



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Area  
**1 White Oil/028 #1HTU/P Pump/201B 1 Stage HTU Charge**

Machine Id  
**28GP201B**

Component  
**Gearbox**

Fluid  
**PETRO CANADA ENDURATEX SYNTHETIC EP 220 (50 LTR)**

## RECOMMENDATION

Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0873649</b>	WC0902156	WC0783255
Sample Date		Client Info		<b>29 Apr 2024</b>	25 Feb 2024	17 Feb 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>SEVERE</b>	SEVERE	SEVERE

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>200	<b>21</b>	19	12
Chromium	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>100	<b>0</b>	0	3
Copper	ppm	ASTM D5185(m)	>200	<b>4</b>	4	61
Tin	ppm	ASTM D5185(m)	>25	<b>0</b>	0	1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>VLITE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

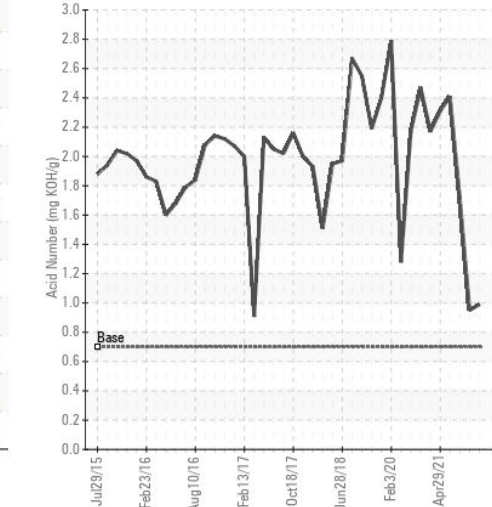
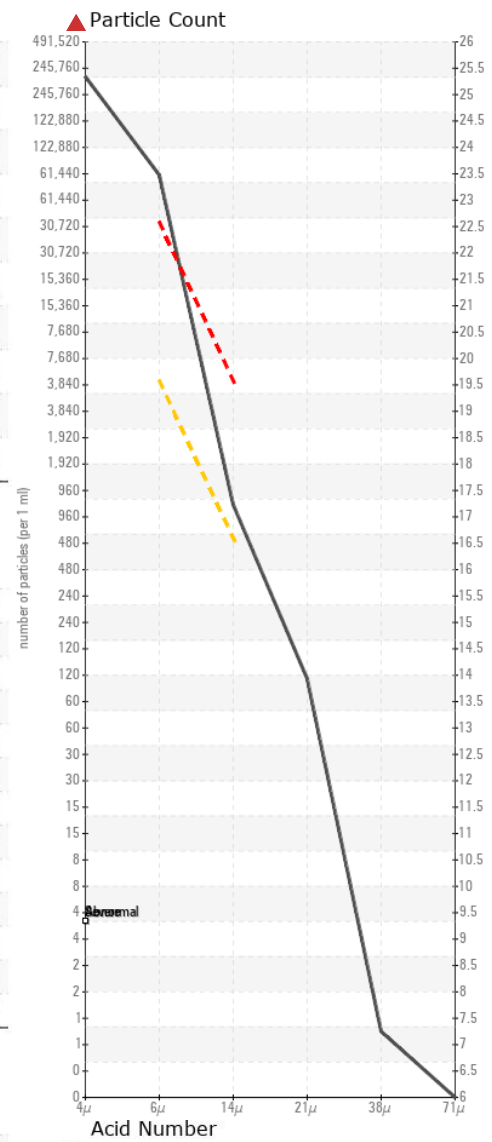
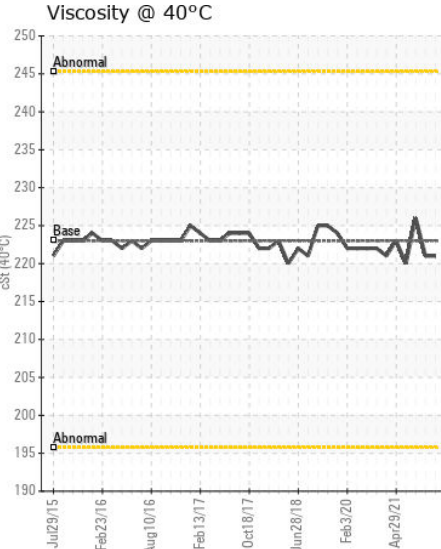
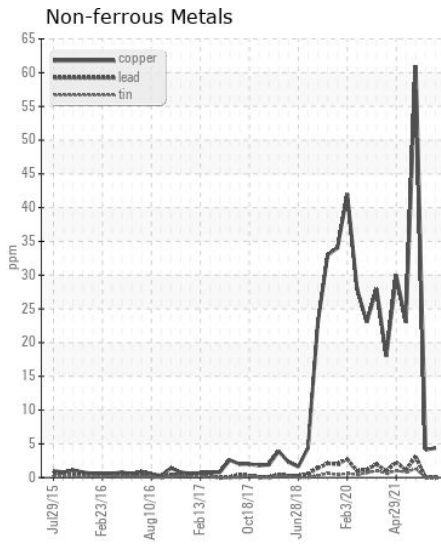
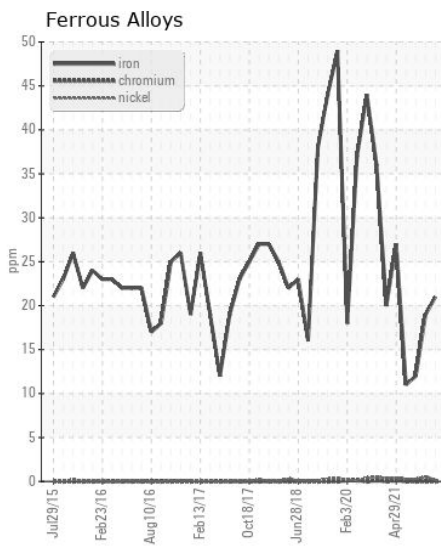
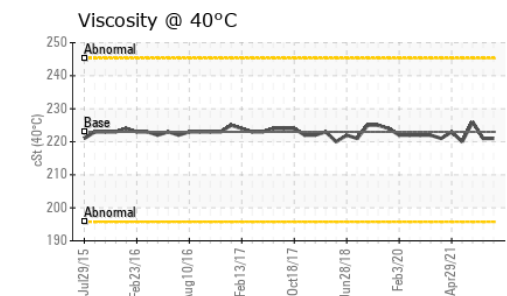
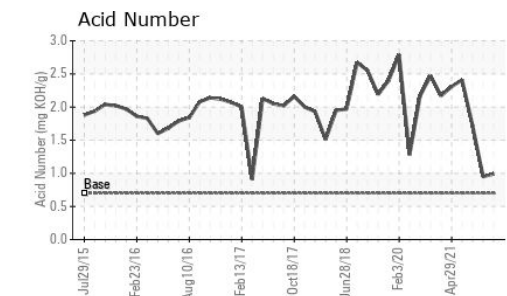
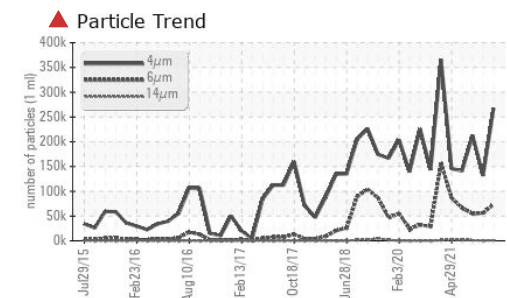
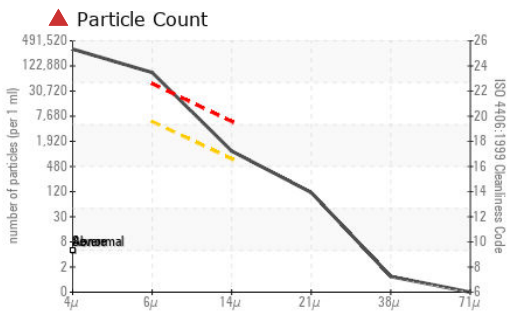
There is a high amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

Silicon	ppm	ASTM D5185(m)	>50	<b>28</b>	25	<1
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647		<b>267630</b>	131509	212872
Particles >6µm		ASTM D7647	>5000	<b>▲ 73845</b>	▲ 56329	▲ 54491
Particles >14µm		ASTM D7647	>640	<b>● 986</b>	484	● 1175
Particles >21µm		ASTM D7647	>160	<b>101</b>	31	181
Particles >38µm		ASTM D7647	>40	<b>1</b>	2	4
Particles >71µm		ASTM D7647	>10	<b>0</b>	1	0
Oil Cleanliness		ISO 4406 (c)	>-/19/16	<b>▲ 25/23/17</b>	▲ 24/23/16	▲ 25/23/17
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	▲ WGOIL
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		<b>8</b>	8	<1
Boron	ppm	ASTM D5185(m)	33	<b>25</b>	27	30
Barium	ppm	ASTM D5185(m)	5	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	5	<b>3</b>	3	<1
Calcium	ppm	ASTM D5185(m)	5	<b>9</b>	8	0
Phosphorus	ppm	ASTM D5185(m)	437	<b>406</b>	419	445
Zinc	ppm	ASTM D5185(m)	5	<b>9</b>	8	59
Sulfur	ppm	ASTM D5185(m)	5000	<b>4586</b>	4969	4889
Acid Number (AN)	mg KOH/g	ASTM D974*	0.7	<b>0.99</b>	0.95	▲ 1.72
Visc @ 40°C	cSt	ASTM D7279(m)	223	<b>221</b>	221	226



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0873649  
**Lab Number** : 02632904  
**Unique Number** : 5774057  
**Test Package** : IND 2  
**Received** : 02 May 2024  
**Tested** : 03 May 2024  
**Diagnosed** : 03 May 2024 - Kevin Marson

**Petro Canada Lubricants Inc.**  
 385 Southdown Road  
 Mississauga, ON  
 CA L5J 2Y3  
 Contact: Kyle Blezard  
 kyle.blezard@HFSinclair.com  
 T: (905)403-6768  
 F: (905)822-6025

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.