

STORAGE TANK INSPECTION REPORT

LSD: 04-16-060-22W5

Date: 23-Jan-2017

SAP Equipment ID: 66172118

Report #:

| STORAGE TANK STATIC DATA | | | | | | | | | |
|----------------------------------|-----------|---------------|---------------------|---------|--------------|-----------------------------------|--------------------|----------------------|--------------|
| Plant: Foothills North | | | Op Unit: Kaybob | | System: N/A | | | | |
| Equipment Description: | | | Produced water tank | | | | Equip Tag #: | | |
| Manufacturer: | | | Unknown | | | | Serial #: | | Unknown |
| CODE : | Unknown | | RT: | None | | | Vessel Class: Tank | | |
| Diameter: | | Length: (T/T) | | Height: | | Year Built: | | | |
| MDMT: | Unknown | | PWHT: | No | | | Orientation: | | Vertical |
| Shell Mat'l: | Unknown | | Thickness: | | | | Corr Allowance: | | |
| Roof Mat'l: | Unknown | | Thickness: | | | | Corr Allowance: | | |
| Floor Mat'l: | Unknown | | Thickness: | | | | Corr Allowance: | | |
| Internal Coating: | No | | Internal Clad: | No | | | Capacity: BBL | | |
| Manway: | Yes | | Inspection Port: | No | | | Support : | Skid & wooden planks | |
| Nozzle Rating | lbs. ANSI | | Painted: | Yes | | | Insulated: | Yes | |
| PROCESS DATA | | | | | | | | | |
| Product Description: | | | Emulsion | | | Sweet | | | |
| Operating Pressure: | | | | | | Operating Temperature: | | | |
| PSV / VACUUM BREAKER STATIC DATA | | | | | | | | | |
| Serial No. | Location | Inlet | Size | Outlet | Set Pressure | Capacity SCFM / Lbs./Hr. / GPM | Manufacturer | Model / Type | Service Date |
| N/A – Thief hatch and open vent | | | | | | | | | |

INSPECTION SUMMARY

The external visual inspection of the equipment revealed:

- No relevant indications of in-service corrosion/erosion/mechanical defects or damage
- No non-conformances
- No inspection deficiencies
- No requirements for inspection interval change

RECOMMENDATIONS

None

NONCONFORMANCES / INSPECTION DEFICIENCIES


None

INSPECTION PLANNING

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

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 | Keith Courneyea |  | Date | 23-Jan-2017 |
| Company | | | | API # |
| Reviewed and Approved by | | | | Date |
| | | | | API # |
| Criticality Assessment Rerun | Inspection Planning Rerun | | | |
| Assessed Next Inspection Date | | | | |

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DETAILED INSPECTION VISUAL EXTERNAL

| ID | Description | Condition | Location | NCR | Comments |
|-----|---------------------------------------|-----------|----------|-----|---|
| T1 | General Other (Please Explain) | N/A | | | |
| T2 | General Corrosion | No | | | |
| T3 | General Leaks | No | | | |
| T4 | Vibration | No | | | |
| T5 | Dissimilar Flange Rating | No | | | |
| T6 | Ladder/Stairway | N/A | | | |
| T7 | Platform | N/A | | | |
| T8 | Electrical Ground | Good | | | |
| T9 | Cathodic Protection | N/A | | | |
| T10 | Painted Inactive Corrosion | No | | | |
| T11 | Coating/Painting | N/A | | | |
| T12 | Level Gauge | Good | | | |
| T13 | Bottom | Good | | | |
| T14 | Secondary Containment | Good | | | Double walled |
| T15 | Shell | N/A | | | Not visible due to insulation |
| T16 | Roof | Good | | | Not visible due to insulation |
| T17 | Agitator/Mixer | N/A | | | |
| T18 | Jacket | N/A | | | |
| T31 | Support Other (Please explain) | N/A | | | |
| T32 | Foundation | Good | | | Metal frame on piles |
| T33 | Anchor Bolts | N/A | | | |
| T34 | Windgirders | N/A | | | |
| T41 | Connections Other (Please explain) | N/A | | | |
| T42 | Small Branches | N/A | | | |
| T43 | Nozzles | Good | | | |
| T44 | Swing Lines | N/A | | | |
| T45 | Manways/Hatches | Good | | | |
| T46 | Reinforcing Pads | N/A | | | |
| T47 | Inadequate Thread Engagement | N/A | | | |
| T48 | Bolting | Good | | | Only on small manway |
| T50 | Flanges | N/A | | | All threaded connections |
| T51 | Leak Clamps | No | | | |
| T61 | Insulation Other (Please explain) | N/A | | | |
| T62 | Damage | No | | | Spray foam with sealer. Minor damage noted on surface. No relevant indications of CUI |
| T63 | Penetrations | No | | | |
| T64 | Insulation Jacket | Good | | | |
| T65 | Banding | N/A | | | |
| T66 | Seals/Joints | N/A | | | |
| T71 | Relief Devices Other (Please explain) | Good | | | Thief hatch and open 4 inch diameter PVC vent |
| T72 | Relief Devices Corrosion | No | | | |
| T73 | Relief Devices Leaks | No | | | |
| T74 | Restricted Inlet/Outlet | No | | | |
| | | | | | |

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DETAILED INSPECTION VISUAL INTERNAL

| ID | Description | Condition | Location | NCR | Comments |
|-----|-------------------------------------|-----------|----------|-----|----------|
| V1 | General Other (Please Explain) | | | | |
| V2 | Corrosion | | | | |
| V3 | Erosion | | | | |
| V4 | Distortion | | | | |
| V5 | Blisters | | | | |
| V6 | Deposits | | | | |
| V7 | Welds | | | | |
| V8 | Nozzles | | | | |
| V9 | Shell | | | | |
| V10 | Roof | | | | |
| V21 | Internals Other (Please explain) | | | | |
| V22 | Annual Ring | | | | |
| V23 | Sump | | | | |
| V24 | Roof Support | | | | |
| V25 | Thermowells | | | | |
| V26 | Metallic Linings | | | | |
| V27 | Nonmetallic Linings | | | | |
| V28 | Internal Steam Coil or other piping | | | | |
| V29 | Level Gauge | | | | |
| V30 | Other Welded Attachments | | | | |
| T11 | Floor | | | | |

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 + Thick. |
| | | | | | |

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



Location



Overview

Equipment did not
have a nameplate

Nameplate



Grounding



Thief hatch and vent



Inlet piping and truck out connection

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Secondary containment drain



Interior of attached shack. Interstitial space leak indicator to right of manway.



High level indication



Manway