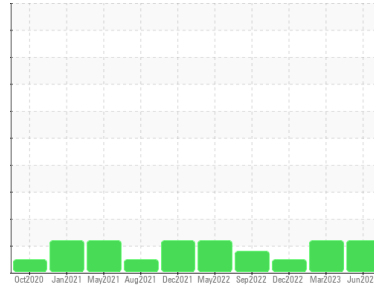




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
KEMP QUARRIES / PRYOR STONE [64440]
 Machine Id
OHT110
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: Pm1 performed. All oil samples taken. Engine oil, and all filters changed.)

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0083989	PCA0083921	PCA0070312
Sample Date	Client Info		06 Jun 2023	24 Mar 2023	15 Dec 2022
Machine Age	hrs	Client Info	27575	27095	33273
Oil Age	hrs	Client Info	480	515	593
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	22	23	18
Chromium	ppm	ASTM D5185m >20	0	0	0
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	7	<1	0
Lead	ppm	ASTM D5185m >40	0	0	<1
Copper	ppm	ASTM D5185m >330	<1	1	1
Tin	ppm	ASTM D5185m >15	0	0	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 0	0	<1	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	61	59	57
Manganese	ppm	ASTM D5185m 0	0	<1	<1
Magnesium	ppm	ASTM D5185m 1010	1052	936	832
Calcium	ppm	ASTM D5185m 1070	1167	1051	1041
Phosphorus	ppm	ASTM D5185m 1150	1095	984	964
Zinc	ppm	ASTM D5185m 1270	1397	1247	1113
Sulfur	ppm	ASTM D5185m 2060	3905	3235	2889

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	2	4	3
Sodium	ppm	ASTM D5185m	2	<1	0
Potassium	ppm	ASTM D5185m >20	0	<1	<1
Fuel	%	ASTM D3524 >5	▲ 5.9	▲ 7.3	<1.0

INFRA-RED

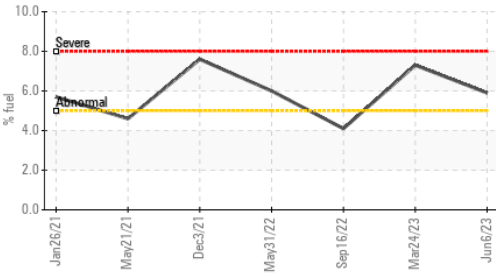
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.8	0.7	0.6
Nitration	Abs/cm	*ASTM D7624 >20	10.0	9.4	8.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.0	17.7	18.9

FLUID DEGRADATION

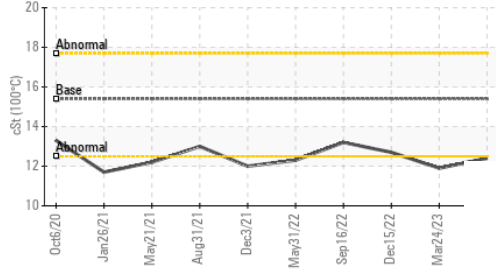
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.1	16.5	15.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.0	7.5	8.9

OIL ANALYSIS REPORT

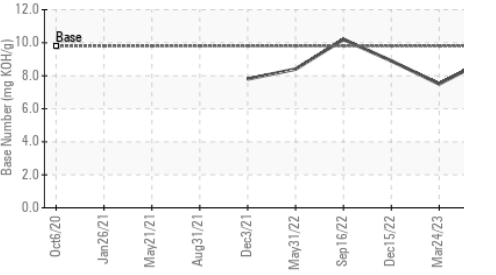
▲ Fuel Dilution



▲ Viscosity @ 100°C



Base Number

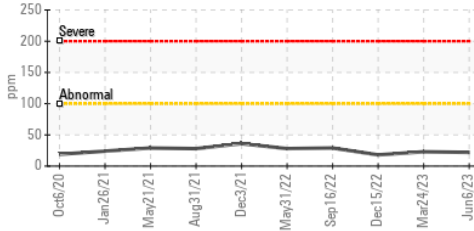


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

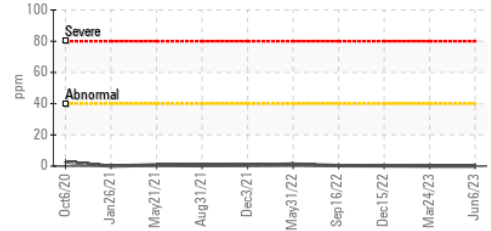
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 12.4	▲ 11.9	12.7

GRAPHS

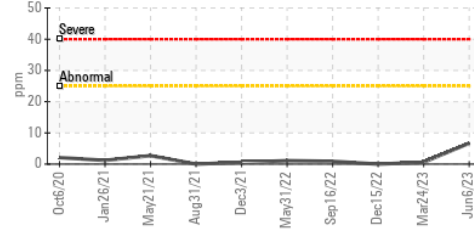
Iron (ppm)



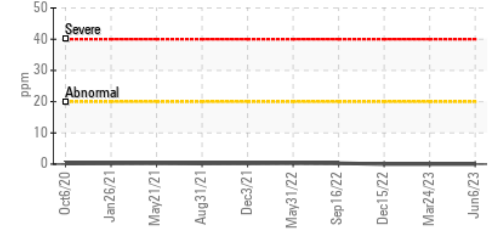
Lead (ppm)



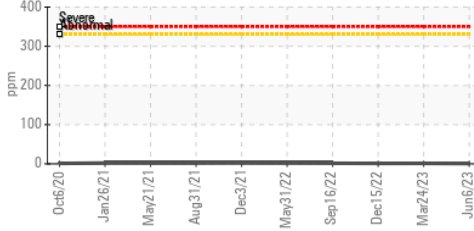
Aluminum (ppm)



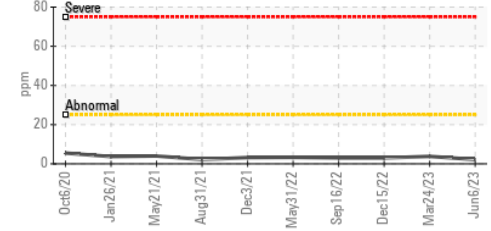
Chromium (ppm)



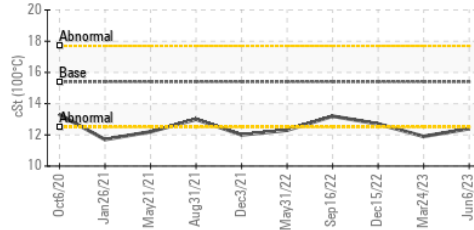
Copper (ppm)



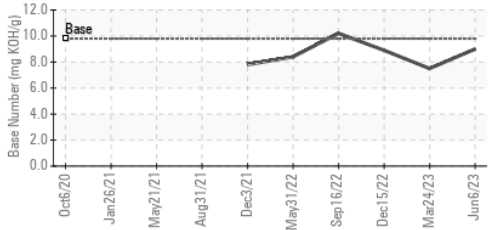
Silicon (ppm)



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0083989 **Received** : 20 Jun 2023
Lab Number : 05878591 **Diagnosed** : 22 Jun 2023
Unique Number : 10523694 **Diagnostician** : Sean Felton
Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

Kemp Quarries - Pryor Stone - Pryor
 1050 E 520 Rd
 Pryor, OK
 US 74361
 Contact:
 pryor@pryorstone.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: