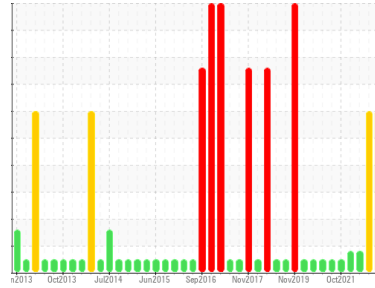


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / HULBERT
Machine Id
WL068
Component
Front Left Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



WEAR



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear

Gear wear is indicated.

Contamination

There is no indication of any contamination in the oil.

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		PCA0086814	PCA0086432	PCA0086122
Sample Date	Client Info		05 Jan 2024	05 Jul 2023	04 Mar 2023
Machine Age	hrs	Client Info	24725	23571	0
Oil Age	hrs	Client Info	0	23571	0
Oil Changed	Client Info		Changed	N/A	Not Changd
Sample Status			SEVERE	SEVERE	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	2151	1506	1167
Chromium	ppm	ASTM D5185m >10	4	3	2
Nickel	ppm	ASTM D5185m >5	<1	<1	0
Titanium	ppm	ASTM D5185m >15	<1	<1	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >75	8	8	5
Lead	ppm	ASTM D5185m >10	<1	0	0
Copper	ppm	ASTM D5185m >75	24	15	16
Tin	ppm	ASTM D5185m >8	<1	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	<1	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	9	8	15
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	2	2	3
Manganese	ppm	ASTM D5185m 0	16	12	8
Magnesium	ppm	ASTM D5185m 9	42	40	47
Calcium	ppm	ASTM D5185m 3114	2679	3040	2439
Phosphorus	ppm	ASTM D5185m 1099	866	1083	997
Zinc	ppm	ASTM D5185m 1245	872	1264	1121
Sulfur	ppm	ASTM D5185m 7086	5569	8348	7954

CONTAMINANTS

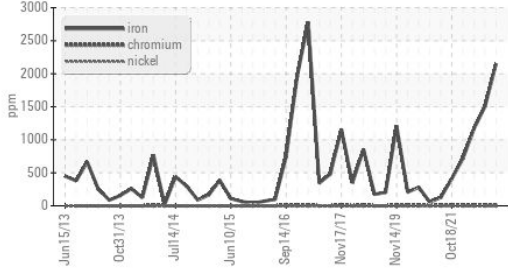
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >400	52	39	17
Sodium	ppm	ASTM D5185m	3	2	1
Potassium	ppm	ASTM D5185m >20	<1	3	0

VISUAL

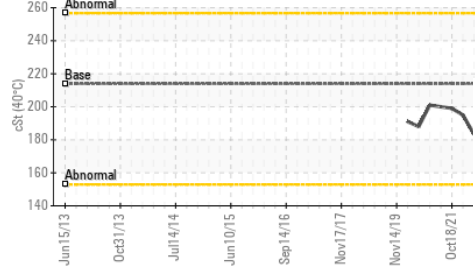
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	NONE	NONE	NONE
Debris	scalar	*Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual NONE	NONE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

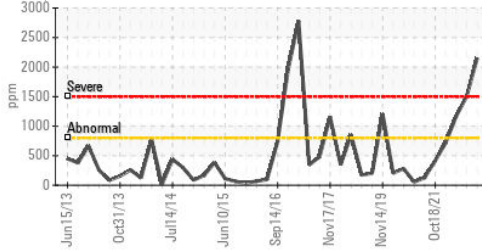


FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	213.9	183	189	183.4

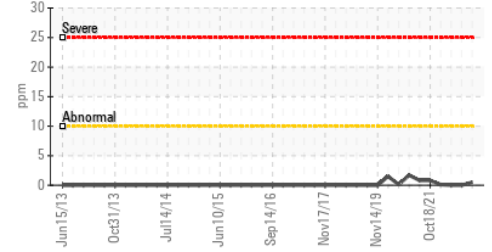
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

GRAPHS

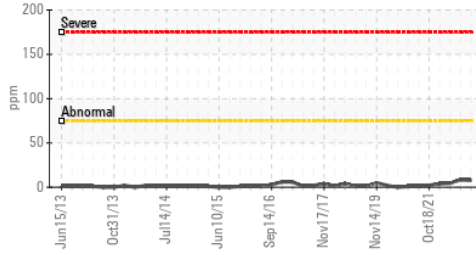
Iron (ppm)



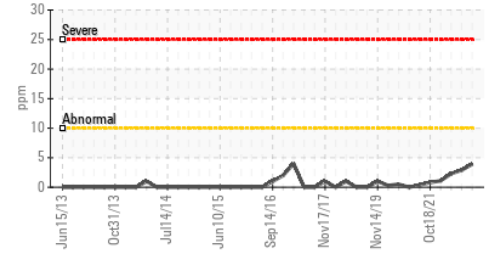
Lead (ppm)



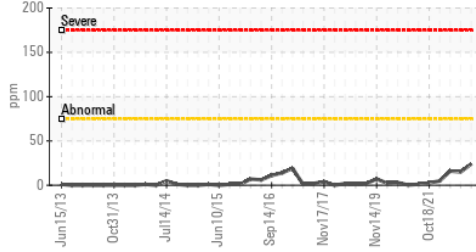
Aluminum (ppm)



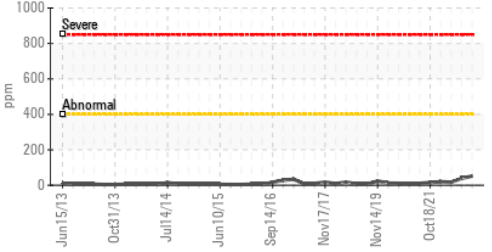
Chromium (ppm)



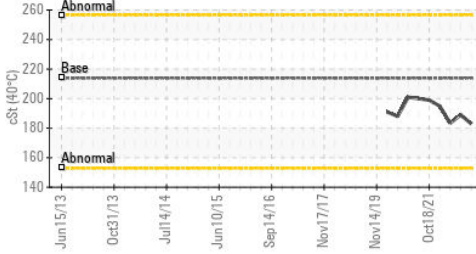
Copper (ppm)



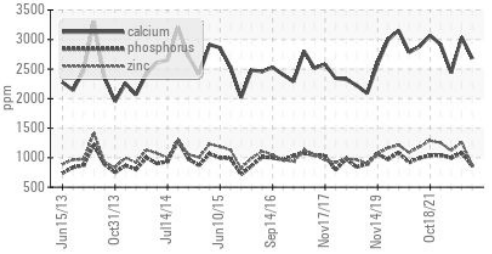
Silicon (ppm)



Viscosity @ 40°C



Additives



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086814 **Received** : 24 Jan 2024
Lab Number : **06070144** **Diagnosed** : 26 Jan 2024
Unique Number : 10846821 **Diagnostician** : Sean Felton
Test Package : MOB 1

Kemp Quarries - Kemp Stone - Hulbert
 17801 Hwy 80
 Hulbert, OK
 US 74441
 Contact:
 hulbert@kempstone.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: