**Canadian Natural Resources Limited**
**GENERAL PRESSURE VESSEL INFORMATION**

| | |
|---|---|
| District: **Fort St. John BC.** | Skid No. |
| Facility: **Beaton Gas Field – K Battery** | Location (LSD): **d-48-K-94-H-2** |
| Vessel Name Equipment Number: **Group Separator** | |
| Orientation: **Vertical** | |
| Status: **In Service** | **Regulatory Inspection** |

**PRESSURE VESSEL NAMEPLATE DATA**

| | | | |
|---|---|---|---|
| "A" or "G" or "S" (Sask.) or BC Registration Number.<br>**A 113114** | | CRN Number:<br>B 7123.2 | |
| Vessel serial number: PT 674 | | Size: 44 in. x 146 in | |
| Shell thickness: 9.5 mm | | Shell material: SA 516-70 | |
| Head thickness: 12.7 mm | | Head material: SA 516-70 | |
| Tube wall thickness: | | Tube material: | |
| Tube diameter: | | Tube length: | |
| Channel thickness: | | Channel material: | |
| Design pressure | Shell: 1724 KPa | Operating pressure | Shell: 0 – 2000 KPa |
| | Tubes: | | Tubes: |
| Design Temp. | Shell: 38 Deg C | Operating temperature | Shell: |
| | Tubes: | | Tubes: |
| X-ray: RT 1 | | Heat treatment: no | |
| Code parameters: ASME VIII, Div 1 | | Coated: no | |
| Manufacturer: Porta Test | | Year built: 1972 | |
| Corrosion allowance: 1.6mm | | Manway: no | |

**PRESSURE SAFETY VALVE NAMEPLATE DATA**

| PSV Tag # | Manufacture | Model # | Serial # | Set Pressure (kPa) | Capacity (scfm) | Service Date |
|---|---|---|---|---|---|---|
| **5728F** | **Farris** | **26LA10-120** | **441196-4-A10** | **250 PSI** | **14443** | **11/05** |
| CRN # | Service By | Block Valve | Location | Size | Code Stamp | |
| **OG2369.5C** | **unified valve** | **no** | **upper shell** | **3"x 4"** | **UV** | |

**SERVICE CONDITIONS-INDICATE ALL THAT APPLY**

| | | | | |
|---|---|---|---|---|
| Sweet X | Sour | Oil X | Gas X | Water X |
| Amine | LPG | Condensate X | Air | Glycol |
| Other (Describe): | | | | |

**Inspection Interval _____PSV Service Interval_____**
**(**Determined by MIC in conjunction with Chief Inspector following guidelines of CNRL's Owner-User Inspection Program)

Reports reviewed and accepted by:
**Mechanical Integrity Coordinator_____Date_____**

**Fill out all forms as completely as possible. <u>All information</u> is important! Use back of sheets to record additional information or sketch if required.**
**Copy of report to be filed by MIC at site, and copy sent to Chief Inspector**

| External Inspection Items | G | F | P | N/A | Comments |
|---|---|---|---|---|---|
| **Insulation** Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture. | | | | **X** | **Vessel not insulated** |
| **External Condition** Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage) | **X** | | | | **Paint in good overall condition**<br>**No exposed metal** |
| **Leakage** Record any leakage at flanges, threaded joints, weep holes on repads, etc. | | **X** | | | **Leakage at flange joint** |
| **Saddle/Skirt** Assess condition of paint, fire protection, concrete. Look for corrosion, buckling, dents, etc. Look at vessel surface area near supports. Verify no signs of leakage at attachment to vessel and attachment welds are acceptable. Ground wire attached? | | **X** | | | **Skirt: set on concrete floor-vessel not anchored**<br>**No buckling or dents.**<br>**No corrosion at attachment welds to vessel**<br>**No ground wire attached to vessel – skid package is grounded.** |
| **Anchor Bolts** Hammer tap to ensure secure. Look for cracking in treads or signs of deformation. | | | | **X** | **Vessel not anchored to deck.** |
| **Concrete foundation** Check for cracks, spalling, etc. | | | | **X** | |
| **Ladder / Platform** Describe general condition, ensure support is secure to vessel, describe any hazards. | | | | **X** | |
| **Nozzle** Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted? | **X** | | | | **Stud threads are fully engaged. No leaks observed**<br>**No damage or deflections**<br>**Nozzles are not gusseted** |
| **Gauges** Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp. | **X** | | | | **Gauge is clear and clean. No leakage**<br>**Suitable for range of MAWP/Temperature**<br>**Pressure gauge 0 – 2000 KPa** |
| **External Piping** Ensure pipe is well supported. All clamps, supports, shoes, etc. in place. Look for evidence of structural overload, deflection, etc. Paint condition, external corrosion? | **X** | | | | **Piping is well supported – all clamps and supports are in place.**<br>**No structural overloads or deflections.**<br>**Paint in good condition – no corrosion.** |
| **Valving** Ensure no leaks are visible. Valves are properly supported and chained if necessary. | **X** | | | | **No leaks are visible.**<br>**Valves are supported properly** |
| **PSV** Ensure PSV is set at pressure at or below that of vessel. | **X** | | | | **Located on upper shell – set at MAWP of vessel.**<br>**PSV seal in place-No block valve between vessel and PSV.**<br>**Discharge piping is same size as valve outlet.** |
| **NDE methods** Was UT/ MPI done on vessel (MI coordinator to review results) | **x** | | | | **Ultrasonic thickness survey carried out – no metal thickness detected below nominal.** |

**Recommendations or corrective actions : Vessel is Fit for Service or describe corrective actions required)**
**(**MIC to review corrective actions with Operations, discuss with Chief Inspector where necessary, and get remedial action implemented)
**Recommendations: Bolt vessel skirt base to deck.**
**Summary:** Vessel is in fair condition, visual external and ultrasonic corrosion survey carried out – No pitting detected.
**Vessel is fit for service**

**Inspected By**: Gerry Avery **Date: November 14, 2007**

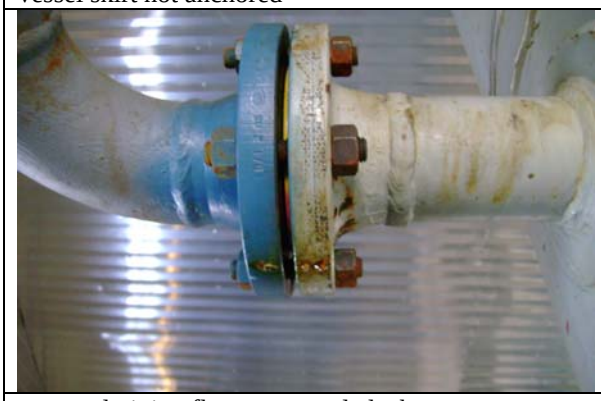
Photo Table


vessel data plate


vessel pressure gauge

vessel skirt not anchored

vessel overview



vessel piping flange to nozzle leak