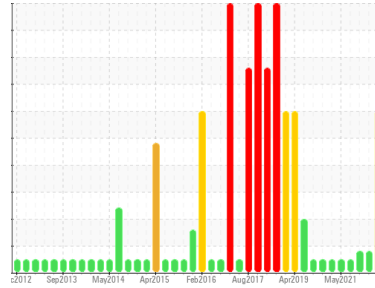


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / BCS - STILLWELL
Machine Id
WL068
Component
Rear Right Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation
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: PM-3 sampled fluid)

Wear
Gear wear is indicated.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

method	limit/base	current	history 1	history 2
Sample Number	Client Info	PCA0086435	PCA0086123	PCA0062171
Sample Date	Client Info	05 Jul 2023	08 Apr 2023	24 Jun 2022
Machine Age	hrs	23571	0	22557
Oil Age	hrs	23571	0	0
Oil Changed	Client Info	N/A	Not Changd	Not Changd
Sample Status		SEVERE	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history 1	history 2	
Iron	ppm	ASTM D5185m >800	3263	678	670
Chromium	ppm	ASTM D5185m >10	7	1	1
Nickel	ppm	ASTM D5185m >5	1	0	0
Titanium	ppm	ASTM D5185m >15	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >75	13	3	3
Lead	ppm	ASTM D5185m >10	0	0	<1
Copper	ppm	ASTM D5185m >75	40	16	10
Tin	ppm	ASTM D5185m >8	<1	0	0
Antimony	ppm	ASTM D5185m >50	---	---	---
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history 1	history 2	
Boron	ppm	ASTM D5185m 2	21	12	15
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	4	3	3
Manganese	ppm	ASTM D5185m 0	22	5	5
Magnesium	ppm	ASTM D5185m 9	59	41	41
Calcium	ppm	ASTM D5185m 3114	2664	2233	2511
Phosphorus	ppm	ASTM D5185m 1099	946	998	980
Zinc	ppm	ASTM D5185m 1245	950	1085	1135
Sulfur	ppm	ASTM D5185m 7086	8666	8067	6728

CONTAMINANTS

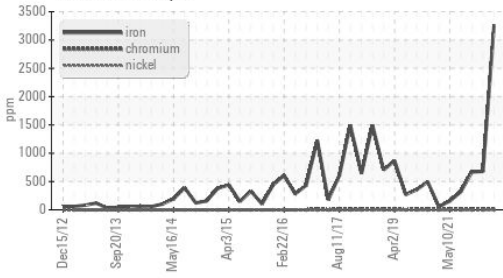
method	limit/base	current	history 1	history 2	
Silicon	ppm	ASTM D5185m >400	42	11	13
Sodium	ppm	ASTM D5185m	3	1	0
Potassium	ppm	ASTM D5185m >20	2	0	1

VISUAL

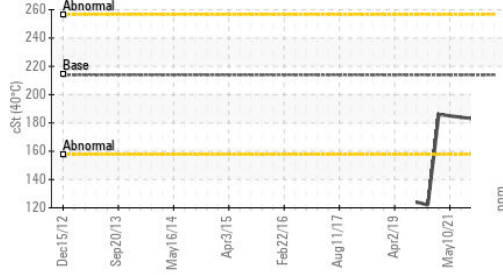
method	limit/base	current	history 1	history 2	
White Metal	scalar	*Visual NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	NONE	NONE	NONE
Debris	scalar	*Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual NONE	NONE	NONE	NONE
Appearance	scalar	*Visual NORML	NORML	NORML	NORML
Odor	scalar	*Visual NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual >0.2	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

OIL ANALYSIS REPORT

Ferrous Alloys



Viscosity @ 40°C



FLUID PROPERTIES

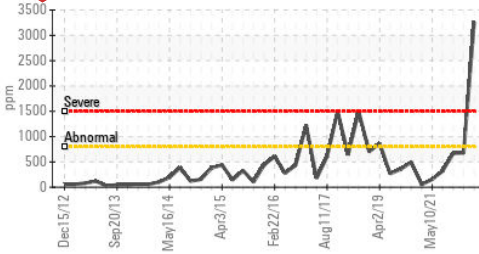
method	limit/base	current	history 1	history 2	
Visc @ 40°C	cSt ASTM D445	213.9	178	181.7	183

SAMPLE IMAGES

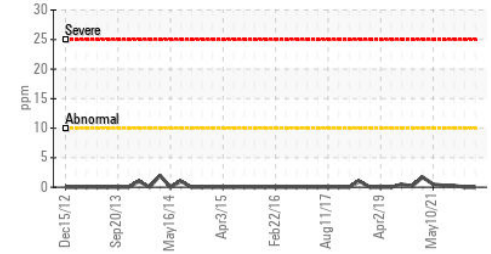
method	limit/base	current	history 1	history 2	
Color			no image	no image	no image
Bottom			no image	no image	no image

GRAPHS

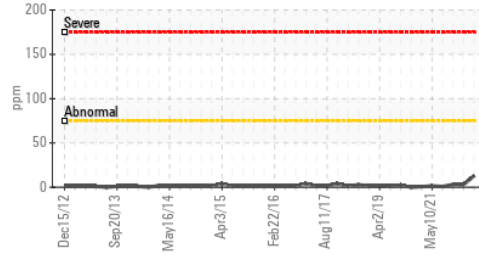
Iron (ppm)



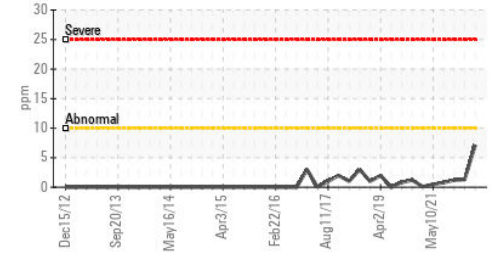
Lead (ppm)



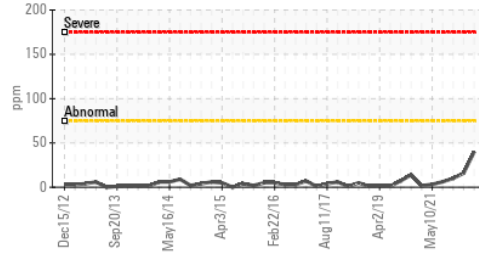
Aluminum (ppm)



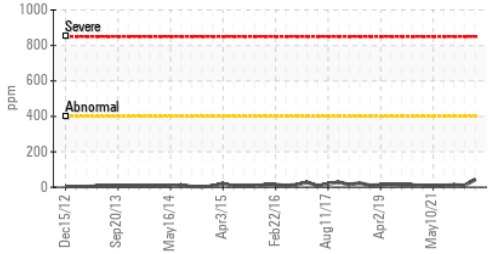
Chromium (ppm)



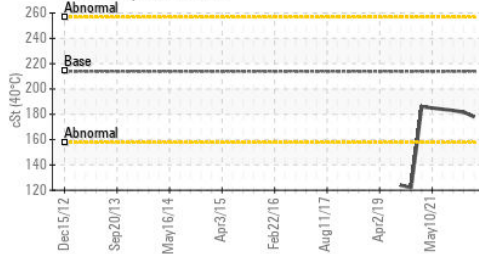
Copper (ppm)



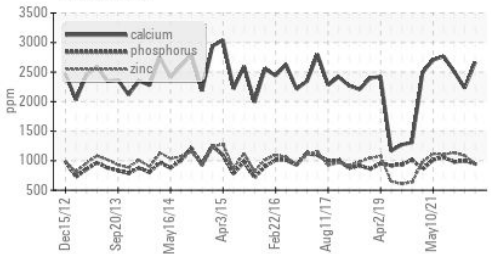
Silicon (ppm)



Viscosity @ 40°C



Additives



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086435 **Received** : 10 Jul 2023
Lab Number : 05894690 **Diagnosed** : 12 Jul 2023
Unique Number : 10550500 **Diagnostician** : Sean Felton
Test Package : MOB 1

Kemp Quarries - Benton County Stone - Stillwell
 463917 Highway 100
 Bunch, OK
 US 74931

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)

stilwell@bentoncountystone.com

T:
F: