

Pressure Vessel Thorough Inspection Report

Client Work Order:		Report Number: 12212A	Date: October 18, 2020	Page 1 of 8
PRN Number: A 0126332	Description: 25,300 Gal. Western Rock Bit vessel CRN C-4936.23		Location: Dalemead, AB	
Max. Allowable Working Pressure: 225 PSI	Max. Allowable Working Temperature: 150°F	Inspection Spec: ASME V, API 510		

Preparation for Inspection

Safety meeting with site personnel. Review JHA, Rescue plan, safe working procedures. Contact information.
 Daily toolbox talk.
 Check all safety equipment, tools, inspection equipment. Report deficiencies, remove unsafe tools.
 First entry under air, ensure vessel is safe for entrants without SABA.

Safety

Inspection Points	In Order	N/A	Comments
1. Have all safety precautions been undertaken?	√		
2. Do previous inspection reports indicate any areas of concern?	X		Vessel has manway addition and de-rated to 225 psi
3. Did any abnormal process conditions or disturbances occur since the last inspection? If yes, specify.	√		

External Ladders and Access

Inspection Points Check	In Order	N/A	Comments
1. If applicable, check ladders, stairways, platforms, or walkways that are connected to, or bearing on, the vessel for signs of corrosion, missing components, or deterioration?		√	

Support Structure

Inspection Points Check	In Order	N/A	Comments
1. If applicable, check vessel supports for signs of deterioration, settlement, deflection, and/or corrosion?	√		Steel skid mounted. No settlement evident.
2. If applicable, check coatings, insulation and/or fireproofing for signs of deterioration, rust spots, cracks, blistering, and/or film lifting?	√		Insulation in good condition. No evidence of possible CUI
3. a) For horizontally mounted vessels, check for signs of trapped moisture, resulting in corrosion between cradle support and vessel shell?	√		No evidence of corrosion in areas visible
b) For vertically mounted vessels on skirt support or support legs, check for condensation, resulting in corrosion on the bottom cap/inside skirt support surface or area of attachment of the support legs to the bottom cap?		√	
4. Is the grounding connection properly installed, with cable connections tight and ground wires in good condition?	√		Ground connection is properly secured.
5. Check all bolted connections. Are there any signs of corrosion or mechanical damage?	√		No damage noted.
6. If applicable, is the vessel sliding foot free to move, are hold-down bolts free?		√	Vessel is welded to pier.

Vessel External Surfaces

Inspection Points	In Order	N/A	Comments
1. Are permanent identifying tags on vessel, and legible?	√		
2. If applicable, check that all bolts/studs extend fully through their nuts, having a protrusion beyond the nut of not less than one thread? Do flange bolts have bolt heads all on the same side of the joint? Specify.	√		Disconnected and blinded
3. If applicable, ensure bolted connections are in full contact with connected elements and connections free from rust, corrosion or mechanical damage?	√		
4. If applicable, check insulation support bands and clips for signs of corrosion or breakage?	√		Bands and clips sound
5. Check all welded seams and connections. Is there any deterioration, corrosion, cracking, pitting or other sign of failure? Specify.	√		Not visible externally. Vessel fully insulated
6. Does the visual inspection of the exterior surface of the vessel, including coatings and insulation, show signs of leaks, cracks, deformation, distortion, pitting, corrosion or other forms of deterioration? If so, specify type, location and extent.	√		No signs of leaks, cracks or corrosion.
7. If applicable, do weep holes in reinforcement plates remain open?		√	Not visible

Piping/Instrument Attachments

Inspection Points	In Order	N/A	Comments
1. If applicable, does vessel trim, such as gauges, sight glasses, valves and other appurtenances, show signs of deterioration, or missing components, etc.?	√		All vessel trim in good condition

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2. If applicable, is the PSV on the vessel in calibration? Record tag number of PSV.			✓	Vessel decommissioned
3. Inspect fittings, nozzles and other connections, including vessel adjacent areas to them. Are there any signs of distortion or cracks, wall loss, leakage, deterioration of coatings, etc? Specify extent and location.		✓		All fittings and nozzles in good condition
Vessel Internal Surfaces				
Inspection Points	In Order	N/A	Comments	
1. Check for signs of corrosion, erosion, cracks, blisters, pitting, distortion, or other forms of deterioration on the internal vessel surfaces? If so, specify type, location and extent.	✓		Vessel has internal coating over all surfaces. Some minor scattered corrosion evident. Less than 0.040 in. depth visible beneath coating	
2. Check all welded joints. Are there any signs of deterioration, corrosion, cracking, pitting or other sign of failure? Specify.	✓		No visible signs of deterioration through coating	
3. Check all manways, nozzles and connections for distortion, cracks, corrosion, wall loss, and other kind of defects or failures. If any defects are noted, specify type, extent and location.	✓		Manway nozzle shows some corrosion on nozzle less than 0.050 in. depth.	
4. If applicable, do the results of performed wall thickness survey for areas of wall thickness loss when compared with previous reports? If so, identify areas on inspection report.	✓		Random UT corrosion survey shows no rejectable wall loss.	
5. Where applicable, check vessel internal cladding for signs of bulging, buckling, cracks, holes, etc.? If so, specify type, location and extent.		✓		
6. Where applicable, does the vessel internal coating show signs of deterioration such as: rust spots, blisters, film lifting, etc.? If so, specify type, location and extent.	✓		Limited visual inspection due to liquid retained in bottom. Visible areas show no signs of blisters, rust staining or film lifting. Some patches of product residue adhering to shell.	
7. If possible, check gasket seats on all flanges. Check for signs of corrosion and/or mechanical damage?	✓		Gasket seating surface on both manways in good condition	
Internal Equipment/Piping/Supports				
Inspection Points	In Order	N/A	Comments	
1. Where applicable, check supports for vessel's internal equipment and components for signs of corrosion, distortion and deterioration?	✓		Internal piping attached by flanges, no corrosion noted.	
2. If applicable, check vessel's internals for signs of corrosion, distortion and deterioration?	✓		Piping shows no sign of deterioration.	
3. If applicable, ensure bolted connections are in full contact with connected elements and connections free from rust or other deleterious material that may prohibit full contact?	✓		All bolted connections sound	
Additional Testing Requirements				
	In Order	N/A	Comments	
1. Is further NDE required?	✓			
2. Are all affected areas requiring further non-destructive testing or repair marked with a chloride free marker?		✓		
Documentation of Findings				
	In Order	N/A	Comments	
1. Have drawings been marked up to show any anomalies or areas of concern? Ensure they are brought to the attention of Client.		✓		
2. Are any notifications to the Jurisdiction required? If so, notification number.	✓		Client responsible	
3. If findings, ensure the Client's representative has been notified. Ensure sign off sheet is signed, if applicable.		✓		
Note: ADDITIONAL REPORT SHEETS ARE TO BE USED AS PER APPROVED CEG GROUP PROCEDURES AND ATTACHED TO WORK PACK TO RECORD INSPECTION RESULTS AND RECOMMENDATIONS.				

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Inspection Results:

Vessel meets the standards as set out in the applicable inspection spec.
 Limited UT results are acceptable.
 Visual inspection is acceptable.



Vessel s/n 12212A



Head A



Head B



Manway addition alteration

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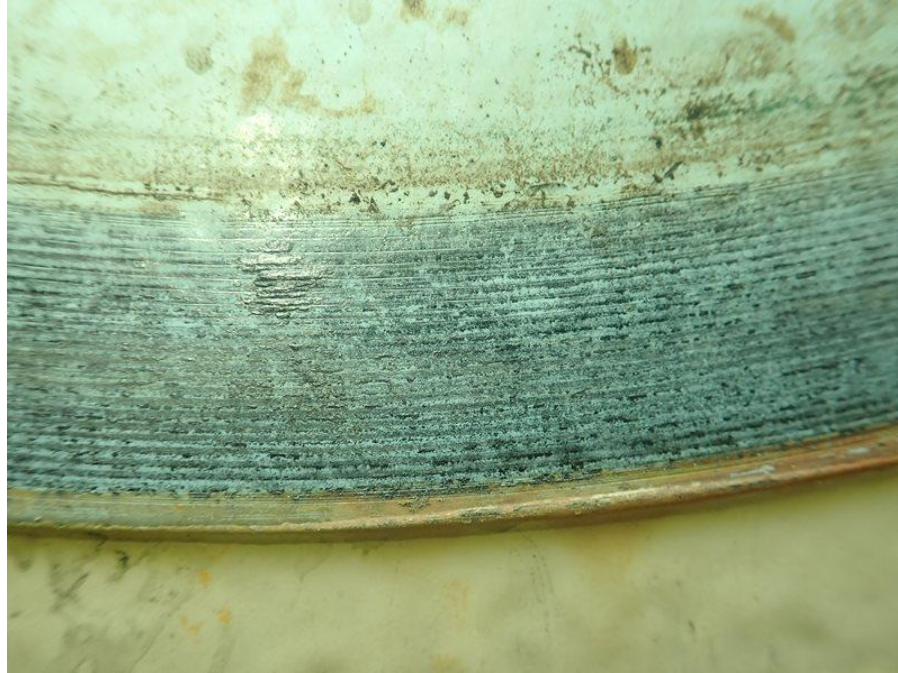
Data Plate



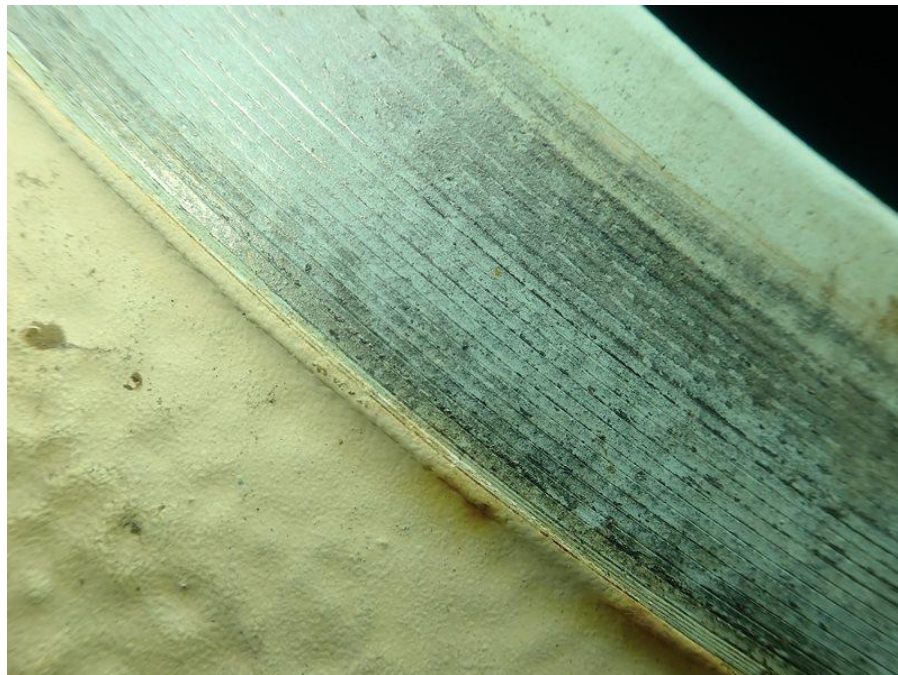
Alteration Data Plate

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Gasket seating surface 16 in. manway



Gasket seating surface 20 in. manway

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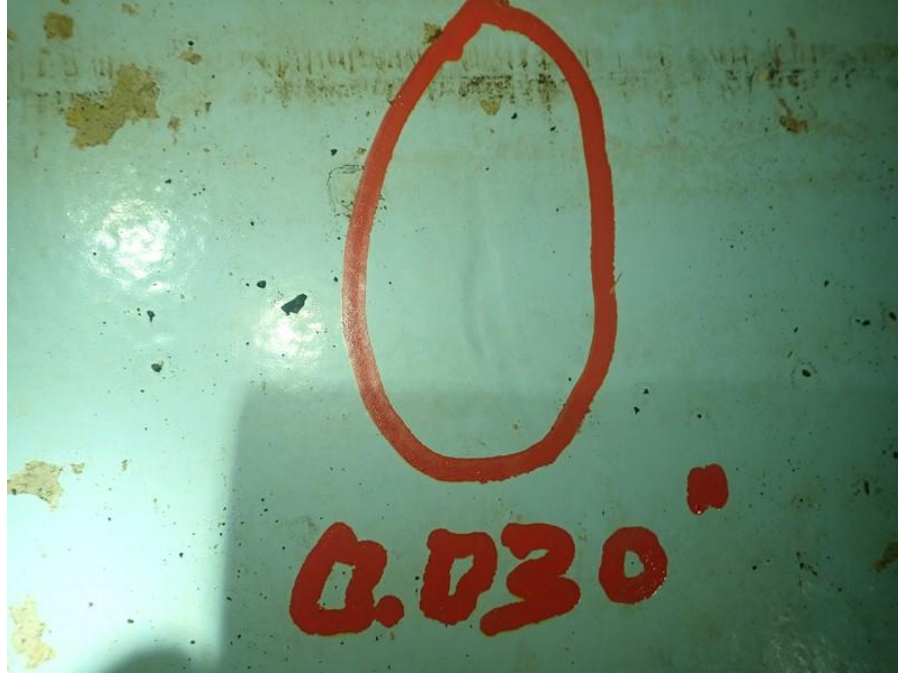
Internal view Head A



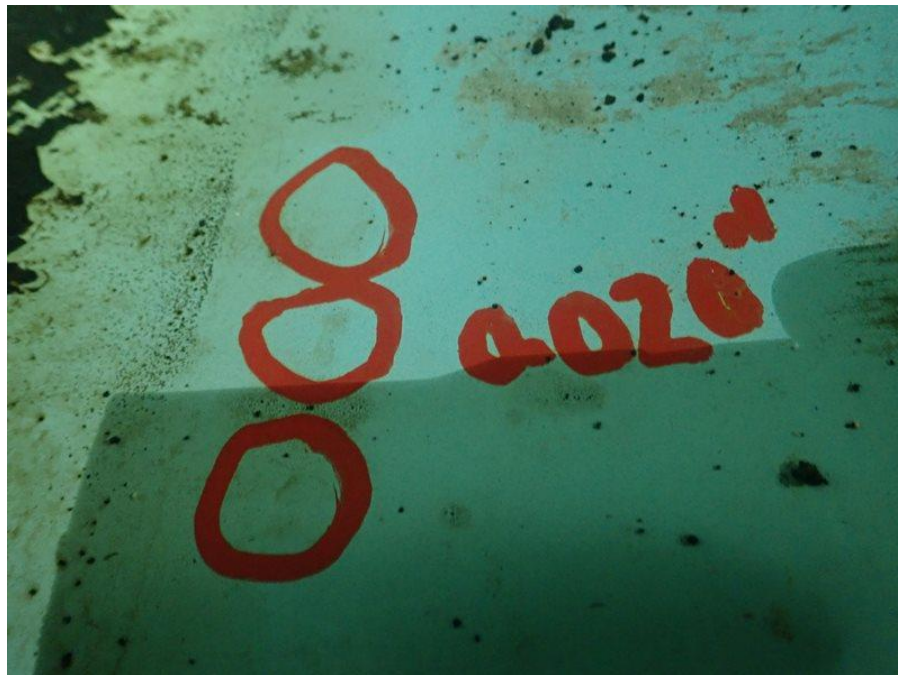
Internal view Head B

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Pitting on shell



Pitting on shell

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Pitting on 16 in. manway

Recommendations

Vessel appears to have had a pitting corrosion issue prior to coating. All pits measured were below 0.050 in. and are soundly coated with epoxy type coating over entire internal vessel surface, including attachments. There is no visible instance of corrosion currently.

Vessel is suitable for continued service.

I certify that the above record is accurate and correct. Based on the results of this inspection, the vessel in question ___meets___ the standard(s) indicated above, and is ___safe___ for its intended use.
(meets/ does not meet) (safe/not safe)

Doug Copping

Inspector Name

Inspector Signature

October 18, 2020

Date Performed

Final Sign Off	Lead Inspection Tech (LIT)	Client Responsible	Chief Inspector
Name	Doug Copping	Darcy Harbourne	
Sign			
Date	October 20, 2020		
Copied To:	Client Responsible		