

<b>ULTRASONIC EXAMINATION REPORT</b>			<b>REPORT No.:</b> <b>UT - 2-3703 - 01 - AAC</b>
			Page: <u>1</u> of <u>1</u>
Client:	Abbey Resources Corp.		ITS Job No.: 2-3703
District:	Shackleton	LSD: 14-36-020-19W3M	Date: April 12, 2017
Facility:	Shackleton Compressor Station		Time: 9:00
Item(s) Examined:	Inlet Separator		W.O. No.: N/A
Acceptance Criteria:	For Client Review	Rev. / Date: N/A	P.O. No.: N/A
Procedure No.:	ITS-UT01	Rev. / Date: Rev.3 / Aug.2014	Cost Code: N/A
Technique No.:	N/A	Rev. / Date: N/A	AFE: N/A
			Other: N/A

<b>Equipment Data:</b>							
PRN: (A)	<b>0491789</b>	Serial No.:	<b>WF03.1272</b>	Equip. No.:	<b>N/S</b>	CRN:	<b>R2250.23</b>
Material:	<b>SA-516-70N</b>	Thickness:	<b>Shell: 15.9mm / Head: 14.6mm</b>	Other:	<b>S05259</b>		


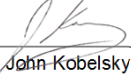
<b>Surface Condition:</b>								
<input type="checkbox"/> Base Metal	<input type="checkbox"/> Machined	<input type="checkbox"/> Shot Blasted	<input type="checkbox"/> Wire Wheeled	<input type="checkbox"/> As Ground	<input type="checkbox"/> As Welded	<input checked="" type="checkbox"/> Painted	<input type="checkbox"/> Coated	<input type="checkbox"/> Other: _____
<input type="checkbox"/> < 0°C (32°F)	<input checked="" type="checkbox"/> 0°C (32°F) to 54°C (130°F)	<input type="checkbox"/> 55°C (131°F) to 100°C (212°F)						<input type="checkbox"/> > 100°C (212°F)

<b>Ultrasonic Equipment:</b>							
Instrument:	<b>Olympus</b>	Model:	<b>Epoch LTC</b>	Serial No.:	<b>100182403</b>	Cal. Due Date:	<b>25-Jun-17</b>
Cal. Block:	<b>Metric Step Wedge: 6.5mm to 25.0mm Carbon Steel</b>			Serial No.:	<b>12-3270</b>	Couplant:	<b>UTX</b>
Cal. Block:	<b>N/A</b>			Serial No.:	<b>N/A</b>		
Transducer Cable(s):	Type:	<b>Limo to Microdot</b>		Length:	<b>6'</b>		

<b>Transducer:</b>									
Serial No.:	Angle (X°):	Frequency (MHz):	Size (mm):	Type		Primary Reference (db) (%FSH):	Scanning Sensitivity (db):	Transfer Value (db):	Range (mm):
				Single	Dual				
13K021C1	0	5.0	6.35	<input type="checkbox"/>	<input checked="" type="checkbox"/>	53dB @ 80% FSH	+6dB	N/A	25 - 50
945289	0	7.5	5.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	53dB @ 80% FSH	+6dB	N/A	25 - 50
				<input type="checkbox"/>	<input type="checkbox"/>				
				<input type="checkbox"/>	<input type="checkbox"/>				

<b>Examination Details:</b>	
<b>SCOPE:</b>	To perform Ultrasonic Thickness measurements on the Inlet Separator looking for corrosion and wall thinning.
<b>RESULTS:</b>	Refer to corrosion survey.
<b>CONCLUSION:</b>	Thickness readings provided for clients review.

Client Representative: \_\_\_\_\_ Sign: \_\_\_\_\_ Date: \_\_\_\_\_

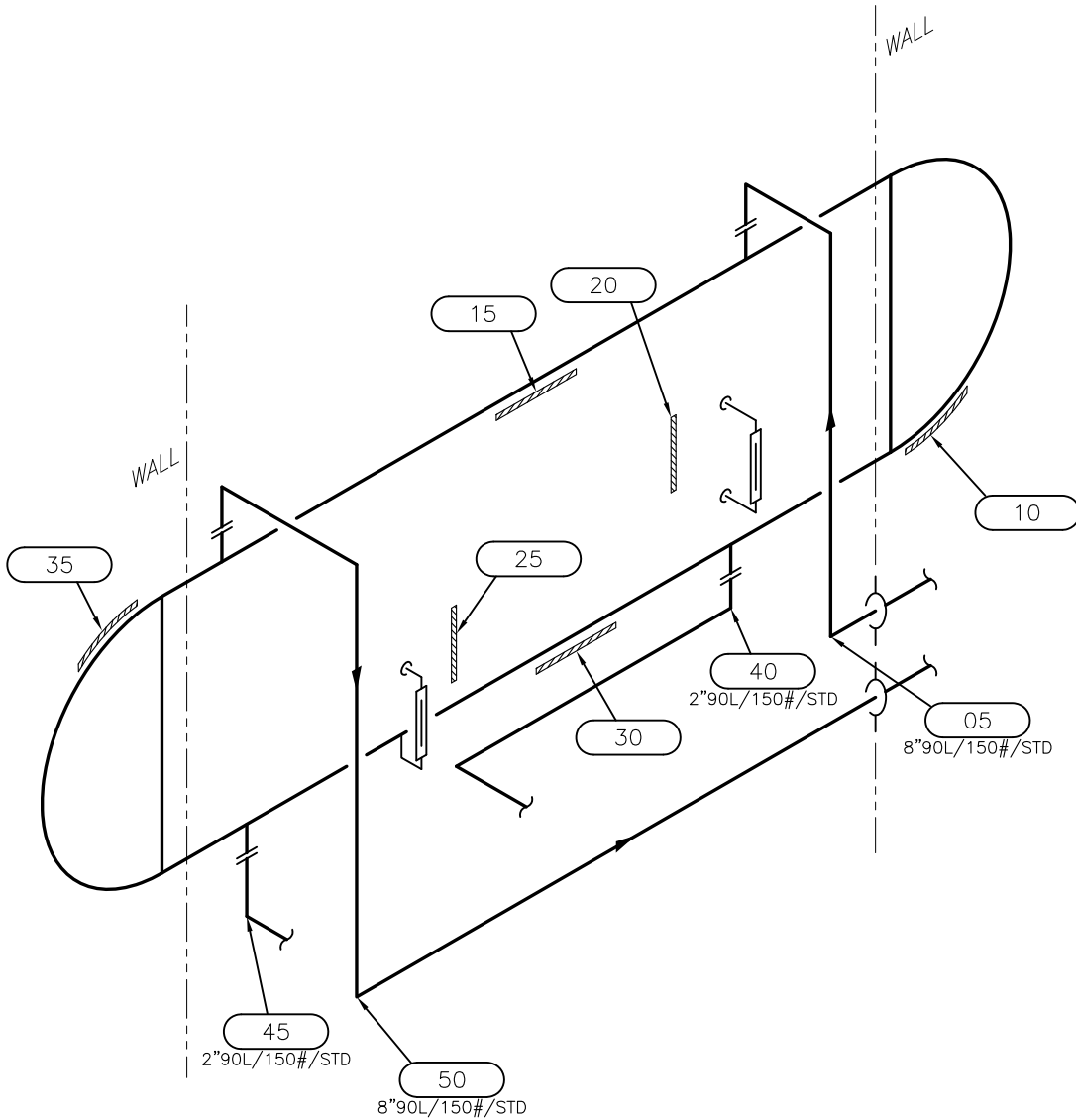
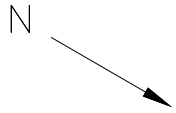
<b>Technician(s):</b>			
Sign:		Sign:	
Print:	<b>Aaron Cowie</b>	Print:	<b>John Kobelsky</b>
	1 <sup>st</sup> Technician		2 <sup>nd</sup> Technician / Assistant
Level:	CGSB   ITS-WP01   ACCP/ASNT	Level:	CGSB   ITS-WP01   ACCP/ASNT
Certification No.:	11597	Certification No.:	

Scope of Services: The agreement of Integrity Testing Services Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested inspection of specific equipment provided for in writing and the preparation of reports or similar documents reflecting the inspection data obtained or the opinion formulated on the basis of such inspection. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinion or observations of the examiner and are not intended nor can they be construed as representations or warranties as to the actual circumstances. ITS is not assuming any responsibilities of the owner/operator, and the owner/operator retains complete responsibility for the engineering, repair and use decisions as a result of the inspection data or other information provided by ITS. In no event shall ITS's liability in respect of the services referred to herein exceed the amount paid for such services.

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P&ID NO.: N/A

REF. NO.: N/A



P.E. NO.: N/S OTHER: N/S  
 PROV. REG. NO.: S05259/A0491789 C.R.N.: R2250.23  
 SERIAL NO.: WF03.1272 N.B. NO.: N/S

Code/Div.: ASME VIII DIV.1 Size: 72" OD  
 Radiography: RT-2 Service: SWEET  
 Insulated: NO PWHT: NO  
 Year Built: 2003 Manway: YES Size: 24"  
 Manufacturer: WESTFAB IND. LTD.

**Design & Materials Data**

HEAD  
 Material: SA-516-70N Nom.: 14.60mm C.A.: N/S  
 Material: \_\_\_\_\_ Nom.: \_\_\_\_\_ C.A.: \_\_\_\_\_

SHELL  
 Material: SA-516-70N Nom.: 15.90mm C.A.: N/S  
 Material: \_\_\_\_\_ Nom.: \_\_\_\_\_ C.A.: \_\_\_\_\_

BOOT  
 Head Mat'l: \_\_\_\_\_ Nom.: \_\_\_\_\_ C.A.: \_\_\_\_\_  
 Shell Mat'l: \_\_\_\_\_ Nom.: \_\_\_\_\_ C.A.: \_\_\_\_\_

CHANNEL  
 Material: \_\_\_\_\_ Nom.: \_\_\_\_\_ C.A.: \_\_\_\_\_

MAWP Shell Side: 1965 KPA @ Temp.: 38°C/-29°C  
 MAWP Tube Side: N/S @ Temp.: N/S

CLIENT	ABBEY RESOURCES	
FACILITY	SHACKLETON COMPRESSOR STATION LSD 14-36-020-19W3M	
ITEM	INLET SEPARATOR	
TECH/CAD: A.A.C./F.Y.C.	DATE: 04/2017	DWG. No.: 001

CLIENT:	<b>Abbey Resources Corp.</b>	PROV. REG. #:	S05259/A0491789
FACILITY:	Shackleton Compressor Station	SERIAL #:	WF03.1272
UNIT/AREA:		EQUIP. NO.:	Not Stated
LSD:	14-36-020-19W3M		
DESCRIPTION:	Inlet Separator		

**Description: 8" 90L INLET B-T 150#**
**CML: 001-05**

 NOM. THICK.: 8.20 mm  
 ASTM (-12.5%): 1.00 mm  
 MIN. NOM.: 7.20 mm

 MATERIAL:  
 MINIMUM THICKNESS MEASURED: **7.50 mm**  
 AVERAGE THICKNESS MEASURED: 8.02 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	8.00	0.0000	0.0000	
2	8.10	0.0000	0.0000	
3	8.00	0.0000	0.0000	
4	7.70	0.0000	0.0000	
5	7.50	0.0000	0.0000	
6	7.80	0.0000	0.0000	
7	7.70	0.0000	0.0000	
8	8.00	0.0000	0.0000	
9	8.60	0.0000	0.0000	
10	8.80	0.0000	0.0000	

**Description: EAST HEAD T-B**
**CML: 001-10**

 NOM. THICK.: 14.60 mm  
 CA: Not Stated  
 MIN. NOM.: 14.60 mm

 MATERIAL: SA-516-70N  
 MINIMUM THICKNESS MEASURED: **15.70 mm**  
 AVERAGE THICKNESS MEASURED: 15.95 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	16.00	0.0000	0.0000	
2	16.00	0.0000	0.0000	
3	16.10	0.0000	0.0000	
4	16.10	0.0000	0.0000	
5	15.80	0.0000	0.0000	
6	15.70	0.0000	0.0000	

CLIENT:	<b>Abbey Resources Corp.</b>	PROV. REG. #:	S05259/A0491789
FACILITY:	Shackleton Compressor Station	SERIAL #:	WF03.1272
UNIT/AREA:		EQUIP. NO.:	Not Stated
LSD:	14-36-020-19W3M		
DESCRIPTION:	Inlet Separator		

**Description: TOP SHELL W-E**
**CML: 001-15**

NOM. THICK.:	15.90 mm	MATERIAL:	SA-516-70N
CA:	Not Stated	MINIMUM THICKNESS MEASURED:	<b>16.30 mm</b>
MIN. NOM.:	15.90 mm	AVERAGE THICKNESS MEASURED:	16.40 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	16.30	0.0000	0.0000	
2	16.40	0.0000	0.0000	
3	16.40	0.0000	0.0000	
4	16.40	0.0000	0.0000	
5	16.40	0.0000	0.0000	
6	16.50	0.0000	0.0000	

**Description: SIDE SHELL T-B**
**CML: 001-20**

NOM. THICK.:	15.90 mm	MATERIAL:	SA-516-70N
CA:	Not Stated	MINIMUM THICKNESS MEASURED:	<b>16.30 mm</b>
MIN. NOM.:	15.90 mm	AVERAGE THICKNESS MEASURED:	16.42 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	16.40	0.0000	0.0000	
2	16.50	0.0000	0.0000	
3	16.40	0.0000	0.0000	
4	16.50	0.0000	0.0000	
5	16.40	0.0000	0.0000	
6	16.30	0.0000	0.0000	

CLIENT:	<b>Abbey Resources Corp.</b>	PROV. REG. #:	S05259/A0491789
FACILITY:	Shackleton Compressor Station	SERIAL #:	WF03.1272
UNIT/AREA:		EQUIP. NO.:	Not Stated
LSD:	14-36-020-19W3M		
DESCRIPTION:	Inlet Separator		

