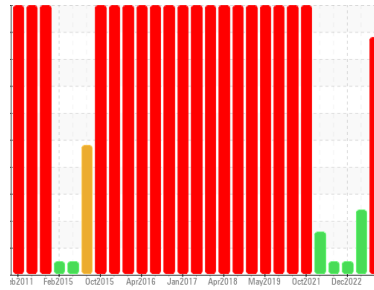


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / MUSKOGEE SAND
Machine Id
WL042
Component
Front Differential
Fluid
MOBIL MOBILTRANS HD 50 (--- GAL)

Sample Rating Trend



DIRT



DIAGNOSIS

Recommendation

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: PM-4 changed fluid)

Wear

Bearing and/or gear wear is indicated.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0084619	PCA0087103	PCA0070529
Sample Date	Client Info		11 Jul 2023	23 May 2023	29 Dec 2022
Machine Age	hrs	Client Info	32072	31670	31010
Oil Age	hrs	Client Info	32072	1720	1060
Oil Changed	Client Info		Changed	Not Changd	Not Changd
Sample Status			SEVERE	ABNORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >500	▲ 505	133	75
Chromium	ppm	ASTM D5185m >3	2	<1	<1
Nickel	ppm	ASTM D5185m >3	2	<1	0
Titanium	ppm	ASTM D5185m >2	2	2	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >30	▲ 36	▲ 23	2
Lead	ppm	ASTM D5185m >13	▲ 11	2	<1
Copper	ppm	ASTM D5185m >103	▲ 114	21	4
Tin	ppm	ASTM D5185m >5	▲ 6	<1	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	4	<1	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	2	2	1
Manganese	ppm	ASTM D5185m	6	2	<1
Magnesium	ppm	ASTM D5185m	25	18	16
Calcium	ppm	ASTM D5185m	2534	2573	2631
Phosphorus	ppm	ASTM D5185m	961	960	940
Zinc	ppm	ASTM D5185m	1162	1168	1149
Sulfur	ppm	ASTM D5185m	4784	4656	4218

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >100	● 219	▲ 115	20
Sodium	ppm	ASTM D5185m	2	0	0
Potassium	ppm	ASTM D5185m >20	13	9	2

VISUAL

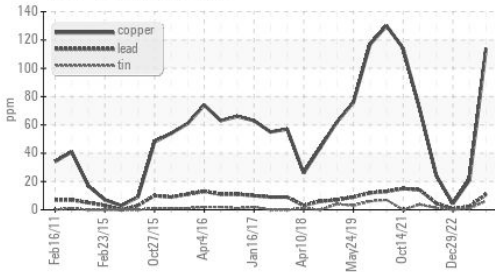
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	VLITE
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	MODER	NONE	NONE
Debris	scalar	*Visual NONE	NONE	NONE	VLITE
Sand/Dirt	scalar	*Visual NONE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

FLUID PROPERTIES

	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 195	210	212	220

OIL ANALYSIS REPORT

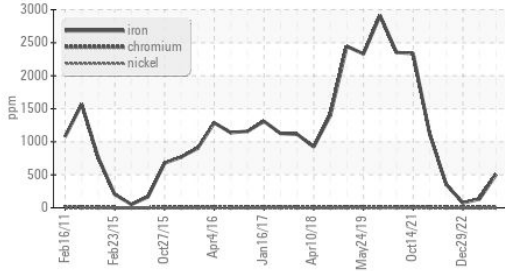
▲ Non-ferrous Metals



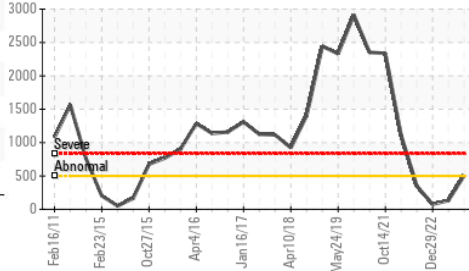
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			no image	no image	no image
Bottom			no image	no image	no image

GRAPHS

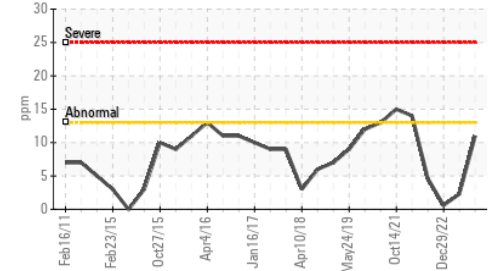
▲ Ferrous Alloys



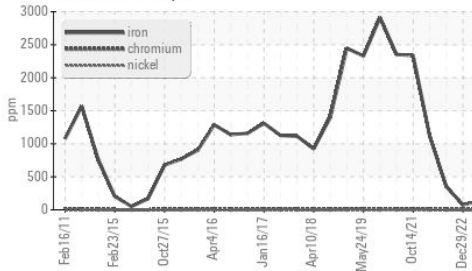
▲ Iron (ppm)



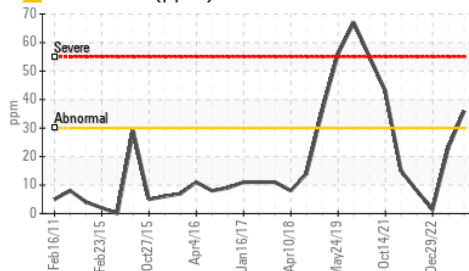
▲ Lead (ppm)



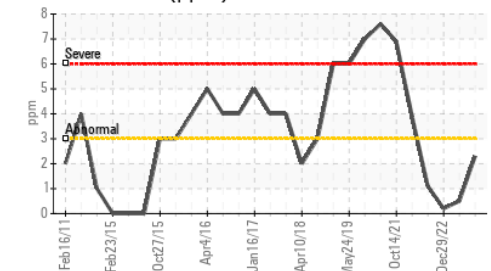
▲ Ferrous Alloys



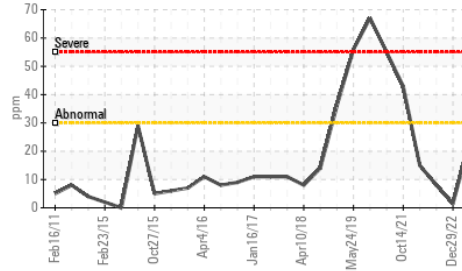
▲ Aluminum (ppm)



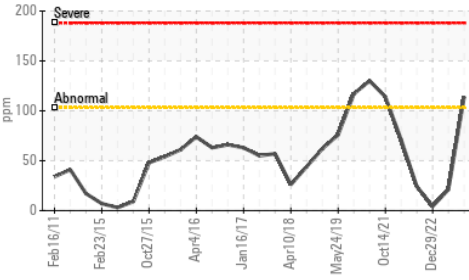
Chromium (ppm)



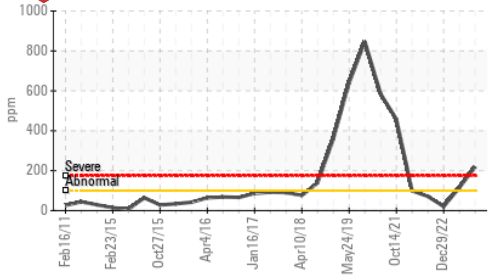
▲ Aluminum (ppm)



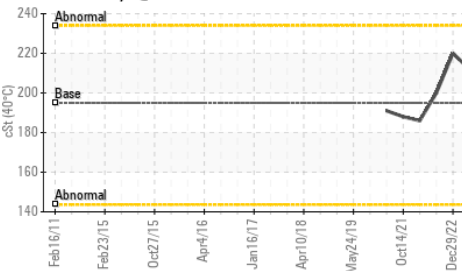
▲ Copper (ppm)



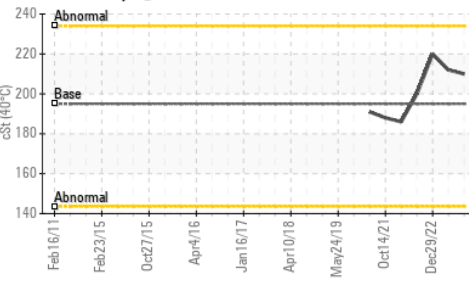
● Silicon (ppm)



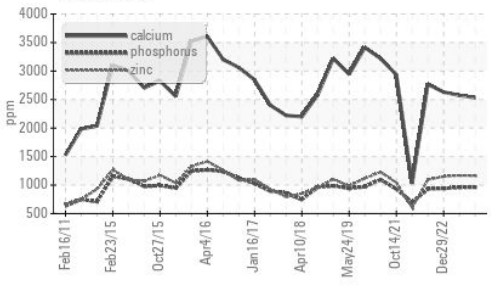
Viscosity @ 40°C



Viscosity @ 40°C



Additives



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0084619 **Received** : 17 Jul 2023
Lab Number : 05900820 **Diagnosed** : 20 Jul 2023
Unique Number : 10562176 **Diagnostician** : Jonathan Hester
Test Package : MOB 1

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