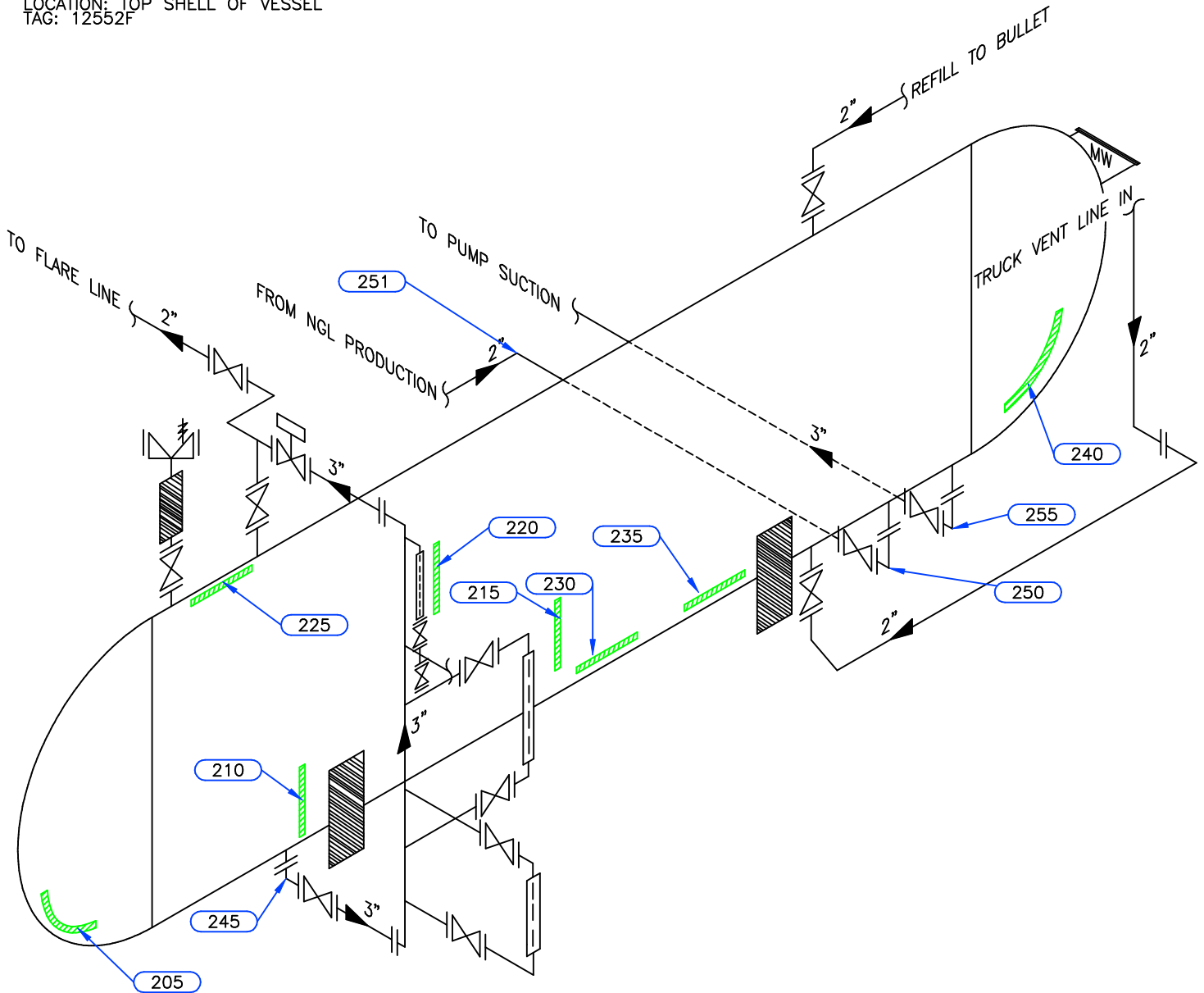


**PSV DATA**

MFG: FISHER  
 MODEL: H541-250  
 SERIAL: 382m  
 SET PRES: 1724 kPa  
 CAPACITY: 25479 scfm  
 SERVICED BY: UNIFIED VALVE  
 SERVICE DATE: 11/08/2007  
 SIZE: 4" x 2"  
 CODE STAMP: UV/NB  
 BLOCK VALVE: YES, LOCKED OPEN  
 CRN: N/S  
 LOCATION: TOP SHELL OF VESSEL  
 TAG: 12552F



Equip. No. V-201 Prov. Reg. No. (A) 571773 C.R.N. T-3671.23451 Serial No. S07000B1 Yr. Inst.         
 Code/Div. ASME VIII, DIV 1 Size: 9ft x 64ft 7in Manufacturer: TRINITY CONTAINERS Yr. Blt. 2007  
 C. Stamp: U Service: SWEET PWHT: NIL Radiography: RT4 Insulated: NO

**Design & Materials Data**

**HEAD:**  
 Top Mat'l. SA 516 70N Top Nom. 10.2mm Top C.A. N/S  
 Btm. Mat'l.        Btm. Nom.        Btm. C.A.       

**CHANNEL:**  
 Material:        Nominal:        C.A.       

**BOOT**  
 Head Mat'l.        Head Nom.        Head C.A.         
 Shell Mat'l.        Shell Nom.        Shell C.A.       

**SHELL**  
 Material: SA 516 70N Nominal: 17.4mm C.A. N/S

MAWP Shell Side: 1724 kPa @ Temp. 52°C  
 MAWP Tube Side:        @ Temp.       

|           |                            |           |
|-----------|----------------------------|-----------|
| CLIENT    | CANADIAN NATURAL RESOURCES |           |
| FACILITY  | LADYFERN UTILITIES         |           |
|           | LSD b-17-1/94-H-01         |           |
| ITEM      | L.P.G STORAGE BULLET       |           |
| BY: J.D.H | DATE: 06/2010              | DWG.# 8-2 |

# UTS DATA

**CLIENT** CANADIAN NATURAL RESOURCES  
**EQUIPMENT** LPG STORAGE BULLET  
**CRN#** T-3671.23451  
**PROV REG** A 571773  
**TESTEI** ON STREAM

**FACILITY** LADYFERN GAS PLANT  
**SERVICE** SWEET  
**LOCATION** b-17-I/94-H-01  
**RTD JOB #** 10.116282  
**REFER TO DRAWING** 8-2

| Test Point  | THICKNESS DATA   |   |      |   | Flag  | T-Min | C.A.  | Nom. | Short Term | Long Term | Ave. mm/py | Retirement Date |
|-------------|--|---|------|---|-------|-------|-------|------|------------|-----------|------------|-----------------|
| 205         | Description: LOWER HEAD                                |   |      |   |       |       |       |      |            |           |            |                 |
|             | 2010   | 6 | 2015 | 6 |       |       |       |      |            |           |            |                 |
| Min. Thick. | 13.4   |   | 13.3 |   | 10.20 |       | 10.20 | .02  |            | .02       |            |                 |
| Average:    | 13.7   |   | 13.5 |   |       |       |       | .04  |            | .04       |            |                 |
| Analysis:   |  |   |      |   |       |       |       |      |            |           |            |                 |
| 210         | Description: LOWER SHELL                               |   |      |   |       |       |       |      |            |           |            |                 |
|             | 2010   | 6 | 2015 | 6 |       |       |       |      |            |           |            |                 |
| Min. Thick. | 17.9   |   | 17.8 |   | 17.40 |       | 17.40 | .02  |            | .02       |            |                 |
| Average:    | 18   |   | 18   |   |       |       |       | 0    |            | 0         |            |                 |
| Analysis:   |  |   |      |   |       |       |       |      |            |           |            |                 |
| 215         | Description: LOWER SHELL                               |   |      |   |       |       |       |      |            |           |            |                 |
|             | 2010   | 6 | 2015 | 6 |       |       |       |      |            |           |            |                 |
| Min. Thick. | 18   |   | 17.8 |   | 17.40 |       | 17.40 | .04  |            | .04       |            |                 |
| Average:    | 18.1   |   | 18   |   |       |       |       | .02  |            | .02       |            |                 |
| Analysis:   |  |   |      |   |       |       |       |      |            |           |            |                 |
| 220         | Description: MID SHELL                                 |   |      |   |       |       |       |      |            |           |            |                 |
|             | 2010   | 6 | 2015 | 6 |       |       |       |      |            |           |            |                 |
| Min. Thick. | 18   |   | 17.8 |   | 17.40 | 17.1  | 17.40 | .04  |            | .04       |            |                 |
| Average:    | 18.1   |   | 18   |   |       |       |       | .02  |            | .02       |            | 2033            |
| Analysis:   | 2015/06 THICKNESS CALCULATIONS CARRIED OUT USING RT-1. |   |      |   |       |       |       |      |            |           |            |                 |
| 225         | Description: TOP SHELL                                 |   |      |   |       |       |       |      |            |           |            |                 |
|             | 2015   | 6 |      |   |       |       |       |      |            |           |            |                 |
| Min. Thick. | 17.7   |   |      |   | 17.40 |       | 17.40 |      |            |           |            |                 |
| Average:    | 18   |   |      |   |       |       |       | 0    |            | 0         |            |                 |
| Analysis:   |  |   |      |   |       |       |       |      |            |           |            |                 |
| 230         | Description: BOTTOM SHELL                              |   |      |   |       |       |       |      |            |           |            |                 |
|             | 2010   | 6 | 2015 | 6 |       |       |       |      |            |           |            |                 |
| Min. Thick. | 18.3   |   | 18.1 |   | 17.40 |       | 17.40 | .04  |            | .04       |            |                 |
| Average:    | 18.4   |   | 18.3 |   |       |       |       | .02  |            | .02       |            |                 |
| Analysis:   |  |   |      |   |       |       |       |      |            |           |            |                 |

# UTS DATA

**CLIENT** CANADIAN NATURAL RESOURCES  
**EQUIPMENT** LPG STORAGE BULLET  
**CRN#** T-3671.23451  
**PROV REG** A 571773  
**TESTEI** ON STREAM

**FACILITY** LADYFERN GAS PLANT  
**SERVICE** SWEET  
**LOCATION** b-17-I/94-H-01  
**RTD JOB #** 10.116282  
**REFER TO DRAWING** 8-2

| Test Point                | THICKNESS DATA |   |      |   | Flag | T-Min | C.A. | Nom.  | Short Term | Long Term | Ave. mm/py | Retirement Date |
|---------------------------|----------------|---|------|---|------|-------|------|-------|------------|-----------|------------|-----------------|
| 235                       |                |   |      |   |      |       |      |       |            |           |            |                 |
| Description: BOTTOM SHELL |                |   |      |   |      |       |      |       |            |           |            |                 |
|                           | 2010           | 6 | 2015 | 6 |      |       |      |       |            |           |            |                 |
| Min. Thick.               | 18             |   | 17.9 |   |      | 17.40 |      | 17.40 | .02        |           | .02        |                 |
| Average:                  | 18.1           |   | 18.1 |   |      |       |      |       | 0          |           | 0          |                 |
| Analysis:                 |                |   |      |   |      |       |      |       |            |           |            |                 |
| 240                       |                |   |      |   |      |       |      |       |            |           |            |                 |
| Description: LOWER HEAD   |                |   |      |   |      |       |      |       |            |           |            |                 |
|                           | 2010           | 6 | 2015 | 6 |      |       |      |       |            |           |            |                 |
| Min. Thick.               | 13.6           |   | 13.3 |   |      | 10.20 |      | 10.20 | .06        |           | .06        |                 |
| Average:                  | 13.8           |   | 13.5 |   |      |       |      |       | .06        |           | .06        |                 |
| Analysis:                 |                |   |      |   |      |       |      |       |            |           |            |                 |

# UTS DATA

**CLIENT** CANADIAN NATURAL RESOURCES  
**EQUIPMENT** LPG STORAGE BULLET PIPING  
**CRN#**  
**PROV REG** A 571773D  
**TESTEI** ON STREAM

**FACILITY** LADYFERN GAS PLANT  
**SERVICE** SWEET  
**LOCATION** b-17-I/94-H-01  
**RTD JOB #** 10.116282  
**REFER TO DRAWING** 8-2

| Test Point   | THICKNESS DATA   |   |      |   | Flag | T-Min | C.A. | Nom. | Short Term | Long Term | Ave. mm/py | Retirement Date |
|--------------|--|---|------|---|------|-------|------|------|------------|-----------|------------|-----------------|
| 245          |  |   |      |   |      |       |      |      |            |           |            |                 |
| Description: | 3" 90° ELBOW   |   |      |   |      |       |      |      |            |           |            |                 |
|              | 2010   | 6 | 2015 | 6 |      |       |      |      |            |           |            |                 |
| Min. Thick.  | 4.9  |   | 4.9  |   | 4.81 |       | .7   | 5.50 | 0          |           | 0          |                 |
| Average:     | 5.1  |   | 5.1  |   |      |       |      |      | 0          |           | 0          |                 |
| Analysis:    |  |   |      |   |      |       |      |      |            |           |            |                 |
| 250          |  |   |      |   |      |       |      |      |            |           |            |                 |
| Description: | 2" 90° ELBOW   |   |      |   |      |       |      |      |            |           |            |                 |
|              | 2010   | 6 | 2015 | 6 |      |       |      |      |            |           |            |                 |
| Min. Thick.  | 4.8  |   | 4.6  |   | 4.81 | 1.6   | .7   | 5.50 | .04        |           | .04        |                 |
| Average:     | 4.9  |   | 4.8  |   |      |       |      |      | .02        |           | .02        |                 |
| Analysis:    | 2015/06 THICKNESS CALCULATIONS CARRIED OUT TO 0.4mm BUT CODE MINIMUM IS MAINTAINED AT 1.6mm.<br>RETIREMENT DATE: 2090. |   |      |   |      |       |      |      |            |           |            |                 |
| 251          |  |   |      |   |      |       |      |      |            |           |            |                 |
| Description: | 2" 90° ELBOW   |   |      |   |      |       |      |      |            |           |            |                 |
|              | 2015   | 6 |      |   |      |       |      |      |            |           |            |                 |
| Min. Thick.  | 5.3  |   |      |   | 4.81 |       | .7   | 5.50 |            |           |            |                 |
| Average:     | 5.5  |   |      |   |      |       |      |      | 0          |           | 0          |                 |
| Analysis:    |  |   |      |   |      |       |      |      |            |           |            |                 |
| 255          |  |   |      |   |      |       |      |      |            |           |            |                 |
| Description: | 3" 90° ELBOW   |   |      |   |      |       |      |      |            |           |            |                 |
|              | 2010   | 6 | 2015 | 6 |      |       |      |      |            |           |            |                 |
| Min. Thick.  | 5.6  |   | 5.5  |   | 4.81 | 1.6   | .7   | 5.50 | .02        |           | .02        |                 |
| Average:     | 5.8  |   | 5.8  |   |      |       |      |      | 0          |           | 0          |                 |
| Analysis:    | 06/2010 CRITICAL THICKNESS CALCULATIONS CARRIED OUT TO 0.4mm BUT CODE MINIMUM IS MAINTAINED AT 1.6mm                   |   |      |   |      |       |      |      |            |           |            |                 |