



Head Office: 4810 - 93 Street NW, Edmonton, Alberta, Canada T6E 5M4
Tel: 780-469-2401 Fax: 780-468-2422 www.raeengineering.ca

Report No: KM008864

| | | | |
|---------------------------|---|-------------------------|--------------------------|
| Client | Tara Energy Services | Inspection Date | Mar 14, 2024 |
| Prov. Reg. # | AB RAE52433 | Inspection Type | VE / PSV / UT |
| Equipment Type | Fuel Gas Scrubber | Location | Portable, Clairmont Yard |
| Tag/Equip. | | LSD | AB |
| Status | In Service | Downhole LSD | |
| Manufacturer | Lo Tech Manufacturing Inc. | Area | Grande Prairie |
| Serial Number | 1006.2342 | Year Built | 2005 |
| CRN # | OH2299.2134 | Service | Sweet |
| Comp/Unit Id | SS-287 | Manway | None |
| Nat.Board # | | Coating | |
| Interim Insp'n | | Interim Type | |
| Next Thorough Insp | 2027 | Next Insp Type | VE / PSV / UT |
| Length | | Height | |
| Volume | | Client Reference | |
| Owner | Tara Energy Services | RT | HT |
| Foreman | Jeff Warr | RAE Job No. | PR0002839 |
| ABSA | Plant: H Vessel: K Process: G Special: W | ASME | Sec. VIII div. 1 |
| History Log | PSV Service Report - dated February 25, 2021 - entered March 10, 2021 Inspection Report Complete - Inspection Date: 2024-March-14 Inspection Type: VE/PSV/UT | | |

| | | | |
|----------------------------|--------------------|---------------------------|--------------------|
| Component | Shell | | |
| MAWP | 150.0 PSI @ 100 °F | MDMT | -20 °F @ 150.0 PSI |
| Material | | Material Thickness | |
| Diameter | | Length | |
| Corrosion Allowance | | | |



| | | | |
|------------------------|---------------|-------------------------|-----------------------|
| Valve Tag No | 25012-41 | Relief Type | Pressure Relief Valve |
| Manufacturer | Taylor | Set Pressure | 125.000 PSI |
| Serial Number | 25012-41 | Capacity | 493 SCFM |
| Model | 82E4351311 | Last Service | Feb 26, 2021 |
| CRN | 0G1316.2C | Next Service | 2024 |
| Service Co. | Unified | Service Interval | 36 Months |
| Service Co. Tag | 32616G | Inlet Size | 1 in |
| ASME Stamp | UV | Outlet Size | 1 in |
| NB Stamp | YES | Connection | Threaded |
| Relief Dest. | To Atmosphere | Valve Loc. | On Piping |
| Comments | | Client Reference | |

Building Observations

Number of Access Doors:1 Building Supported by: Skid
Gas test port: No Gas Detection: No
Fire eye: No Catalytic Heater: Yes
Lighting: Good Floors : Checker plate steel
Drainage/Condition: Acceptable
Equipment placed ergonomically: Yes

The building was generally in good condition and well supported. The doors and windows functioned well and were in good condition. The cladding was generally in good condition.

Figure: 1



Building



Piping Observations

General condition: Acceptable
Mechanical connections acceptable for service?: Acceptable
Clad: No Painted: Yes Insulated: No
Are there any dead legs: No
Support type: U-Bolt
Supported adequately: Yes

The attached piping was generally in good condition and sufficiently supported. There was no damage, distortion or stress evident on the piping. The piping was not insulated it was painted and generally in good condition. Scattered external corrosion was visible on the piping surfaces. The piping had threaded connections that appeared to be in good condition and showed no signs of leakage.

PSV Observations

Drainage : Acceptable Supports : Acceptable
Bolting : N/A Seal wire : Acceptable
Gasket : N/A Service tag : Acceptable
CRN : Acceptable Set pressure : Acceptable
Installation vertical : Yes Required Capacity : Value not available
PSV block valves : No
PSV service report available : No

The PSV was located on associated piping. The vent size was adequate and vent lines were positioned safely. The outlet piping provided positive drainage for the PSV. The PSV is due for service therefore the PSV needs to be serviced and service report needs to be sent to RAE Engineering and Inspection Ltd. for data entry.

Figure: 2



PSV

Figure: 3



PSV Service Tag - Front



Figure: 4



PSV Service Tag - Back

External Observations

| | |
|---------------------------------------|--|
| Installation : In Building | Support Structure : Direct to Building |
| Grounded : Yes | Securement Type : Welded |
| Drains :Manual | Securement Condition : Acceptable |
| Attachments : No | Ladders/Platforms : N/A |
| CUI checked : N/A | External Covering : Coated |
| Vessel Orientation : Vertical | |
| Manway : No | |
| Certificate of inspection permit : No | |
| Nameplate attached and legible : Yes | |

The vessel was identified per RAE-number and serial number stamped on the nameplate of the vessel. The top head, shell, nozzles and gauges appeared to be in good condition. There was no stress evident on piping or nozzle connections. There was no evidence of leakage at the piping connections. There was no damage or distortion evident on the vessel surface. The vessel was not insulated it was painted and generally in good condition. There were no structural attachments to the vessel. The vessel was adequately supported.



Figure: 5



Nameplate

Figure: 6



Vessel Overview

UT1 Observations

See attached UT report. All UT thickness readings were reviewed and verified by the Inspector. There were no concerns with the UT readings.

Recommendations

1. The PSV is due for service therefore the PSV needs to be serviced and service report needs to be sent to RAE Engineering and Inspection Ltd. for data entry.

Based on the scope and results of this inspection the vessel is fit for continued service.

Ken McNeil


Alberta IBPV #A-75085
API 510 #39628, API 570 #66961
API 653 #47993, CWB Level III #483

Marnes du Plessis

Alberta IBPV #A-74773
TSASK Pressure Equipment Class I #250
CWB Level II #8117

Inspector : Ken McNeil

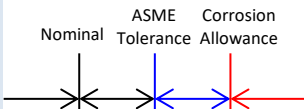
Reviewed By: Marnes du Plessis

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|--|-------------|--|-------|-------------------|--------------------------|--|--------------|--|--------------|---------------|--------|------------------|------------|----------|--|
|  RAE Engineering and Inspection Ltd 4810 - 93 Street Edmonton, AB, T6E 5M4 ph: 780-469-2401 fx: 780-468-2422 | | | | Inspection Date: | | 22-Mar-24 | | Ultrasonic Thickness Examination | | | | | | | |
| | | | | Report Date: | | 8-Apr-24 | | | | | | | | | |
| | | | | Page: | | 1 of 4 | | | | | | | | | |
| Client: | | TARA Energy Services | | | | Report Number: | | 24-PR0002839-EE-UT-02 | | | | | | | |
| Facility: | | 9526 81 AVE, Clairmont, AB T8X0M2 | | | | Location/LSD: | | Clairmont Shop | | | | | | | |
| Equipment Number: | | RAE52433 | | | | Client Representative: | | Jeff Warr | | | | | | | |
| Equipment Description: | | Fuel Gas Scrubber | | | | Client Contact: | | NA | | | | | | | |
| JOB DESCRIPTION | | | | | | | | | | | | | | | |
| Procedure: | | NDE Technical Manual Rev. 2 (NDE-701B) | | | | Surface | | <input type="checkbox"/> Coated <input type="checkbox"/> Bare Steel <input checked="" type="checkbox"/> Painted | | | | | | | |
| Acceptance Code: | | ASME Sec. VIII Div. 1 / ASME B31.3 | | | | Condition: | | <input type="checkbox"/> Ground <input type="checkbox"/> Blasted <input type="checkbox"/> Buffed | | | | | | | |
| Material: | | Carbon Steel | | | | Surface Temp: | | <input checked="" type="checkbox"/> < 0 °C <input type="checkbox"/> 0 - 120 °C <input type="checkbox"/> 120 - 260 °C <input type="checkbox"/> > 260 °C | | | | | | | |
| EQUIPMENT, TECHNIQUE & CALIBRATION | | | | | | | | | | | | | | | |
| Instrument 1 Mfr: | | Waygate | | Model: | | DSMGO+ | | S/N: | | GOPLS21120043 | | Cal. Due: | | 5-Dec-24 | |
| Instrument 2 Mfr: | | | | Model: | | | | S/N: | | | | Cal. Due: | | | |
| Cal Block 1 S/N: | | 09-1475 | | 1 or 2 Point Cal: | | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 | | Calibrated Range: | | 0.250"-1.000" | | Couplant: | | UTX | |
| Cal Block 2 S/N: | | 15-1096 | | 1 or 2 Point Cal: | | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 | | Calibrated Range: | | 1.000"-4.000" | | Couplant: | | UTX | |
| | Probe Model | Freq MHz | Angle | Dia. (in) | Probe Type | | Manufacturer | Serial # | Cable Length | Vel. (m/sec) | Ref dB | Scan dB+BU17:CJ5 | Range (in) | | |
| | | | | | Single | Dual | | | | | | | | | |
| 1 | FH2E | 5.0 | 0° | 0.25 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Stresstel | 22F01YMK | 4' | 5850 | 62 | As Needed | 5 | | |
| 2 | | | | | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | |

Scope: Conduct 0° straight beam ultrasonic testing on **Fuel Gas Scrubber** assessing the *components* for any signs of wall thinning due to corrosion, erosion, laminations, or inclusions.


Results: The measurements obtained from the inspection locations show the thickness of all of the components inspected to be consistent. There were no signs of wall thinning, internal corrosion, erosion, laminations or inclusions at the time of inspection.

Please see the following pages for the pictures of the nameplate and the overall view, the isometric drawings, and the thickness measurements.

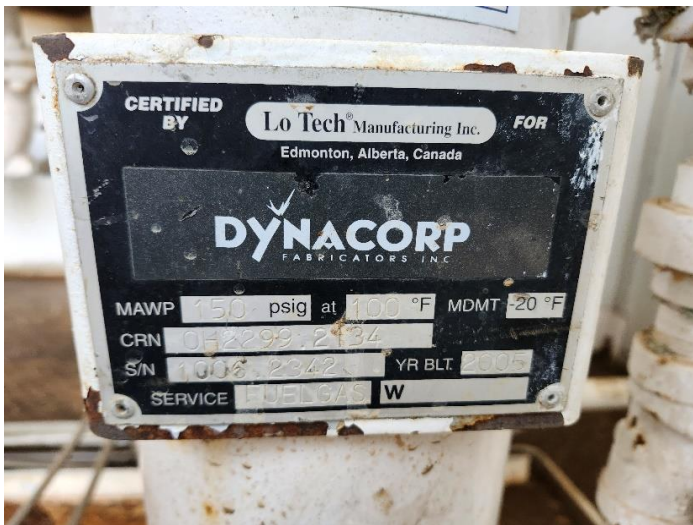


- 1) Black – Within ASME Tolerance
- 2) Blue – \leq Nominal *minus* ASME Tolerance
- 3) Red – \leq Nominal *minus* ASME Tolerance *minus* CA *or* \leq Nominal *minus* ASME Tolerance (if CA = N/S)
- 4) Orange – Nominal Not Specified (N/S)

| | | | | | | |
|----------------------------|---------------|---|--------|----------|-------------|---|
| 1 ST Technician | Efe Erhigbare |  | CGSB#: | 27134 | CGSB Level: | 1 |
| | PRINT | SIGNATURE | SNT#: | 710B-059 | SNT Level: | 1 |
| 2 ND Technician | Stuart Ashman |  | CGSB#: | 18886 | CGSB Level: | 2 |
| | PRINT | SIGNATURE | SNT#: | | SNT Level: | |

| | | | | |
|--|-----------------------------------|------------------------|-----------------------|---|
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PHOTOGRAPHS



View of Nameplate & Unit Number



Overall View of Equipment



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| | |
|------------------|-----------|
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Ultrasonic Thickness Examination

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EQUIPMENT CML ISO DRAWING