**Description: SIDE SHELL T-B**
**CML: 001-25**

 NOM. THICK.: 15.90 mm  
 CA: Not Stated  
 MIN. NOM.: 15.90 mm

 MATERIAL: SA-516-70N  
 MINIMUM THICKNESS MEASURED: **16.30 mm**  
 AVERAGE THICKNESS MEASURED: 16.33 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	16.40	0.0000	0.0000	
2	16.40	0.0000	0.0000	
3	16.30	0.0000	0.0000	
4	16.30	0.0000	0.0000	
5	16.30	0.0000	0.0000	
6	16.30	0.0000	0.0000	

**Description: BOTTOM SHELL W-E**
**CML: 001-30**

 NOM. THICK.: 15.90 mm  
 CA: Not Stated  
 MIN. NOM.: 15.90 mm

 MATERIAL: SA-516-70N  
 MINIMUM THICKNESS MEASURED: **16.10 mm**  
 AVERAGE THICKNESS MEASURED: 16.25 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	16.40	0.0000	0.0000	
2	16.30	0.0000	0.0000	
3	16.20	0.0000	0.0000	
4	16.30	0.0000	0.0000	
5	16.10	0.0000	0.0000	
6	16.20	0.0000	0.0000	

CLIENT:	<b>Abbey Resources Corp.</b>	PROV. REG. #:	S05259/A0491789
FACILITY:	Shackleton Compressor Station	SERIAL #:	WF03.1272
UNIT/AREA:		EQUIP. NO.:	Not Stated
LSD:	14-36-020-19W3M		
DESCRIPTION:	Inlet Separator		

**Description: WEST HEAD T-B**
**CML: 001-35**

 NOM. THICK.: 14.60 mm  
 CA: Not Stated  
 MIN. NOM.: 14.60 mm

 MATERIAL: SA-516-70N  
 MINIMUM THICKNESS MEASURED: **16.50 mm**  
 AVERAGE THICKNESS MEASURED: 16.57 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	16.60	0.0000	0.0000	
2	16.70	0.0000	0.0000	
3	16.60	0.0000	0.0000	
4	16.50	0.0000	0.0000	
5	16.50	0.0000	0.0000	
6	16.50	0.0000	0.0000	

**Description: 2" 90L T-B 150#**
**CML: 001-40**

 NOM. THICK.: 3.90 mm  
 ASTM (-12.5%): 0.49 mm  
 MIN. NOM.: 3.41 mm

 MATERIAL:  
 MINIMUM THICKNESS MEASURED: **3.70 mm**  
 AVERAGE THICKNESS MEASURED: 3.90 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	4.00	0.0000	0.0000	
2	3.80	0.0000	0.0000	
3	4.00	0.0000	0.0000	
4	4.00	0.0000	0.0000	
5	3.70	0.0000	0.0000	

**Description: 2" 90L T-B 150#**
**CML: 001-45**

 NOM. THICK.: 3.90 mm  
 ASTM (-12.5%): 0.49 mm  
 MIN. NOM.: 3.41 mm

 MATERIAL:  
 MINIMUM THICKNESS MEASURED: **3.70 mm**  
 AVERAGE THICKNESS MEASURED: 3.80 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	04/2017			
1	3.80	0.0000	0.0000	
2	3.90	0.0000	0.0000	
3	3.80	0.0000	0.0000	
4	3.80	0.0000	0.0000	
5	3.70	0.0000	0.0000	

CLIENT:	<b>Abbey Resources Corp.</b>	PROV. REG. #:	S05259/A0491789
FACILITY:	Shackleton Compressor Station	SERIAL #:	WF03.1272
UNIT/AREA:		EQUIP. NO.:	Not Stated
LSD:	14-36-020-19W3M		
DESCRIPTION:	Inlet Separator		

**Description: 8" 90L OUTLET T-B 150#**

**CML: 001-50**

NOM. THICK.: 8.20 mm  
 ASTM (-12.5%): 1.00 mm  
 MIN. NOM.: 7.20 mm

MATERIAL:  
 MINIMUM THICKNESS MEASURED: **6.20 mm**  
 AVERAGE THICKNESS MEASURED: 7.60 mm

Rdg.	B/L Thick. MM/YYYY	Short Term mm/yr	Long Term mm/yr	Rem. Half Life
	<span style="border: 1px solid red; padding: 2px;">04/2017</span>			
1	8.20	0.0000	0.0000	
2	8.40	0.0000	0.0000	
3	8.30	0.0000	0.0000	
4	7.80	0.0000	0.0000	
5	6.20	0.0000	0.0000	
6	6.50	0.0000	0.0000	
7	7.70	0.0000	0.0000	
8	7.80	0.0000	0.0000	
9	7.60	0.0000	0.0000	
10	7.50	0.0000	0.0000	

COMMENTS:  
 2017/04 - LOW UT READINGS CONFIRMED.