

PRESSURE EQUIPMENT

DISTRICT SHELL TUBE

FACILITY ARMADA MAWT 130 F

A# YR 1981 MAWP 15 psi

SERIAL # PSV psi

CRN PSV CRN

EQUIP# SERVICED

STATUS IN SERVICE UNIT K301

MANUFACTURER

DH LSD L 3.2 Ft OD 1.35 Ft

REPAD 0 UNIQUE ID C87360

AB-506 INTERVAL

Upstream pressure vessels not

GRADE	YEARS			REG
	Equip	PSV	UT	
3	10	6	0	X

INSPECTION TYPE

VE	VI	MT	PT	ET	UT
X					X

INSPECTION RESULT:

NCR-OPERATIONS

X

NCR-REGULATORY/ADMIN

X

ACTION ITEM RAISED

REPAIR REQUIRED


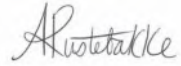
SUITABLE FOR SERVICE

RECOMMENDATIONS:

VE Inspection:
Repair or replace nozzle
Confirm vessel has over pressure protections.
Install nameplate. Confirm variables, including CRN.

RESULTS OF INSPECTION:

VE Inspection:
Not Fit For Service. Nozzle CML below Tmin
NCR. No PSV identified.
NCR. No nameplate. Unknown CRN.
Minor weeping from 1" drain plug on south side of vessel.
UT Inspection:
45% (2.5 mm) wall loss found on Nozzle CML 25 T-Nominal: (5.5 mm) T-Actual: (3 mm) T-Required: (4.8 mm) CR: .06RL: (-29.72 years)
*Unable to offer alternate nozzle calculation based on Shell Tmin, as there are no known variables.

SIGN OFF	API 510	EXP.	IPV	EXP.	INSPECTOR - PRIMARY	INSPECTOR - REVIEW	CLIENT SIGN OFF
INSPECTED BY	ToddM Mckenzie	97445	12/31/202	00133	7/13/2026		
REVIEWED BY	Ashley Rustebakke	60285	7/31/2024	966	6/16/2026		

Ultrasonic Report

LSD 01-18-017-18W4M

DH-LSD

Jurisdiction #

Serial #

Ultrasonic Report #: C87360_GRADY INSPECTION LTD VE UT INSP_31MAR2022

Date

3/31/2022

Facility

Armada Gas Plant


Field


Red Deer District


Phone:403-793-7697

8 Sarah King Crt E Brooks, Alberta, T1R 0J8
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	2/25/2023	120388107	Carbon Steel	Painted	0C		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
SCOPE		As requested by Dustin Rumohr an ultrasonic inspection was completed on the Lube oil filter										
LIMITATIONS		Evaluation with Minimal Documentation Assumed SA-283 Grade C as per API 510 7.7 3. Nominal assumed based on UT readings.										
RESULTS		45% (2.5 mm) wall loss found on Nozzle CML 25 T-Nominal: (5.5 mm) T-Actual: (3 mm) T-Required: (4.8 mm) CR: .06RL: (-29.72 years) *Unable to offer alternate nozzle calculation based on Shell Tmin, as there are no known variables.										

Technician Name	Certification Body	Certification #	Expiry	Technician Signature			
3 ToddM	CGSB	9234					
				Client Name			
				Client Signature			

External Inspection - (Vessel)		Date	3/31/2022		Phone:403-793-7697			
LSD	01-18-017-18W4M	Facility	Armada Gas Plant		8 Sarah King Crt E Brooks, Alberta, T1R 0J8			
DH-LSD		Field	Red Deer District		grady.rustebakke@gmail.com			
Jurisdiction #								
Fit For Service:		Not Fit For Service.						
Inspection Summary:		Nozzle CML below Tmin NCR. No PSV identified. NCR. No nameplate. Unknown CRN. Minor weeping from 1" drain plug on south side of vessel.						
Recommendations:		Repair or replace nozzle Confirm vessel has over pressure protections. Install nameplate. Confirm variables, including CRN.						
External Inspection Items		G/F/P	Comments					
General Condition:		Good	No notable external corrosion, mechanical damage, areas of wear/fretting, distortion, misalignment, current leaks, or visible weld defects.					
External Coating:		Good	Vessel is in good visual condition. Paint is intact and well adhered to the vessel. Vessel is indoors.					
Insulation / Cladding:		N/A	Non insulated vessel					
Nozzles, Piping and Connections:		Fair	Minor weeping from 1" drain plug on south side of vessel. Non-repad nozzles: 3 Repad nozzles: 0					
Buried Vessels:		Good	Above Ground					
Ladders, Platforms and Walkways:		N/A	No attached ladder or platform					
Foundations and Supports:		Good	Anchor bolts fully engaged Building is secure Concrete is intact with no visible deficiencies					
Shell:.		Good	No notable external corrosion, mechanical damage, areas of wear/fretting, distortion, misalignment, current leaks, or visible weld defects.					
Saddles / Skirts:		Good	Saddle is in good visual condition					
Grounding:		Good	Ground Wire is secure Grounded through piping system					
Gauges and Instrumentation:		Fair	Shell Gauge (0 - 200 @ 30 psi) Temp Gauge (- @) MAWP / MAWT not known. Unable to determine suitability of pressure gauge					
Pressure Protection:		Poor	No pressure protection found, ensure vessel is PPSD.					
NDE Summary:		Poor	45% (2.5 mm) wall loss found on Nozzle CML 25 T-Nominal: (5.5 mm) T-Actual: (3 mm) T-Required: (4.8 mm) CR: .06RL: (-29.72 years) *Unable to offer alternate nozzle calculation based on Shell Tmin, as there are no known variables.					
Manway Davits/Quick Closure:		N/A	No Manway.					

External Inspection - (Vessel)		Date	3/31/2022	Phone:403-793-7697	
LSD	01-18-017-18W4M	Facility	Armada Gas Plant	8 Sarah King Crt E Brooks, Alberta, T1R 0J8 grady.rustebakke@gmail.com	
DH-LSD		Field	Red Deer District		
Jurisdiction #					

Nameplate:	Fair	Nameplate missing
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Code Variance:

Overview Photo

LSD 01-18-017-18W4M
Jur #
Serial #

Date

3/31/2022

FACILITY

Armada Gas Plant

FIELD

Red Deer District

Phone: 403-793-7697

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GRADY
INSPECTION LTD

**Nameplate****Overview****Pressure Gauge**

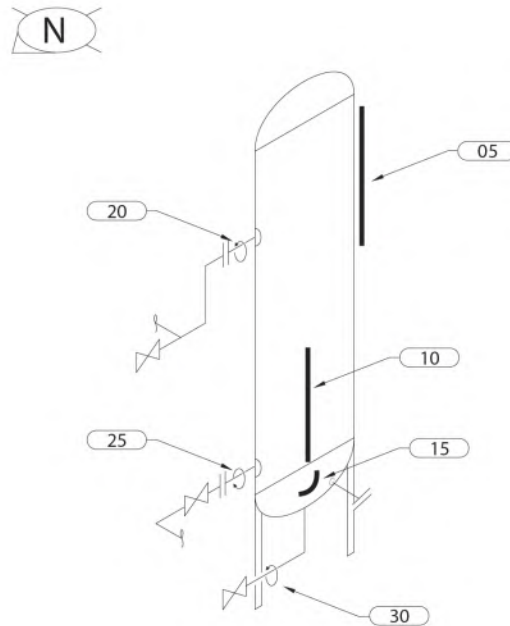
REPORT # C87360_GRADY INSPECTION LTD VE UT INSP_31MAR2022
LSD 01-18-017-18W4M FACILITY Armada Gas Plant
DH-LSD FIELD Red Deer District
Jur # DWG 1 Location:
Ser #

Phone:403-793-7697

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Ser #		Inspection Dates and Thickness Values (mm)															%		Corrosion Rates			Rem Life		Next Insp		Insp Int		
CML#	Nom	CA/Tol	SFlag	STmin	PTmin	> Tmin	Comp Type	Pipe Size	Code	MOP	Baseline		3rd Last		2nd Last		Last		# of Insp	Nom Wall Loss	ST	LTn	LTi	Rem Life Date	Rem Life (yrs)	Next Insp Date	Insp Int (yrs)	Inspection Comments



REPORT # C87360_GRADY INSPECTION LTD VE UT INSP_31MAR2022
LSD 01-18-017-18W4M FACILITY Armada Gas Plant
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CML#	Nom	CA/Tol	Inspection Data				Comp Type	Pipe Size	Code	MOP	Baseline		3rd Last		2nd Last		Last		# of Insp	% Nom Wall Loss	Corrosion Rates			Rem Life Date	Rem Life (yrs)	Next Insp Date	Insp Int (yrs)	Inspection Comments
			SFlag	STmin	PTmin	> Tmin					Date	Min Ave	Date	Min Ave	Date	Min Ave	Date	Min Ave			ST	LTn	LTi					
05	10.0	10.0	0.6	0.3	0.3	Shell		UG27ShellInt	15	3/31/22	9.9	10.2							1	1%	0.00					3/28/2032	10.0	
10	10.0	10.0	0.6	0.3	0.3	Shell		UG27ShellInt	15	3/31/22	9.2	10.0							1	8%	0.02		10/15/2476		3/28/2032	10.0		
15	10.0	10.0	0.3	0.3	0.3	Head		UG32HeadEll	15	3/31/22	10.2	10.5							1	-2%					3/28/2032	10.0		
20	5.5		4.8		4.8	Nozzle	3" STD 40--(5.5mm)	UG45Nozzle	15	3/31/22	5.9	6.1							1	-7%					3/28/2032	10.0		
25	5.5		4.8		4.8	Nozzle	3" STD 40--(5.5mm)	UG45Nozzle	15	3/31/22	3.0	5.5							1	45%	0.06		7/19/1992	-29.7	3/31/2022	0.0	Min at 06:00	
30	4.5	3.9	2.0	1.8	0.0	1.8	Pipe	1" XS 80--(4.5mm)	API570	15	3/31/22	4.3	5.5						1	4%	0.00		10/16/2537		3/28/2032	10.0		