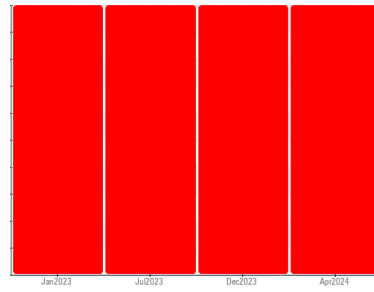


OIL ANALYSIS REPORT

Area
KEMP QUARRIES / BCS - STILWELL [68683]
 Machine Id
TTH036
 Component
Right Final Drive
 Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



DIAGNOSIS

▲ Recommendation
 We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. (Customer Sample Comment: Sampled only)

▲ Wear
 The iron level is severe. Gear wear is indicated.

▲ Contamination
 There is a moderate concentration of water present in the oil. 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		PCA0109224	PCA0109287	PCA0086294
Sample Date	Client Info		02 Apr 2024	02 Dec 2023	06 Jul 2023
Machine Age	hrs	Client Info	8036	7525	6958
Oil Age	hrs	Client Info	8036	7572	6958
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			SEVERE	SEVERE	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >500	▲ 13496	▲ 6992	▲ 10000
Chromium	ppm	ASTM D5185m >10	▲ 106	▲ 51	▲ 84
Nickel	ppm	ASTM D5185m >10	▲ 16	6	8
Titanium	ppm	ASTM D5185m	69	39	61
Silver	ppm	ASTM D5185m	0	0	1
Aluminum	ppm	ASTM D5185m >25	● 675	● 436	● 561
Lead	ppm	ASTM D5185m >25	3	<1	2
Copper	ppm	ASTM D5185m >50	32	15	23
Tin	ppm	ASTM D5185m >10	0	0	1
Vanadium	ppm	ASTM D5185m	3	<1	2
Cadmium	ppm	ASTM D5185m	1	0	2

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	11	6	<1
Barium	ppm	ASTM D5185m 0	3	0	3
Molybdenum	ppm	ASTM D5185m 0	14	6	12
Manganese	ppm	ASTM D5185m 0	102	56	● 79
Magnesium	ppm	ASTM D5185m 9	97	64	92
Calcium	ppm	ASTM D5185m 3114	2688	2997	2247
Phosphorus	ppm	ASTM D5185m 1099	808	1044	796
Zinc	ppm	ASTM D5185m 1245	740	1096	736
Sulfur	ppm	ASTM D5185m 7086	26948	31601	32218

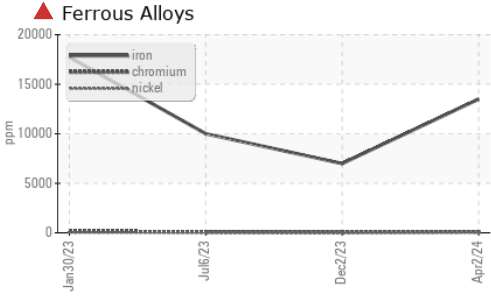
CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >75	▲ 4276	▲ 2191	▲ 3628
Sodium	ppm	ASTM D5185m	21	8	18
Potassium	ppm	ASTM D5185m >20	187	113	154
Water	%	ASTM D6304 >0.2	▲ 0.363	▲ 0.286	---
ppm Water	ppm	ASTM D6304 >2000	▲ 3630	▲ 2860	---

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	▲ 0.2%	▲ 0.2%	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

OIL ANALYSIS REPORT



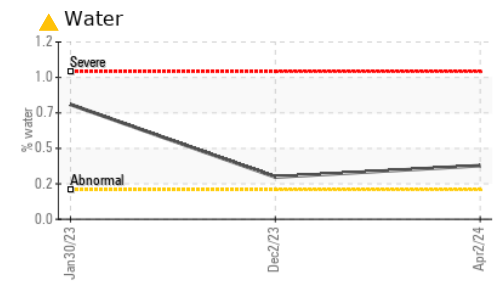
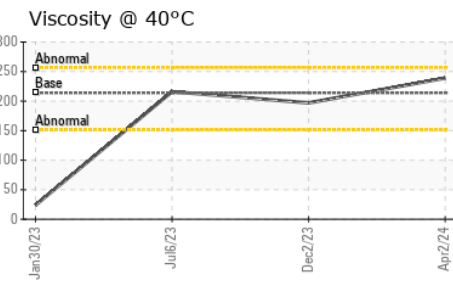
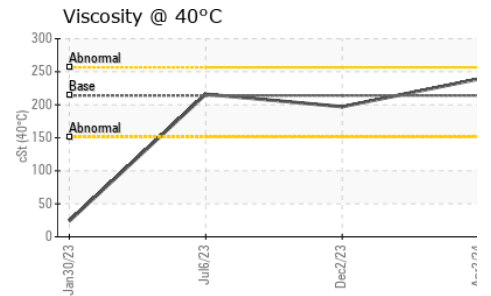
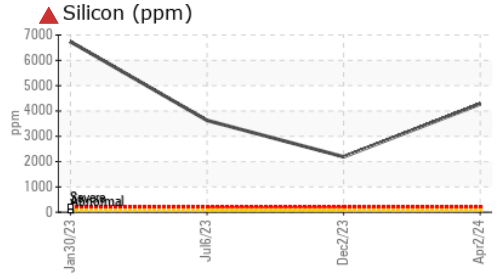
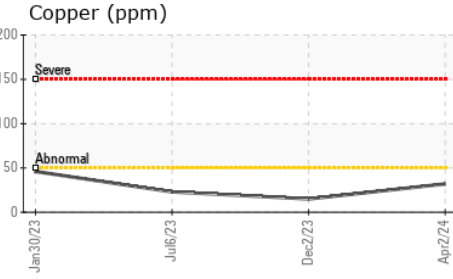
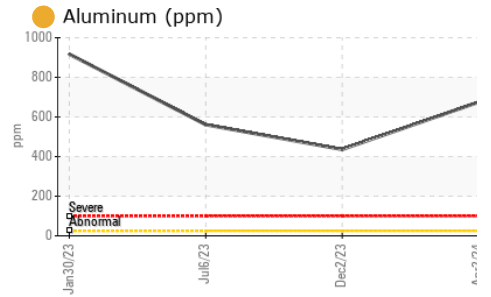
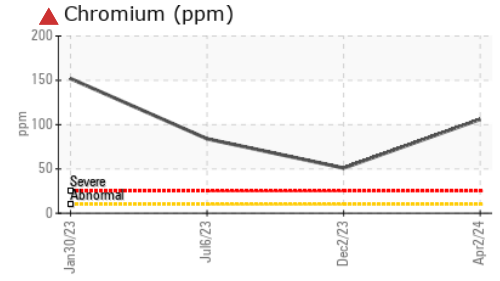
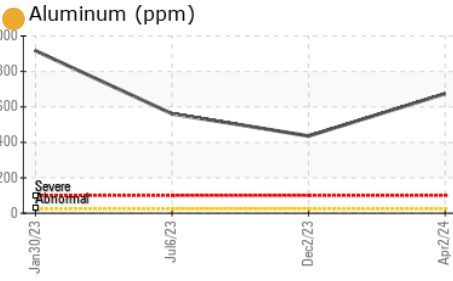
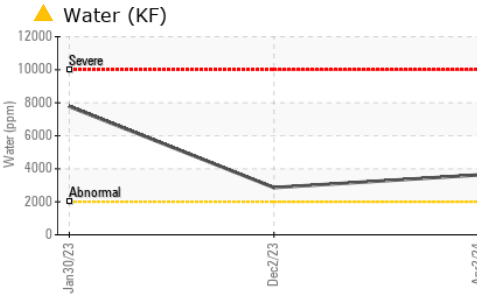
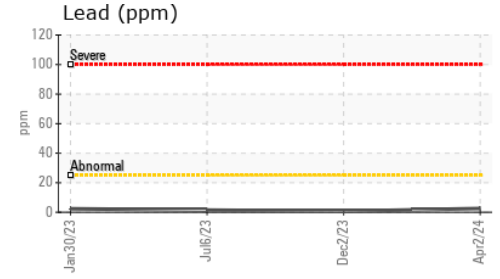
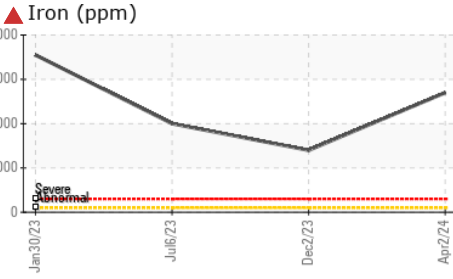
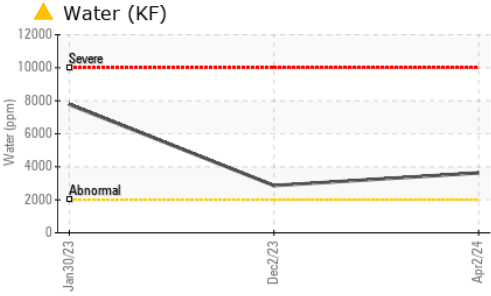
FLUID PROPERTIES method limit/base current history1 history2

Visc @ 40°C cSt ASTM D445 213.9 **239** 197 216

SAMPLE IMAGES method limit/base current history1 history2

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. : PCA0109224

Lab Number : 06149097

Unique Number : 10979175

Test Package : MOB 1 (Additional Tests: KF)

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)

Received : 15 Apr 2024

Tested : 17 Apr 2024

Diagnosed : 17 Apr 2024 - Sean Felton

Kemp Quarries - Benton County Stone - Stillwell

463917 Highway 100

Bunch, OK

US 74931

Contact:

stilwell@bentoncountystone.com

T:

F: