

Canadian Natural Resources Ltd. GENERAL PRESSURE TANK INFORMATION							Job#-10.111847
District: Grande Prairie AB.			Area: Spirit River				
Facility: South Spirit River Battery			Location (LSD): 08-09-77-07W6M				
Tank Name / Equipment Number: Production Storage Tank							
Orientation: Vertical							
Status: Out of Service			Regulatory Inspection				
ABOVE GROUND STORAGE TANK NAMEPLATE DATA							
"A" or "G" or "S" (Sask.) or BC Registration Number. C 47901			CRN Number Not required				
Vessel serial number: G-01-218-3			Diameter: 17.25 FT				
Shell thickness Course 1: 1/4"			Shell material: A-36				
Course 2: 3/16"			Floor material:				
Course 3: 3/16"			Height: 24.00 FT				
Capacity: 1000 BBL			Roof thickness: 5/16"				
MAWP	Shell:		Design Metal Temp				
	Tubes:						
Design Temp.	-11degrees F minimum		Operating temperature	Shell:			
Specific Gravity: 1.0			Heat treatment: N/A				
Code parameters: API 650 Modified			Joint efficiency (if on nameplate): N/A				
Manufacturer: GLM Tanks & Equipment LTD.			Year built: 2001				
Corrosion allowance: not stated			Manways: Yes				
PRESSURE SAFETY VALVE NAMEPLATE DATA							
PSV Tag #(s)	Manufacturer	Model #	Serial#	Capacity (Scfm)	pressure (KPA)	Service Date	
		None					
SERVICE CONDITIONS-INDICATE ALL THAT APPLY							
Sweet	Sour X	Oil		Gas	Water		
Amine	LPG	Steam Condensate		Air	Glycol		
Other (Describe):							

Inspection Interval _____ PSV Service Interval _____


(Determined by MIC in conjunction with Chief Inspector following guidelines of CNRL's Owner-User Inspection Program)

Reports reviewed and accepted by:

Mechanical Integrity Coordinator _____ Date _____

Fill out all forms as completely as possible. All information is important! Use back of sheets to record additional information or sketch if required.

Copy of report to be filed by MIC at site, and copy sent to Chief Inspector

External Inspection Items	G	F	P	N/A	Comments
Insulation Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture. Are straps secured?	X				Shell is insulated. No damage to the cladding or moisture egression noticed. All insulation appears sealed and straps are secure.
External Condition Assess paint condition, areas peeling, record any corrosion, damage, distortion etc (record location, size and depth of corrosion or damage)				X	Tank is not painted externally
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				No areas of leaking observed where available.
Base: Assess condition of paint, fire protection, and concrete. Look for corrosion, buckling, dents, etc. Look at vessel surface area near supports. Is tank mounted above ground water level-on pilings? Is ground wire attached?		X			Tank is in a burm with secondary containment. Tank has no signs of settlement on the elevated concrete pad. One anchor bolt has severe deformation. Ground wire firmly attached.
Ring Wall. Assess concrete ring underneath the tank. Cracks and spalling?				X	No ring Wall.
Concrete foundation Check for cracks, spalling, etc.	X				Concrete foundation has minor chips and spalling to it. Of no concern at this time.
Ladder / Platform Describe general condition, ensure support is secure to vessel, and describe any hazards.	X				Ladder is in good condition with no loose or missing sections or pieces. Ladder is securely fastened to tank.
Nozzle Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted? Inspect gussets for cracking.	X				Nozzles all appear in good condition and all stud threads appear tight and fully engaged with no weeping.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Gauges seem to be working accurately.
External Piping Ensure pipe is well supported. All clamps, supports, shoes, etc. in place. Look for evidence of structural overload, deflection, etc. Paint condition, external corrosion?	X				Piping is well supported; all clamps, supports, and shoes are in place.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				No leaks are visible. Valves appear in good condition.
Secondary Containment: Check concrete or steel dyke with vinyl liner-describe	X				Liner appears in good condition. Very poor drainage. Tank shares burm with 4 other tanks.
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	X				None on this inspection.
<p>Recommendations or corrective actions : Vessel is Fit for Service or describe corrective actions required) (MIC to review corrective actions with Operations, discuss with Chief Inspector where necessary, and get remedial action implemented) Recommendations: 1. Repair anchor bolt.</p> <p>Summary: This tank is in good overall condition, visual external carried out. Thief hatch appeared to be operational and in good condition. Vessel is fit for service</p>					
Signature: 					

Internal Inspection Items	G	F	P	N/A	Comments
Coating Assess coating. Describe area coated, general condition of coating. Look at nozzles, coupling, and areas of most severe corrosion to ensure coating is intact. If coating is in poor condition make decision <u>now</u> if re-coating necessary? If so, when?	X				Coating is in good condition. Tank is coated for the first 40 inches internally up the shell and over the entire floor
Anodes. How many, type, condition. % consumed. Are they being replaced?	X				Both Anodes were to be replaced.
Internal Piping Is there any? If so, carbon or stainless steel. Describe condition, dents, corrosion, erosion, etc. Ensure supports are secure and any bolts are suitable for future use.	X				All internal piping was well supported with no damage, dents or corrosion found.
Float Intact and in place – guide cables attached?	X				Float was intact and attached to cables
Baffles, deflector plates, etc. If present, describe condition. Look closely at welds attached to tank wall.				X	
Bottom Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)	X				No corrosion found.
Deck Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)	X				Deck is internally painted and in new like condition
Shell Sections Record number of shell sections. Record location, size and depth of all erosion, corrosion or mechanical damage. Describe general condition. If any corrosion greater than corrosion allowance is observed in either shell or head, discuss with Chief Inspector before closing vessel.	X				Tank consists of 4 courses at 6 feet tall. There was no corrosion noticed and all courses had been internally painted. Paint was in good condition.
Fire tube / Heat Medium Coil: Is it in place – anchored? Is it clean?				X	
Welds Inspect all welds, including attachment welds. Document corrosion and pitting.	X				All welds were free of any welding defects or any type of corrosion or erosion.
Repairs Required. If yes, ensure procedure laid out in API 653 is followed. If coating repairs then ensure documentation of areas an amount of localized repairs are carried out. If contractor is involved in repairs then identify repair facility.	X				None Required
NDE Was any NDE done. (MI coordinator to review results)	X				UT was done on the first and second course. A floor scan was performed also with follow up UT. Floor thickness readings were found to be 10.0mm thick with a coating thickness of 1mm. The first course was 7.9mm thick at coating location and 7.0mm without. 2nd course was 5.7mm thick. These readings were typical for all quadrants of the tank.
<p>Recommendations or corrective actions : Vessel is Fit for Service or describe corrective actions required) (MIC to review corrective actions with Operations, discuss with Chief Inspector where necessary, and get remedial action implemented) Recommendations: No recommendations at this time. Anodes were replaced Summary: Tank is in overall good condition, visual external inspection and ultrasonic corrosion survey performed—no metal thickness detected below nominal. Tank is fit for service</p>					

Inspected By: Matt Wood
(API Certification# 31284)

Date: June 20, 20



Site LSD



Tank Lot Overview



Tank identification



Data Plate



Manway Access door



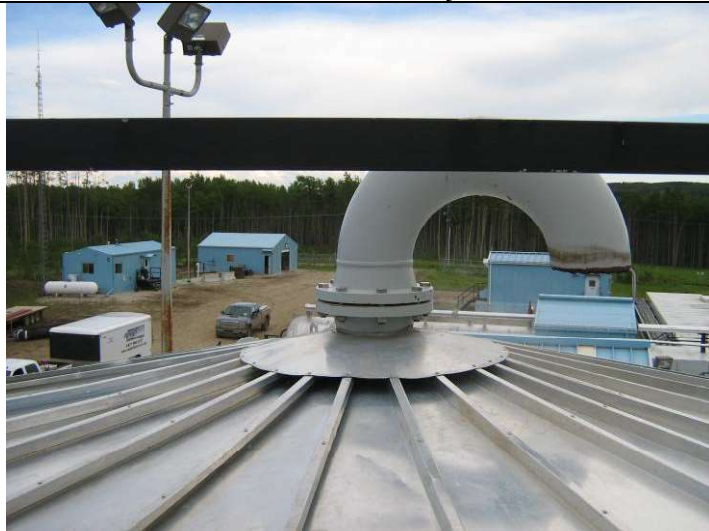
Anchor bolt deformed



Ladder Assembly



Tank is grounded



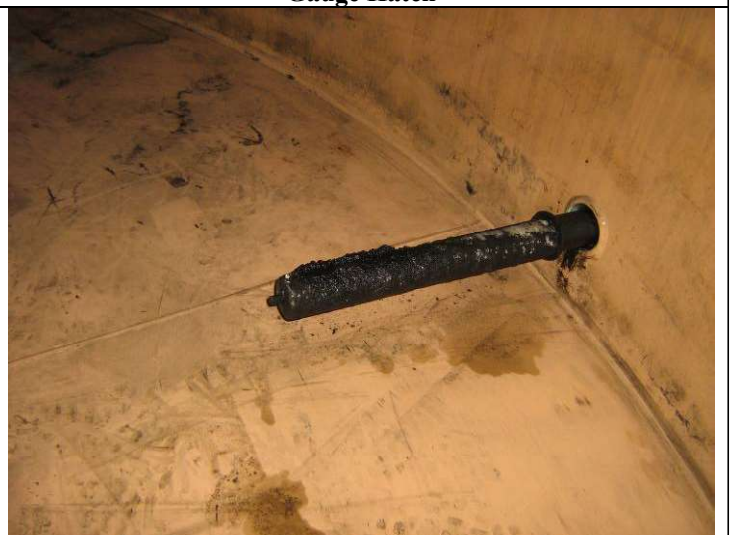
Roof Overview



Gauge Hatch



Floor and shell Overview



Typical Anode



Internal Roof and upper shell



Internal Piping
