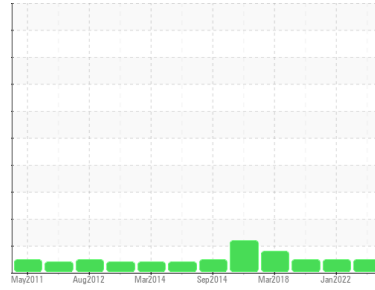


# OIL ANALYSIS REPORT

## Sample Rating Trend

**NORMAL**



Area  
**KEMP QUARRIES / KEMP STONE - FAIRLAND**  
 Machine Id  
**TTH013**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA 15W40 (--- GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: PM-1 changed filters and fluid )

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number	Client Info			<b>PCA0086308</b>	PCA0025464	PCA0025401
Sample Date	Client Info			<b>20 Jun 2023</b>	18 Jan 2022	09 Nov 2020
Machine Age	hrs	Client Info		<b>22530</b>	22090	21712
Oil Age	hrs	Client Info		<b>22530</b>	22090	0
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history 1	history 2
Fuel	WC Method	>3.0		<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>90	<b>85</b>	80	51
Chromium	ppm	ASTM D5185m	>20	<b>4</b>	5	3
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>8</b>	3	3
Lead	ppm	ASTM D5185m	>40	<b>33</b>	24	31
Copper	ppm	ASTM D5185m	>330	<b>41</b>	13	7
Tin	ppm	ASTM D5185m	>15	<b>6</b>	1	0
Antimony	ppm	ASTM D5185m		<b>---</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	<1

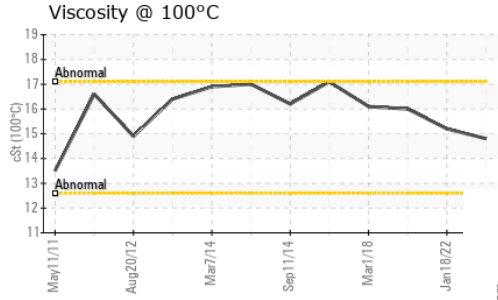
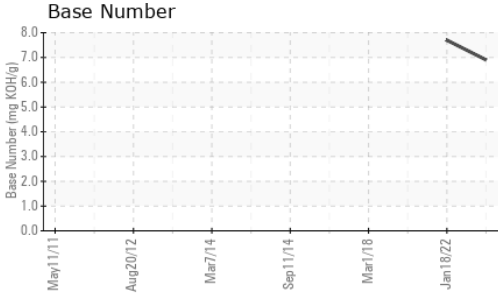
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m		<b>1</b>	11	28
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>68</b>	67	48
Manganese	ppm	ASTM D5185m		<b>1</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>1046</b>	1010	663
Calcium	ppm	ASTM D5185m		<b>1187</b>	1326	1657
Phosphorus	ppm	ASTM D5185m		<b>1026</b>	1024	810
Zinc	ppm	ASTM D5185m		<b>1350</b>	1323	968
Sulfur	ppm	ASTM D5185m		<b>2656</b>	2498	1947

CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	<b>8</b>	16	10
Sodium	ppm	ASTM D5185m		<b>3</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	4

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>6	<b>0.5</b>	3.6	4.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.8</b>	13.4	15.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.5</b>	29.5	33.4

FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.1</b>	22.0	28.3
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.9</b>	7.7	---

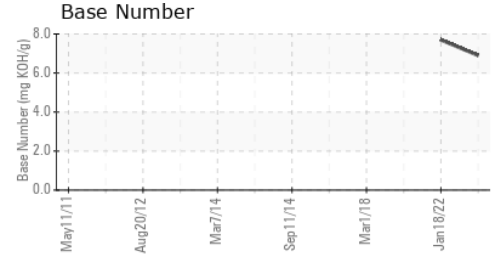
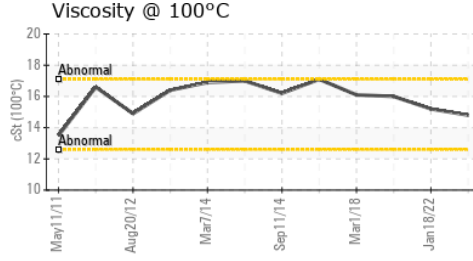
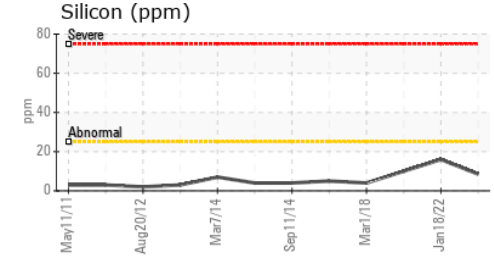
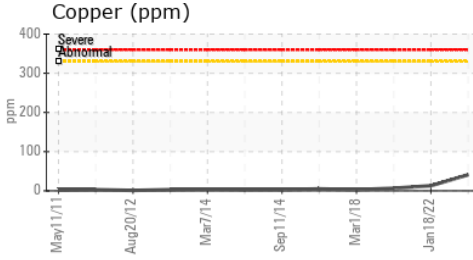
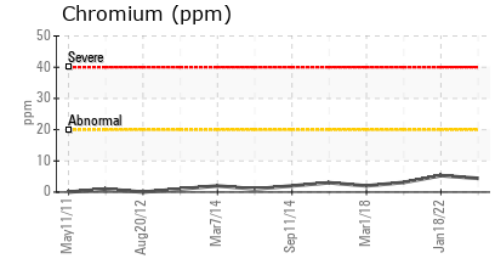
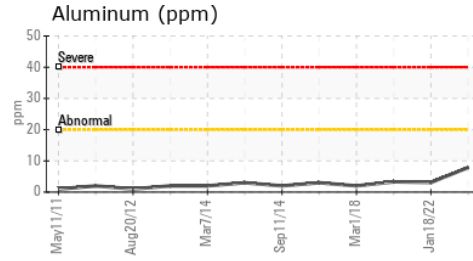
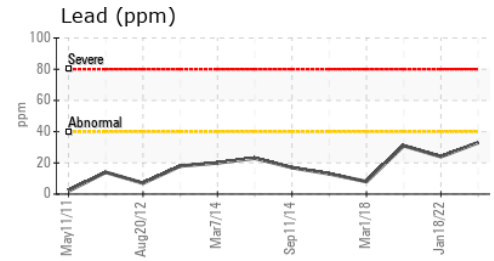
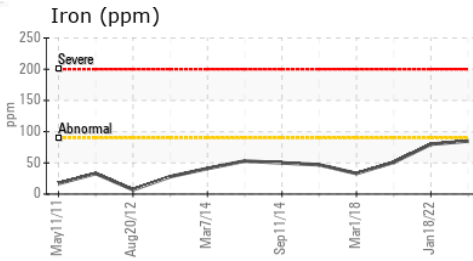
# OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history 1	history 2
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	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	<b>14.8</b>	15.2	16.0

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0086308 **Received** : 30 Jun 2023  
**Lab Number** : 05888186 **Diagnosed** : 04 Jul 2023  
**Unique Number** : 10538669 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Kemp Quarries - Kemp Stone - Fairland**  
 18350 S 590 Rd  
 Fairland, OK  
 US 74343  
 Contact:  
 fairland@kempstone.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)