

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD 6-16-47-13 W5M

Date July 13, 2021

SAP Equipment ID 66150755

Report #

| VESSEL STATIC DATA | | | | | | | | | | |
|---------------------------|----------------------|--------------|--------------|------------------------------------|--------------|-------------------------------|-----------------------------|-------------------------|--|--|
| Plant | | | | Op Unit | | | System | | | |
| Prov. Insp. # | | NB# | | CRN | | | Equip Tag # | | | |
| Equipment Description | | | | Flare Stack | | | Serial # 3235-0000 | | | |
| Manufacturer | | | | Pyramid Process Fabricators | | | Vessel Class | | | |
| Internal Access | | YES | | NO Description | | | Year Built 2008 | | | |
| MAWP | | kPa / PSI | | @ | | °C / °F | | MDMT °C / °F | | |
| CODE UM | | U U2 | | RT 1 2 3 4 | | PWHT | | | | |
| Diameter | | Length (T/T) | | mm/in | | OAL | | mm / in | | |
| Shell Mat'l | | SA-333-GR6 | | Thickness | | mm / in | | Corr Allowance mm / in | | |
| Head Mat'l | | | | Thickness | | mm / in | | Corr Allowance mm / in | | |
| Nozzle Mat'l | | | | Thickness | | mm / in | | Corr Allowance mm / in | | |
| Internal Coating: YES NO | | | | Internal Clad YES NO | | | | Capacity m ³ | | |
| Manway YES NO | | | | Inspection Port YES NO NA | | | | Skirt Legs Saddle | | |
| Nozzle Rating | | lb ANSI | | Painted | | YES NO | | Insulated YES NO | | |
| PROCESS DATA | | | | | | | | | | |
| Product Description | | | | | | Sweet | | Sour | | |
| Operating Pressure | | | | kPa / psi | | Operating Temperature °C / °F | | | | |
| PROTECTED BY PRD or OPPSD | | | | | | | | | | |
| PRD STATIC DATA | | | | | | | | | | |
| Serial No. | Location | | Set Pressure | Capacity SCFM / Lbs/Hr / GPM | Manufacturer | Model / Type | Last Service Date & Company | | | |
| | | | | | | | | | | |
| PRD DETAILS | | | | | | | | | | |
| | Type (Thread/Flange) | | | ANSI Rating | | | Size (mm) | | | |
| PRD Inlet | | | | | | | | | | |
| PRD Outlet | | | | | | | | | | |

INSPECTION SUMMARY

Flare stack appears to be in good condition.

RECOMMENDATIONS

NONCONFORMANCES / INSPECTION DEFICIENCIES

INSPECTION PLANNING

| | | |
|---------------------|----------------------|----------------------|
| Inspection Strategy | Availability | Inspection Interval |
| Inspection Date | Date of Last Inspect | Date of Next Inspect |

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REPORT CERTIFICATION

The signatures below certify that inspections/tests have been completed in accordance with the identified inspection strategy and that the specified equipment is considered fit for service until the date of next inspection.

| | | | | |
|-------------------------------|-------------------------------|---------------------------|---------|----------------------|
| Inspected by | <u>Warren Gill</u> | | Date | <u>July 13, 2021</u> |
| Company | <u></u> | PESL # | <u></u> | API # <u></u> |
| Reviewed and Approved by | <u></u> | | Date | <u></u> |
| | <u></u> | PESL # | <u></u> | API # <u></u> |
| Criticality Assessment Rerun | <u></u> | Inspection Planning Rerun | <u></u> | |
| Optional Rule Group Confirmed | Assessed Next Inspection Date | | <u></u> | |

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DETAILED INSPECTION VISUAL EXTERNAL

