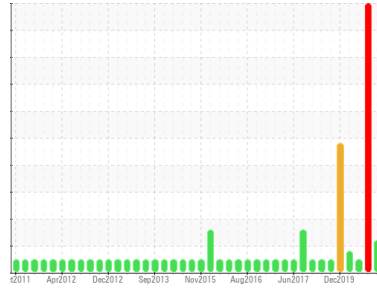


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / HULBERT
 Machine Id
WL030
 Component
Diesel Engine
 Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

Sample Rating Trend



GLYCOL



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels remain high. Test for glycol is negative.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0086818	PCA0086831	PCA0025286
Sample Date	Client Info		13 Oct 2023	26 Jul 2023	16 Jul 2020
Machine Age	hrs	Client Info	6364	6169	5097
Oil Age	hrs	Client Info	5058	0	523
Oil Changed	Client Info		Not Chngd	Changed	N/A
Sample Status			ATTENTION	SEVERE	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >86	20	67	68
Chromium	ppm	ASTM D5185m >3	0	2	2
Nickel	ppm	ASTM D5185m >3	0	<1	1
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >15	<1	2	<1
Lead	ppm	ASTM D5185m >16	8	43	4
Copper	ppm	ASTM D5185m >250	120	478	234
Tin	ppm	ASTM D5185m >2	<1	5	4
Antimony	ppm	ASTM D5185m	---	---	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	<1	4	14
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	71	139	51
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m 0	938	935	857
Calcium	ppm	ASTM D5185m	1016	1016	1122
Phosphorus	ppm	ASTM D5185m	979	999	898
Zinc	ppm	ASTM D5185m	1218	1197	1097
Sulfur	ppm	ASTM D5185m	2880	2732	2502

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >35	4	10	13
Sodium	ppm	ASTM D5185m	▲ 124	▲ 693	6
Potassium	ppm	ASTM D5185m >20	8	▲ 29	2
Glycol	%	*ASTM D2982	NEG	● 0.10	NEG

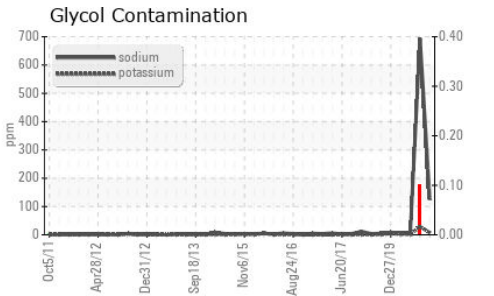
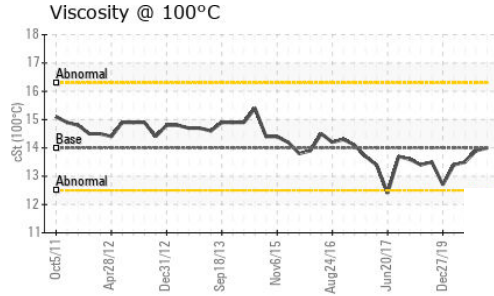
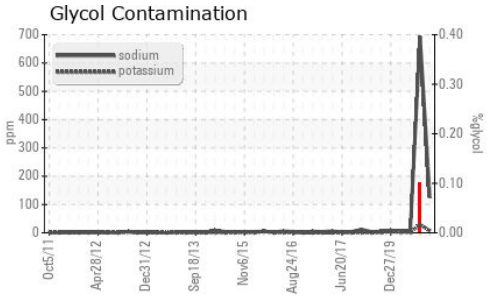
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.4	0.7
Nitration	Abs/cm	*ASTM D7624 >20	7.6	15.0	9.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.5	21.6	21.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	14.9	19.5	16.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.4	7.2	10.5	---

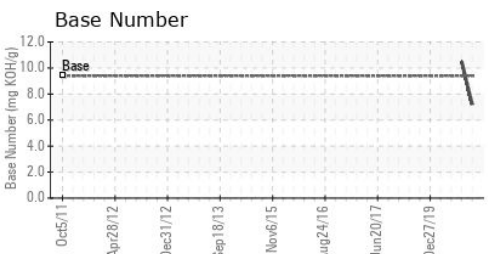
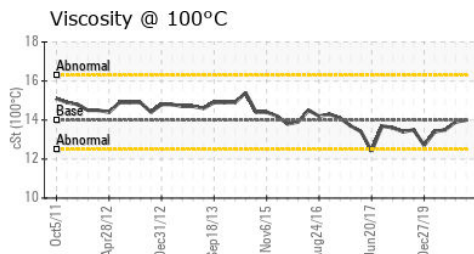
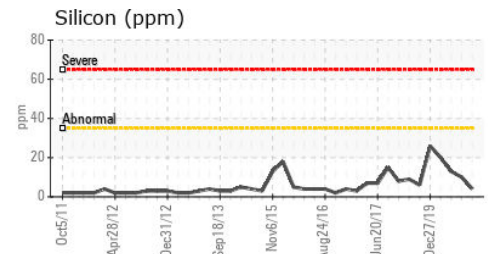
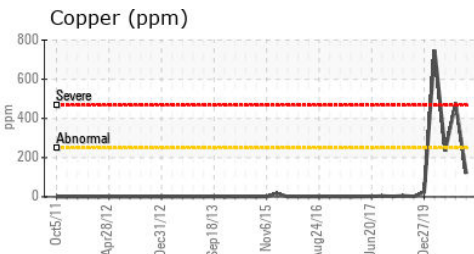
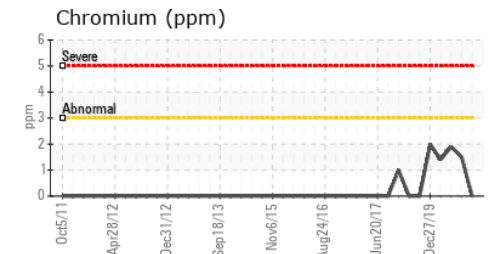
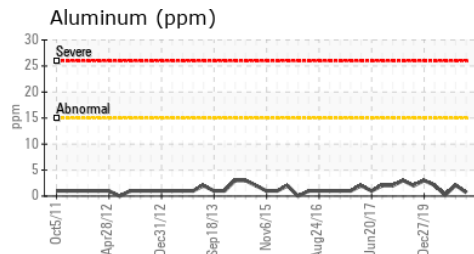
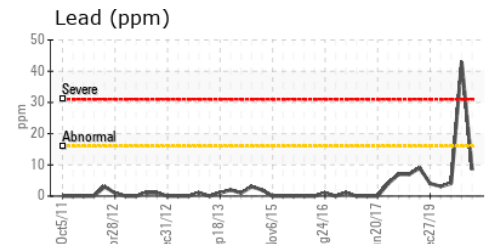
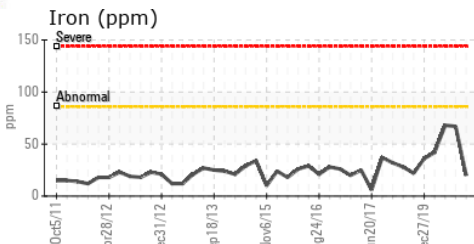
OIL ANALYSIS REPORT



PARAMETER	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	14	14.0	13.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086818 **Received** : 23 Oct 2023
Lab Number : 05987182 **Diagnosed** : 25 Oct 2023
Unique Number : 10709844 **Diagnostician** : Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

Kemp Quarries - Kemp Stone - Hulbert
 17801 Hwy 80
 Hulbert, OK
 US 74441
 Contact:

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)

hulbert@kempstone.com

T:

F: