



Permit Number: ASA. Unit PV42P7054

Inspection Number: BPVOP-109904-2013

(When inquiring always refer to these numbers.)

BOILER, PRESSURE VESSEL or REFRIGERATION

CERTIFICATE OF INSPECTION

BPV Operating: Repair Assessment - REF/PV

ACTIVITY DATE: December 11, 2013

CONTACT INFORMATION:

Taq North Ltd
P O BOX 2350 STATION M
CALGARY AB T2P 2M6

SITE ADDRESS:

Loc CHINCHAGA PLT C-32-H/94-H-8 NTS
CHINCHAGA BC
CANADA

Inspection Result: PASSED

UNIT INFORMATION:

Unit Id No	Unit Name	Unit Classification	Manufacturer	Serial No	CRN No
PV42P7054	603-VP-005	Unfired Pressure Vessel	TRINITY TANK	393508	K0576.1

NON-COMPLIANCES

All Non-Compliances must be resolved by unless specified otherwise in notes:

Line No.	Code	Non-Compliance Description	Notes



SAFETY OFFICER NOTES

This Certificate of Inspection is being issued regarding the repair work completed on PV42P7054 by Propipe Field Services Ltd on November 06, 2013.

A written repair procedure was submitted to the area Boiler Safety Officer outlining a "linear indication" that was located internally on the west head. The head was SA-455-B which is a P1 group 2 material. An impact tested SMAW using F4 filler metal was used to complete the weld repair. NDE was completed to verify the indication had been removed and also completed post repair welding. The hydrostatic test was waived based on the NDE in lieu of.

QC documentation including NDE reports and a completed and signed FRM-1060 were submitted to the writer via email on November 30, 2013. The QC documents were reviewed on December 10, 2013. No deficiencies were noted during the document review.

The Owner does not currently have an Alternative Safety Approach in place with BCSA but did provide an API-510 Inspector that completed on site inspections and provided a written report as the writer was not able to conduct a site assessment of the repairs.

GENERAL REQUIREMENTS & INFORMATION

1. The BC Safety Authority is to be notified of any incident that results in an injury to any person or damage to the regulated equipment.
To report an incident, go to www.safetyauthority.ca (search: "report an incident")
2. When an Operating Permit is required, the installation owner has 60 days to obtain a valid Operating Permit following a Passed Final Assessment
3. All non-compliances must be resolved by the date indicated on this Certificate Of Inspection.
4. Where an incident involves a regulated product or regulated work and results in a near miss, an injury to any person or damage to the equipment, the BC Safety Authority must be notified as per Incident reporting Directives found at www.safetyauthority.ca



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Safety Officer Name: Dennis Dornbusch

Safety Officer Phone Number: 250-614-9967

Safety Officer Email: Dennis.Dornbusch@safetyauthority.ca

If you disagree with a safety officer decision noted on this Certificate of Inspection, you may request, in writing, a Safety Manager review within 30 days from the date of issue. A Review Request Form can be obtained from any BC Safety Authority office or online at:

www.safetyauthority.ca (search: "manager review")

Assessment Costs (Please make payment once the formal invoice is received)

Regular Hours: 2.00	Overtime Hrs:	Holiday Hrs:	Accommodation:
Meals:	Ferry/Air:	Misc:	Travel: Travel Cost:

For information on the Safety Standards Act, Regulations, and the Review/Appeal process, please visit www.safetyauthority.ca



British Columbia Safety Authority

505 6th Street, Suite 200 New Westminster BC V3L 0E1 T 778.396.2000 1.866.566.7233 F 778.396.2064 www.safetyauthority.ca

FRM-1414-00



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Local Fax: 778-396-2174
Toll Free: 1-866-566-SAFE (7233)
Toll Free Fax: 778-396-2174

www.safetyauthority.ca

The information on this form is collected to administer the provisions of the *Safety Standards Act*. If you have questions about the collection, use or disclosure of this information, contact the Records, Information & Privacy Analyst at 1-866-566-SAFE (7233).

BOILERS AND PRESSURE VESSELS REPAIR AND ALTERATION REPORT

B.C. ID #: PV-42P7054

OWNER EQUIP. #: 603-VP-005

REPAIR ☒ and/or ALTERATION ☐ Partial ☐ Final ☐

1. Name and Address of Organization doing Repair/Alteration Propipe Field Services Ltd. 15201-91 Street
Grande Prairie, Alberta T8X 0B3 BCSA License No. & Expiry Date LBP0046523-05/31/14
Location of Installation C-32-H / 94-H-8 Chinchaga Gas Plant

2. Name of Owner Taq North
Address 525, 9909 - 102nd Street, Grande Prairie, AB, T8V 2V4

3. Boiler/Pressure Vessel Description Horizontal LPG Storage Tank CRN K0576.1
Manufacturer's Name Trinity Industries Inc. Serial No. 393504

4. Design Conditions:

a) Vessel/Shellside/Boiler: Max Allowable Working Press. 250 PSI Min/Max Design Temp -20 / 125 °F
b) Jacket/Tubeside: Max Allowable Working Press. - PSI Min/Max Design Temp - / - °F

5. Description of Defects: (Location and types of deterioration that resulted in the repair/alteration):
Linear indication found in West Head Nose weld, depth of crack is 2.8mm, Length found to be 250mm
Crack is approx. 25% of total head thickness.

6. ASME Code Edition and Addenda used for work: ASME Sect. Sec-VIII Year 2010 Addenda 2011A

7. Repair/Alteration Description of Work. (Step by step description of repair/alteration method. Attach additional sheets as needed).

Note 1: Repair/Alteration Procedure to be accepted by BCSA Boiler Safety Officer prior to start of work.

Please find the attached repair procedure named "Procedure #40 - 603VP005 West-Head Repair"

8. Material – List any material used in repair/alteration and any base material welded on:

Item	Material Specifications	Thick/Sch	Diameter	Item	Material Specifications	Thick/Sch	Diameter
Shell/Drum				Heads/Ends	SA-455-B	0.436"	108"
Tubesheet				Tubes			
Nozzles				Flanges/Fitting		Class	

9. Welding Procedure – British Columbia Registration Number WP-PP-01 Rev1 WPS Numbers used: PP-01 Rev1

10. Heat Treatment: Bake Out (Temp./Time) 500F / 1 hr Preheat Temp. 100F Post Weld HT (Temp./Time) - / -

11. Non Destructive Examination (Specify type and extent).

100% VT, 100% MT Inspection to be preformed before repair, after excavation of crack, and post repair.

12. Pressure Test Vessel/Boiler/Shell/Tube Tubeside/Jacket
- a) Hydrostatic N/A David [Signature] PSI N/A PSI
- b) Other Test N/A

13. Welded Replacement Parts: Attached are Manufacturer's Partial Data Reports or Repair/Alteration Reports properly identified and signed by Authorized inspectors for the following items of this report: (Welded parts supplied by others).

N/A

14. Responsibility Owner/Client. Identify below items that the owner/client has assumed responsibility for Note (2)

- a) Design Submission _____ b) Repair/Alteration Procedure: X c) Material Control _____
- d) Welding Control _____ e) NDE _____ f) Heat Treatment _____ g) Pressure Test _____

Note 2: Owner/Client must have a valid B.C. Contractors License for the Scope of Work to assume responsibility for function c, d, e, f, or g.

15. REMARKS: _____

16.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this Report are correct and that all design, material, construction and workmanship on this repair/alteration conform to the requirements of the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation:

a) For all items except for items identified in 14:

Propipe Field Services Ltd

Repair/Alteration Organization Name

LBP0046523 05/31/2014

B.C. License Number and Expiry Date

[Signature] Nov 7/13

Signature and Date

Dylan Deagle

Print Name

b) For items identified in 14 only:

2927 [Signature]

Owner/Client Organization Name

N/A

B.C. License Number and Expiry Date

[Signature] Nov 13 2013

Signature and Date

Kevin [Signature]

Print Name

17. DATE WORK WAS COMPLETED: November 6, 2013

18.

CERTIFICATE OF INSPECTION

a) I have inspected the repairs and/or alterations described in this report. To the best of my knowledge this work has been done in accordance with the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation.

b) BCSA Boiler Safety Officer (when work is inspected by BCSA)

[Signature] BC#05 Dec 10/13

BCSA Boiler Safety Officer Signature and Date


Dennis Dornbusch

Print Name

Notes: Assessment of QC documentation
No on site Assessments conducted. [Signature]

Report Received by BCSA Boiler Safety Officer _____

Date _____

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Procedure # 40	603VP005 West-Head Weld Repair	Oct 11, 2013

Scope

This procedure is for repairing carbon steel pressure equipment by weld metal build up of corroded or pitted areas which exceed the limits in API 510 Code and repair of cracks by grinding and welding. Weld metal buildup in this procedure is limited to a length and width less than 1/3 of the shell or head circumference when welding on either. This procedure can be used on non code equipment.


Responsibilities

It is the responsibility of the Qualified Inspector to ensure the company carrying out the weld repair has a registered Quality Control program. Any changes to this repair procedure require prior approval by the Chief Inspector and the Jurisdictional Authorized Inspector.

Procedure


The following are included in this procedure:

- Weld Metal Buildup of Corroded, Pitted, and Cracked Areas With Base Metal Thickness Less Than 19.1mm (¾") in Non Sour Service

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Procedure # 40	603VP005 West-Head Weld Repair	Oct 11, 2013

1. Weld Metal Buildup of Corroded, Pitted, and Cracked Areas With Base Metal Thickness Less Than 19.1mm (¾") in Non Sour Service

- 1.1. Evaluate the size and depth of the corroded area as per API 510 to determine if welding is required: As per report RP-001AUT-TAQANORTH-BP final rev 4.doc from Focus NDT, a Linear indication was located internally on the west head measuring 2.8mm in height and 250mm in length.
- 1.2. Evaluate the corroded area if this is a routine repair as per this procedure: Vessel is non-corrosive LPG service with a head thickness of <19.1mm and can be considered routine.
- 1.3. Obtain services from a welding company which has an approved program with the jurisdiction: ProPipe Group is registered with BCSA as of Oct 11, 2013 and will be contracted to perform the welding.
- 1.4. Carry out a pre-job meeting with all parties involved.
- 1.5. Obtain all necessary safe work agreements.
- 1.6. Prep area to be welded by blend grinding, when removing a crack ensure the entire crack has been removed, if the crack starts to propagate from the grinding drilling the ends of the crack may be necessary.
- 1.7. Perform 100% MT on the area to be welded. Integrity Testing Services to perform MT and VI.
- 1.8. In oil service and service which makes welding difficult, bake out the area to be welded at 260°C (500°F) for 1 hour per inch of thickness. For large areas consider using electrical heating elements for the bake out instead of a tiger torch. (Note: Never use an oxy-acetylene torch for preheat). Non Corrosive LPG Service.
- 1.9. Weld using Propipe Group Ltd. and Jurisdictional approved weld procedures for P1 to P1 materials (WPS-PP-01 Rev1). Head Material SA-455-B (73kis) (Welding P1-Group 2).
- 1.10. Inspect using 100% VT and 100% MT immediately after repair is completed and 24 hours after repair is complete. Integrity Testing Services to perform NDE.
- 1.11. Complete the QC documentation and submit Repair/Alteration Report to the Jurisdiction. Complete BCSA Boiler-PV-Repair-and-Alteration-Report-form-1060, submit to BCSA for approval with QC package.

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- 1.12. Hydrostatic Testing will be waived due to fact that we are not expected to fully penetrate the vessel pressure boundary (repair depth is approx. 25% shell thickness), as well as the vessel volume and the logistical complications of transporting water for disposal across inter provincial boundaries (Water would be treated with Biocide) and the various water ways. Integrity will be verified using Wet Fluorescent Mag Particle inspection on the affected region. Additional integrity verifications were performed previously using 100% Wet Florescent Mag Particle inspection and Phased Array UT.

Dylan Deagle
1-7-13
Propipe Field Services Ltd.
Nov 5, 2013.

Kevin Gawley

Kevin Gawley
TAQA North Ltd.
Asset Integrity Lead, North Business Unit
API 510 #42925, IPV #738

Kevin Gawley
BC#05
Accepted Nov 06/13
Signed Dec 10/13