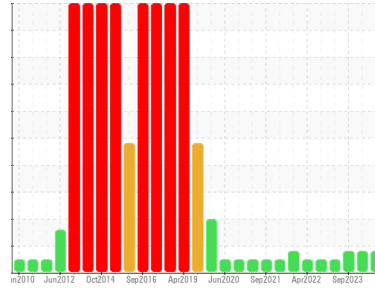


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / MUSKOGEE SAND [68772]
Machine Id
WL039
Component
Rear Left Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



WEAR



DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: PM-3 sampled fluid)

▲ Wear

Gear wear is indicated. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0109007	PCA0070663	PCA0086428
Sample Date	Client Info		13 Mar 2024	07 Dec 2023	12 Sep 2023
Machine Age	hrs	Client Info	60751	60261	59740
Oil Age	hrs	Client Info	60751	60261	59240
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

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	▲ 981	▲ 943	▲ 716
Chromium	ppm	ASTM D5185m >10	2	1	1
Nickel	ppm	ASTM D5185m >5	<1	0	<1
Titanium	ppm	ASTM D5185m >15	<1	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >75	5	3	6
Lead	ppm	ASTM D5185m >10	1	0	<1
Copper	ppm	ASTM D5185m >75	10	9	7
Tin	ppm	ASTM D5185m >8	1	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	4	3	3
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	<1	<1	<1
Manganese	ppm	ASTM D5185m 0	8	6	6
Magnesium	ppm	ASTM D5185m 9	37	29	23
Calcium	ppm	ASTM D5185m 3114	3477	3464	3334
Phosphorus	ppm	ASTM D5185m 1099	960	871	880
Zinc	ppm	ASTM D5185m 1245	1123	1083	1079
Sulfur	ppm	ASTM D5185m 7086	5428	5434	4856

CONTAMINANTS

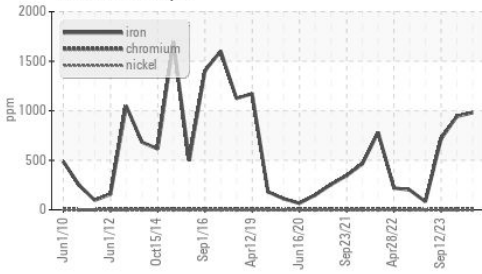
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >400	46	44	33
Sodium	ppm	ASTM D5185m	3	0	<1
Potassium	ppm	ASTM D5185m >20	3	3	2

VISUAL

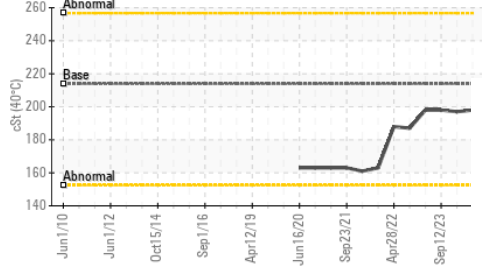
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	NONE	NONE	NONE
Debris	scalar	*Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual NONE	NONE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

▲ Ferrous Alloys



Viscosity @ 40°C



FLUID PROPERTIES method limit/base current history1 history2

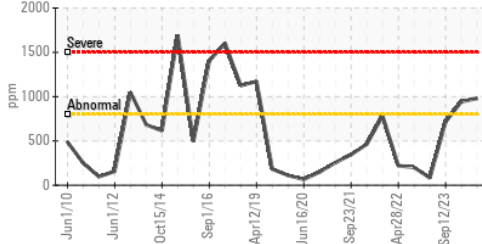
Visc @ 40°C cSt ASTM D445 213.9 **198** 197 198

SAMPLE IMAGES method limit/base current history1 history2

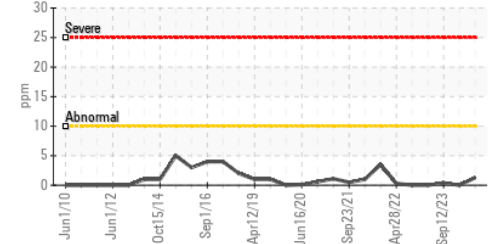
Color	no image	no image	no image
Bottom	no image	no image	no image

GRAPHS

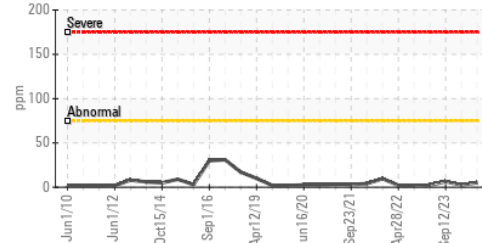
▲ Iron (ppm)



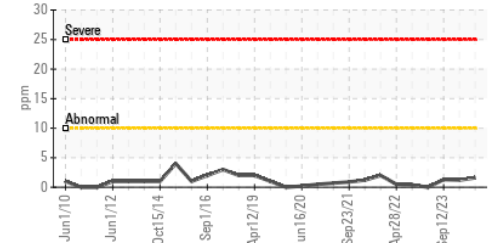
Lead (ppm)



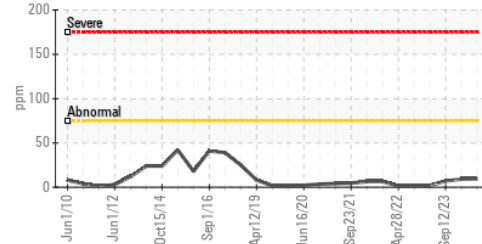
Aluminum (ppm)



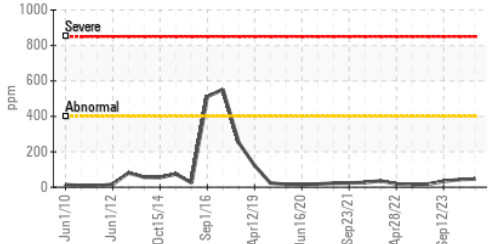
Chromium (ppm)



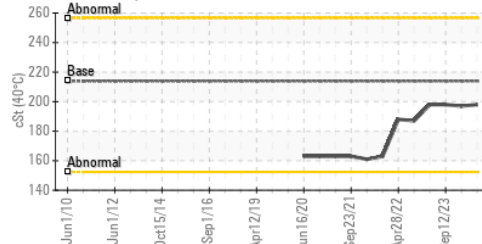
Copper (ppm)



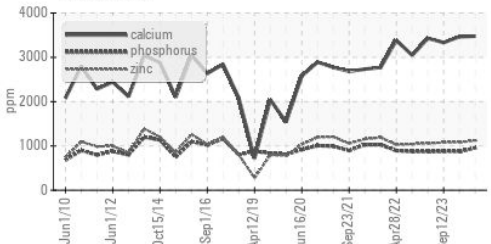
Silicon (ppm)



Viscosity @ 40°C



Additives



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0109007
Lab Number : **06128241**
Unique Number : 10942392
Test Package : MOB 1

Received : 25 Mar 2024
Tested : 26 Mar 2024
Diagnosed : 28 Mar 2024 - Jonathan Hester

Kemp Quarries - Muskogee Sand
 3395 W 50th St N
 Porter, OK
 US 74454

Contact: muskogee@muskogeessand.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: