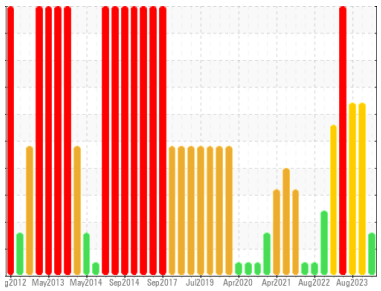
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Area
KEMP QUARRIES / MUSKOGEE SAND
Machine Id
WL056
Component
Rear Left Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



WATER

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: PM-4 changed fluid)

Wear

All component wear rates are normal.

Contamination

There is a moderate concentration of water present 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		**PCA0086555**	PCA0084748	PCA0070429
Sample Date		Client Info		**18 Dec 2023**	03 Oct 2023	10 Aug 2023
Machine Age	hrs	Client Info		**34606**	34177	33775
Oil Age	hrs	Client Info		**34606**	34177	1190
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**ABNORMAL**	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>800	**71**	▲ 863	601
Chromium	ppm	ASTM D5185m	>10	**<1**	4	2
Nickel	ppm	ASTM D5185m	>5	**0**	2	2
Titanium	ppm	ASTM D5185m	>15	**<1**	3	2
Silver	ppm	ASTM D5185m	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>75	**5**	▲ 63	▲ 59
Lead	ppm	ASTM D5185m	>10	**1**	9	7
Copper	ppm	ASTM D5185m	>75	**12**	77	69
Tin	ppm	ASTM D5185m	>8	**1**	9	7
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	2	**1**	16	17
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**1**	10	9
Manganese	ppm	ASTM D5185m	0	**1**	11	7
Magnesium	ppm	ASTM D5185m	9	**32**	126	103
Calcium	ppm	ASTM D5185m	3114	**3014**	3020	2710
Phosphorus	ppm	ASTM D5185m	1099	**921**	1072	923
Zinc	ppm	ASTM D5185m	1245	**1150**	1253	1089
Sulfur	ppm	ASTM D5185m	7086	**4063**	5664	4794

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>400	**47**	▲ 403	▲ 328
Sodium	ppm	ASTM D5185m		**2**	36	38
Potassium	ppm	ASTM D5185m	>20	**2**	29	24
Water	%	ASTM D6304	>0.2	▲ **0.423**	⬢ 5.47	⬢ 5.75
ppm Water	ppm	ASTM D6304	>2000	▲ **4230**	⬢ 54700	⬢ 57500

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**	MODER	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**HAZY**	NORML	▲ LAYRD
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**0.2%**	⬢ 0.2%	⬢ 0.2%
Free Water	scalar	*Visual		**NEG**	NEG	NEG

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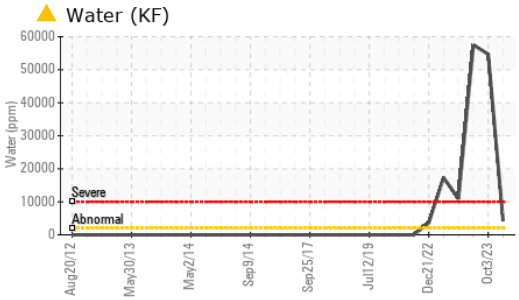
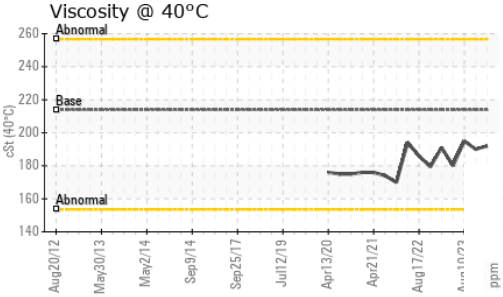
Water (KF)



Viscosity @ 40°C

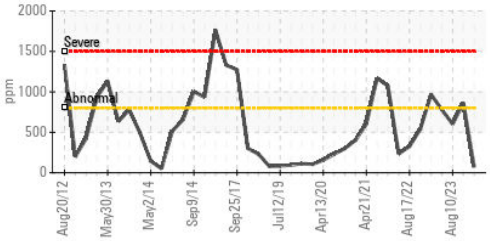


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213.9	**192**	190	195

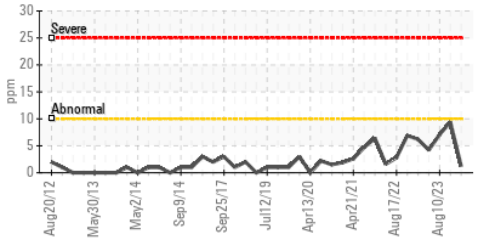
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			no image		
Bottom			no image		

GRAPHS

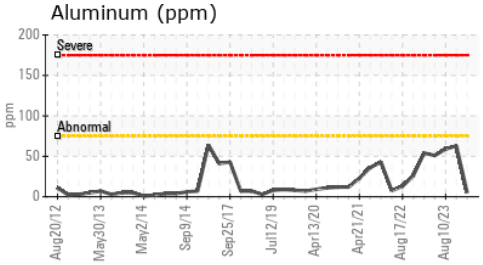
Iron (ppm)



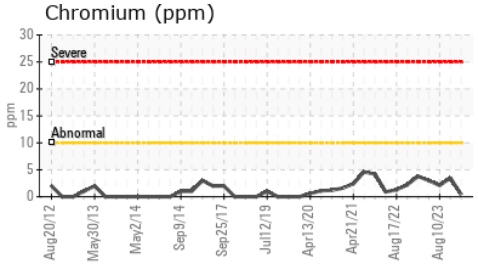
Lead (ppm)



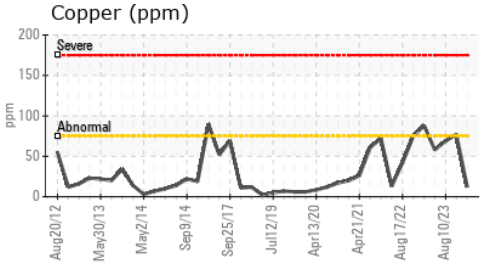
Aluminum (ppm)



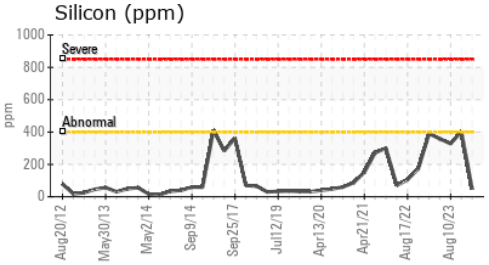
Chromium (ppm)



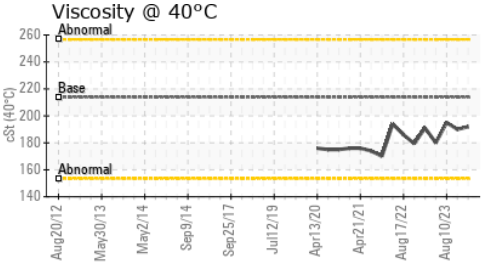
Copper (ppm)



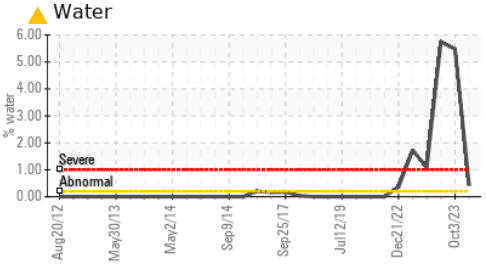
Silicon (ppm)



Viscosity @ 40°C



Water



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: PCA0086555	**Recieved**	: 02 Jan 2024
Lab Number	: 06049671	**Diagnosed**	: 04 Jan 2024
Unique Number	: 10810279	**Diagnostician**	: Sean Felton
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)

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