| Canadian Natural Resources Limited GENERAL PRESSURE VESSEL INFORMATION Job # 10.111579 | | | | | | | | | | | | |
|--|-----------------------------|------------------------------|-----------------------|-----------------------|--------------|--------|------------|---------|--|--|--|--|
| District: Fort St. Jo | hn BC. | | Skid No. | | | | | | | | | |
| Facility: Jedney Fie | ld | Location (LSD): a-7-K/94-G-8 | | | | | | | | | | |
| Vessel Name Equipment Number: Inlet Separator | | | | | | | | | | | | |
| Orientation: Vertical | | | | | | | | | | | | |
| Status: In Serv | | | Regulatory Inspection | | | | | | | | | |
| PRESSURE VESSEL NAMEPLATE DATA | | | | | | | | | | | | |
| "A" or "G" o | r "S" (Sask.) or BC R | CRN Number: | | | | | | | | | | |
| | A 443426 | M 7382.231 | | | | | | | | | | |
| Vessel serial number | | Size: 24in x 10ft | | | | | | | | | | |
| Shell thickness: 28.6 | | Shell material: SA 516 70N | | | | | | | | | | |
| Head thickness: 27.4 | | Head material: SA 516 70N | | | | | | | | | | |
| Tube wall thickness: | | Tube material: | | | | | | | | | | |
| Tube diameter: | • | | | Tube length: | | | | | | | | |
| Channel thickness: | | | | Channel material: | | | | | | | | |
| Design pressure | Operating pressure | | Shell: 110 psi | | | | | | | | | |
| Besign pressure | Tubes: | Sheramie brossare | | Tubes: | | | | | | | | |
| Design Temp. | Shell: 100 deg F | | | Operating temperature | | a. u | | | | | | |
| | Tubes: | | | | | Shell: | | | | | | |
| | Tubes. | Tubes: | | | | | | | | | | |
| X-ray: RT 1 | | Heat treatment: HT | | | | | | | | | | |
| Code parameters: A | • | Coated: not stated | | | | | | | | | | |
| Manufacturer: Mar (| | Year built: 1998 | | | | | | | | | | |
| Corrosion allowance | | Manway: No | | | | | | | | | | |
| | Pl | RESSURE SAFETY | VALV | E NAMEPLATE | DATA | | | | | | | |
| PSV Tag # | Manufacture | Model # | | Serial # | Set Pressure | | Capacity | Service | | | | |
| | | | | | (psi) | | (scfm) | Date | | | | |
| | Crosby | JOS 45/A | | C14C2000 | 1480 | | 9021 | 6/2006 | | | | |
| CRN# | Service By | Block Valve | | Location | Size | | Code Stamp | | | | | |
| OG 0201.2C | Tyco | No | | Shell | 1.5" x 2" | | UV | | | | | |
| SERVICE CONDITIONS-INDICATE ALL THAT APPLY | | | | | | | | | | | | |
| Sweet Sour X Oil | | | | | | Gas X | | Water X | | | | |
| 3501 12 | | | | | | Gas A | | water A | | | | |
| Amine | LPG | densate X Ai | | Air | Air Glycol | | | | | | | |
| Other (Describe): | | | | | | | | | | | | |
| Inspection IntervalPSV Service Interval | | | | | | | | | | | | |
| _ | conjunction with Chief Insp | pector following guidelines | of CNR | L Owner-User Inspect | ion Program |) | | | | | | |
| | | | | | | | | | | | | |
| Reports reviewed and accepted by: Mechanical Integrity CoordinatorDate | | | | | | | | | | | | |

| External Inspection Items | G | F | P | N/A | Comments |
|--|----|---|---|-------|---|
| | U | 1 | 1 | 14/71 | |
| Insulation Verify sealed around manways, | | | | | |
| nozzles, no damage present, and there is no | | | | X | Vessel not insulated. |
| egress of moisture. | | | | | |
| External Condition Assess paint condition, | | | | | |
| areas peeling, record any corrosion, damage, | X | | | | Paint in good condition- no exposed metal. |
| etc (record location, size and depth of | 21 | | | | No external Corrosion |
| corrosion or damage) | | | | | |
| Leakage Record any leakage at flanges, | X | | | | No leaks observed. |
| threaded joints, weep holes on repads, etc. | 2. | | | | |
| Saddle/Skirt Assess condition of paint, fire | | | | | Skirt: bolted directly to skid frame. |
| protection, concrete. Look for corrosion, | | | | | No buckling or dents. |
| buckling, dents, etc. Look at vessel surface | X | | | | No corrosion at attachment welds to vessel. |
| area near supports. Verify no signs of leakage | 1. | | | | Ground wire attached to skid. |
| at attachment to vessel and attachment welds | | | | | |
| are acceptable. Ground wire attached? | | | | | |
| Anchor Bolts Hammer tap to ensure secure. | | | | | |
| Look for cracking in treads or signs of | X | | | | Securely fastened – no deformation. |
| deformation. | | | | | |
| Concrete foundation Check for cracks, | | | | X | |
| spalling, etc. | | | | | |
| Ladder / Platform Describe general | | | | | |
| condition, ensure support is secure to vessel, | | | | X | |
| describe any hazards. | | | | | |
| Nozzle Assess paint, look for leakage, and | | | | | Stud threads are fully engaged to nuts. |
| ensure stud threads are fully engaged. Record | X | | | | No leaks observed. |
| any damage, deflection, etc. Are nozzles | | | | | No damage or deflections. |
| gusseted? | | | | | Nozzles are not gusseted. |
| Gauges Ensure gauges are visible, working, | | | | | Gauges are clear and appear functional. |
| no leakage, and suitable for range of MAWP/ | | X | | | Within range of the MAWP. |
| Temp. | | | | | Sight glass valves are weeping. |
| External Piping Ensure pipe is well | | | | | Piping is in good condition and well supported. |
| supported. All clamps, supports, shoes, etc. in | | | | | No apparent overloads or obviously deformed sections. |
| place. Look for evidence of structural | X | | | | Paint is in good condition. |
| overload, deflection, etc. Paint condition, | | | | | |
| external corrosion? | | | | | |
| Valving Ensure no leaks are visible. Valves | | | | | No leaks are visible- valves properly supported. |
| are properly supported and chained if | X | | | | |
| necessary. | | | | | |
| PSV Ensure PSV is set at pressure at or below | | | | | Located on upper shell - set below the vessel MAWP. |
| that of vessel. | X | | | | Seal intact. No block valve. |
| | | | | | PSV is due for service |
| NDE methods Was UT/ MPI done on vessel | | | | | Ultrasonic thickness survey carried out – no metal |
| (MI coordinator to review results) | X | | | | thickness detected below nominal minus corrosion |
| 0.7 | | | | | allowance. |
| Other | | | | | |
| | | | | | |

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: 1. Service PSV

Summary: This vessel is in overall good condition, visual external inspection and ultrasonic corrosion survey performed, no metal thickness detected below nominal minus corrosion allowance.

Short term corrosion rate based on greatest thickness loss (nozzle) 0.267mm per year. Retirement Date to "T"min is year 2034.

Vessel is fit for service.

Inspected By: Andrew Neis / D. Wiedman

Vessel overview



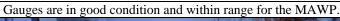
Date: April 10, 2012

PSV





Temperature gauge





PSV data plate



Skirt is in good condition with anchor bolts tight.