



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
KEMP QUARRIES / MUSKOGEE SAND [68593]

Machine Id
WL109

Component
Front Differential

Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: PM-2 sampled fluid)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0086514	PCA0070577	PCA0048599
Sample Date		Client Info		05 Feb 2024	22 Nov 2023	11 Sep 2023
Machine Age	hrs	Client Info		50702	50215	49706
Oil Age	hrs	Client Info		50702	50215	49706
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	20	25	29
Chromium	ppm	ASTM D5185m	>10	0	0	<1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	1	1	3
Lead	ppm	ASTM D5185m	>25	0	0	0
Copper	ppm	ASTM D5185m	>100	0	<1	1
Tin	ppm	ASTM D5185m	>10	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

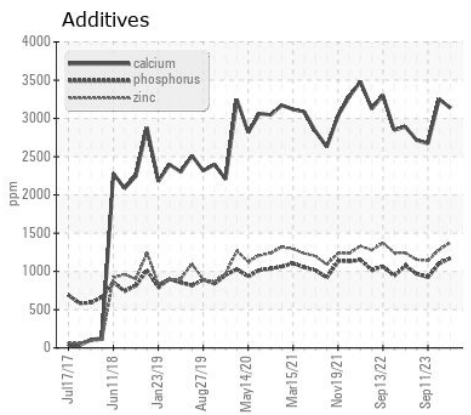
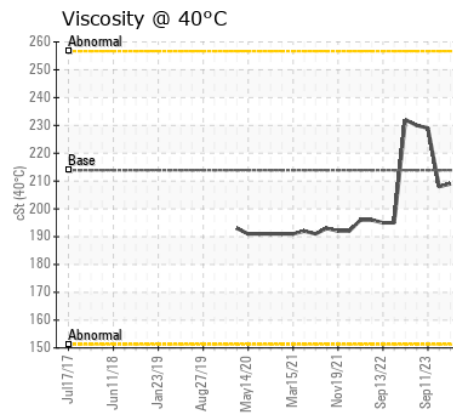
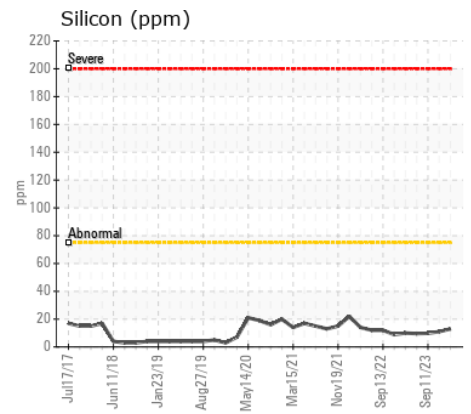
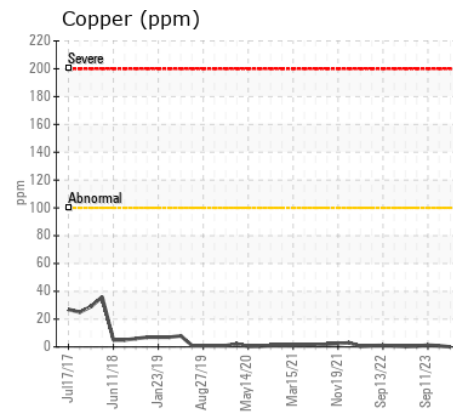
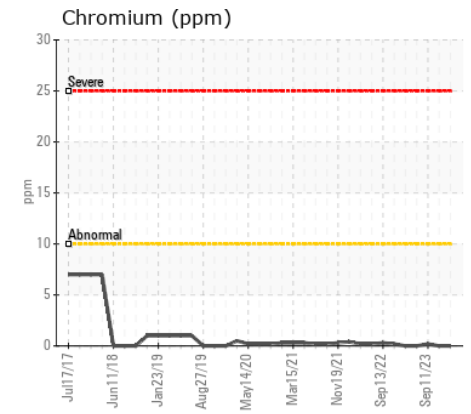
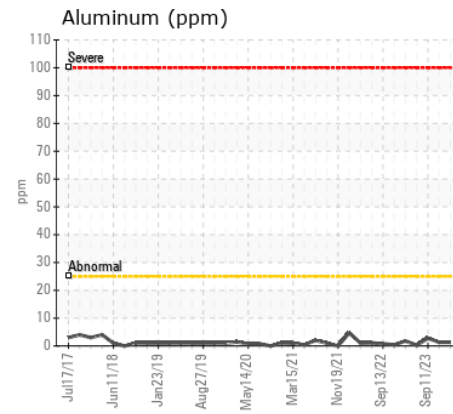
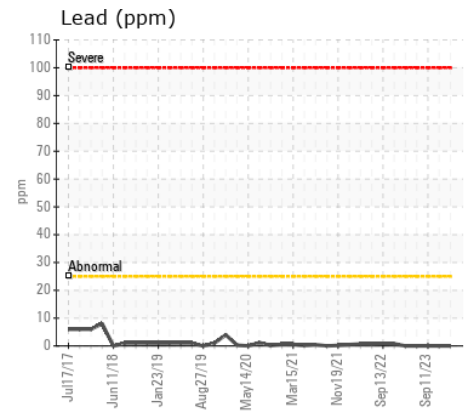
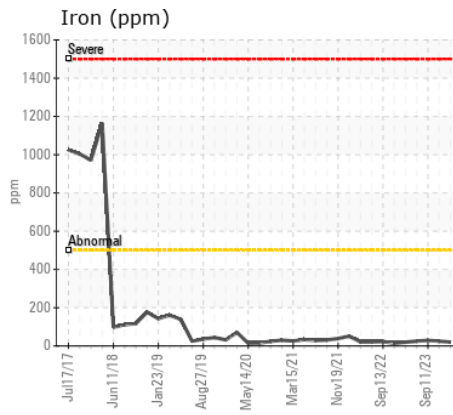
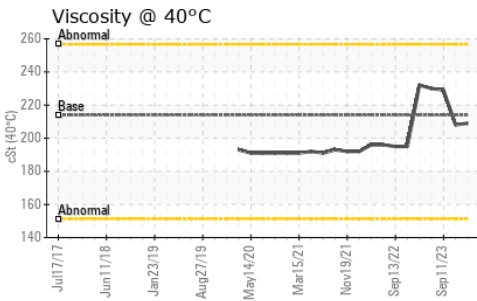
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	13	11	10
Potassium	ppm	ASTM D5185m	>20	0	2	2
Water		WC Method	>.2	NEG	NEG	NEG
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

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<1	0	0
Boron	ppm	ASTM D5185m	2	0	0	2
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0	2
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	9	14	12	14
Calcium	ppm	ASTM D5185m	3114	3136	3254	2670
Phosphorus	ppm	ASTM D5185m	1099	1174	1104	926
Zinc	ppm	ASTM D5185m	1245	1378	1281	1141
Sulfur	ppm	ASTM D5185m	7086	5395	5253	4297
Visc @ 40°C	cSt	ASTM D445	213.9	209	208	229



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086514
Lab Number : 06088390
Unique Number : 10875835
Test Package : MOB 1

Received : 13 Feb 2024
Tested : 14 Feb 2024
Diagnosed : 15 Feb 2024 - Sean Felton

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

Contact: 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)

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F: