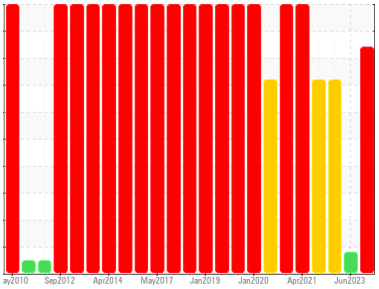
OIL ANALYSIS REPORT

Area
KEMP QUARRIES / MUSKOGEE SAND [65225]
Machine Id
WL015
Component
Front Right Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
We advise that you check all areas where dirt can enter the system. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. (Customer Sample Comment: PM-2 sampled fluid)

Wear
Gear wear is indicated.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0087059**	PCA0087116	PCA0087171
Sample Date		Client Info		**25 Oct 2023**	03 Jun 2023	16 Feb 2023
Machine Age	hrs	Client Info		**2234**	1895	1210
Oil Age	hrs	Client Info		**2234**	685	2000
Oil Changed		Client Info		**N/A**	Not Changd	Changed
Sample Status				**SEVERE**	ABNORMAL	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>800	⬢ **2059**	▲ 1069	▲ 1190
Chromium	ppm	ASTM D5185m	>10	**6**	3	5
Nickel	ppm	ASTM D5185m	>5	**3**	1	2
Titanium	ppm	ASTM D5185m	>15	**2**	<1	4
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>75	▲ **25**	15	▲ 59
Lead	ppm	ASTM D5185m	>10	**3**	2	6
Copper	ppm	ASTM D5185m	>75	**41**	27	▲ 101
Tin	ppm	ASTM D5185m	>8	**2**	<1	4
Antimony	ppm	ASTM D5185m	>50	**---**	---	---
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**1**	0	4
Barium	ppm	ASTM D5185m	0	**19**	0	0
Molybdenum	ppm	ASTM D5185m	0	**2**	1	3
Manganese	ppm	ASTM D5185m	0	**17**	8	14
Magnesium	ppm	ASTM D5185m	9	**22**	15	30
Calcium	ppm	ASTM D5185m	3114	**2897**	2772	2430
Phosphorus	ppm	ASTM D5185m	1099	**971**	924	967
Zinc	ppm	ASTM D5185m	1245	**1110**	1058	1095
Sulfur	ppm	ASTM D5185m	7086	**6233**	4775	7701

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>400	▲ **247**	129	⬢ 481
Sodium	ppm	ASTM D5185m		**7**	0	13
Potassium	ppm	ASTM D5185m	>20	**9**	5	22

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

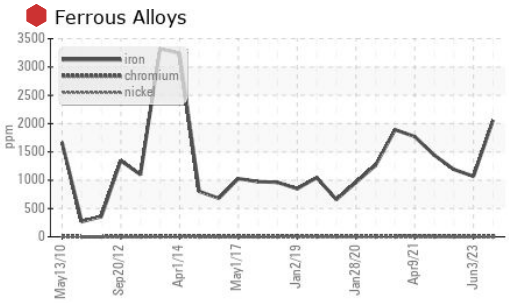
OIL ANALYSIS REPORT

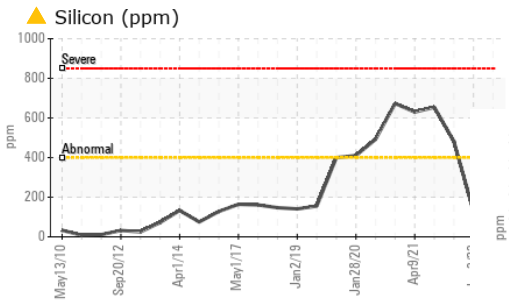
OIL DIAGNOSTICS

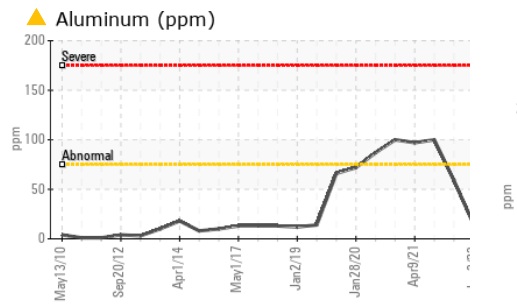
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213.9	**191**	191	189

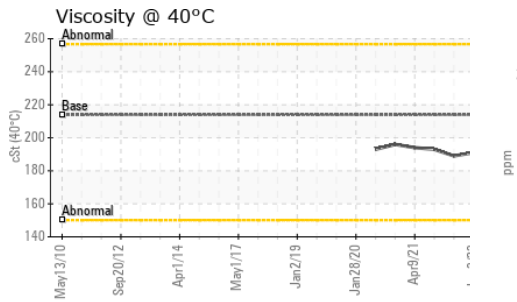
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			*no image*	*no image*	*no image*
Bottom			*no image*	*no image*	*no image*

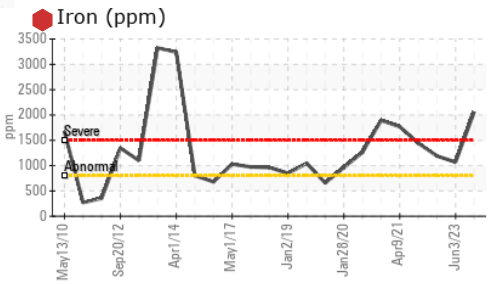
GRAPHS

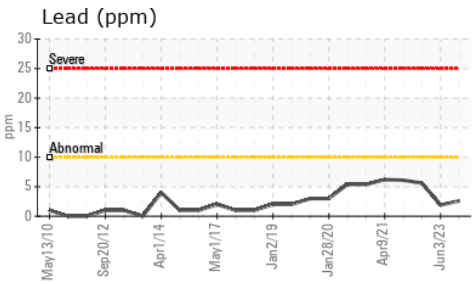


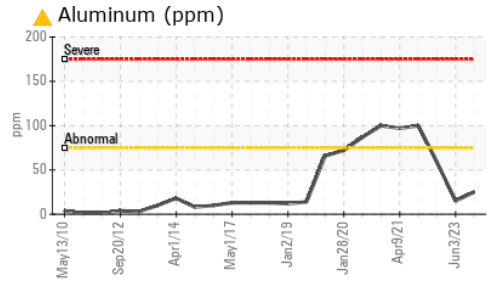


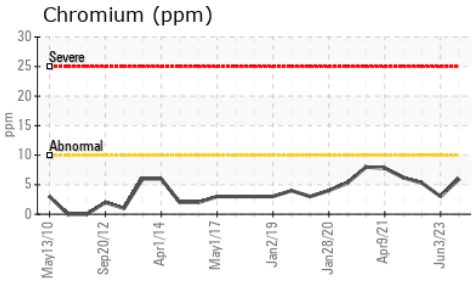


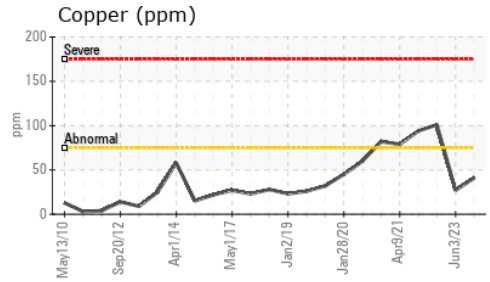


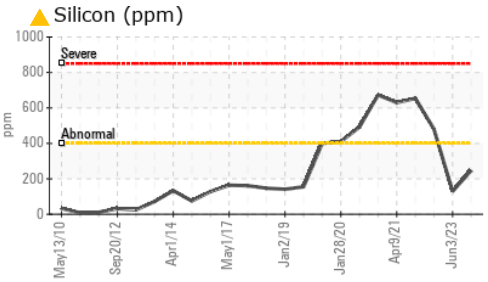


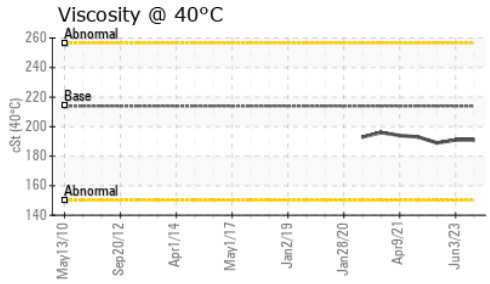


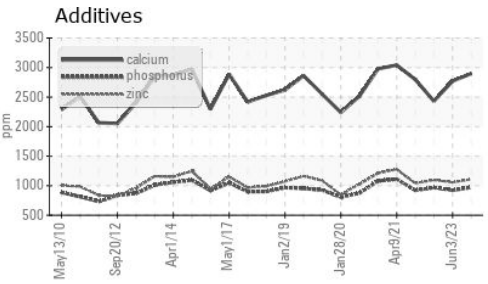












Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: PCA0087059	**Received**	: 30 Oct 2023
Lab Number	: 05993855	**Diagnosed**	: 01 Nov 2023
Unique Number	: 10722215	**Diagnostician**	: Sean Felton
Test Package	: MOB 1		

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)

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