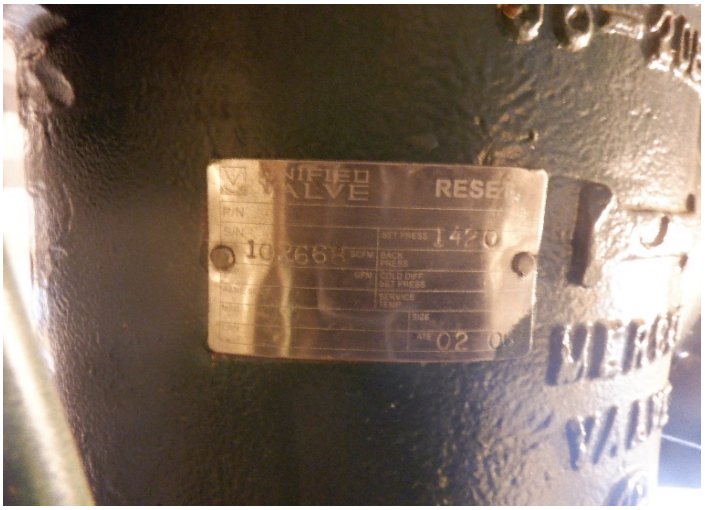
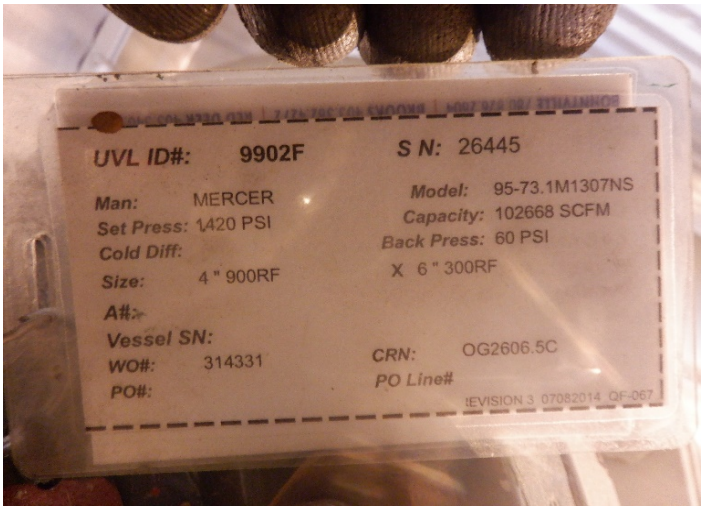
Signature of Inspector:		
Cert #	API 510:	51479
	AB/SK:	785

Technical Manager or Delegate:		Curtis Graham
		
Cert #	API 510:	51479
	AB/SK:	785

External Inspection Pictures

PHOTOS	
	
LSD Sign	Site Overview
	
Nameplate	C#
	
Overview	

External Inspection Pictures

PHOTOS	
	
Manway	PSV Overview
	
PSV Nameplate	Serviced Duplicate PSV Nameplate
	
PSV Service Tag	

AUT CORROSION MAPPING EXAMINATION REPORT

GENERAL INFORMATION

DATE:	July 09, 2021	REPORT #:	AUT-CG09JUL2021A			
CLIENT/OWNER:	CNRL	AVALANCHE JOB #:	20-448	CLIENT JOB #:		
DISTRICT/REGION:	Fort St John	PROJECT:	AUT Inspections	CLIENT PO #:		
AREA:	Ladyfern	LOCATION:	SURFACE:	b-17-I/94-H-1		
FACILITY:	Plant		UWI/DH:	b-17-I/94-H-1		
ITEMS EXAMINED:	Inlet Separator C73757					

METHOD(S) / SURFACE CONDITION

MATERIAL / THICKNESS:	CARBON STEEL		PROCEDURE:	AUT-01
SURFACE CONDITION:	Painted		ACCEPTANCE CRITERIA:	CLIENT EVALUATION
SCANNING FROM / TEMP:	OD	18	SPECIFICATION(S):	AS PER CLIENT SPEC.

AUT EQUIPMENT DETAILS

MANUFACTURER:	AUT SOLUTIONS	CAL BLOCK(S):	0.750" - 1.5" STEP - C/S		
MODEL:	BANDIT	CAL BLOCK SN(S):	G11196		
RASTER LENGTH:	24"	REFLECTOR:	BACKWALL		
SERIAL #:	1005	CAL RANGE:	0.750" - 1.500"		
CAL DATE:	09-Jul-21	SIG RESP (FSH):	80%		
SOFTWARE:	PROSCAN	COUPLANT:	Water		

TRANSDUCERS / ENCODER

MFG	TYPE	FREQ	SIZE	SERIAL #	MODEL	RESOLUTION	CAL DISTANCE
AUT SOLUTIONS	DUAL	5MHz	0.500"	JBA158	BSP-A+	5 MHz	1.500"

MANUAL UT EQUIPMENT

EQUIPMENT TYPE:	DMS GO	SERIAL #:	SOPLS2012010	CAL DATE:	04-Jan-21		CABLE LENGTH/TYPE:	3' / DUAL LEMO
		COUPLANT:	UT-X	CAL BLOCKS:	1" - 10 STEP - C/S			
REF REFLECTOR:	TYPE:		SIZE:		DEPTH:		SIG RESP (FSH):	

PROBE TYPE	ANGLE	WAVE	FREQ	SIZE	MFG	SERIAL #	RANGE	REF LVL	SCAN LEVEL (DB)
DUAL	0	LONG	5MHz	0.250"	STRESSTEL	21A0CL0	1.000"	56	62
SINGLE									

TEST RESULTS

SCOPE:

A ZERO DEGREE AUT MAP SCAN WAS CONDUCTED ON AREAS OF THE 66" O.D. INLET SEPARATOR SHELL. INSPECTION WAS DONE ON 35% OF THE SHELL AREA AS REQUESTED BY THE CLIENT. ALL ACCESSIBLE SECTIONS WERE INSPECTED FROM THE EXTERNAL SURFACE TO MAP OUT POSSIBLE WALL LOSS AND CORRODED AREAS OF THE SCANNED LOCATIONS. ALL AREAS IDENTIFIED WITH CORROSION ARE TO BE VERIFIED WITH MANUAL ZERO DEGREE UT.

4 SCANS WERE UTILIZED TO OBTAIN COVERAGE OF THE SHELL AREAS.

A ZERO DEGREE UT INSPECTION OF THE NORTH AND SOUTH HEADS WERE ALSO DONE AS REQUESTED BY THE CLIENT.

RESULTS:

NO INTERNAL CORROSION LOCATED IN THE AUT SCANNED AREAS.

NO INTERNAL CORROSION LOCATED IN THE NORTH & SOUTH HEADS. SEE PG-2 FOR HEAD READINGS AND DESCRIPTIONS.

SEE PAGE 3 FOR SCAN TEST RESULTS

SEE PAGES 5 THROUGH TO 8 FOR C-SCANS, SCAN LOCATIONS AND DESCRIPTIONS.

TECHNICIAN:	Curtis Graham	ASSISTANT:	Darrin Robak
SIGNATURE:		CLIENT:	
CGSB/SNT CERTS:	6560 UT II / MT II / PT II	SIGNATURE:	

TEST RESULTS / PHOTOS

NORTH HEAD

SOUTH HEAD

TML	NOM	LOW	AVG	COMMENT
05	3.25" (Min)	3.445"	3.556"	NO CONCERNS LOCATED
10	3.25" (Min)	3.507"	3.560"	NO CONCERNS LOCATED

AUT CORROSION MAPPING
DETAILED
SCAN RESULTS

SCAN #	X START	X STOP	Y START	Y STOP	X-Incr.	Y-Incr	Readings	AVERAGE READING	MINIMIM THICKNESS	NOMINAL	% Wall Loss	Comments / Corrosion Mechanism
1	0	115	0	24	0.5	0.25	22407	3.605	3.586	3.500	0.0%	No concerns
2	0	207	0	24	0.5	0.25	40255	3.621	3.582	3.500	0.0%	No concerns
3	0	207	0	24	0.5	0.25	40255	3.624	3.616	3.500	0.0%	No concerns
4	0	207	0	24	0.5	0.25	40255	3.624	3.594	3.500	0.0%	No concerns

*NOTE: ALL READINGS ARE IN INCHES.

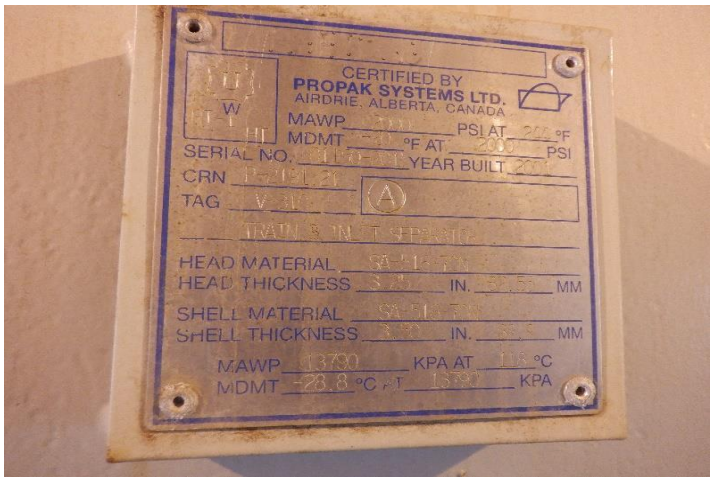
WALL LOSS COLORING:

20%-34%

35%-49%

50%+

PHOTOS



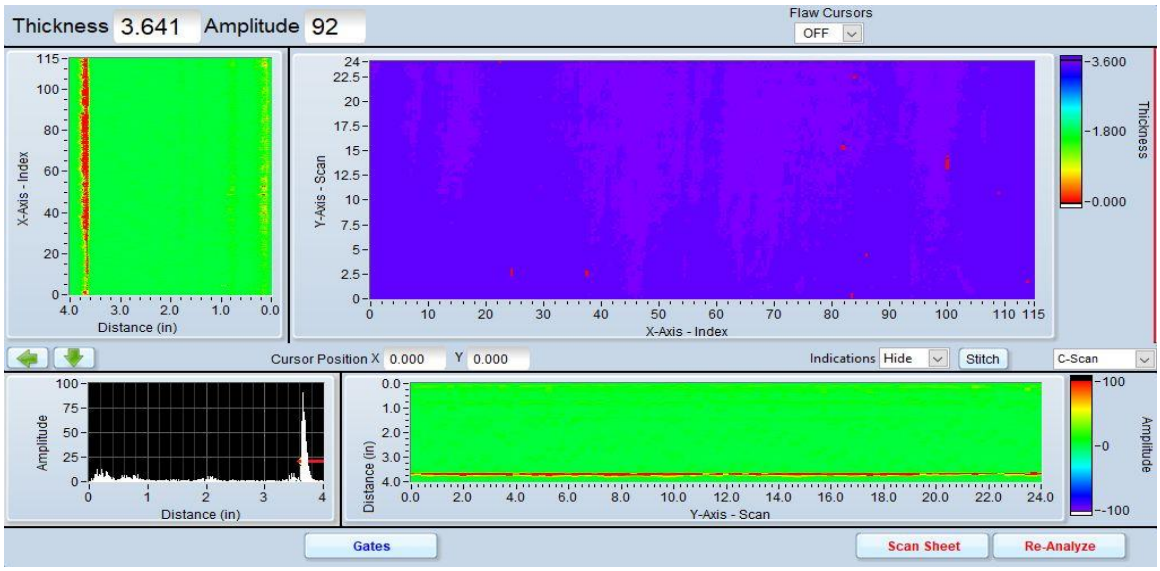
NAMEPLATE

OVERVIEW

OVERVIEW

SCAN 1 START LOCATION: 30" SOUTH FROM NORTH HEAD TO SHELL CIRC WELD, AND 14" DOWN FROM EAST LONG SEAM WELD.

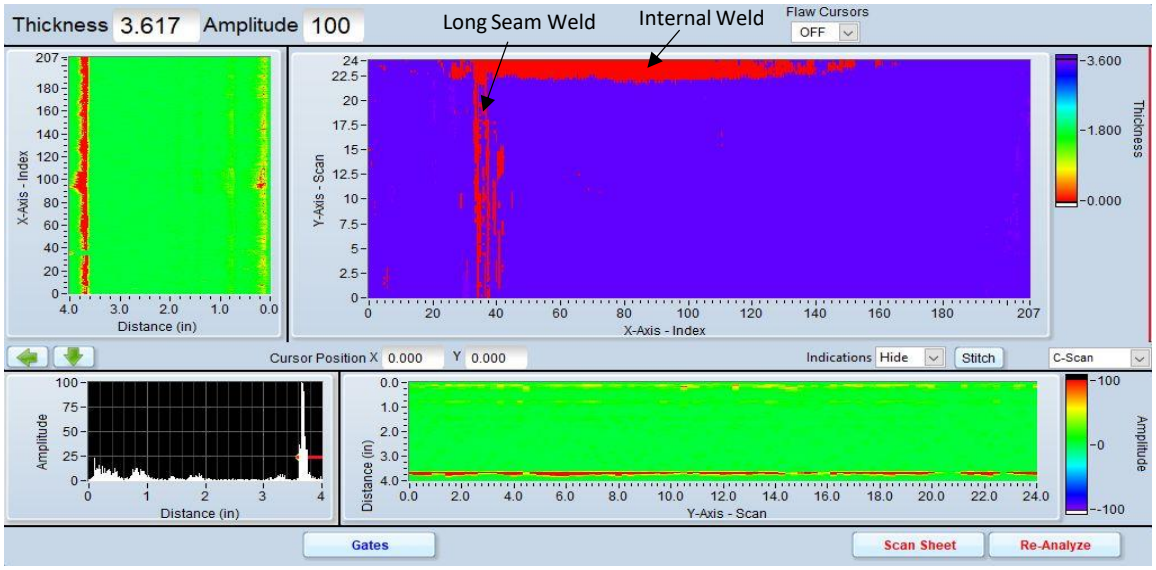
NOTE: RED SECTIONS ARE DUE TO PROBE LIFTOFF (NRI'S).



SCAN 1 (C SCAN)

SCAN 1 LOCATION

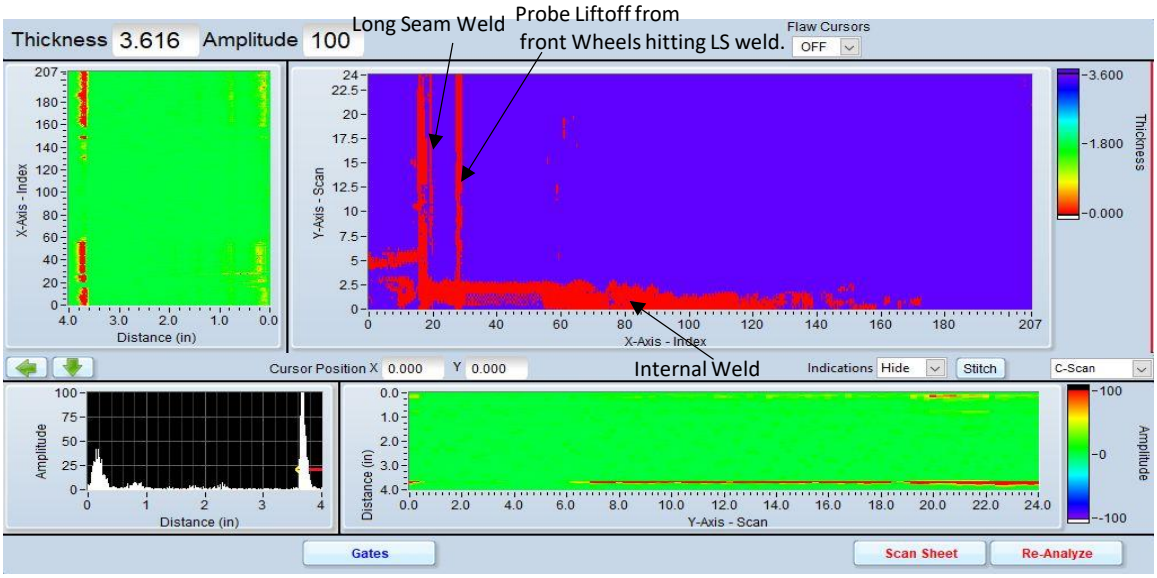
SCAN 2 START LOCATION: 4" NORTH FROM 2ND CIRC WELD (FROM NORTH END), AND 28.5" DOWN FROM EAST LONG SEAM WELD.



