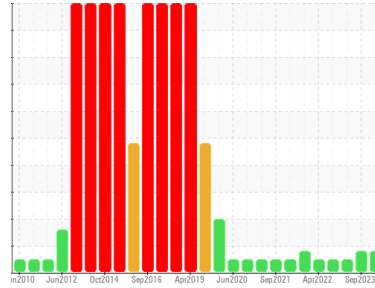


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / MUSKOGEE SAND [67335]
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-2 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	PCA0070663	PCA0086428	PCA0087127
Sample Date	Client Info	07 Dec 2023	12 Sep 2023	15 Jun 2023
Machine Age	hrs	60261	59740	59240
Oil Age	hrs	60261	59240	1605
Oil Changed	Client Info	N/A	N/A	Changed
Sample Status		ABNORMAL	ABNORMAL	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	▲ 943	▲ 716	82
Chromium	ppm ASTM D5185m >10	1	1	0
Nickel	ppm ASTM D5185m >5	0	<1	0
Titanium	ppm ASTM D5185m >15	<1	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >75	3	6	2
Lead	ppm ASTM D5185m >10	0	<1	0
Copper	ppm ASTM D5185m >75	9	7	2
Tin	ppm ASTM D5185m >8	0	0	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 2	3	3	<1
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 0	<1	<1	<1
Manganese	ppm ASTM D5185m 0	6	6	<1
Magnesium	ppm ASTM D5185m 9	29	23	14
Calcium	ppm ASTM D5185m 3114	3464	3334	3429
Phosphorus	ppm ASTM D5185m 1099	871	880	869
Zinc	ppm ASTM D5185m 1245	1083	1079	1058
Sulfur	ppm ASTM D5185m 7086	5434	4856	4671

CONTAMINANTS

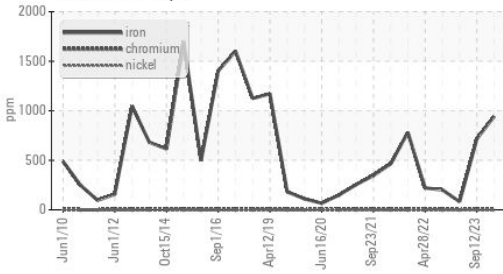
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >400	44	33	18
Sodium	ppm ASTM D5185m	0	<1	0
Potassium	ppm ASTM D5185m >20	3	2	2

VISUAL

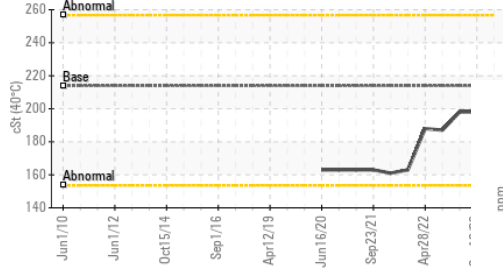
method	limit/base	current	history1	history2
White Metal	scalar *Visual NONE	NONE	NONE	NONE
Yellow Metal	scalar *Visual NONE	NONE	NONE	NONE
Precipitate	scalar *Visual NONE	NONE	NONE	NONE
Silt	scalar *Visual NONE	NONE	NONE	LIGHT
Debris	scalar *Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar *Visual NONE	NONE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

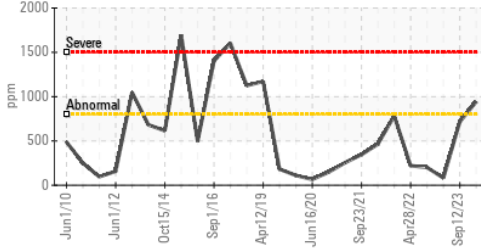
Visc @ 40°C cSt ASTM D445 213.9 **197** 198 198

SAMPLE IMAGES method limit/base current history1 history2

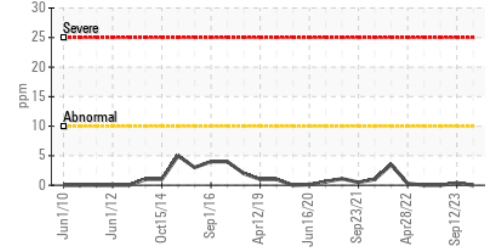
Color	no image	no image	no image
Bottom	no image	no image	no image

GRAPHS

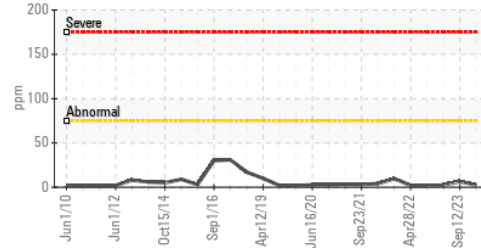
▲ Iron (ppm)



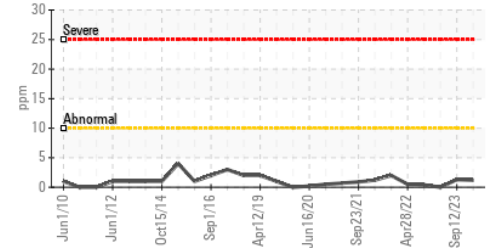
Lead (ppm)



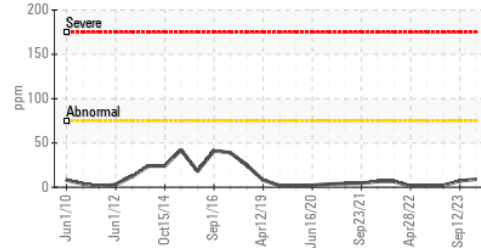
Aluminum (ppm)



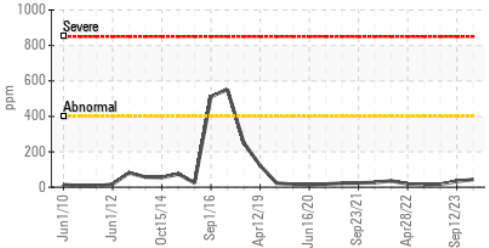
Chromium (ppm)



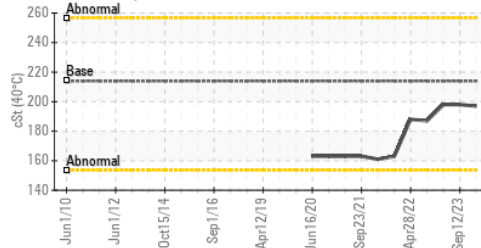
Copper (ppm)



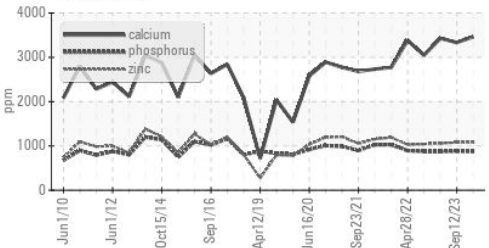
Silicon (ppm)



Viscosity @ 40°C



Additives



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0070663 **Received** : 13 Dec 2023
Lab Number : *06034205 **Diagnosed** : 18 Dec 2023
Unique Number : 10789434 **Diagnostician** : Sean Felton
Test Package : MOB 1

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

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)

muskogee@muskogeessand.com

T:
F: