

# PRESSURE VESSEL & COLUMN INSPECTION REPORT

**LSD:** 10-09-051-19W5      **Date:** 2014-03-12      **SAP Equipment ID** 66146336

| VESSEL STATIC DATA                          |                            |                         |                    |                             |                 |                                |              |                                          |              |                 |
|---------------------------------------------|----------------------------|-------------------------|--------------------|-----------------------------|-----------------|--------------------------------|--------------|------------------------------------------|--------------|-----------------|
| <b>Plant:</b> ANSELL                        |                            |                         |                    | <b>OP Unit:</b>             |                 |                                |              | <b>System:</b>                           |              |                 |
| <b>Prov. Insp . #:</b> 0584829              |                            |                         |                    | <b>CRN:</b> P7217.2         |                 |                                |              | <b>Equip Tag#:</b> 66146336              |              |                 |
| <b>Equipment Description:</b> SEPARATOR     |                            |                         |                    |                             |                 |                                |              | <b>Serial #:</b> 11450                   |              |                 |
| <b>Manufacturer:</b> RJV Gas Field Services |                            |                         |                    |                             |                 |                                |              | <b>Vessel Class:</b> vessel              |              |                 |
| <b>Internal Access:</b> No                  |                            |                         |                    | <b>Description:</b>         |                 |                                |              | <b>Year Built:</b> 2008                  |              |                 |
| <b>MAWP:</b> 10204 kpa                      |                            |                         |                    | <b>At Temp</b> 38 C         |                 |                                |              | <b>MDMT:</b> -29 C                       |              |                 |
| <b>Code:</b>                                |                            |                         |                    | <b>RT:</b> RT2              |                 |                                |              | <b>PWHT:</b> No                          |              |                 |
| <b>Diameter:</b> 406 mm                     |                            | <b>Length:</b> 2286 mm  |                    | <b>(T/T):</b> mm            |                 | <b>OAL:</b> mm                 |              | <b>Orientation:</b> Vertical             |              |                 |
| <b>SHELL</b>                                |                            | <b>Mat'l:</b> SA-106 B  |                    | <b>Thickness:</b> 21.41 mm  |                 | <b>Corr Allowance:</b> 1.59 mm |              |                                          |              |                 |
| <b>HEAD</b>                                 |                            | <b>Mat'l:</b> SA-516 70 |                    | <b>Thickness:</b> 20.60 mm  |                 | <b>Corr Allowance:</b> 1.59 mm |              |                                          |              |                 |
| <b>Nozzle</b>                               |                            | <b>Mat'l:</b>           |                    | <b>Thickness:</b>           |                 | <b>Corr Allowance:</b>         |              |                                          |              |                 |
| <b>Internal Coating:</b>                    |                            |                         |                    | <b>Internal Clad:</b>       |                 |                                |              | <b>Capacity:</b> m3                      |              |                 |
| <b>Manway:</b> No                           |                            |                         |                    | <b>Inspection Port:</b> Yes |                 |                                |              | <b>Skirt</b> X <b>Legs</b> <b>Saddle</b> |              |                 |
| <b>Nozzle Rating:</b> lb ANSI               |                            |                         |                    | <b>Painted:</b> Yes         |                 |                                |              | <b>Insulated:</b> No                     |              |                 |
| PROCESS DATA                                |                            |                         |                    |                             |                 |                                |              |                                          |              |                 |
| <b>Production Description:</b>              |                            |                         |                    | <b>Sweet</b> <b>Sour:</b>   |                 |                                |              |                                          |              |                 |
| <b>Operating Pressure</b> kpa               |                            |                         |                    | <b>Operating Temp:</b> C    |                 |                                |              |                                          |              |                 |
| PSV STATIC DATA                             |                            |                         |                    |                             |                 |                                |              |                                          |              |                 |
| Tag #                                       | Serial No.                 | Location                | Size(mm)           |                             | Set Press (kPa) | Capacity Imperial (SCFM)       | Manufacturer | Model                                    | Last Service | Service Company |
|                                             |                            |                         | Inlet              | Outlet                      |                 |                                |              |                                          |              |                 |
|                                             | 37979-521                  | Shell                   | 25.40              | 25.40                       | 9929            | 5180                           | TAYLOR       | 82E835131<br>1                           | 2012/05/18   | WIZARD.         |
| PSV DETAILS                                 |                            |                         |                    |                             |                 |                                |              |                                          |              |                 |
|                                             | <b>Type(Thread/Flange)</b> |                         | <b>ANSI Rating</b> |                             |                 | <b>Size(In/mm)</b>             |              |                                          |              |                 |
| <b>PRD Inlet</b>                            | Threaded                   |                         | N/A                |                             |                 | 25.40                          |              |                                          |              |                 |
| <b>PRD Outlet</b>                           | Threaded                   |                         | N/A                |                             |                 | 25.40                          |              |                                          |              |                 |
| NDE Equipment Records                       |                            |                         |                    |                             |                 |                                |              |                                          |              |                 |
| Procedure #                                 | Description                | Manufacturer            | Model#             | Serial#                     | Due Date        |                                |              |                                          |              |                 |
| **** See Associated NDE Report              |                            |                         |                    |                             |                 |                                |              |                                          |              |                 |

## INSPECTION SUMMARY

UT SURVEY PERFORMED - NO NOTABLE CORROSION

## RECOMMENDATIONS

VESSEL IS FIT FOR SERVICE.

## NONCONFORMANCES/INSPECTION DEFICIENCIES



## PRESSURE VESSEL & COLUMN INSPECTION REPORT

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### INSPECTION PLANNING

|                     |            |                      |       |                     |            |
|---------------------|------------|----------------------|-------|---------------------|------------|
| Inspection Strategy | _____      | Availability         | _____ | Inspection Interval | _____      |
| Inspection Date     | 2014/03/12 | Date of Last Inspect | _____ | Date of Next Insp   | 2018/03/12 |

### 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                  | Duncan Kendrick |  | Cert # | _____ | Date | 2014/03/12 |
| Reviewed and Approved by      | _____           | _____                                                                             |        |       | Date | _____      |
| Criticality Assessment Rerun  | _____           | Inspection Planning Rerun                                                         |        |       |      |            |
| Assessed Next Inspection Date | _____           |                                                                                   |        |       |      | _____      |

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## DETAILED INSPECTION VISUAL EXTERNAL

| ID  | Description                           | Condition | Location | NCR | Comments                 |
|-----|---------------------------------------|-----------|----------|-----|--------------------------|
| V1  | General Other (Please Explain)        | Accept    |          |     | GOOD CONDITION OVERALL   |
| V2  | General Corrosion                     | Accept    |          |     | NO CORROSION VISIBLE.    |
| V3  | General Leaks                         | Accept    |          |     | NO VISIBLE LEAKS.        |
| V4  | Vibration                             | N/A       |          |     |                          |
| V5  | Dissimilar Flange Rating              | N/A       |          |     |                          |
| V6  | Ladder/Stairway                       | N/A       |          |     |                          |
| V7  | Heads                                 | Accept    |          |     | GOOD CONDITION.          |
| V8  | Guy Wires                             | N/A       |          |     |                          |
| V9  | Electrical Ground                     | Accept    |          |     | GOOD CONDITION.          |
| V10 | Painted Inactive Corrosion            | N/A       |          |     |                          |
| V11 | Coating/Painting                      | Accept    |          |     | GOOD CONDITION.          |
| V12 | Expansion Joint or Bellows            | N/A       |          |     |                          |
| V13 | Gauge/Site Glass                      | Accept    |          |     | GOOD CONDITION.          |
| V14 | Shell                                 | Accept    |          |     | GOOD CONDITION.          |
| V15 | Jacket                                | N/A       |          |     |                          |
| V21 | Support Other (Please explain)        | N/A       |          |     |                          |
| V22 | Foundation                            | Accept    |          |     | METAL FLOOR              |
| V23 | Anchor Bolts                          | Accept    |          |     | WELDED SECURE.           |
| V24 | Saddle/Skirt                          | Accept    |          |     | SKIRT IN GOOD CONDITION. |
| V25 | Davit                                 | N/A       |          |     |                          |
| V26 | Fireproofing                          | N/A       |          |     |                          |
| V31 | Connections Other (Please explain)    | Accept    |          |     |                          |
| V32 | Small Branches                        | N/A       |          |     |                          |
| V33 | Nozzles                               | Accept    |          |     | GOOD CONDITION.          |
| V34 | Manways                               | N/A       |          |     |                          |
| V35 | Reinforcing Pads                      | N/A       |          |     |                          |
| V36 | Inadequate Thread Engagement          | N/A       |          |     |                          |
| V37 | Bolting                               | Accept    |          |     | GOOD CONDITION.          |
| V38 | Flanges                               | Accept    |          |     | GOOD CONDITION.          |
| 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                               | N/A       |          |     |                          |
| V46 | Seals/Joints                          | N/A       |          |     |                          |
| V51 | Relief Devices Other (Please explain) | Accept    |          |     | GOOD CONDITION.          |
| V52 | Corrosion                             | Accept    |          |     | GOOD CONDITION.          |
| V53 | Leaks                                 | Accept    |          |     | NO VISIBLE LEAKS.        |
| V54 | Restricted Inlet/Outlet               | N/A       |          |     |                          |

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|     |                        |     |  |  |  |
|-----|------------------------|-----|--|--|--|
| V55 | Manual Operation Lever | N/A |  |  |  |
|-----|------------------------|-----|--|--|--|

## DETAILED INSPECTION OTHER TECHNIQUES

| ID | Location | Observation/Measurement | Acceptance Criteria | NCR | Comments |
|----|----------|-------------------------|---------------------|-----|----------|
|    |          |                         |                     |     |          |

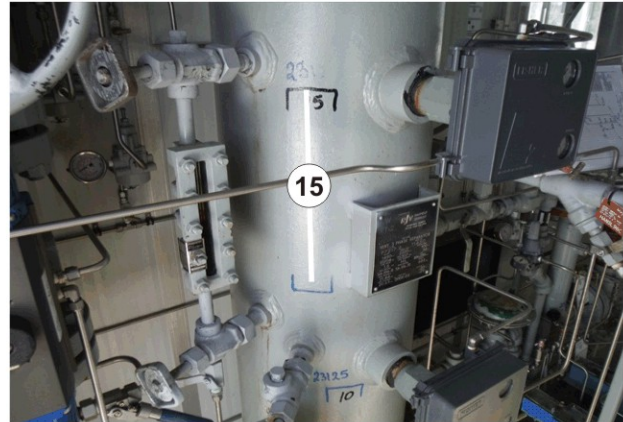
## DETAILED INSPECTION UT THICKNESS

| CML            | Nom. Thickness (mm) | CURRENT READINGS (mm) | short term corr rate (mm/y) | long term corr rate (mm/y) | remaining life (year) | Survey Date | Comments |
|----------------|---------------------|-----------------------|-----------------------------|----------------------------|-----------------------|-------------|----------|
| 05 (HEAD)      | 20.60               | 22.33                 | 0.0000                      | 0.0000                     | 198.0                 | 2014/03/12  |          |
| 10 (SHELL)     | 21.41               | 22.15                 | 0.0000                      | 0.0000                     | 198.0                 | 2014/03/12  |          |
| 15 (SHELL)     | 21.41               | 22.05                 | 0.0000                      | 0.0000                     | 198.0                 | 2014/03/12  |          |
| 20 (SHELL)     | 21.41               | 22.68                 | 0.0000                      | 0.0000                     | 198.0                 | 2014/03/12  |          |
| 25 (SHELL)     | 21.41               | 22.33                 | 0.0000                      | 0.0000                     | 198.0                 | 2014/03/12  |          |
| 30 (HEAD)      | 20.60               | 21.59                 | 0.0000                      | 0.0000                     | 198.0                 | 2014/03/12  |          |
| 35 (90L 3 STD) | 5.49                | 5.18                  | 0.0475                      | 0.0475                     | 39.8                  | 2014/03/12  |          |
| 40 (90L 2 160) | 8.74                | 7.82                  | 0.1425                      | 0.1425                     | 39.2                  | 2014/03/12  |          |
| 45 (90L 2 160) | 8.74                | 7.82                  | 0.1425                      | 0.1425                     | 39.2                  | 2014/03/12  |          |
| 50 (90L 3 XS)  | 7.62                | 7.26                  | 0.0554                      | 0.0554                     | 71.7                  | 2014/03/12  |          |

| Inspected By      | Signature                                                                           | CGSB Level | CGSB No. | Survey Date | UT Equip             | Due Date OF Calibration | NDE Procedure No. |
|-------------------|-------------------------------------------------------------------------------------|------------|----------|-------------|----------------------|-------------------------|-------------------|
| Gordon Derewianko |  | 1          | 13896    | 03/12/2014  | 101_91637903_EPOCH4+ | 06/27/2014              | WQS UT-001        |

## EXAMINATION ILLUSTRATION

|             |                  |            |           |                     |                |
|-------------|------------------|------------|-----------|---------------------|----------------|
| DISTRICT:   | FOOTHILLS ANSELL | FACILITY:  | ANSELL    | LOCATION/LSO:       | 10-09-051-19W5 |
| EQUIP NAME: | SEPARATOR        |            |           | PROV REG No.:       | A#0584829      |
| SERIAL No.: | 11450            | Equip No.: | 661346336 | National Board No.: |                |

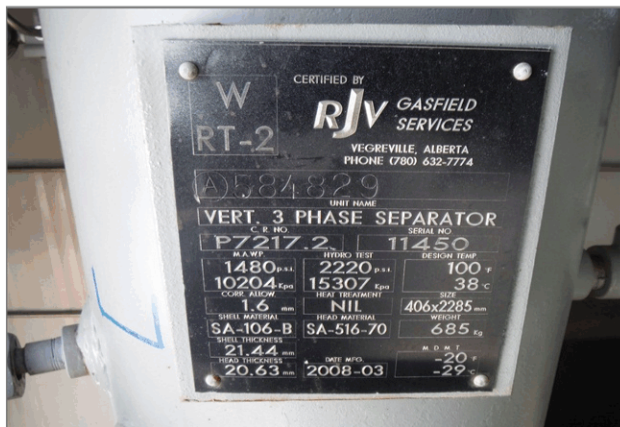


NOTES:



## PHOTOGRAPHS

|                    |           |                            |           |
|--------------------|-----------|----------------------------|-----------|
| <b>EQUIP NAME:</b> | SEPARATOR | <b>PROV REG No.:</b>       | A#0584829 |
| <b>SERIAL No.:</b> | 11450     | <b>Equip No.:</b>          | 66146336  |
|                    |           | <b>National Board No.:</b> |           |



NAMEPLATE



OVERALL



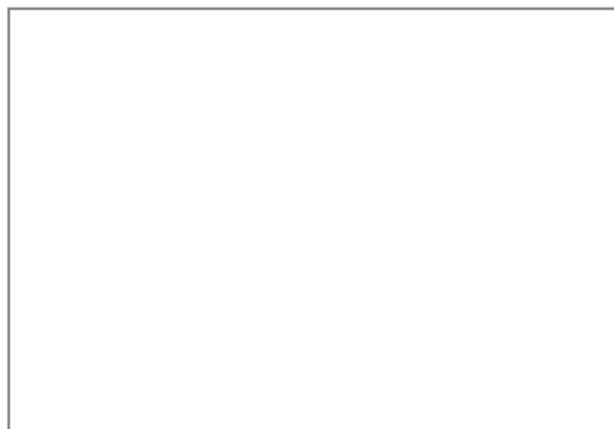
PSV



PSV TAG



LSD



NOTES: