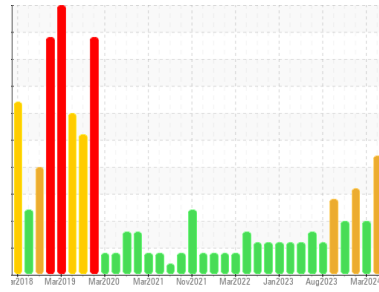




# OIL ANALYSIS REPORT

Sample Rating Trend



**WATER**



Machine Id  
**GROEN PROCESS EQUIP B46485 - KETTLE 1**

Component  
**Gearbox**

Fluid  
**PETRO CANADA ENDURATEX SYNTHETIC EP 220 (3 GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Appearance is hazy. There is a moderate amount of particulates present in the oil. There is a light concentration of water present in the oil.

### 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>WC0921298</b>	WC0885460	WC0885432
Sample Date	Client Info		<b>13 May 2024</b>	21 Mar 2024	23 Jan 2024
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>ABNORMAL</b>	ABNORMAL	SEVERE

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>200	<b>43</b>	42	33
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>0</b>	2	0
Lead	ppm	ASTM D5185m	>50	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>200	<b>0</b>	<1	0
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	33	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	<1	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	5	<b>1</b>	2	<1
Calcium	ppm	ASTM D5185m	5	<b>5</b>	8	1
Phosphorus	ppm	ASTM D5185m	437	<b>150</b>	139	157
Zinc	ppm	ASTM D5185m	5	<b>21</b>	4	0
Sulfur	ppm	ASTM D5185m	5000	<b>1209</b>	890	1012

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>50	<b>4</b>	5	4
Sodium	ppm	ASTM D5185m		<b>7</b>	8	13
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	<1
Water	%	ASTM D6304	>0.2	<b>▲ 0.250</b>	---	▲ 1.13
ppm Water	ppm	ASTM D6304	>2000	<b>▲ 2500</b>	---	▲ 11330

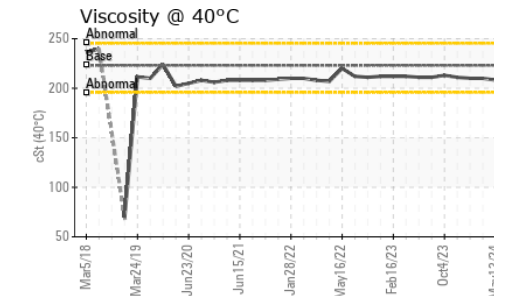
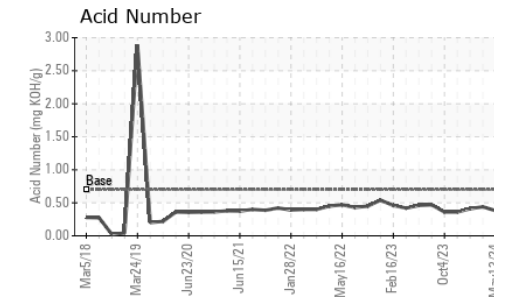
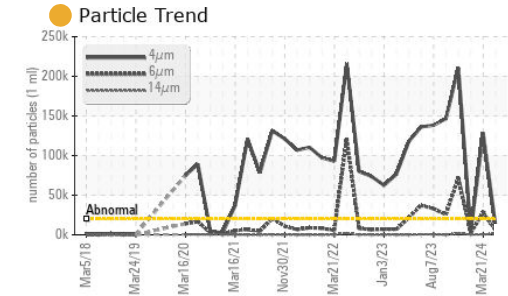
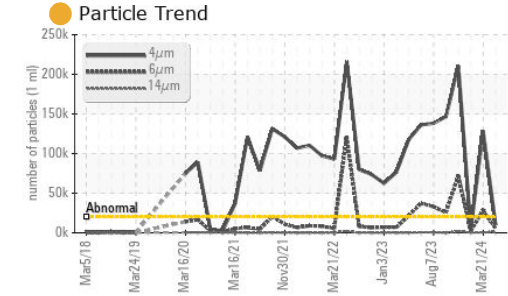
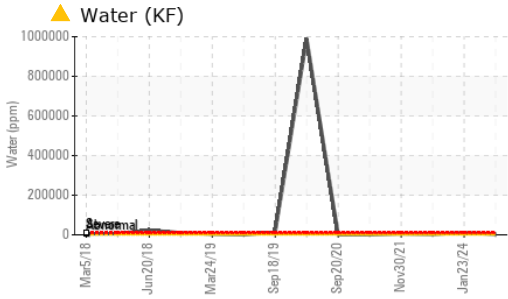
## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>10196</b>	▲ 128362	4411
Particles >6µm	ASTM D7647	>5000	<b>5554</b>	▲ 28049	2403
Particles >14µm	ASTM D7647	>640	<b>945</b>	574	409
Particles >21µm	ASTM D7647	>160	<b>318</b>	68	138
Particles >38µm	ASTM D7647	>40	<b>49</b>	0	21
Particles >71µm	ASTM D7647	>10	<b>5</b>	0	2
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>21/20/17</b>	▲ 24/22/16	19/18/16

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.7	<b>0.38</b>	0.44	0.41

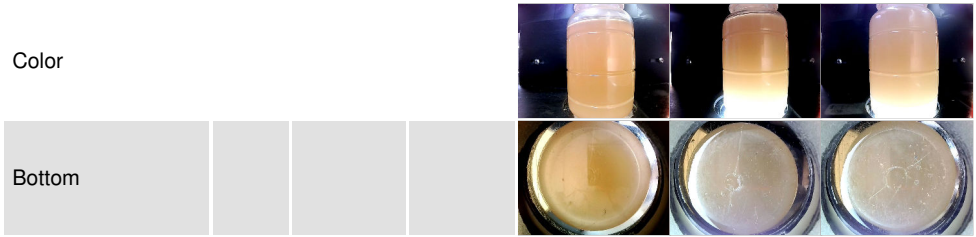
# OIL ANALYSIS REPORT



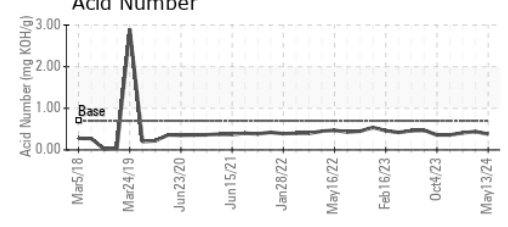
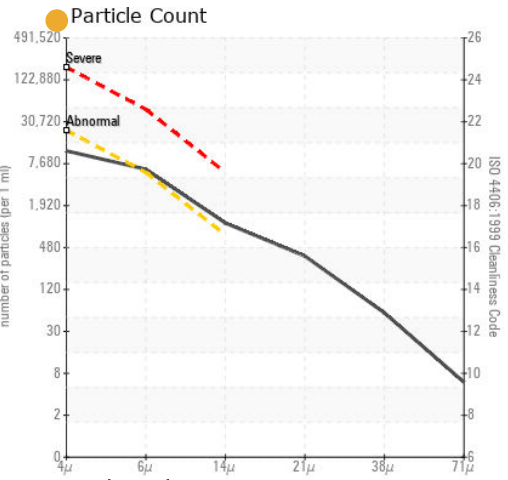
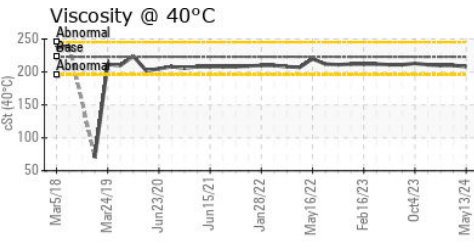
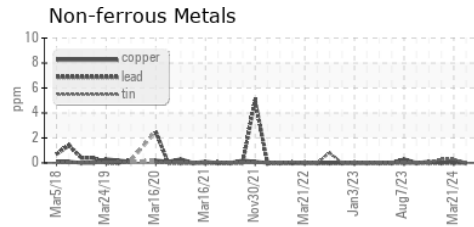
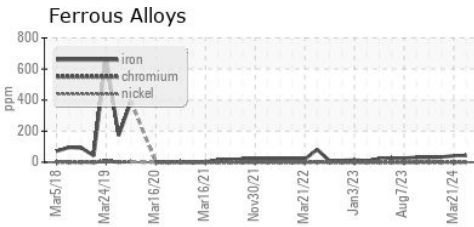
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	HAZY	MILKY
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	223	208.2	210

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0921298 **Received** : 20 May 2024  
**Lab Number** : 06184286 **Tested** : 29 May 2024  
**Unique Number** : 11035612 **Diagnosed** : 29 May 2024 - Jonathan Hester  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**Rochelle Foods - PRE**  
 1001 South Main, P.O. Box 45  
 Rochelle, IL  
 US 61068  
 Contact: JAMES ROBINSON III  
 jrobinson3@hormel.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (815)562-4147