

Phone: (780) 853-5340

Birchhill Canada

1-9-43-13-W5M

Contact: Kevin Schatz

Office #:

Cell #: 1-403-815-3801

Fax #:

Authorizing Body: N/A

Work Order #: N/A

Hazard Assessment #(s): N/A

Safe Work Permit: N/A

Additional Ref. #:N/A

N/A

Gas Permit #: N/A

Date: 14-Mar-2019

Direct Dispatch: 1-866-744

Box 3694 Vermilion, Alberta http://www.kenilwo

Fax: (780) 853-5320

Description:

Field Commissioning

T9X 2B7

| Burner Information | | | | | |
|--------------------|---------------|----------|--------------------|-----------|-------|
| Type: | Eclipse Conve | entional | Fuel Type: | Raw Gas | |
| Size: | 3" | | Orifice Jet: | N/A | |
| Nozzle Type: | Stick Type | | Orifice Spud: | E | |
| Barrel Typ | e / Combina | ation: | Max. Press.: | 14 | PSI |
| Sleeve With Co | mpound | | Min. Press.: | 5 | PSI |
| Pilot Type/Style: | ACL | | Pilot Press.: | 5 | PSI |
| Burn Back | Protection: | No | Pilot Orifice: | 70 | - |
| | | С | SAB 149.3 - 10 Co | mpliant: | Yes |
| BMS Type: | ACL 5100 | | Electrical Spe | c: 24VDC | |
| BMS Serial #: | 051012-01 | | Mod Bu | ıs: N/A | |
| Pre Purge Time: | N/A sec. | G | eneral Alarm: Lock | Out | |
| Start w/ Power: | No | —— Hi | Temp Alarm: Lock | Out | |
| Remote Start: | No | Lo | Level Alarm: Lock | Out | |
| Soft Start: | No | ı | Hi Gas Alarm: Lock | Out | |
| Low Fire Start: | Yes | L | o Gas Alarm: Lock | Out | |
| Low Fire Timer: | 10sec sec. | | CSAB 149.3 - 10 | Compliant | :: No |

| 2011 THO THINKIN TO COMPINE THE | | | | | | |
|---------------------------------|---------------------------------|--------|-----------|----------------------------|-------|--|
| Firetube Information | | | | | | |
| Discharge Design: | Discharge Design: 3 piece miter | | | Internal Skin Temperatures | | |
| Tube Diameter: | 20 | inches | | N/A C | | |
| Tube Length: | 24 | feet | | | | |
| Stack Size: | 20 | inches | N/A C | N/A C | N/A C | |
| Stack Height: | 20 | feet | | | | |
| | | | | N/A C | | |
| Orientation: | Horizontal | | Highest | Skin Temp | | |
| Return Side: | No | | | om Nozzle: | N/A C | |
| Internal Baffle: | No | - | | | | |
| Stack Cap: | Yes | - | | | | |
| Stack Dampener: | No | - | | | | |
| Stack Therm.: | No | - | Tube Co | ndition: | 1 | |
| Impingement: | No | - | | | | |
| Tube Distorted: | No | - | Klinker B | Buildup: | No | |



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North Line Heater U-5200

Phone: (780) 853-5340

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Firebox Information

Authorizing Body: N/A

Type: Wenco Size: 38"

Serial #: 0412-646

Condition of Seals / Gasket: Fair

Arrestor Size: 38

Number: 1

Arrestor Cond.: Fair

Hole Size: .063

Flashback Test: No

When:

CSAB 149.3 - 10 Compliant: Yes

Vessel Information

Type: Line Heater Size: 72" x 24'

Serial #: 122-033-CB

Fluid Temp: N/A BS+W:N/A%

Fluid Level: N/A H2O Level: N/A

Thermowell: N/A Inlet Temp.: N/A

Discharge Temperature: N/A

H2O Discharge Temperature: N/A

Valve Train Information

Main Regulator: Fisher Main ESD: 1" ASCO

Pilot ESD: ASCO

Pilot Regulator: Fisher 67CFR

Proof of Closure: Yes

Temp. Control: TC 200 Set @ 40c C

PRV/PSV Size: N/A SN#:N/A

Hi Temp Shutoff: TC 200 Set @ 60c C

Flame Fail Type: Ionization **Set** @ 3.8

Thermocouple: N/A

Lo Fire Solenoid: Yes

Orifice Plate: N/A BTU Input: N/A

Soft Start: N/A

Lo Level Shutoff: Kimray Set @ Surge

Hi Level Shutoff: N/A

Set @ N/A

L. Press. Switch: UE Set @ 17.5Psi H. Press. Switch: UE

Set @ 2.5Psi

CSAB 149.3 - 10 Compliant: Yes

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High

LOW

Gas Permit #: N/A

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After Service

| Burner Settings | | | Internal Skin Temperatures | | | |
|------------------|----------------|------|----------------------------|-------|-------------------------------|-------|
| Orifice Jet: N/A | | | N/A C | | | |
| OrificeSpu | d: E | | | | | |
| Main Fuel: | N/A | | | N/A C | N/A C | N/A C |
| 14Psi | Max PSI | 5Psi | Min PSI | | | |
| 2nd Fuel: | | | | | N/A C | |
| N/A | Max PSI | N/A | Min PSI | | t Skin Temp from Nozzle: _ | N/A C |
| Max BTU - | Current: 2.0 |)2mm | | | | |
| ı | Potential: 2.5 | īmm | | | | |

| | Before | High | Low |
|----------|--------|-------------|-------------|
| Date | | 14-Mar-2019 | 14-Mar-2019 |
| Time | | 10:13:57 AM | 10:15:24 AM |
| O2 (%) | | 6.94 | 10.96 |
| CO (PPM) | | 0 | 0 |
| PRS | | 14Psi | 5Psi |
| Eff (%) | | 73 | 71 |
| XAir (%) | | 76 | 131 |
| CO2 (%) | | 8.04 | 6.75 |
| NO (PPM) | | 43 | 41 |

| | belore | nigri | LOW |
|-------------|--------|-------|-----|
| NO2 (PPM) | | | |
| NOx (PPM) | | 45 | 43 |
| SO2 (PPM) | | | |
| Flue (C) | | 421 | 311 |
| Inlet (C) | | | |
| Natural Gas | | | |
| Raw Gas | | Е | E |
| Propane | | | |
| Flue CFM | | | |

Refore

Pre-Service Comments

- ESD solenoids were installed backwards.
- Temperature control and temperature ESD were wired incorectly
- Pilot solenoid is not the correct solenoid for fired appliance. Replaced with proper rated solenoid
- Vented and screened all vent lines

After-Service Comments

- Field Commissioning Commissioning of process heater assembly
- Field Commissioning Verified all fuel gas supply regulators have correct orifice, spring range and pressure correctly adjusted
- Field Commissioning Verified correct fastening and alignment of main burner and pilot burner
- Field Commissioning Verified correct safety relief valve is installed in gas supply system
- Field Commissioning Verified valves are installed correctly checking flow direction
- Field Commissioning Verify gas line is properly marked and identified
- Field Commissioning Verifiy high temperature trip calibration
- Field Commissioning Verify low bath level trip function
- Field Commissioning Verified correct bath temperature set-point
- Field Commissioning Verified bath is to correct level
- Field Commissioning Verified all ports to firebox are appropriately sealed and the flame arrestor is in good condition
- Field Commissioning Purge process heater gas lines and proceed with start up



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N/A

Gas Permit #: N/A **Date:** 14-Mar-2019

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| Safety Checklist | |
|----------------------------------|-----|
| Burner Adjusted as per Manual: | Yes |
| Pri./Sec. air dampener secured: | Yes |
| Firebox Closed - good seal made: | Yes |
| Regulator Set & Secured: | Yes |
| Any System Deficiencies: | No |
| Owner Notified of Actions Taken: | Yes |
| Site Cleanup Complete: | Yes |
| Tools & Equipment Stored: | Yes |
| All Parts Accounted For: | Yes |
| All Reports Complete: | Yes |

Authorizing Body: N/A



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Field Commissioning - Verified burner management system provides correct firing sequence for pilot and main burner, with stable flame high and low conditions

Field Commissioning - Verified gas is turned off on loss of flame detection

Field Commissioning - Verified high fuel gas pressure trip function

Field Commissioning - Verified low fuel gas pressure trip function

Field Commissioning - Verified no flame present at bath temperature set-point (Run/stop function)

Field Commissioning - Verify burner orifice size and calculate maximum current BTU input (See burner setting on page 1)

Field Commissioning - Adjust and set burners

Field Commissioning - Verify correct heater emmissions from heater stack with burner fueled by raw gas, see combustion analyzer strips

Field Commissioning - Post maximum and minimum burner setting, fuel types, stack temperatures and firetube internal skin temperature onto the firebox via service sticker

Field Commissioning - Verified there are no leaks on bath or gas lines after warm up

Field Commissioning - Verify process heater system is built to P and ID's

Technician: Stan Neu Assistants: Chris Graham



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