

EQUIPMENT EXTERNAL INSPECTION REPORT

Customer:	TAQA North	ITS Job No.:	1-4012
District:	North Area	Date:	09-Jul-2018
Facility:	Chinchaga Gas Plant	LSD:	C-032-H/094-H-08
Equip. Description:	BC #1 Inlet Separator	Serial No.:	7723-03
Equip./OIP No.:	603VS006	PRN:	Not Stated
Equip. Type: <input type="checkbox"/> Column <input type="checkbox"/> Cooler <input type="checkbox"/> Exchanger <input type="checkbox"/> Furnace <input type="checkbox"/> Heater <input type="checkbox"/> Plate Exchanger <input type="checkbox"/> Reboiler <input checked="" type="checkbox"/> Vessel <input type="checkbox"/> Other:			

Remedial Action	Service	Associated Components	Shell
<input type="checkbox"/> No Action Required	<input checked="" type="checkbox"/> Sweet <input type="checkbox"/> Sour	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N: Name Plate Secure	<input checked="" type="checkbox"/> Good Condition
<input type="checkbox"/> Paint/Coating Repairs	Access and Coverage	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N: Name Plate Legible	<input type="checkbox"/> External Corrosion
<input type="checkbox"/> Insulation Repairs	<input checked="" type="checkbox"/> External Inspection	External Grounding	<input type="checkbox"/> Pitting: (max depth)
<input type="checkbox"/> PSV Service Required	<input type="checkbox"/> Part. External Inspection	<input type="checkbox"/> Direct <input checked="" type="checkbox"/> Indirect <input type="checkbox"/> N	<input type="checkbox"/> Scale
<input type="checkbox"/> Further Assessment Required	<input type="checkbox"/> Internal Inspection (VI) NDE Examination	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA: Ladders/ Handrail/ Walkway/ Grating in safe condition?	<input type="checkbox"/> Blistered
<input type="checkbox"/> Condition Damage	<input checked="" type="checkbox"/> UT	<input type="checkbox"/> See Attached Pictures	<input type="checkbox"/> Mechanical Damage
<input type="checkbox"/> Does not comply with applicable code/safe operating requirement.	<input type="checkbox"/> MT	<input type="checkbox"/> Excessive Vibration	<input type="checkbox"/> Deformation/Distortion
<input type="checkbox"/> Repairs Required	<input type="checkbox"/> PT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA: Pressure Gauge within MAWP	<input type="checkbox"/> Condensation/Sweating
<input checked="" type="checkbox"/> See Comments	<input type="checkbox"/> RT	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA: Temp. Gauge within MDMT	<input type="checkbox"/> No Access
Status	<input type="checkbox"/> BH	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA: Temp. Gauge within MDMT	<input type="checkbox"/> No Access Insulated
<input checked="" type="checkbox"/> Operational; <input type="checkbox"/> Idle;	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N Attached Piping and Instrumentation in Good Condition	<input type="checkbox"/> No Access Ice Build Up
<input type="checkbox"/> Shut In; <input type="checkbox"/> New Install;	<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments	<input checked="" type="checkbox"/> Weld(s) in Good Condition
<input type="checkbox"/> Surplus/Boneyard;			<input type="checkbox"/> Weld(s) Corroded
<input type="checkbox"/> Other:			<input type="checkbox"/> Weld(s) Poor Quality
			<input type="checkbox"/> Weld(s) Cracked
			<input type="checkbox"/> See Comments

Head (1)	Head (2)	Nozzles
<input type="checkbox"/> Top <input checked="" type="checkbox"/> North <input type="checkbox"/> West	<input type="checkbox"/> Bottom <input checked="" type="checkbox"/> South <input type="checkbox"/> East	<input checked="" type="checkbox"/> RF <input type="checkbox"/> RTJ <input type="checkbox"/> NPT
<input type="checkbox"/> Flat <input type="checkbox"/> FLG <input checked="" type="checkbox"/> ELL <input type="checkbox"/> ECC <input type="checkbox"/> HEMI <input type="checkbox"/> Other	<input type="checkbox"/> Flat <input type="checkbox"/> FLG <input checked="" type="checkbox"/> ELL <input type="checkbox"/> ECC <input type="checkbox"/> HEMI <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Good Condition
<input type="checkbox"/> Quick Open Closure	<input type="checkbox"/> Quick Open Closure	<input checked="" type="checkbox"/> Fasteners Engaged
<input type="checkbox"/> Quick Actuating Closure	<input type="checkbox"/> Quick Actuating Closure	<input type="checkbox"/> Repad Weep Holes Clear
<input type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Nozzles are Gusseted
<input type="checkbox"/> External Corrosion	<input type="checkbox"/> External Corrosion	<input type="checkbox"/> External Corrosion
<input type="checkbox"/> Pitting: (max depth)	<input type="checkbox"/> Pitting: (max depth)	<input type="checkbox"/> Leaking/Weeping
<input type="checkbox"/> Scale	<input type="checkbox"/> Scale	<input type="checkbox"/> Damaged/Cracked
<input type="checkbox"/> Blistered	<input type="checkbox"/> Blistered	<input type="checkbox"/> Bolts Missing/Loose
<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Deflection/Distortion
<input type="checkbox"/> Deformation/Distortion	<input type="checkbox"/> Deformation/Distortion	<input type="checkbox"/> Partial Internal Inspection
<input type="checkbox"/> Condensation/Sweating	<input type="checkbox"/> Condensation/Sweating	<input type="checkbox"/> No Access Insulated
<input type="checkbox"/> No Access	<input type="checkbox"/> No Access	<input checked="" type="checkbox"/> Weld(s) in Good Condition
<input checked="" type="checkbox"/> No Access Insulated	<input type="checkbox"/> No Access Insulated	<input type="checkbox"/> Weld(s) Corroded
<input type="checkbox"/> No Access Ice Build Up	<input type="checkbox"/> No Access Ice Build Up	<input type="checkbox"/> Weld(s) Poor Quality
<input type="checkbox"/> External Protection Only	<input type="checkbox"/> External Protection Only	<input type="checkbox"/> Weld(s) Cracked
<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments

External Surface	Supports	Associated Piping	PRD 1	PRD 2
<input checked="" type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	Location: Shell	Location: Not Applicable
<input checked="" type="checkbox"/> Painted <input checked="" type="checkbox"/> Full <input type="checkbox"/> Part.	<input checked="" type="checkbox"/> Anchor Bolts Secure	<input type="checkbox"/> Corrosion	PSV Tag No.: 603SVVS006	PSV Tag No.: Not Applicable
<input type="checkbox"/> Coated <input type="checkbox"/> Full <input type="checkbox"/> Part.	<input type="checkbox"/> Welded to Skid	<input type="checkbox"/> Pitting: (max depth)	<input checked="" type="checkbox"/> Service Date within Interval	<input type="checkbox"/> Service Date within Interval
<input type="checkbox"/> Insulated <input type="checkbox"/> Full <input type="checkbox"/> Part.	<input type="checkbox"/> Supported by Nozzle(s)	<input type="checkbox"/> Bolts Missing/ Loose/ Damaged	<input checked="" type="checkbox"/> Set Pressure within MAWP	<input type="checkbox"/> Set Pressure within MAWP
<input type="checkbox"/> Insulation Damaged	<input type="checkbox"/> Piping Supported	<input type="checkbox"/> Short Bolting	<input checked="" type="checkbox"/> Safety Seal Intact	<input type="checkbox"/> Safety Seal Intact
<input type="checkbox"/> Penetration Seals Broken	<input type="checkbox"/> Expansion Slots	<input type="checkbox"/> Connections Leaking	<input checked="" type="checkbox"/> Service Seal Intact	<input type="checkbox"/> Service Seal Intact
<input type="checkbox"/> Corrosion Under Insulation (CUI)	<input type="checkbox"/> Bolts Missing/ Loose/ Damaged	<input type="checkbox"/> Piping and Valves Supported	<input checked="" type="checkbox"/> Current Service Tag Attached	<input type="checkbox"/> Current Service Tag Attached
<input type="checkbox"/> Visible Moisture Contamination	<input type="checkbox"/> Short Bolting	<input type="checkbox"/> Piping Deflected/ Distorted	<input type="checkbox"/> PSV inlet Gusseted	<input type="checkbox"/> PSV inlet Gusseted
<input type="checkbox"/> Paint Deterioration	<input type="checkbox"/> Deflected/Distorted		<input type="checkbox"/> Inlet Block Valve	<input type="checkbox"/> Inlet Block Valve
<input type="checkbox"/> Coating Deterioration	<input type="checkbox"/> Poor Insulation		Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N	Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Fireproofing Cracked	<input type="checkbox"/> Fire Proofing Cracked	<input type="checkbox"/> No Access Insulated	Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N	Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> External Protection Only	<input checked="" type="checkbox"/> Vessel is level	<input type="checkbox"/> See Comments	<input type="checkbox"/> Outlet Block Valve	<input type="checkbox"/> Outlet Block Valve
<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments		Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N	Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N
			Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N	Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N
			<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments

Observations:
Equipment in ☒ **Good**, ☐ **Fair**, ☐ **Poor** **Condition**
Good: No concerns found (may still have recommendations)

Fair: Minor issues found that do not impair the "fitness for service" of the equipment, (paint deterioration, general external surface corrosion - no measurable metal loss, not mounted to skid, etc.)

Poor: Equipment had moderate to major concerns found (equipment is damaged, severe external corrosion noted, cracked or broken component, etc.)

☒ **Based on API 510 Visual External Inspection this vessel is fit for service**

(This piece of equipment meets the Jurisdictional requirements based on the information available at the time of the inspection.)

- Vessel is in good condition.
- Paint is in good condition.
- No access to the North head due to external insulation.
- Saran wrap noted on associated flanged connections.
- Weep noted on the South bridle top flanged head. (Appears old)
- Low UT reading found on CML 34 (3" 90 degree drain elbow) nominal thickness 5.5mm / 4.8mm. Lowest UT reading found 4.1mm. Suspected internal isolated pitting.
- A UT repeat examination was also performed (externally) on the isolated internal pitting found in 2012. No change in thickness found. See attached UT report.

Recommendations:

- Monitor the low UT reading found on CML 34 (3" 90 degree drain elbow).
- Remove the saran wrap from the associated flanged connections.
- Remove dried product from the vessel and associated components.

Non-Conformance Conditions and Corrective Actions:

Note: Reference any and all Non-Conformance Report (NCR) numbers and Corrective Action Report (CAR) numbers.

- None.

Recommended Inspection Intervals:

Recommended Maximum Inspection Interval:	60	Months	PRD 1 Recommended Service Interval:	60	Months	PRD 2 Recommended Not Applicable Service Interval:
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Pictures:



Associated Flange connection overview

External Inspection Performed By:

Print Name: Christopher Russell Earl

Certification No.:

ABSA IPV PESL: 000782
API 510: 45377

Signature:

[Handwritten Signature]

Report Reviewed:

[Handwritten Initials]
Initial

Chief Inspector /
Client
Representative:

Name (Print)

Signature

Date: