



PRESSURE EQUIPMENT										AB-506 INTERVAL															
DISTRICT	AB - OIL & NATURAL GAS				SHELL	TUBE					LPG plant storage vessels														
FACILITY	Armada Gas Plant				MAWT	115		F			GRADE	YEARS			REG										
A#	A0227158		YR	1985	MAWP	250						Equip	PSV	UT											
SERIAL #	27635A					PSV			psi			10													
CRN	C4936.2134				PSV CRN						INSPECTION TYPE														
EQUIP#					SERVICED						VE	VI	MT	PT	ET	UT									
STATUS	IN SERVICE				UNIT	NE YARD										X									
MANUFACTURER	WESTERN ROCK BIT CO LTD									INSPECTION RESULT:															
DH LSD					L	Ft		OD	9	Ft	NCR-OPERATIONS														
REPAD	UNIQUE ID									NCR-REGULATORY/ADMIN															
<p>no wall inclusions.</p> <p>0 nozzle surfaces (backwall) and the inclusions was clearly evident.</p> <p>do not slope toward or break the internal or external surfaces.</p> <p>mic flaw detector during inspection.</p>																ACTION ITEM RAISED									
																REPAIR REQUIRED									
																SUITABLE FOR SERVICE					X				
																RECOMMENDATIONS:									

RESULTS OF INSPECTION:

UT Inspection:
 No corrosion was found with the ultrasonic inspection. Previous indications were determined to be midwall inclusions. Once the external coating was removed the ultrasonic signal sharpened and separation between the ID nozzle surfaces (backwall) and the inclusions was clearly evident. Shearwave UT was performed on the inclusions to confirm they are contained within the pipewall and do not slope toward or break the internal or external surfaces. Included within this report are photos of the zero degree indication signals as displayed on the ultrasonic flaw detector during inspection.

SIGN OFF	API 510	EXP.	IPV	EXP.	INSPECTOR - PRIMARY	INSPECTOR - REVIEW	CLIENT SIGN OFF
INSPECTED BY	ToddM Mckenzie	97445	2023-12-31	001336	2026-07-13		
REVIEWED BY							

Ultrasonic Report

LSD01-18-017-18W4M

DH-LSD

Jurisdiction #A0227158

Serial #27635A

Ultrasonic Report #:A#0227158_GRADY INSPECTION LTD UT INSP_29AUG2022

Date

Facility

Field

2022-08-29

Armada Gas Plant

Red Deer District

Phone:403-793-7697

PO Box 1173, Brooks, Alberta, T1R 19B

grady.rustebakke@gmail.com

GRADY

INSPECTION LTD

ULTRASONIC SET			COMPONENT DETAILS				CODE					
EQUIPMENT	CALIBRATION DUE	SERIAL NUMBER	MATERIAL GRADE	SURFACE PREP		TEMP	THICKNESS	CALIBRATION	EVALUATION			
EPOCH 600	2023-02-25	120388107	Carbon Steel	Buffing Wheel		10C	5.5 mm	ASME V	ASME VIII Div 1			
CALIBRATION BLOCK		PROBE							COUPLING		METHOD	
TYPE	SERIAL#	REF dB	SCAN dB	FREQ.	SIZE.	ANGLE	SERIAL #	TYPE	COUPLANT	CABLE	TECHNIQUE	PROCEDURE
10 Step Metric	14-2065	60	66	5 Mhz	0.25 "	0	15B00DU3	Dual	UT-X	6' BNC to Micro	LW Dual	UT01T1R4
IIW Mini	05-8424	32	52	5 Mhz	0.25"	45	19029	P/E	UT-X	6' BNC to Micro	SW Single	UT01T02R3
SCOPE	As requested by Dustin Rumohr an ultrasonic inspection was completed on CML's 80 and 115 (3"/STD Nozzles) previously identified internal corrosion pitting.											
LIMITATIONS	None. Paint was fully removed from areas of interest and surrounding surfaces.											
RESULTS	No corrosion was found with the ultrasonic inspection. Previous indications were determined to be midwall inclusions. Once the external coating was removed the ultrasonic signal sharpened and separation between the ID nozzle surfaces (backwall) and the inclusions was clearly evident.											

Technician Name

3 ToddM

Certification Body

CGSB


Certification #

9234

Expiry

2030-12-15

Technician Signature



Client Name

Dustin Rumohr

Client Signature

Company Name

CNRL

Overview Photo

LSD 01-18-017-18W4M
Jur # A0227158
Serial # 27635A

Date	2022-08-29
FACILITY	Armada Gas Plant
FIELD	Red Deer District

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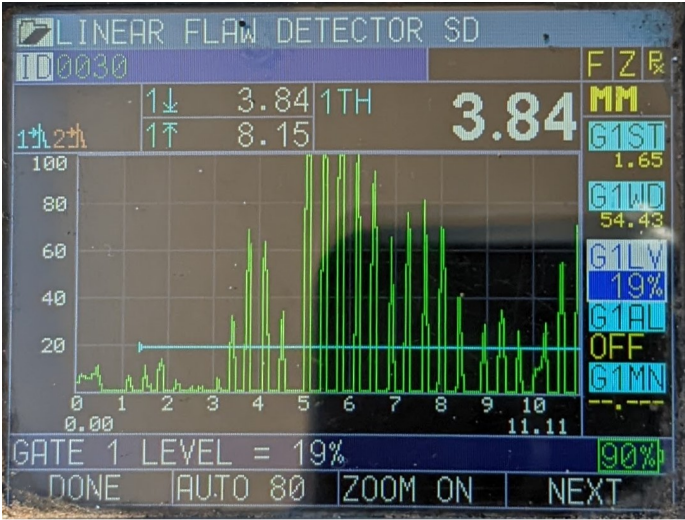
Nameplate



Overview



CML 80 Midwall Inclusion Photo



CML 80 UT Signal Photo

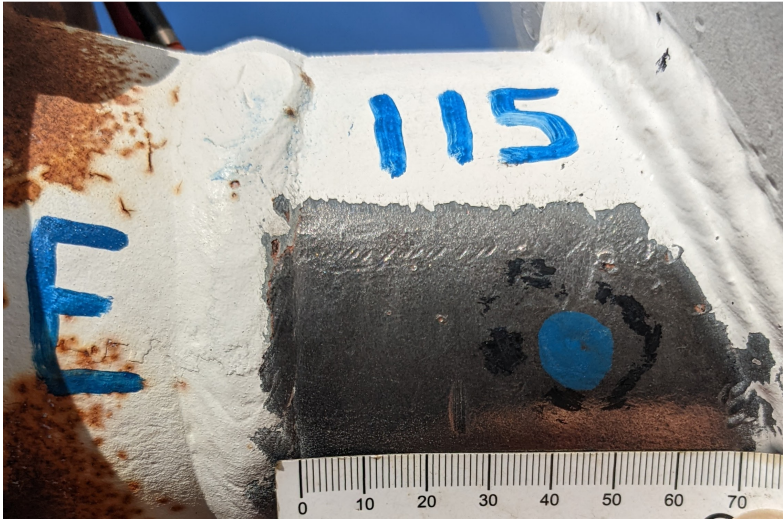
Overview Photo

LSD 01-18-017-18W4M
Jur # A0227158
Serial # 27635A

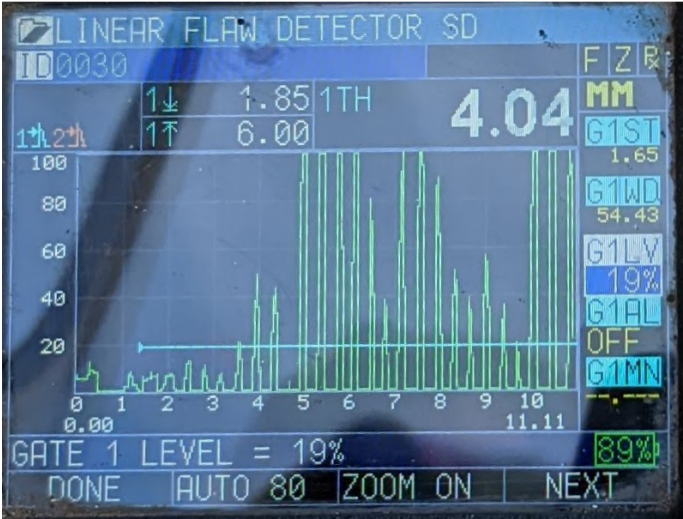
Date	2022-08-29
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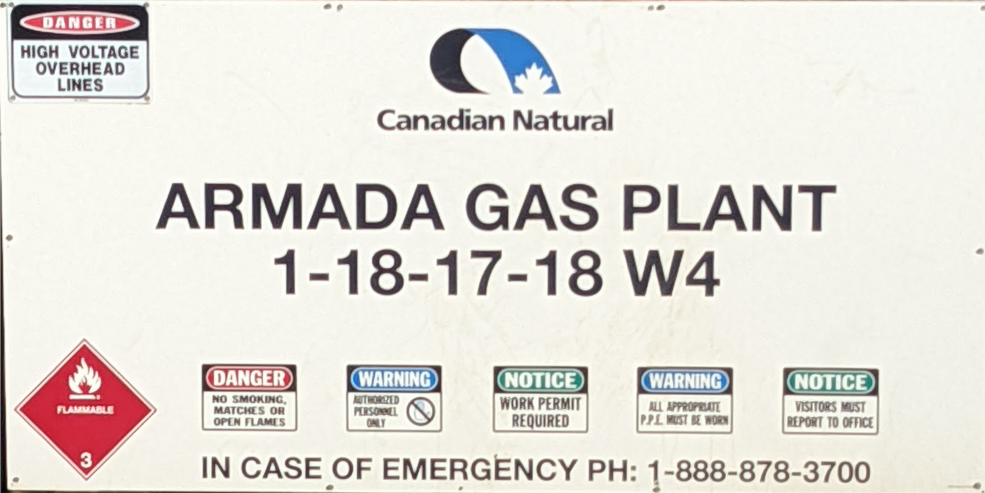
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CML 115 Midwall Inclusion Photo



CML 115 UT Signal Photo



LSD Sign

REPORT # A#0227158_GRADY INSPECTION LTD UT INSP_29AUG2022										Phone:403-793-7697										<div>GRADY</div> INSPECTION LTD									
LSD 01-18-017-18W4M					FACILITY Armada Gas Plant					PO Box 1173, Brooks, Alberta, T1R 19B																			
DH-LSD					FIELD Red Deer District					grady.rustebakke@gmail.com																			
Jur # A0227158					DWG 1					Location:																			
Ser # 27635A					Inspection Dates and Thickness Values (mm)																								
CML#	Nom	CA/Tol	SFlag	STmin	PTmin	> Tmin	Comp Type	Pipe Size	Code	MOP	Baseline Date	Min Ave	3rd Last Date	Min Ave	2nd Last Date	Min Ave	Last Date	Min Ave	# of Insp	% Nom Wall Loss	Corrosion Rates			Rem Life Date	Rem Life (yrs)	Next Insp Date	Insp Int (yrs)	Inspection Comments	
005	19.6	19.6	19.3		19.3	19.3	Head		UG32HeadElli	250	12/4/1	22.1	22.7		17/11/28	21.8	22/5/2	22.0	22.5	3	-12%					2032-04-29	10.0		
010	19.6	19.6	19.3		19.3	19.3	Head		UG32HeadElli	250	22/5/2	22.5	22.8							1	-15%					2032-04-29	10.0		
015	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.4	20.5							1	-3%					2032-04-29	10.0		
020	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.1	20.3							1	-2%					2032-04-29	10.0		
025	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.4	20.6							1	-3%					2032-04-29	10.0		
030	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.2	20.4							1	-2%					2032-04-29	10.0		
035	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.1	20.3							1	-2%					2032-04-29	10.0		
040	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.1	20.3							1	-2%					2032-04-29	10.0		
045	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.2	20.4							1	-2%					2032-04-29	10.0		
050	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.3	20.4							1	-3%					2032-04-29	10.0		
055	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.1	20.3							1	-2%					2032-04-29	10.0		
060	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	12/4/1	20.5	20.7				22/5/2	20.4	20.6	2	-3%	0.01				2032-04-29	10.0		
065	19.8	19.8	39.0		19.5	19.5	Shell		UG27ShellInt	250	22/5/2	20.1	20.3							1	-2%					2032-04-29	10.0		
070	19.6	19.6	19.3		19.3	19.3	Head		UG32HeadElli	250	12/4/1	21.9	22.4		17/11/28	21.8	22/5/2	21.9	22.5	3	-12%					2032-04-29	10.0		
075	19.6	19.6	19.3		19.3	19.3	Head		UG32HeadElli	250	22/5/2	22.2	22.4							1	-13%					2032-04-29	10.0		
080	5.5			4.8		4.8	Nozzle	3" STD 40--(5.5mm)	UG45Nozzle	250	22/5/2	4.3	6.5				22/8/29	5.2	6.5	2	5%			-15.6	2032-08-26	10.0	Inclusion @ 3.8 mm		
085	3.9			3.4		3.4	Nozzle	2" STD 40--(3.9mm)	UG45Nozzle	250	22/5/2	4.1	4.3							1	-5%					2032-04-29	10.0		
090	3.9			3.4		3.4	Nozzle	2" STD 40--(3.9mm)	UG45Nozzle	250	22/5/2	3.9	4.3							1	0%					2032-04-29	10.0		
095	9.5						Nozzle	18" STD ----(9.5mm)	UG45Nozzle	250	22/5/2	9.3	10.5							1		0.01	3758-03-29			2032-04-29	10.0	assumed nom	
100	3.9	3.4	2.5	1.8	0.4	1.8	Elbow	2" STD 40--(3.9mm)	API570	250	12/4/1	4.1	4.2				22/5/2	3.7	4.1	2	5%	0.04				2032-04-29	10.0		
105	5.5			4.8		4.8	Nozzle	3" STD 40--(5.5mm)	UG45Nozzle	250	22/5/2	5.5	6.5							1	0%					2032-04-29	10.0	Iso pit	
110	6.0			5.3		5.3	Nozzle	4" STD 40--(6mm)	UG45Nozzle	250	22/5/2	6.3	6.8							1	-5%					2032-04-29	10.0		
115	5.5			4.8		4.8	Nozzle	3" STD 40--(5.5mm)	UG45Nozzle	250	22/5/2	4.4	5.7				22/8/29	5.2	5.7	2	5%			-13.6	2032-08-26	10.0	Inclusion @ 4.0 mm		
120	5.2			4.5		4.5	Nozzle	2.5" STD 40--(5.2mm)	UG45Nozzle	250	22/5/2	7.3	8.3							1	-40%					2032-04-29	10.0	corr @ 6:00	
125	5.5	4.8	2.5	1.8	0.4	1.8	Elbow	2" XS 80--(5.5mm)	API570	250	22/5/2	5.3	5.7							1	4%	0.01	2675-08-19			2032-04-29	10.0		
130	8.6	7.5	3.1	2.3	0.7	2.3	Pipe	4" XS 80--(8.6mm)	API570	250	12/4/1	9.0	9.2				22/5/2	9.0	9.3	2	-5%					2032-04-29	10.0		