

CEL Quality Services Ltd.

VISUAL INSPECTION

Tel: (403) 845-5881 • (403) 844-3341



Pressure Equipment Inspection

REPORT

Report#: A0618418-VE,UT-2022-03-28

Type of Inspection:		<input type="checkbox"/> INSTALLATION		<input checked="" type="checkbox"/> EXTERNAL		<input type="checkbox"/> INTERNAL		<input type="checkbox"/> IN SERVICE		<input checked="" type="checkbox"/> OUT OF SERVICE		<input type="checkbox"/> INVENTORY		
Date:	28/Mar/2022	Job #:							*all measurements are in inches unless otherwise stated *ns-not stated *na-not applicable					
Inspected By:	Ben Piers	CEL Job #:							Pre Purchase Inspection					
Client:	Pipestone Energy Corp.						PO# E22-191-PO-01							
Owner:	Pipestone Energy Corp.						Service PSV prior to returning to service							
Region:	Alberta													
Area:	Sunchild	Location/ LSD:	Surface:	01-04-044-11w5										
Facility:	Compressor		UWI/DH:											
Service:	Sweet	if other describe:												
Description:	<input type="checkbox"/> Vessel <input checked="" type="checkbox"/> Exchanger <input type="checkbox"/> Tank <input type="checkbox"/> Furnace <input type="checkbox"/> Boiler													
Unit #:	BU-640	Equip #:	E-301											
Equip. Name:	Glycol Heat Exchanger	Equip. Type:	Shell and Tube Exchanger											
Jurisdiction #:	0618418	CRN:	V-7198.2											
Manufacturer:	Alco Gas & Oil Production Equipment LTD.						Diameter OD (in):	16	Height/Length (in):	72				
Serial No.:	2011-8267-03		Year Built:	2012		<input type="checkbox"/> PSV on Vessel		<input checked="" type="checkbox"/> Piping						
Volume:	ns		PSV Data:	<input type="checkbox"/> Isolation Valve(s) Installed		<input type="checkbox"/> Car-sealed		<input type="checkbox"/> CRN:						
Zones:	MAWP	Des. T	MDMT	Op.P	Op.T	Set P	Tag #	Manufacturer	Serial No.	In	Out	Capacity	Serv. Co.	Serv. Date
Shell Side:	2050	150	-50	0	70	1440	27131R	Farris	827444-1-DA	2	3	1019.4	RMV	Apr. 17, 2015
Coil Side:	2050	150	-50	0	68	1440	27131R	Farris	827444-1-DA	2	3	1019.4	RMV	Apr. 17, 2015
Units	PSI	F	F	PSI	F	PSI						M3/MIN		
Components:	Material	Nominal (in)	Sgl./Dbl/ Weld	Calc. Trim	Retire t	CA (in)	UT TML	Lowest t	Acc.	Ret.	Dia. (OD),(in)	RT	HT	
Shell:	SA-333-GR6	1.219				0.125	00	1.192	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16	1	Yes	
Head:	SA-350-LF2	1.219				0.125			<input type="checkbox"/>	<input type="checkbox"/>	16			
Tube/Coil:	SA-516-70MT	3.125							<input type="checkbox"/>	<input type="checkbox"/>				
Channel:									<input type="checkbox"/>	<input type="checkbox"/>				
Other									<input type="checkbox"/>	<input type="checkbox"/>				
Manway/Port:	Port Size (in): 10		<input type="checkbox"/> Davit Arm Present		<input type="checkbox"/> Davit Arm Greased		<input type="checkbox"/> Double Nitted		Condition:					
Nozzles:	<input type="checkbox"/> Reinforcement pads used		<input type="checkbox"/> Weep Holes Present		Comment: None									
	<input checked="" type="checkbox"/> Piping well supported		<input checked="" type="checkbox"/> Joining as per code		Comment: Secure and intact									
Piping:	<input checked="" type="checkbox"/> PSV Piping		<input checked="" type="checkbox"/> Drains properly		<input checked="" type="checkbox"/> Well coated		Comment: Secure							
	<input checked="" type="checkbox"/> Inlet Piping		<input checked="" type="checkbox"/> Free from leaks		<input checked="" type="checkbox"/> Well coated		Comment: Secure							
	<input checked="" type="checkbox"/> Outlet Piping		<input checked="" type="checkbox"/> Free from leaks		<input checked="" type="checkbox"/> Well coated		Comment: Secure							
	<input checked="" type="checkbox"/> Drain Piping		<input checked="" type="checkbox"/> Free from leaks		<input checked="" type="checkbox"/> Well coated		Comment: Secure							
	<input checked="" type="checkbox"/> Instrumentation Piping		<input checked="" type="checkbox"/> Free from leaks/kinks		Comment: Secure and intact									
	<input type="checkbox"/> Process Fluid Identified		<input type="checkbox"/> Flow direction marked		Comment: No Labels Present									
Valves:	<input checked="" type="checkbox"/> Manual Isolation Valve		<input checked="" type="checkbox"/> Free from leaks		Comment: Acceptable, no leaks noted									
	<input type="checkbox"/> Automated Control Valve		<input type="checkbox"/> Free from leaks		Comment: None									
	<input checked="" type="checkbox"/> Vents and Drains Plugged		Comment: Acceptable, no leaks noted											
Gauges:	<input checked="" type="checkbox"/> Pressure		Condition:	Clear and intact x										
	<input checked="" type="checkbox"/> Temperature		Condition:	Clear and intact x1										
Sight Glass:	<input checked="" type="checkbox"/> Fluid Level		Condition:	Clear and intact x1										
Orientation:	Vertical	Foundation:	<input type="checkbox"/> Concrete	<input type="checkbox"/> Gravel	<input type="checkbox"/> Timber	<input checked="" type="checkbox"/> Steel	<input type="checkbox"/> Other:	Condition: Skid secure and level on piles						
Support:	<input type="checkbox"/> Saddle	<input type="checkbox"/> Seal-welded	<input type="checkbox"/> Free to move		Condition:									
	<input checked="" type="checkbox"/> Skirt	<input checked="" type="checkbox"/> Free of debris	Comment: Bolted to skid floor		Condition: Secure and level									
	<input type="checkbox"/> Hangers	<input type="checkbox"/> Secure	Comment:		Condition:									
	<input type="checkbox"/> Other	Specify:												
Overall:	General condition:	Suitable for continued service		Condition: Acceptable										
Ext. Surface:	<input checked="" type="checkbox"/> Painted	<input type="checkbox"/> Insulated	<input type="checkbox"/> Fire-proofed	<input checked="" type="checkbox"/> Cladded	<input type="checkbox"/> Other:	Condition: Paint and cladding are acceptable								
Ext. Fixtures:	<input type="checkbox"/> Ladder	<input type="checkbox"/> Platform(s)	<input type="checkbox"/> Other:		Condition: None									
Int. Surface:	<input type="checkbox"/> Coated	<input type="checkbox"/> Lined	<input type="checkbox"/> Thermal sprayed	<input type="checkbox"/> Cladded	<input type="checkbox"/> Welded overlay	Condition: External Inspection Only								
Int. Fixtures:	<input type="checkbox"/> Baffle	<input type="checkbox"/> Float	<input type="checkbox"/> Impingement	<input type="checkbox"/> Weir	<input type="checkbox"/> Vortex Breaker	Condition: External Inspection Only								
Recommended Actions:														
Service the PSV prior to returning to service.													NCR#:	
Summary Comment:		Vessel found to be acceptable for service.				Inspection interval:		Set by Chief Inspector						
Additional notes on continuation page:		<input checked="" type="checkbox"/>		Report No.		See next page		Quality Check:						
Equipment is suitable for continued service:		<input checked="" type="checkbox"/>						Signature of Inspector: Ben Piers						
Inspector Certificate No: IPV #000770								Received by: (print)						
Terms and Conditions: Refer to "Scope of Services" and "Standard of Care"								Received by: (sign)						

ULTRASONIC SURVEY REPORT

Report #: A0618418-VE,UT-2022-03-28					
<input type="checkbox"/> New Equipment UT Survey		<input checked="" type="checkbox"/> Existing Equipment UT Survey		<input type="checkbox"/> In-Service <input checked="" type="checkbox"/> Out of Service	
Client Job #:		CEL Job #:			
Client: Pipestone Energy Corp.		Location:	Surface: 01-04-044-11w5		
Date: 28/Mar/2022			UW/DH:		
Region: Alberta		Access Considerations: Year-Round Access			
Area: Sunchild		Scope of Inspection	<input type="checkbox"/> Inventory	<input checked="" type="checkbox"/> External	<input checked="" type="checkbox"/> UT
Facility: Compressor					
Static Data					
Equipment Name: Glycol Heat Exchanger		MAWP Shell (PSI): 2050		Pre/Post 1999: Post	
Equipment #: E-301		MAWP Tube (PSI): 2050		Diameter (in): 16	
Jurisdiction #: 0618418		MAWT Shell (F): 150		CA Head (in): 0.125	
Manufacturer: Alco Gas & Oil Production Equipment LTD.		MAWT Tube (F): 150		CA Shell (in): 0.125	
Year Built: 2012		Shell Material: SA-333-GR6		Nominal (in): 1.219	
SN #: 2011-8267-03		Head Material: SA-350-LF2		Nominal (in): 1.219	
CRN #: V-7198.2				RT (Joint Eff): 1	
Acceptance Criteria & Specifications:		Client Evaluation			
Method					
Procedure: USB-001, Rev 01		Mode: <input checked="" type="checkbox"/> Zero Degree <input type="checkbox"/> Shear Wave			
Equipment Type: DMS Go		Serial No: 12105442		Last Calibration: Jan 3, 2022	
Transducer: 0.250"		Serial No: 90849		Type/Frequency: Dual / 5.0 MHZ	
Cable Length (in): 72"		Couplant: Echo Mix - water based powder mix			
Surface Condition:		<input type="checkbox"/> Clean Base Metal <input type="checkbox"/> As Ground <input type="checkbox"/> Machined <input type="checkbox"/> Sand Blast <input checked="" type="checkbox"/> Painted <input type="checkbox"/> Other:			
Cal Block(s):		SN#: 17-4164		Type: 1" 4 step Block	
Notes:					
Interval:		Set by Chief Inspector after review			

*NS=Not Stated

**NA=Not Applicable



CEL Quality Services Ltd.



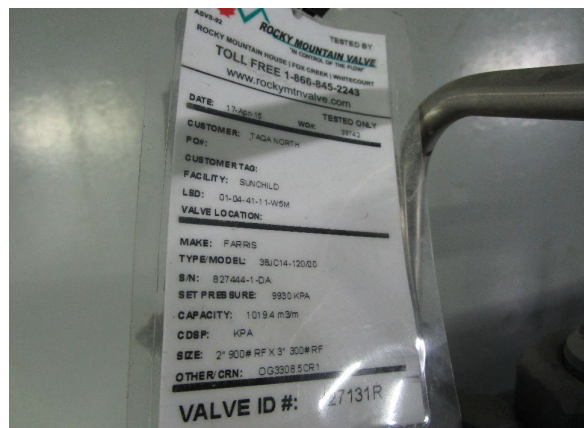
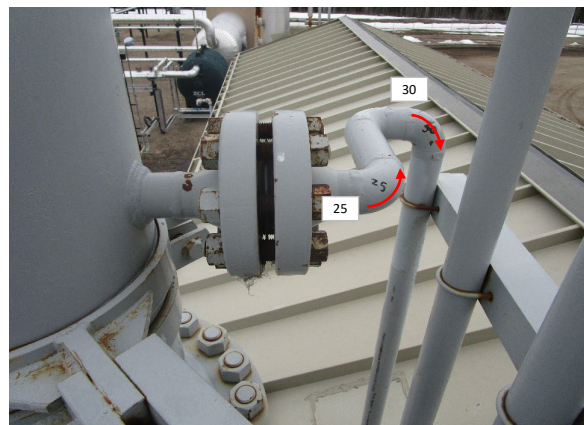
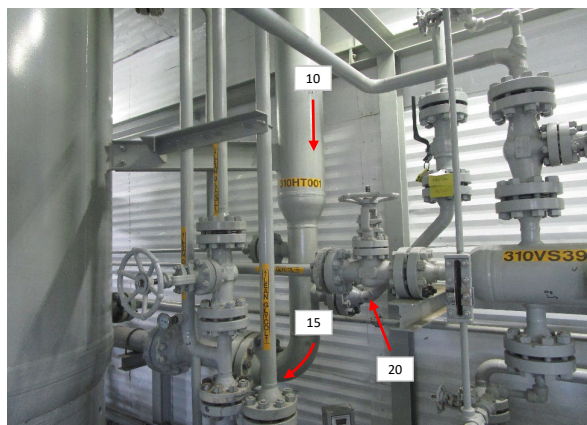
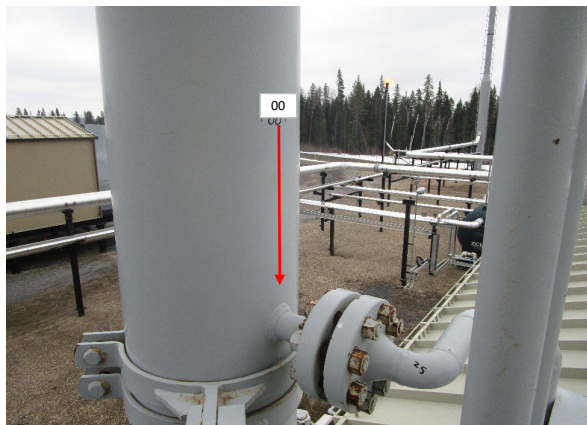
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PHOTOS PAGE

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A#: 0618418	S/N#: 2011-8267-03	or Other: E-301
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Signature of Inspector:

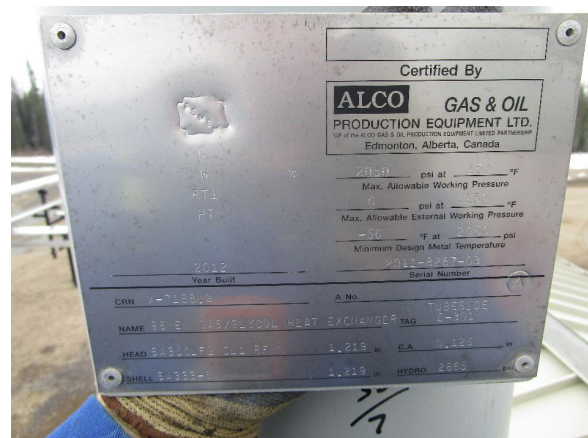
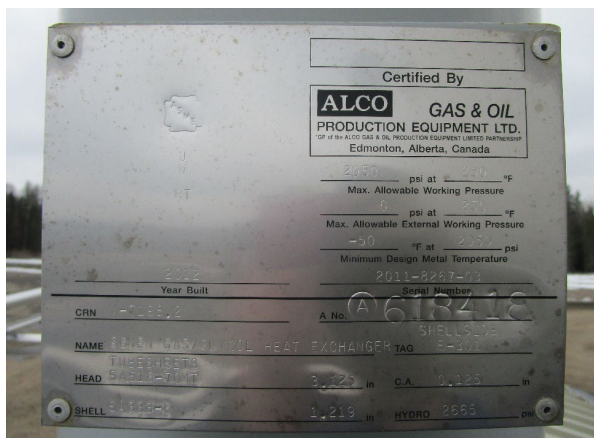
Ben Piers

UT Corrosion Survey Readings									
Date:	28-Mar-22	Area:	Sunchild	Equipment Name:	Glycol Heat Exchanger	Equipment #:	E-301		
Client:	Pipestone Energy Corp.	LSD:	01-04-044-11w5	Jurisdiction #:	0618418	SN #:	2011-8267-03	Job #:	

Vessel TML Readings															
	Baseline	# of Years	Previous	# of Years	Actual		MAWP (PSI)		Shell OD (in)	Shell Nom	Head Nom	Shell Stress	Head Stress	Joint Efficiency	Comments
	2012	10	2012	10	2022		2050		16	1.219	1.219	17100	20000	1.00	
TML ID	Baseline		Low	High	Low	High	OD (in)	ID (in)	STCR (in/YR)	LTCR (in/YR)	T min (in)	RL (YRS)	% Loss	Component	
0	1.219		1.192	1.204	1.192	1.204	16.000	13.562	0.0000	0.0027	0.8759	50+	2.21%	Shell	
5	1.219		1.197	1.204	1.197	1.204	16.000	13.562	0.0000	0.0022	0.8759	50+	1.80%	Shell	
10	0.843		0.852	0.870	0.852	0.870	10.750	9.064	0.0000	0.0000	0.5854	50+	0.00%	Shell	

Vessel Attachment Piping TML Readings																		
	Baseline	# of Years	Previous	# of Years	Actual		MAWP (PSI)		Shell OD (in)			Stress		Joint Efficiency				
	2012	10	2012	10	2022		2050		16			17100		1.00				
TML ID	Baseline		Low	High	Low	High	OD (in)	ID (in)	STCR (/YR)	LTCR (/YR)	T min (in)	RL (YRS)	% Loss	SCH	Nominal (in)	Attached Component	Type	Shape
15	0.562		0.582	0.640	0.582	0.640	6.625	5.501	0.0000	0.0000	0.3553	50+	0.00%	S120	0.562	Shell	Piping	90
20	0.218		0.205	0.220	0.205	0.220	2.375	1.939	0.0000	0.0013	0.1252	50+	5.96%	XS	0.218	Shell	Piping	45
25	0.343		0.357	0.414	0.357	0.414	2.375	1.689	0.0000	0.0000	0.1091	50+	0.00%	S160	0.343	Shell	Piping	90
30	0.343		0.358	0.407	0.358	0.407	2.375	1.689	0.0000	0.0000	0.1091	50+	0.00%	S160	0.343	Shell	Piping	90

* All readings are in inches.



Inspector:	Ben Piers	Certifications:
Signature:	BEN PIERS	ASNT Level 2 UT(SB); CGSB UT Level 1 #18240



Scope of Services

The agreement of CEL Quality Services Ltd. to perform services extends only to those services provided for in writing. Under no circumstance shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of CEL Quality Services Ltd. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. CEL Quality Services Ltd. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by CEL Quality Services Ltd. In no event shall, CEL Quality Services Ltd., liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, CEL Quality Services Ltd. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by CEL Quality Services Ltd.