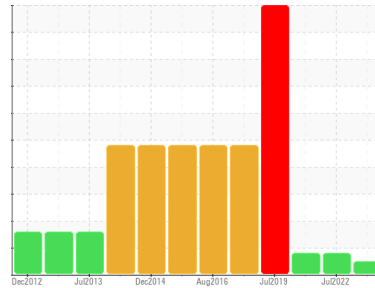


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
KEMP QUARRIES / MUSKOGEE SAND [64005]
 Machine Id
WL001
 Component
Rear Differential
 Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: PM-1 sampled fluid)

Wear

All 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		PCA0037715	PCA0070489	PCA0034531
Sample Date	Client Info		06 Sep 2023	08 Jul 2022	06 Nov 2021
Machine Age	hrs	Client Info	3441	2975	2835
Oil Age	hrs	Client Info	3441	613	473
Oil Changed	Client Info		N/A	Changed	Not Chngd
Sample Status			NORMAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >500	60	▲ 731	▲ 510
Chromium	ppm	ASTM D5185m >3	<1	2	2
Nickel	ppm	ASTM D5185m >3	0	0	<1
Titanium	ppm	ASTM D5185m >2	<1	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >30	2	8	5
Lead	ppm	ASTM D5185m >13	0	<1	0
Copper	ppm	ASTM D5185m >103	<1	15	9
Tin	ppm	ASTM D5185m >5	<1	0	0
Antimony	ppm	ASTM D5185m >5	---	---	0
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	1	2	9
Barium	ppm	ASTM D5185m 0	5	103	79
Molybdenum	ppm	ASTM D5185m 0	0	<1	0
Manganese	ppm	ASTM D5185m 0	<1	7	5
Magnesium	ppm	ASTM D5185m 9	21	16	13
Calcium	ppm	ASTM D5185m 3114	3504	2986	2694
Phosphorus	ppm	ASTM D5185m 1099	969	1038	833
Zinc	ppm	ASTM D5185m 1245	1193	1164	966
Sulfur	ppm	ASTM D5185m 7086	9236	10449	10301

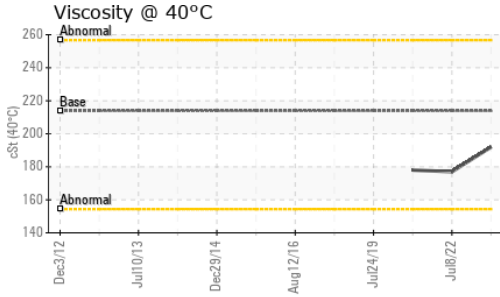
CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >100	20	39	28
Sodium	ppm	ASTM D5185m	1	7	6
Potassium	ppm	ASTM D5185m >20	0	8	0

VISUAL

	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	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 >.2	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

OIL ANALYSIS REPORT

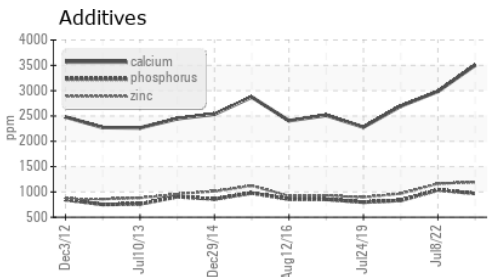
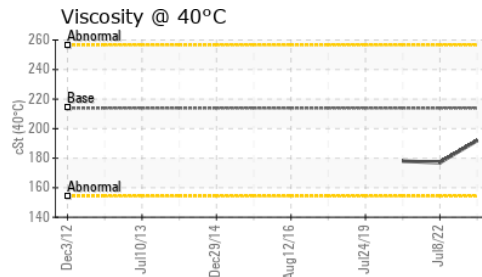
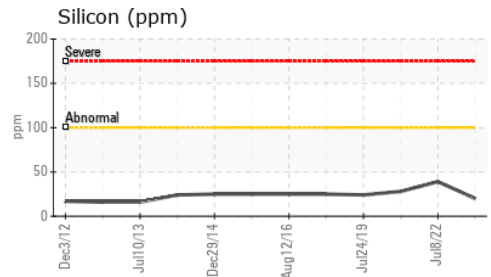
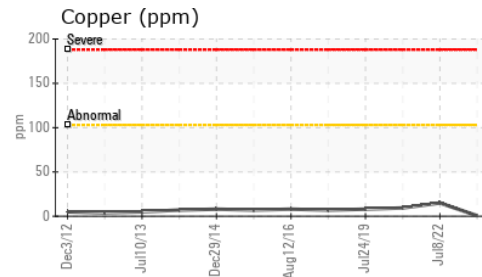
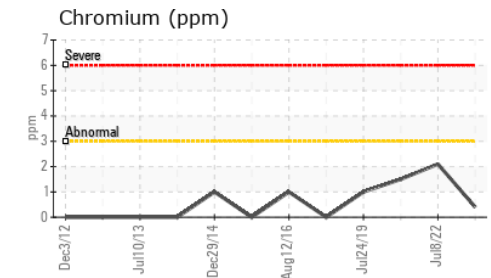
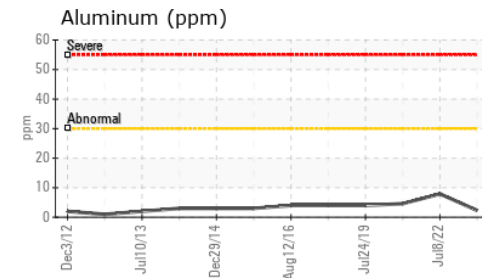
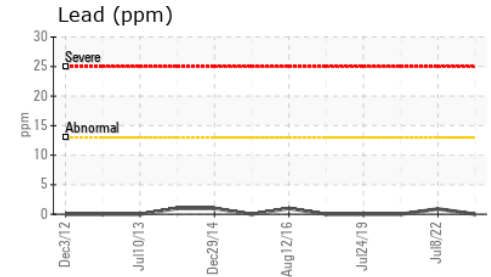
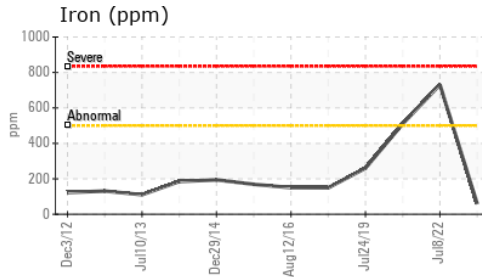


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213.9	192	177	178

SAMPLE IMAGES		method	limit/base	current	history1	history2
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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. : PCA0037715 **Received** : 14 Sep 2023
Lab Number : 05952296 **Diagnosed** : 18 Sep 2023
Unique Number : 10648255 **Diagnostician** : Doug Bogart
Test Package : MOB 1

Kemp Quarries - Muskogee Sand
 3395 W 50th St N
 Porter, OK
 US 74454
 Contact:
 muskogee@muskogeessand.com
 T:
 F:

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)