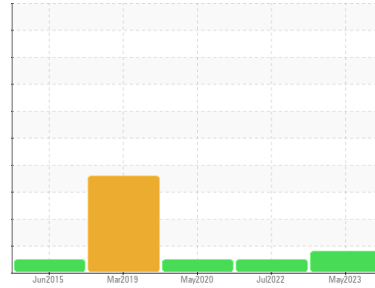




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**METRO VANCOUVER [02548846]**  
 Machine Id  
**HENRY PRATT ACI M91-1-D-2-D-C-2 W-CAP-HPU-007C (S/N UNIT 7)**  
 Component  
**Hydraulic System**  
 Fluid  
**PANOLIN HLP SYNTH 46 (25 LTR)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil. There is a light concentration (<5.0%) of mineral oil present in the fluid. The water content is negligible.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>WC</b>	WC	WC
Sample Date	Client Info	<b>25 May 2023</b>	19 Jul 2022	06 May 2020
Machine Age	hrs Client Info	<b>0</b>	0	0
Oil Age	hrs Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ATTENTION</b>	NORMAL	NORMAL

## WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0
Chromium ppm ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel ppm ASTM D5185(m)	>10	<b>3</b>	3	2
Titanium ppm ASTM D5185(m)		<b>0</b>	0	0
Silver ppm ASTM D5185(m)		<b>0</b>	0	0
Aluminum ppm ASTM D5185(m)	>10	<b>&lt;1</b>	<1	<1
Lead ppm ASTM D5185(m)	>10	<b>0</b>	0	0
Copper ppm ASTM D5185(m)	>75	<b>2</b>	2	2
Tin ppm ASTM D5185(m)	>10	<b>2</b>	2	2
Antimony ppm ASTM D5185(m)		<b>0</b>	0	<1
Vanadium ppm ASTM D5185(m)		<b>0</b>	0	0
Beryllium ppm ASTM D5185(m)		<b>0</b>	0	0
Cadmium ppm ASTM D5185(m)		<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185(m)	0	<b>16</b>	14	20
Barium ppm ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum ppm ASTM D5185(m)	0	<b>0</b>	0	0
Manganese ppm ASTM D5185(m)	0	<b>0</b>	0	0
Magnesium ppm ASTM D5185(m)	0	<b>0</b>	0	<1
Calcium ppm ASTM D5185(m)	0	<b>0</b>	0	<1
Phosphorus ppm ASTM D5185(m)	1700	<b>1757</b>	1702	1773
Zinc ppm ASTM D5185(m)	0	<b>6</b>	5	3
Sulfur ppm ASTM D5185(m)	1350	<b>1538</b>	1581	1508
Lithium ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

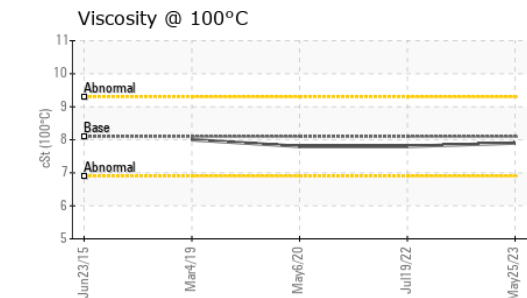
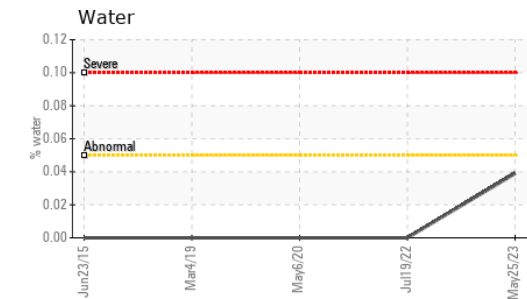
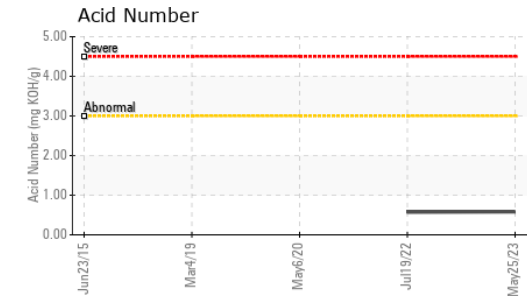
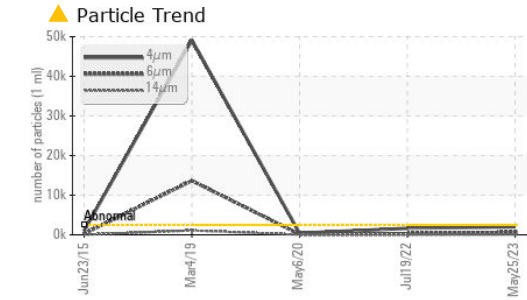
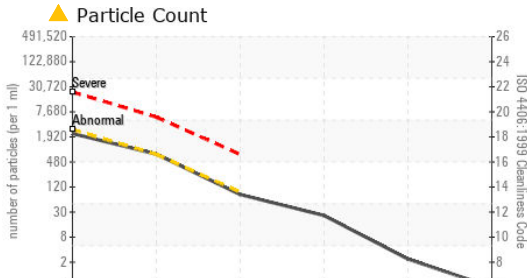
method	limit/base	current	history1	history2
Silicon ppm ASTM D5185(m)	>20	<b>6</b>	6	6
Sodium ppm ASTM D5185(m)		<b>0</b>	0	0
Potassium ppm ASTM D5185(m)	>20	<b>0</b>	0	<1
Water % ASTM D6304*	>0.05	<b>0.039</b>	---	---
ppm Water ppm ASTM D6304*	>500	<b>390.2</b>	---	---

## INFRA-RED

method	limit/base	current	history1	history2
Soot % ASTM D7844*		<b>0</b>	0	0
Nitration Abs/cm ASTM D7624*		<b>4.2</b>	4.4	2.5
Sulfation Abs/.1mm ASTM D7415*		<b>161.9</b>	161.9	26.7
Mineral Oil Content % ASTM D7418*	<5.0%	<b>&lt;5.0</b>	<5.0	1.0



# OIL ANALYSIS REPORT



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC  
**Lab Number** : 02559976  
**Unique Number** : 5581016  
**Test Package** : MOB 2 ( Additional Tests: TAN Man )

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.

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	<b>2026</b>	1649	418
Particles >6µm	ASTM D7647	>640	<b>▲ 650</b>	294	133
Particles >14µm	ASTM D7647	>80	<b>70</b>	16	23
Particles >21µm	ASTM D7647	>20	<b>22</b>	3	8
Particles >38µm	ASTM D7647	>4	<b>2</b>	1	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	1	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	<b>▲ 18/17/13</b>	18/15/11	16/14/12

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	<b>162.3</b>	163.7	19.4
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>0.58</b>	0.57	---

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*	<b>NEG</b>	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	<b>43.8</b>	48.3	43.8
Visc @ 100°C	cSt	ASTM D7279(m)	<b>7.9</b>	7.8	7.8
Viscosity Index (VI)	Scale	ASTM D2270*	<b>153</b>	129	149

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

**Envirolin Canada**  
 520 rue Adanac  
 Quebec, QC  
 CA G1C 7B7  
 Contact: Luc Tanguay  
 Luc.tanguay@envirolin.com  
 T: (418)623-1216  
 F: (418)660-8889



# MINERAL OIL CONTENT REPORT

PASS

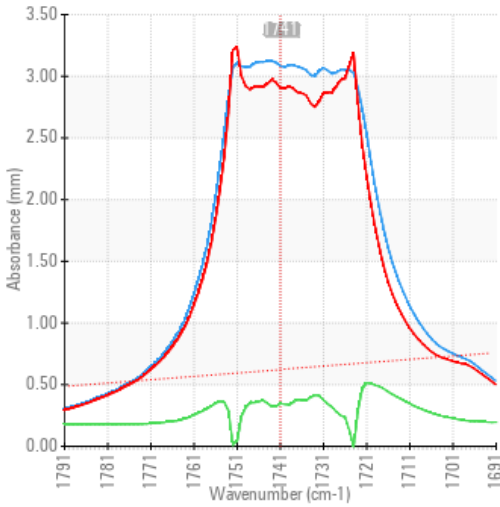


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 Component  
**Hydraulic System**  
 Fluid  
**PANOLIN HLP SYNTH 46 (25 LTR)**

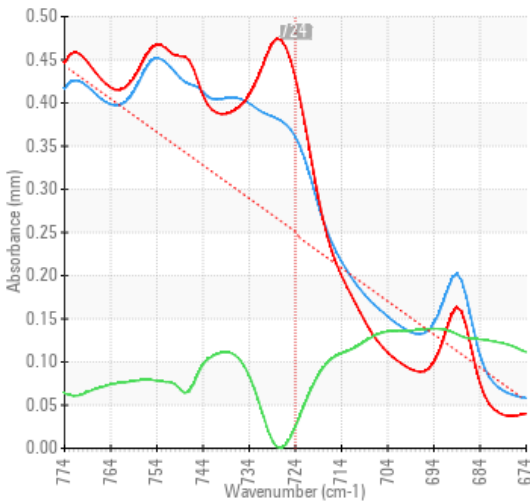
## SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	<b>6</b>	5	3
Mineral Oil Content	%	ASTM D7418*	<5.0%	<b>&lt;5.0</b>	<5.0	1.0

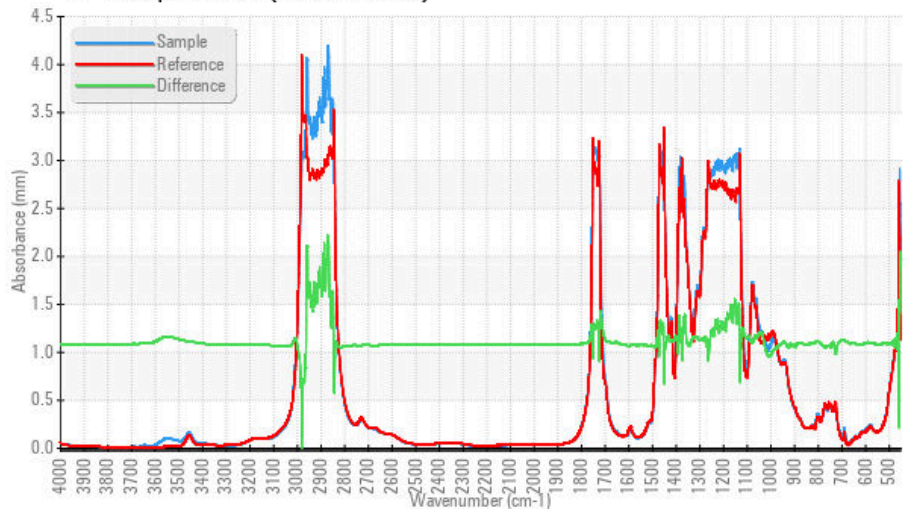
### FT-IR - Esters I



### FT-IR - Esters II



### FT-IR Spectrum (Absorbance)



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**Sample No.** : WC  
**Lab Number** : 02559976  
**Unique Number** : 5581016  
**Test Package** : MOB 2 ( Additional Tests: TAN Man )

**Received** : 26 May 2023  
**Diagnosed** : 30 May 2023  
**Diagnostician** : Bill Quesnel

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 Quebec, QC  
 CA G1C 7B7  
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