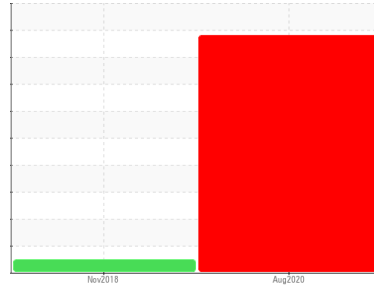




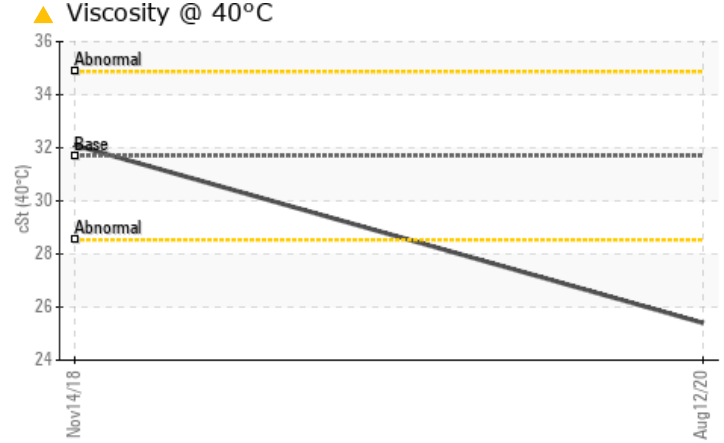
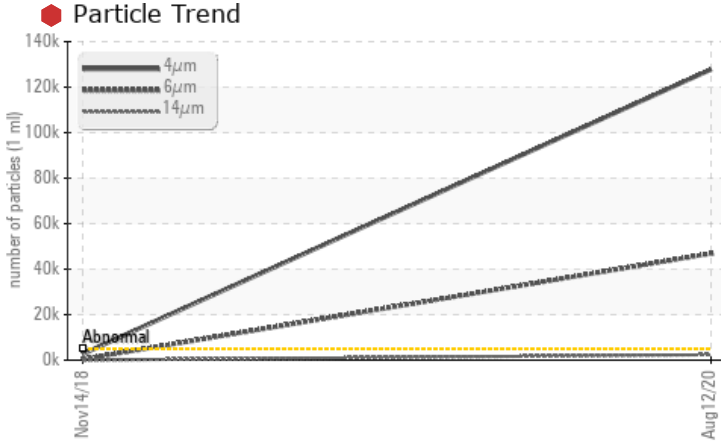
# PROBLEM SUMMARY

Area  
**LSGS PLANT 2**  
 Machine Id  
**G4 HPU**  
 Component  
**Pump Hydraulic System**  
 Fluid  
**PETRO CANADA ENVIRON AW 32 (200 LTR)**

Sample Rating Trend



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you check for visible metal particles in the oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	---
Particles >4µm		ASTM D7647	>5000	127797	2683	---
Particles >6µm		ASTM D7647	>1300	46844	386	---
Particles >14µm		ASTM D7647	>160	2377	22	---
Particles >21µm		ASTM D7647	>40	584	6	---
Particles >38µm		ASTM D7647	>10	19	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	24/23/18	19/16/12	---
White Metal	scalar	Visual*	NONE	LTMOD	NONE	---
Visc @ 40°C	cSt	ASTM D7279(m)	31.7	25.4	32.1	---
PrtFilter					no image	no image

Customer Id: PET412PET  
 Sample No.: WC0373472  
 Lab Number: 02373503  
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Kevin Marson +1 (289)291-4644 x4644  
[Kevin.Marson@wearcheck.com](mailto:Kevin.Marson@wearcheck.com)

To change component or sample information:  
 Gloria Gonzalez +1 (289)291-4643 x4643  
[gloria.gonzalez@wearcheck.com](mailto:gloria.gonzalez@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	MISSED	May 30 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	MISSED	May 30 2023	?	Resample in 30-45 days to monitor this situation.
Check Breathers	MISSED	May 30 2023	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Dirt Access	MISSED	May 30 2023	?	We advise that you check all areas where contaminants can enter the system.
Check For Visual Metal	MISSED	May 30 2023	?	We advise that you check for visible metal particles in the oil.
Filter Fluid	MISSED	May 30 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

## HISTORICAL DIAGNOSIS

14 Nov 2018 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

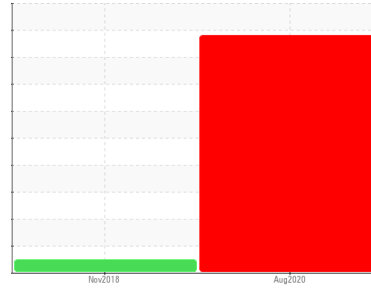
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**LSGS PLANT 2**  
 Machine Id  
**G4 HPU**

Component  
**Pump Hydraulic System**  
 Fluid

**PETRO CANADA ENVIRON AW 32 (200 LTR)**

## DIAGNOSIS

### Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you check for visible metal particles in the oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

### Wear

Light concentration of visible metal present.

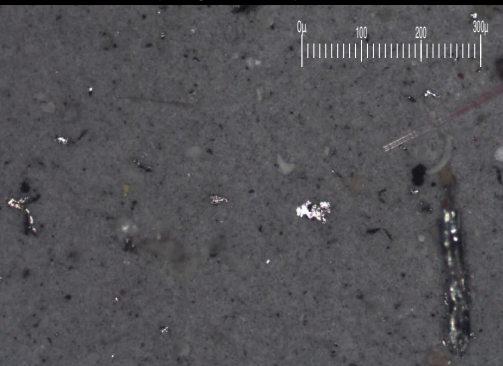
### Contamination

Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Particles >4µm are severely high. Particles >38µm are notably high.

### Fluid Condition

Viscosity of sample indicates oil is within ISO 22 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Particle Filter (Magn: 100 x)



## SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		<b>WC0373472</b>	WC985019	---
Sample Date	Client Info		<b>12 Aug 2020</b>	14 Nov 2018	---
Machine Age	yrs	Client Info	<b>18714</b>	7664	---
Oil Age	yrs	Client Info	<b>2942</b>	7664	---
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	---
Sample Status			<b>SEVERE</b>	NORMAL	---

## WEAR METALS

	method	limit/base	current	history 1	history 2	
Iron	ppm	ASTM D5185(m)	>20	<b>2</b>	<1	---
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	---
Nickel	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185(m)	>20	<b>0</b>	0	---
Lead	ppm	ASTM D5185(m)	>20	<b>0</b>	0	---
Copper	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	---
Tin	ppm	ASTM D5185(m)	>20	<b>0</b>	0	---
Antimony	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	---

## ADDITIVES

	method	limit/base	current	history 1	history 2	
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	---
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	---
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	<1	---
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	---
Magnesium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	1	---
Calcium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	---
Phosphorus	ppm	ASTM D5185(m)	650	<b>555</b>	517	---
Zinc	ppm	ASTM D5185(m)	0	<b>8</b>	4	---
Sulfur	ppm	ASTM D5185(m)	1280	<b>1216</b>	1227	---
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	---

## CONTAMINANTS

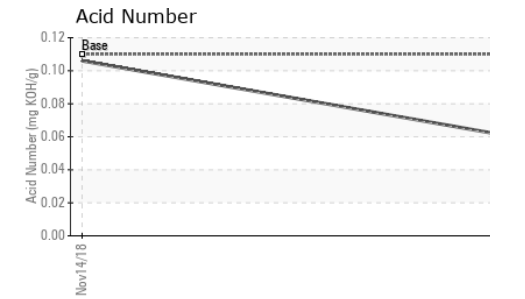
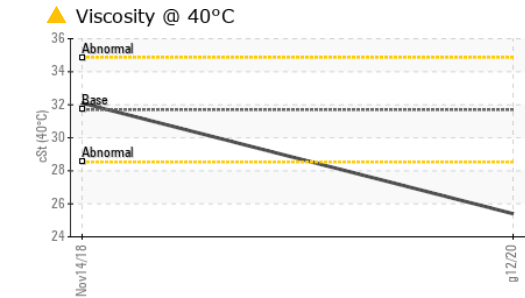
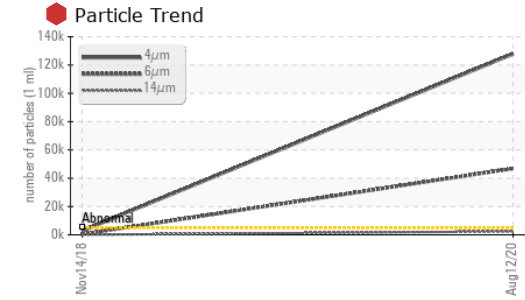
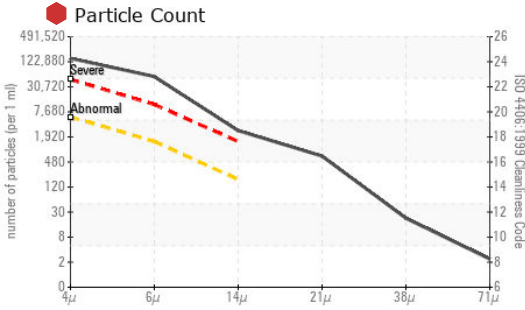
	method	limit/base	current	history 1	history 2	
Silicon	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	---
Sodium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	---

## FLUID CLEANLINESS

	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647	>5000	<b>127797</b>	2683	---
Particles >6µm	ASTM D7647	>1300	<b>46844</b>	386	---
Particles >14µm	ASTM D7647	>160	<b>2377</b>	22	---
Particles >21µm	ASTM D7647	>40	<b>584</b>	6	---
Particles >38µm	ASTM D7647	>10	<b>19</b>	0	---
Particles >71µm	ASTM D7647	>3	<b>2</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>24/23/18</b>	19/16/12	---

## FLUID DEGRADATION

	method	limit/base	current	history 1	history 2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.11	<b>0.06</b>	0.106	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0373472 **Received** : 01 Sep 2020  
**Lab Number** : 02373503 **Diagnosed** : 03 Sep 2020  
**Unique Number** : 5096951 **Diagnostician** : Kevin Marson  
**Test Package** : IND 2 ( Additional Tests: Bottom, BottomAnalysis, FilterPatch )

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

**PETERBOROUGH UTILITIES INC**  
 1867 ASHBURNHAM DRIVE  
 PETERBOROUGH, ON  
 CA K9L 1P8  
 Contact: Nelson Ross  
 nross@pui.ca  
 T: (705)760-6119  
 F: (705)748-3138

VISUAL	method	limit/base	current	history 1	history 2	
White Metal	scalar	Visual*	NONE	▲ LTMOD	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	VLITE	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.05	NEG	NEG	---
Free Water	scalar	Visual*		NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history 1	history 2	
Visc @ 40°C	cSt	ASTM D7279(m)	31.7	▲ 25.4	32.1	---

SAMPLE IMAGES	method	limit/base	current	history 1	history 2
Color					no image
Bottom					no image
PrtFilter					no image

## GRAPHS

