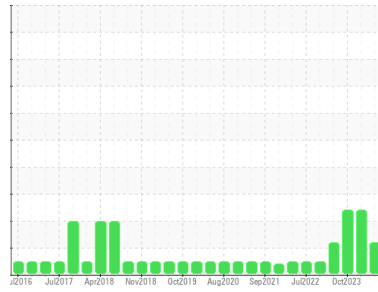


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / NEOSHO [69885]
 Machine Id
WL111
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



FUEL



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: PM-2 changed fluid and filters)

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	PCA0108726	PCA0086530	PCA0084711
Sample Date	Client Info	21 May 2024	06 Feb 2024	10 Oct 2023
Machine Age	hrs	30720	30222	29750
Oil Age	hrs	30720	30222	29750
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	SEVERE	SEVERE

CONTAMINATION

method	limit/base	current	history1	history2	
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>100	13	2	19
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	1	<1	1
Lead	ppm	ASTM D5185m	>40	2	0	4
Copper	ppm	ASTM D5185m	>330	12	3	173
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	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	58	51	51
Manganese	ppm	ASTM D5185m	0	<1	0	0
Magnesium	ppm	ASTM D5185m	1010	1040	838	796
Calcium	ppm	ASTM D5185m	1070	1151	896	861
Phosphorus	ppm	ASTM D5185m	1150	1102	894	850
Zinc	ppm	ASTM D5185m	1270	1370	1077	1029
Sulfur	ppm	ASTM D5185m	2060	3989	2785	2476

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>25	5	4	8
Sodium	ppm	ASTM D5185m		<1	1	2
Potassium	ppm	ASTM D5185m	>20	<1	1	3
Fuel	%	ASTM D3524	>5	▲ 7.1	▲ 13.5	▲ 18.6

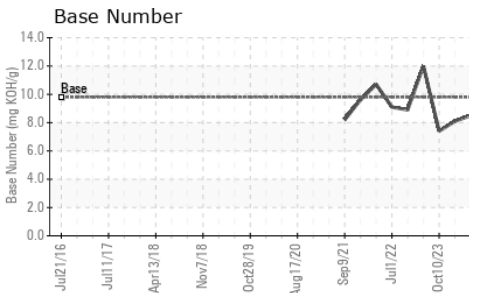
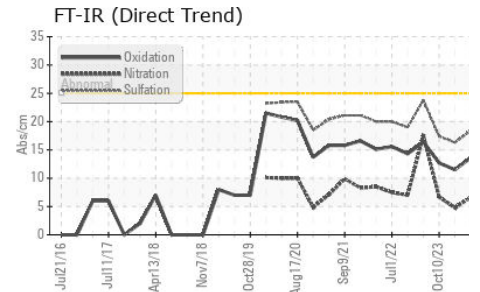
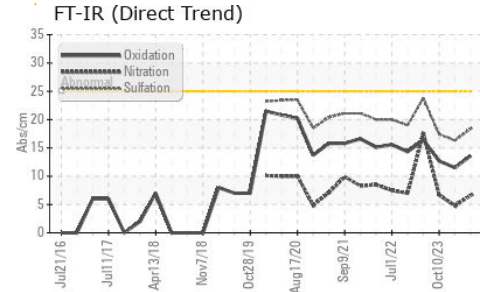
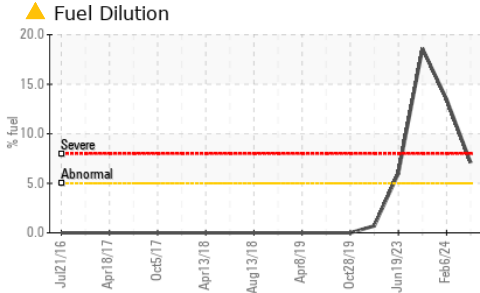
INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	0.3	0.1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	6.6	4.8	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	16.3	17.4

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	11.5	12.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.5	8.1	7.4

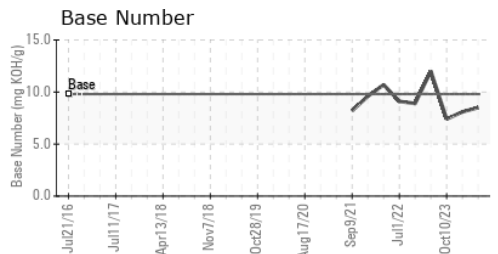
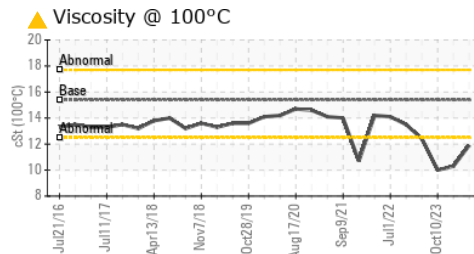
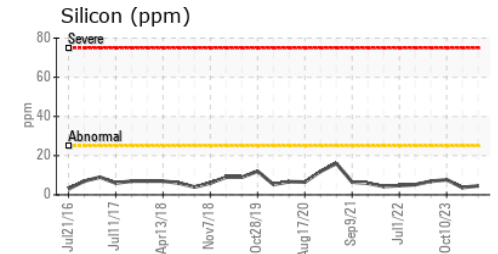
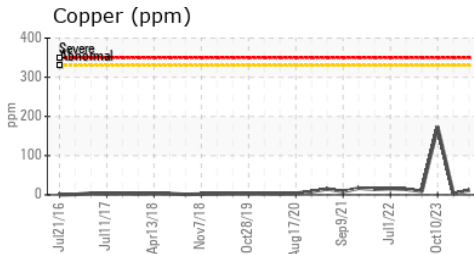
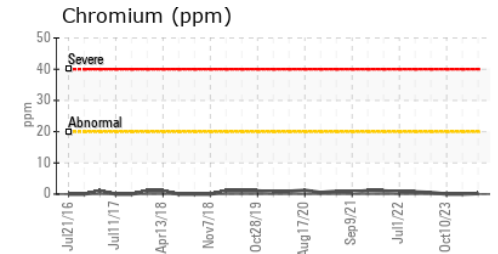
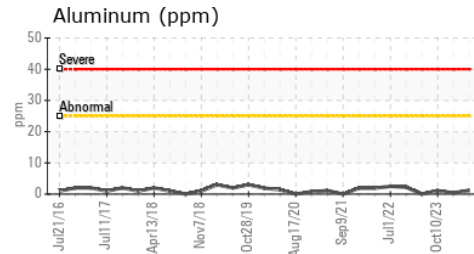
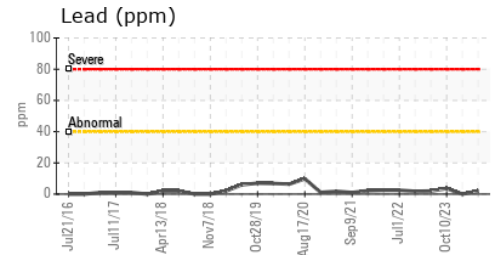
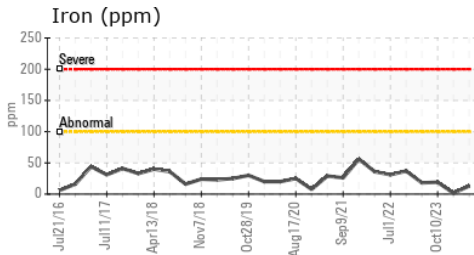
OIL ANALYSIS REPORT



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	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.9	▲ 10.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : PCA0108726

Lab Number : 06193188

Unique Number : 11049940

Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

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 : 28 May 2024

Tested : 30 May 2024

Diagnosed : 30 May 2024 - Sean Felton

Kemp Quarries - Kemp Stone - Neosho

19148 Ingersol Lane

Neosho, MO

US 64850

Contact:

neosho@kempstone.com

T:

F: