

REVIEWED**By posmag at 10:10 am, Nov 05, 2019****Husky Energy**

1-21-38-2-W5M

Contact: Geoff Posma

Office #:

Cell #: 403-588-0541

Fax #:

Work Order #: 60566275

Hazard Assessment #(s):

Safe Work Permit: 639705

Additional Ref. #:

Gas Permit #: N/A

Date: 24-Oct-2019

Authorizing Body: ENEFEN

Phone: , Alberta

Fax: Direct Dispatch: 1-866-744-

Description:**PM****Burner Information**

Type: Low Pressure Burner	Fuel Type: Natural Gas
Size: 3"	Orifice Jet: M
Nozzle Type: KFS TBN 4 X 10"	Orifice Spud: 13/16
Barrel Type / Combination: compound with sleeve	Max. Press.: 16 PSI
Pilot Type/Style: Natco (Modified)	Min. Press.: 3 PSI
Burn Back Protection: No	Pilot Press.: 6 PSI
	Pilot Orifice: # 58
CSAB 149.3 - 10 Compliant: Yes	

BMS Type: Profire 2100	Electrical Spec: 24 VDC
BMS Serial #: P14253	Mod Bus:
Pre Purge Time: 60 secs sec.	General Alarm: Lock Out
Start w/ Power: Yes	Hi Temp Alarm: Lock Out
Remote Start: Yes	Lo Level Alarm: Lock Out
Soft Start: No	Hi Gas Alarm: Lock Out
Low Fire Start: Yes	Lo Gas Alarm: Lock Out
Low Fire Timer: 30 sec sec.	CSAB 149.3 - 10 Compliant: Yes

Firetube Information

Discharge Design: Hard 90	Internal Skin Temperatures N/A C N/A C N/A C N/A C N/A C Highest Skin Temp Distance from Nozzle: N/A C
Tube Diameter: 20" inches	
Tube Length: N/A feet	
Stack Size: 20" inches	
Stack Height: 20' feet	
Orientation: Horizontal	
Return Side: Yes	
Internal Baffle: No	
Stack Cap: No	
Stack Dampener: No	
Stack Therm.: No	Tube Condition: 0
Impingement: No	
Tube Distorted: No	Klinker Buildup: No

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TEG Heater

Firebox Information

Type: 990k - 1.8MM Btu PHM Size: 24"
Serial #: 2659
Condition of Seals / Gasket: Good
Arrestor Size: 24" Number: 1
Arrestor Cond.: Good Hole Size: 0.068"
Flashback Test: Yes When: 06/10/2018
CSAB 149.3 - 10 Compliant: Yes

Vessel Information

Type: TEG heater Size: 5' X 26'
Serial #: 2007-7738-01
Fluid Temp: 165 BS+W: N/A%
Fluid Level: Full H2O Level: N/A
Inlet Temp.: N/A Thermowell: N/A
Discharge Temperature: N/A
H2O Discharge Temperature: N/A

Valve Train Information

Main Regulator: Fisher Main ESD: 1" Pulse
627R Asc
Pilot Regulator: Fisher Pilot ESD: 1/4" Pulse
67CFR Asc
Proof of Closure: N/A
Temp. Control: Profire Set @ 180/182 C
Integrated
PRV/PSV Size: SN#:
Hi Temp Shutoff: Profire Set @ 210 C
Integrated
Flame Fail Type: Ion Detect Set @ 3.8
Thermocouple: N/A
Lo Fire Solenoid: No
Orifice Plate: 3/16 BTU Input: 1.2MBtu
Soft Start: N/A
Lo Level Shutoff: Vegaswing Set @ Abv Tube
Hi Level Shutoff: N/A Set @ N/A
L. Press. Switch: United Electric Set @ 3 psi
H. Press. Switch: United Electric Set @ 18 psi
CSAB 149.3 - 10 Compliant: Yes

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After Service

Burner Settings	Internal Skin Temperatures
Orifice Jet: M	228 C
Orifice Spud: 13/16	
Main Fuel: Natural Gas	207 C 225 C 212 C
18 Max PSI 3 Min PSI	203 C
2nd Fuel: N/A	Highest Skin Temp
N/A Max PSI N/A Min PSI	Distance from Nozzle: 5' C
Max BTU - Current: 2,600,000	
Potential: 2,595,000	

	Before	High	High
Date	24-Oct-2019	24-Oct-2019	24-Oct-2019
Time	12:00:00 PM	12:00:00 AM	12:32:00 PM
O2 (%)	8.2		6.3
CO (PPM)	80		24
PRS	13psi		14 psi
Eff (%)	71		75.8
XAir (%)	49		37.8
CO2 (%)	9.85		8.18
NO (PPM)	41		39

	Before	High	High
NO2 (PPM)	-		-
NOx (PPM)	47		41
SO2 (PPM)	-		-
Flue (C)	358.7		358.4
Inlet (C)	-		-
Natural Gas	13/16		13/16
Raw Gas	-		-
Propane	-		-
Flue CFM	-		-

Pre-Service Comments

After-Service Comments

P.M - Adjust and set burners.

P.M - Clean flame arrestors with compressed air.

P.M - Clean pilot orifice

P.M - Flame arrestor has been flashback tested in 10 locations to API 12N code and has passed.

P.M - Post maximum and minimum burner settings, fuel types, stack temperatures and firetube internal skin temperatures onto the firebox service stickers.

P.M - Verify no flame present at bath temperature set point.

P.M - Verify low fuel gas pressure trip calibration.

P.M - Verify low bath level trip functions.

P.M - Verify high temperature trip calibration.

P.M - Verify high fuel gas pressure trip calibration.

P.M - Verify flame arrestor is in good condition.

P.M - Verify correct safety relief valve is installed in gas supply system.

P.M - Verify correct fastening and alignment of main and pilot burner.

P.M - Verify correct emissions from heater stack with burner fueled by line gas, see combustion analyzer strips.

P.M - Verify correct bath temperature set point.

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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



xx via



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P.M - Verify burner managment system provides correct firing for pilot and main burner, with stable flame for high and low fire conditions

P.M - Main burner appears to be in good condition

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Technician: C. Graham

Assistants: J Mckenzie

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