SCAN 2 (C SCAN)

SCAN 2 LOCATION

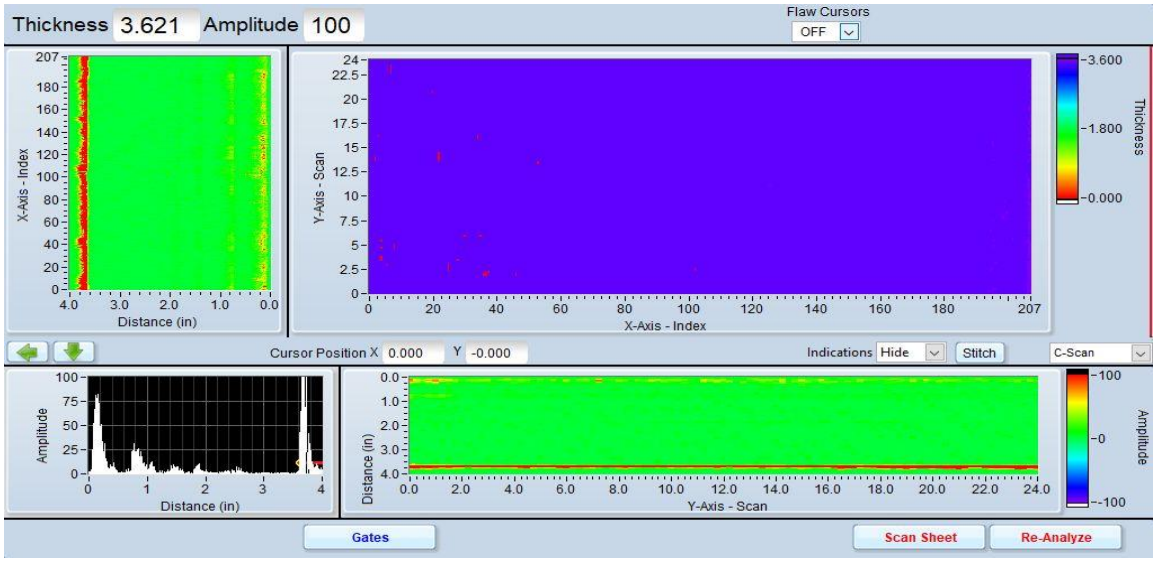
SCAN 3 START LOCATION: 26" NORTH FROM 2ND CIRC WELD (FROM NORTH END), AND 15" DOWN FROM EAST LONG SEAM WELD.



SCAN 3 (C SCAN)

SCAN 3 LOCATION

SCAN 4 START LOCATION: 10" SOUTH FROM 2ND CIRC WELD (FROM NORTH END), AND 25.5" UP FROM LONG SEAM WELD.



SCAN 4 (C SCAN)

SCAN 4 LOCATION

NON-DESTRUCTIVE EXAMINATION REPORT

GENERAL INFORMATION

DATE:	July 09, 2021	REPORT #:	UT-CG09JUL2021B		
CLIENT/OWNER:	CNRL	AVALANCHE JOB #:	20-448	CLIENT JOB #:	
DISTRICT/REGION:	Fort St John	PROJECT:	SWUT Insp	CLIENT PO #:	
AREA:	Ladyfern	LOCATION: SURFACE:	b-17-I/94-H-1		
FACILITY:	Plant	UWI/DH:	b-17-I/94-H-1		
ITEMS EXAMINED:	Inlet Separator C73757				

METHOD(S) / SURFACE CONDITION

INSPECTION METHOD(S):	☐ MT ☐ PT ☑ UT ☐ HT ☐ VT	ACCEPTANCE CRITERIA:	CLIENT EVALUATION
PROCEDURE(S):	UT-01 / UT-02	SPECIFICATION(S):	AS PER CLIENT SPEC.
SURFACE CONDITION:	☐ Clean Base Metal ☐ As Ground ☐ Wire Wheel Cleaned ☐ As Welded ☐ Machined ☐ Sand Blast		
☑ Other: Painted	MATERIAL / THICKNESS:	CARBON STEEL	

MT/PT

MINIMUM LIGHT INTENSITY: ≥ 100 fc Visible, ≥ 1000 µW/cm2

LIGHTING TYPE: ☐ Ambient Lighting ☐ Flashlight ☐ 100W Flood Light ☐ Halogen Light ☐ Blacklight

EQUIPMENT TYPE	SERIAL #	CALIBRATION DATE	MT CONSUMABLES				APPLICATION:
BLACKLIGHT			MEDIUM:		CONTRAST:		☐ SPRAY
LIGHT METER			☐ BWMPI ☐ WFMPI		☐ DRY / COLOR:		☐ PUFFER
YOKE			☐ AC ☐ CONTINUOUS ☐ 120V		LEG SPACING: 3" - 8"		

PRODUCT	MANUFACTURER / TYPE	BATCH #	DWELL (MIN)	APPLICATION METHOD	METHOD TYPE
PENETRANT:					
CLEANER:					
DEVELOPER:					

UT

EQUIPMENT TYPE:	Epoch 650	SERIAL #:	160252309	CAL DATE:	04-Jan-21		CABLE LENGTH/TYPE:	3' / DUAL LEMO
☑ 0° ☑ Shearwave		COUPLANT:	UT-X	CAL BLOCKS:	1" - 10 STEP - C/S			
REF REFLECTOR:	TYPE:		SIZE:		DEPTH:		SIG RESP (FSH):	

PROBE TYPE	ANGLE	WAVE	FREQ	SIZE	MFG	SERIAL #	RANGE	REF LVL	SCAN LEVEL (DB)
DUAL	0	LONG	5MHz	0.250"	STRESSTEL	21A00CL0	1.000"	54	60
SINGLE	45	SHEAR	2.25MHz	0.375"	OLYMPUS	1063722	10.000"	48	54
SINGLE	60	SHEAR	2.25MHz	0.375"	OLYMPUS	1063722	10.000"	46	52

HT

EQUIPMENT TYPE	SERIAL #	CALIBRATION DATE	UNIT	MIN HARDNESS VALUE	MAX HARDNESS VALUE
LEEB HL200					

TEST RESULTS

SCOPE:

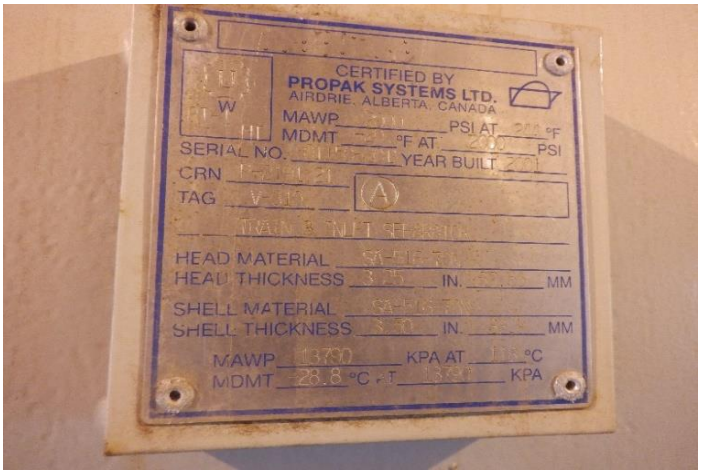
A SWUT WAS CONDUCTED ON ALL ACCESSIBLE MANWAY TO SHELL WELDS OF THE INLET SEPARATOR C73757 AS REQUESTED BY THE CLIENT.

RESULTS:

NO RELEVANT INDICATIONS WERE LOCATED WITH SWUT. WELDS EXAMINED ARE ACCEPTABLE AS PER CODE.

TECHNICIAN:	Curtis Graham	ASSISTANT:	Darrin Robak
SIGNATURE:		CLIENT:	
CGSB/SNT CERTS:	6560 UT II / MT II / PT II	SIGNATURE:	

PHOTOS



NAMEPLATE

CNRL C#

VESSEL OVERVIEW

MANWAY OVERVIEW