

RE: PRAMP November 2018 dashboard

Robert Fisher <RFisher@maxxam.ca>

Wed 2019-01-02 4:19 PM

To: Michael & Lily <pramp@prampairshed.ca>; Cheri Sinclair <CSinclair@maxxam.ca>;

Hi Lily,

No problem.

Below is a summary of the 55i findings focusing on reliability/performance. Since the analyzers are swapped in /out of the stations, I researched the history of the individual 55i analyzers by S/N.

The reliability of the PRAMP 55is appears similar that of Wood Buffalo 55i. I used a relative metric of # of faulty injections / # analyzers in service.

(PRAMP: 2.00 vs Wood Buffalo: 2.71). I did not use downtime as a comparison due to the differences in criteria to invalidate data. Wood Buffalo and Maxxam have different approaches to invalidating data.

I cannot provide a comment on the life span of a 55i. The history suggests that the 55i performance issues do not correlate with age.

The #1022143392 analyzer is the oldest (2010) and the most reliable; only one instance of faulty injections in 8 years which occurred in 2018 at 986.

PRAMP (5 x 55i's)

The following is a summary of the 55i performance within the PRAMP stations. The **red** indicates a removal.

- 10 occurrences of faulty injections (2.00 instances of faulty injections per analyzer)
- 10 occurrences of poor measurements (low readings / drift / noise)

- 1236656188 – Maxxam New installation 2013 – swapped out 6 times. (5 x in 842; 1 x Reno)
 - Motherboard failure (842: 1 x 2014)
 - Software failure (842: 1 x 2015)
 - Low readings / drift (842: 1 x 2016; Reno: 1 x 2016)
 - Sporadic noise (1 x 2017)
 - Faulty injections (842: 3 x 2017)
 - Sample pump failure (842: 1 x 2014)
- 1505664392 – Maxxam New installation 2015 – swapped out 3 times. (3 x 842; **currently in 842**)
 - Lightning strike (842: 1 x 2016)
 - Faulty injections (842: 1 x 2017; 1 x 2018)
 - Zero drift (842: 1 x 2016)
 - Low readings (842: 1 x 2016)
 - Hardware failure (842: 1 x 2018)
- 1433563261 - Maxxam New installation 2015– swapped out 3 time (3 x 842)
 - Low readings / drift (842: 1 x 2017)
 - Excessive noise (842: 1 x 2017)
 - Faulty injections (842: 2 x 2018)
- 1022143392 – Maxxam New installation 2010 –swapped out 1 time (1x 986; **currently in 986**) – appears to be the most reliable of the 5 analyzers
 - Excessive noise (986: 1 x 2015)

- Faulty sample pump (986: 2 x 2016)
- Faulty injection (986: 1 x 2018)
- 1314057759 – Maxxam New installation 2013 – swapped out 2 times (1 x 842; 1 x Reno; **currently in Reno**)
 - Failed calibration (**1 x 2015**)
 - Malfunction – not determined (**842: 1 x 2013**; Reno: 1 x 2016)
 - Faulty injections (1 x 2016; 1 x 2018)
 - Low readings (2 x 2017)

Wood Buffalo (7 x 55i's)

Below is a summary of the Wood Buffalo 55i performance.

I pulled these data from their monthly reports available from their website.

The information is limited in detail, however the brief nature of the repairs were mentioned in the monthly reports.

Faulty injections look like negative spikes and repairs to the actuator or valve were assumed to be faulty injections.

The site / year / month are identified below if you would like to investigate further.

- 19 occurrences of suspected faulty injections (2.71 instances of faulty injections per analyzer)

2018

January

- Janvier - Replaced Actuator
- Conklin - issues - awaiting feedback from Thermo

February

- Janvier - Unstable conditions (No As Finds possible)
- Janvier - Unstable conditions (No As Finds possible)

March

- Janvier - Possible valve issue - **removed**

April

- Janvier - Unknow issues - **Removed** - sent to shop
- Patricia McInnes - Pump failure

May

- Ft McKay - **Removal** - collapsed baseline
- Patricia McInnes - Failed audit - four days earlier

September

- Janvier - Replaced Actuator

-

2017

January

- Patricia McInnes – Negative spikes

February

- Athabasca Valley - Unstable (No As Finds possible) replaced board
- Stony Mountain - Replaced Actuator

March

- Patricia McInnes - Replaced Actuator

April

- Conklin - Replaced Actuator

November

- Athabasca Valley - Bake out

December

- Ft. McKay - Replaced Actuator

-
2016

January

- Anzac - Negative spikes

April

- Anzac - Negative spikes - **removed** - sent to shop
- Conklin - Noise - Pump replacement
- Conklin - Noise - troubleshooting

June

- Patricia McInnes - replaced pump

July

- Conklin - Noise

August

- Anzac - Install

September

- Anzac - replaced pump

October

- Athabasca Valley - Negative spikes - **removed** - sent to shop
- Athabasca Valley - Span Drift
- Athabasca Valley - Span Drift
- Anzac - Span Drift

December

- Anzac - **Removed** - Sent to shop - valve replacement

2015

January

- Athabasca Valley - Replaced pump
- Athabasca Valley - **Removed** - actuator replacement - sent to shop

February

- Athabasca Valley - Repair

March

- Athabasca Valley - **Removed** due to failure - serviced - installed

May

- Patricia McInnes - Replaced actuator

June

- Patricia McInnes - Pump replacement

September

- Ft. McKay - **Removal** - As Founds only

October

- Ft. McKay - **Removal** - negative spikes
- Ft. McKay - Maintenance

November

- Ft. McKay - - Replaced Actuator
- Ft. McKay - **Removed** - sent to shop

2014

January

- Anzac – repair
- Anzac – repair
- Anzac – **removal**

March

- Patricia McInnes – negative spikes and replaced internal pump

April

- Anzac – install

June

- Patricia McInnes – **removed** for actuator valve issue
- Patricia McInnes – Repair

December

- Bertha Gantner – Actuator valve issue

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From: Michael & Lily <pramptech@prampairshed.ca>

Sent: Wednesday, January 2, 2019 2:05 PM

To: Robert Fisher <RFisher@maxxam.ca>; Cheri Sinclair <CSinclair@maxxam.ca>

Subject: PRAMP November 2018 dashboard

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Hi Rob, Cheri,

PRAMP next TWG meeting is held on January 10 between 1-4pm. As usual, we would like to invite you to call in and review the station operations (dashboard for Oct and Nov and any highlight for Dec 2018 and Jan 2019). Your time is scheduled around 2pm. Here is the conference call info.

Teleconference: 1 866 850-3419 Code: 366 952 7735 #

The dashboard report for October has been received, and we are now waiting for the November one. Please provide me the Nov dashboard as soon as it is available so we can distribute it to the TWG group.

Rob, one action item from last meeting was assigned to you (Maxxam): Maxxam will look at the history, reliability and life span of the 55i analyzers at each site. Will you or other Maxxam representatives share the investigation results of this action item in the meeting next week?

Lily

Michael Bisaga - 780 266-7068

Lily Lin - 587 225-2248

**Technical Program Managers
Peace River Area Monitoring Program Committee**