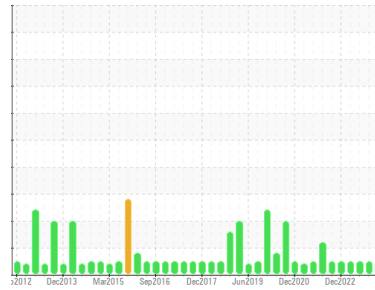




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
2 Phoenix/020 ISO Dewax/P Pump/101A Injection Pump
 Machine Id
N/A 20GP101A (West)

Component
Gearbox

Fluid
PETRO CANADA ENDURATEX EP 150 (2 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

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	WC0883396	WC0822071	WC0851465
Sample Date	Client Info	15 Dec 2023	30 Oct 2023	15 Sep 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >200	2	4	4
Chromium	ppm	ASTM D5185(m) >15	0	0	0
Nickel	ppm	ASTM D5185(m) >15	0	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	<1	<1
Aluminum	ppm	ASTM D5185(m) >25	<1	<1	0
Lead	ppm	ASTM D5185(m) >100	0	0	<1
Copper	ppm	ASTM D5185(m) >200	<1	<1	<1
Tin	ppm	ASTM D5185(m) >25	0	0	0
Antimony	ppm	ASTM D5185(m) >5	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 55	51	48	25
Barium	ppm	ASTM D5185(m) 0	<1	<1	<1
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	0	0	0
Magnesium	ppm	ASTM D5185(m) 2	0	<1	0
Calcium	ppm	ASTM D5185(m) 6	1	1	2
Phosphorus	ppm	ASTM D5185(m) 250	233	247	263
Zinc	ppm	ASTM D5185(m) 3	2	2	2
Sulfur	ppm	ASTM D5185(m) 7500	4021	3900	4260
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >50	1	2	2
Sodium	ppm	ASTM D5185(m)	<1	0	<1
Potassium	ppm	ASTM D5185(m) >20	0	0	0

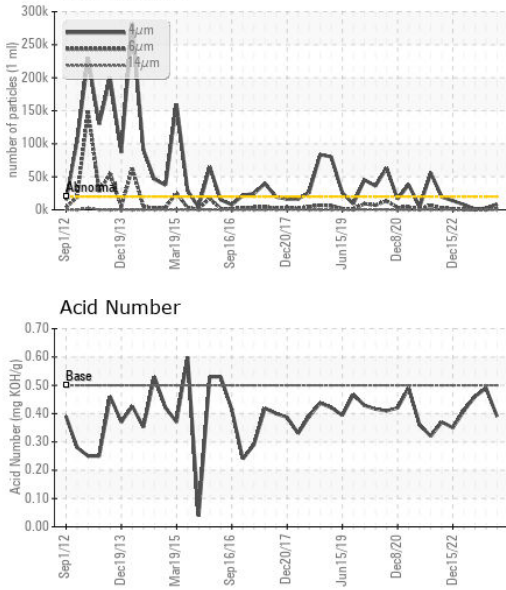
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >20000	8536	2409	1141
Particles >6µm	ASTM D7647 >5000	1715	690	127
Particles >14µm	ASTM D7647 >640	62	58	6
Particles >21µm	ASTM D7647 >160	11	15	1
Particles >38µm	ASTM D7647 >40	1	2	0
Particles >71µm	ASTM D7647 >10	1	1	0
Oil Cleanliness	ISO 4406 (c) >21/19/16	20/18/13	18/17/13	17/14/10

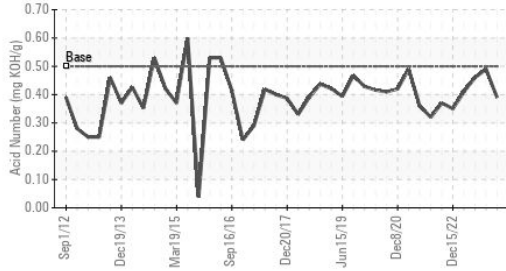


OIL ANALYSIS REPORT

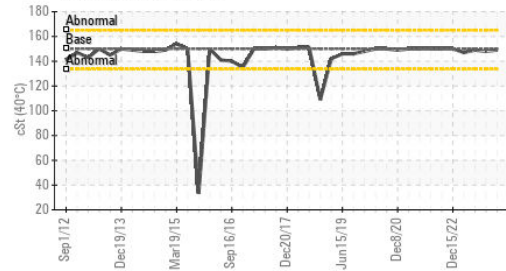
Particle Trend



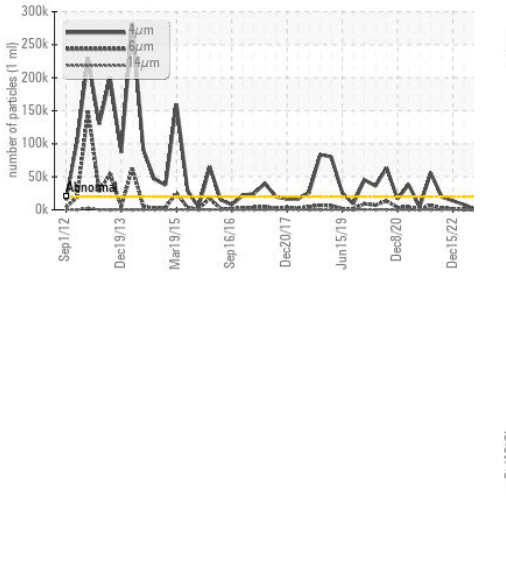
Acid Number



Viscosity @ 40°C



Particle Trend



Viscosity @ 40°C



FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.5	0.39	0.49	0.46

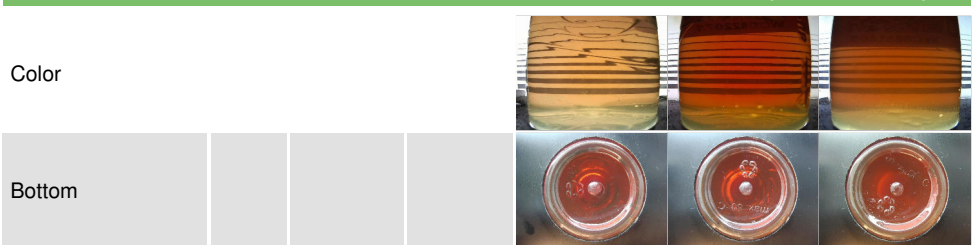
VISUAL

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

FLUID PROPERTIES

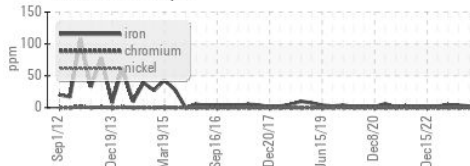
	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	150.0	149	148	149

SAMPLE IMAGES

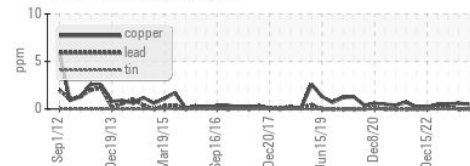


GRAPHS

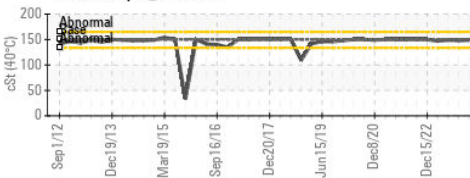
Ferrous Alloys



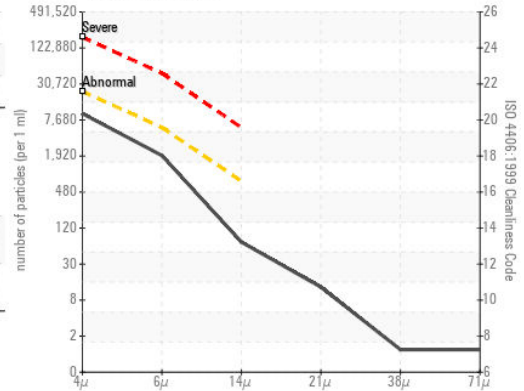
Non-ferrous Metals



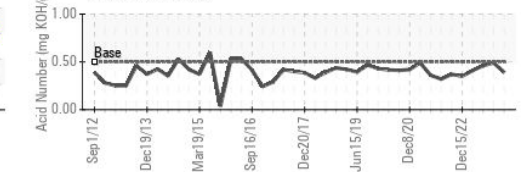
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
 Sample No. : WC0883396
 Lab Number : 02603334
 Unique Number : 5696419
 Test Package : IND 2

Received : 14 Dec 2023
 Diagnosed : 15 Dec 2023
 Diagnostician : Wes Davis

Petro Canada Lubricants Inc.
 385 Southdown Road
 Mississauga, ON
 CA L5J 2Y3
 Contact: Martin Wagenaar
 martin.wagenaar@HFSinclair.com
 T: (905)403-5682
 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.