| ID | Description | Condition | Location | NCR | Comments |
|-----|---------------------------------------|-----------|----------|-----|-----------------------|
| V1 | General Other (Please Explain) | good | | | No issues noted |
| V2 | General Corrosion | good | | | None noted |
| V3 | General Leaks | good | | | None noted |
| V4 | Vibration | Good | | | Site shut in |
| V5 | Dissimilar Flange Rating | good | | | None noted |
| V6 | Ladder/Stairway/ <u>Platforms</u> | N/A | | | |
| V7 | Heads | N/A | | | |
| V8 | Guy Wires | N/A | | | |
| V9 | Electrical Ground | good | | | grounded |
| V10 | Painted Inactive Corrosion | N/A | | | Not painted |
| V11 | Coating/Painting | N/A | | | |
| V12 | Expansion Joint or Bellows | N/A | | | |
| V13 | Gauge/Site Glass | N/A | | | |
| V14 | Shell | good | | | |
| V15 | Jacket | N/A | | | |
| V21 | Support Other (Please explain) | good | | | |
| V22 | Foundation | good | | | Metal base on pilings |
| V23 | Anchor Bolts | good | | | secure |
| V24 | Saddle/Skirt | N/A | | | |
| V25 | Davit | N/A | | | |
| V26 | Fireproofing | N/A | | | |
| V31 | Connections Other (Please explain) | | | | |
| V32 | Small Branches | N/A | | | |
| V33 | Nozzles | good | | | |
| V34 | Manways | N/A | | | |
| V35 | Reinforcing Pads | N/A | | | |
| V36 | Inadequate Thread Engagement | good | | | None noted |
| V37 | Bolting | good | | | |
| V38 | Flanges | good | | | |
| V39 | Leak Clamps | N/A | | | |
| V41 | Insulation Other (Please explain) | N/A | | | |
| V42 | Damage | N/A | | | |
| V43 | Penetrations | N/A | | | |
| V44 | Insulation Jacket | N/A | | | |
| V45 | Banding | | | | |
| V46 | Seals/Joints | | | | |
| V51 | Relief Devices Other (Please explain) | | | | |
| V52 | Corrosion | Good | | | None noted |
| V53 | Leaks | good | | | None noted |
| V54 | Restricted Inlet/Outlet | N/A | | | |
| V55 | Manual Operation Lever | N/A | | | |

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DETAILED INSPECTION VISUAL INTERNAL

| ID | Description | Condition | Location | NCR | Comments |
|-----|----------------------------------|-----------|----------|-----|----------|
| V1 | General Other (Please Explain) | | | | |
| V2 | Corrosion (depth, length, width) | | | | |
| V3 | Erosion | | | | |
| V4 | Distortion | | | | |
| V5 | Blisters | | | | |
| V6 | Deposits | | | | |
| V7 | Heads | | | | |
| V8 | Welds | | | | |
| V9 | Nozzles | | | | |
| V10 | Shell | | | | |
| V11 | Gasket Surfaces | | | | |
| V21 | Internals Other (Please explain) | | | | |
| V22 | Demister | | | | |
| V23 | Baffle/Weir | | | | |
| V24 | Sparger | | | | |
| V25 | Thermowells | | | | |
| V26 | Metallic Linings | | | | |
| V27 | Nonmetallic Linings | | | | |
| V28 | Trays | | | | |
| V29 | Tray Rings | | | | |
| V30 | Other Welded Attachments | | | | |

Magnetic Particle Equipment records

| Procedure # | Description | | | |
|--------------|------------------|-----------|--------------|---------------|
| Manufacturer | Model | Serial # | Current Type | Mag Part Type |
| | | | | |
| Lighting | Material + Grade | Thickness | Cal Block SN | Cal Due Date |
| | | | | |

Liquid Penetrant Equipment records

| Procedure # | Description | | | | |
|-------------|-------------|-----------|---------|----------|----------------------------|
| Penetrant | Solvent | Developer | Cleaner | Lighting | Material Grade + Thickness |
| | | | | | |

DETAILED INSPECTION OTHER TECHNIQUES

| ID | Location | Observation/Measurement | Acceptance Criteria | NCR | Comments |
|----|----------|-------------------------|---------------------|-----|----------|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |

Ultrasonic Equipment records

| Procedure # | Description | | | |
|-------------|----------------|--------------|----------------|--------------|
| Test Unit | Instrument Mfr | Model # | Serial # | Cal Due Date |
| | | | | |
| Probe | Frequency | Probe SN | Probe Diameter | Couplant |
| | | | | |
| Cal Block | Cal Block Size | Cal Block SN | Cal Block Mtl | |
| | | | | |

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DETAILED INSPECTION UT THICKNESS

| CML | Nom. Thk | Current Reading | Short Term Corr Rate | Long Term Corr Rate | Remaining Life | Comments |
|-----|-------------|--------------------|-------------------------|------------------------|-------------------|----------|
| | | | | | | |
| | | | | | | |
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PHOTOS



LSD Sign



Data Plate



Vessel Overview



Vessel Overview