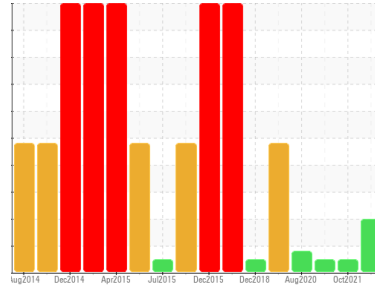


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / BCS - MILL CREEK [68018]
Machine Id
WL087
Component
Front Right Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



VISCOSITY



DIAGNOSIS

▲ Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: PM-2 sampled fluid. Overfilled and inner wet)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

▲ Fluid Condition

The oil viscosity is lower than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0070609	PCA0038170	PCA0038044
Sample Date	Client Info		29 Nov 2023	25 Oct 2021	19 May 2021
Machine Age	hrs	Client Info	16002	15752	15377
Oil Age	hrs	Client Info	16002	0	0
Oil Changed	Client Info		N/A	Not Changd	Changed
Sample Status			ATTENTION	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 D5185m >800	66	124	463
Chromium	ppm	ASTM D5185m >10	0	<1	2
Nickel	ppm	ASTM D5185m >5	0	0	<1
Titanium	ppm	ASTM D5185m >15	0	<1	<1
Silver	ppm	ASTM D5185m >2	0	<1	<1
Aluminum	ppm	ASTM D5185m >75	<1	2	8
Lead	ppm	ASTM D5185m >10	<1	<1	<1
Copper	ppm	ASTM D5185m >75	4	2	8
Tin	ppm	ASTM D5185m >8	0	<1	<1
Antimony	ppm	ASTM D5185m >50	---	0	<1
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	4	19
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	2	2	7
Manganese	ppm	ASTM D5185m 0	<1	1	4
Magnesium	ppm	ASTM D5185m 9	43	32	98
Calcium	ppm	ASTM D5185m 3114	▲ 1078	2890	2724
Phosphorus	ppm	ASTM D5185m 1099	▲ 587	985	948
Zinc	ppm	ASTM D5185m 1245	▲ 690	1202	1127
Sulfur	ppm	ASTM D5185m 7086	▲ 2561	4741	9326

CONTAMINANTS

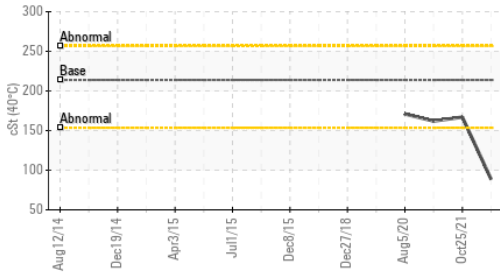
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >400	11	19	60
Sodium	ppm	ASTM D5185m	0	1	3
Potassium	ppm	ASTM D5185m >20	0	0	4

VISUAL

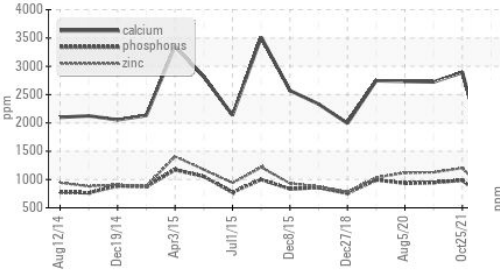
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	MODER	MODER
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	NONE	NONE	NONE
Debris	scalar	*Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual NONE	NONE	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

▲ Viscosity @ 40°C



▲ Additives



FLUID PROPERTIES method limit/base current history1 history2

Visc @ 40°C cSt ASTM D445 213.9 ▲ 88.6 167 162

SAMPLE IMAGES method limit/base current history1 history2

Color

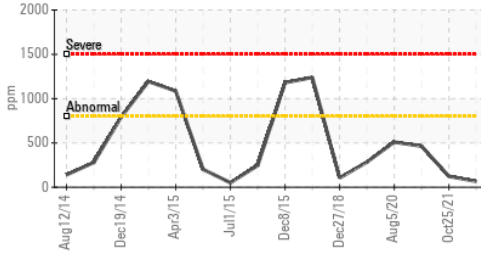
no image	no image	no image
----------	----------	----------

Bottom

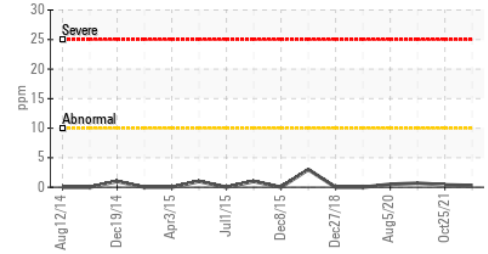
no image	no image	no image
----------	----------	----------

GRAPHS

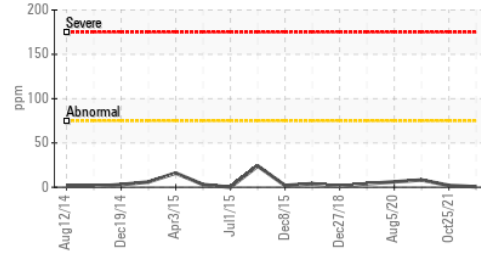
Iron (ppm)



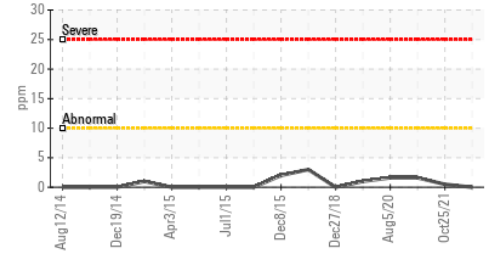
Lead (ppm)



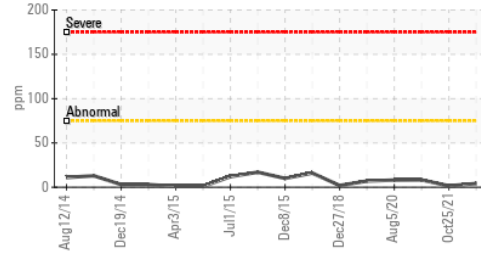
Aluminum (ppm)



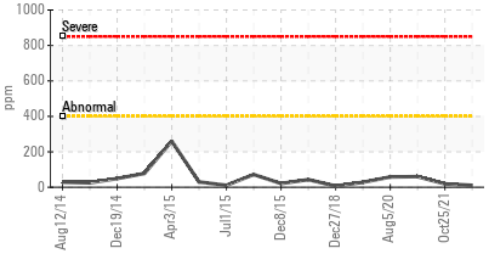
Chromium (ppm)



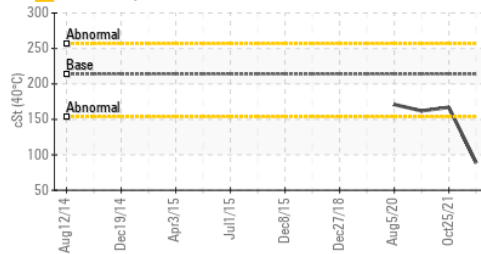
Copper (ppm)



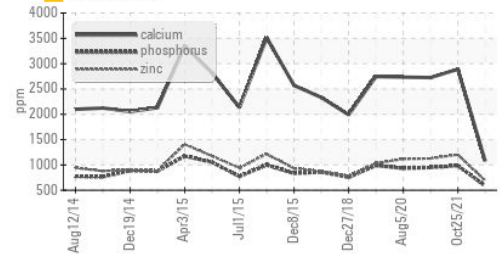
Silicon (ppm)



▲ Viscosity @ 40°C



▲ Additives



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : PCA0070609 Recieved : 12 Dec 2023
 Lab Number : 06032950 Diagnosed : 15 Dec 2023
 Unique Number : 10782741 Diagnostician : Sean Felton
 Test Package : MOB 1

Kemp Quarries - BCS-Mill Creek
 609 Lazy E Rd
 Noel, MO
 US 64854
 Contact: TRAVIS ELLIS
 tellis@kempquarries.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)

T:
F: