



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
KEMP QUARRIES / RIVER VALLEY BACKBONE

Machine Id
WL079

Component
Diesel Engine

Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0108632	PCA0084794	PCA0085844
Sample Date		Client Info		28 Jun 2024	28 Dec 2023	13 Oct 2023
Machine Age	hrs	Client Info		49459	48609	48226
Oil Age	hrs	Client Info		300	383	341
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	30	44	44
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	<1
Lead	ppm	ASTM D5185m	>40	2	2	2
Copper	ppm	ASTM D5185m	>330	3	5	4
Tin	ppm	ASTM D5185m	>15	0	1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

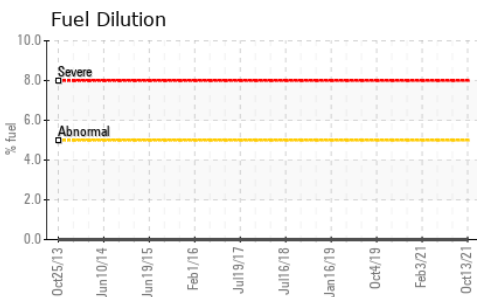
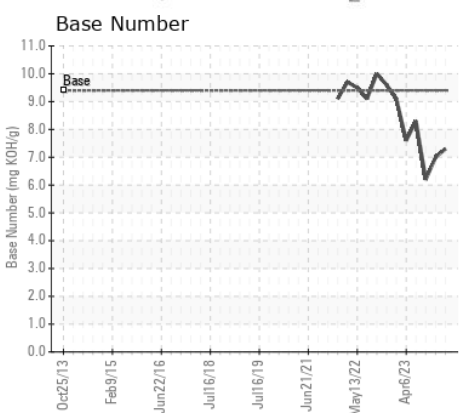
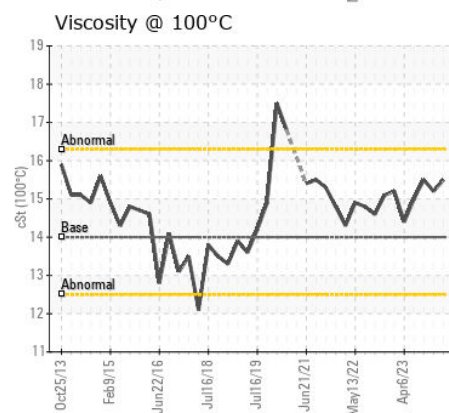
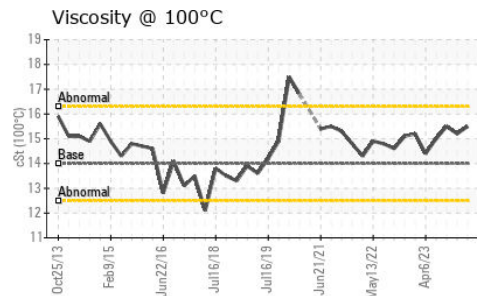
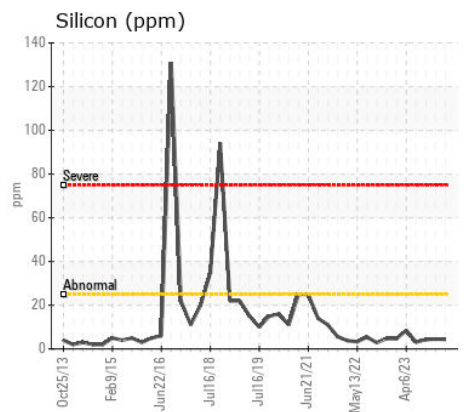
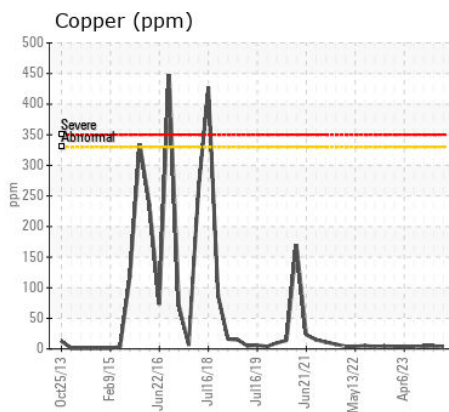
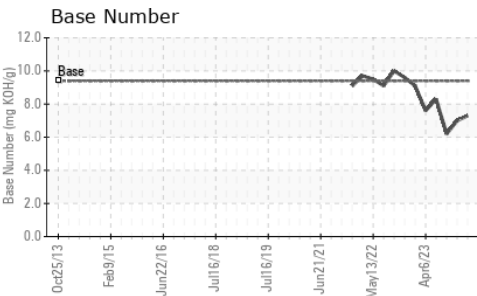
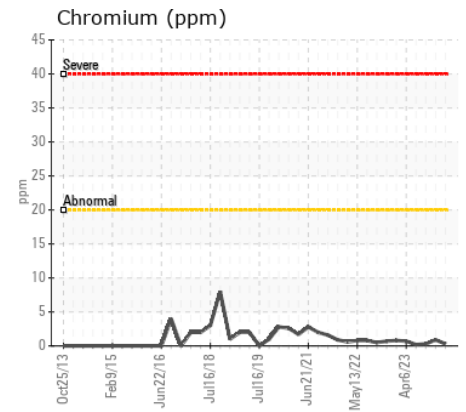
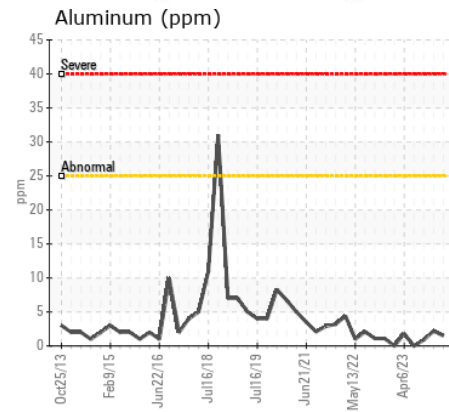
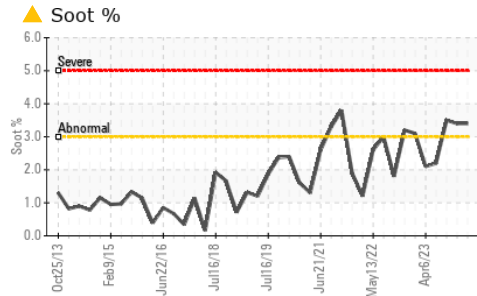
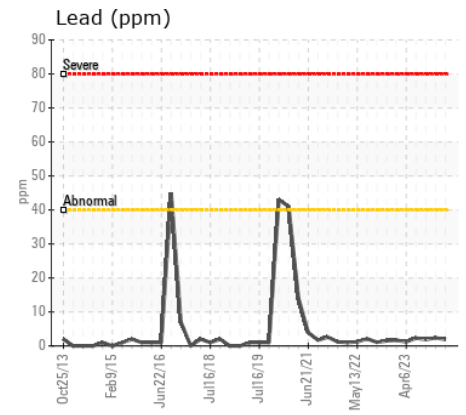
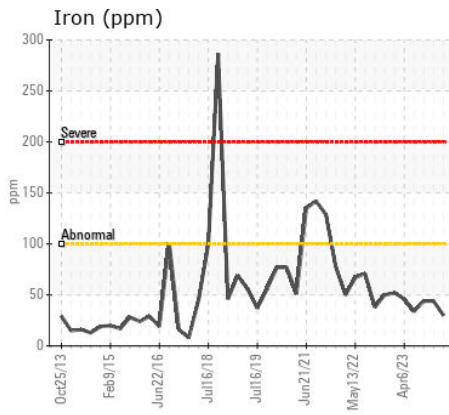
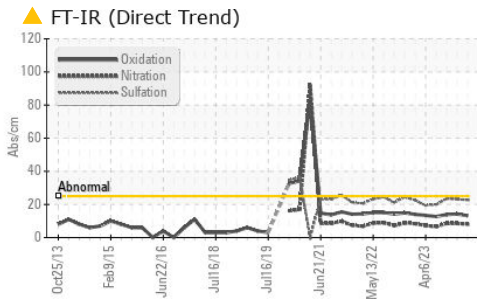
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>25	4	4	4
Potassium	ppm	ASTM D5185m	>20	<1	1	3
Fuel	%	ASTM D3524	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	3.4	3.4	3.5
Nitration	Abs/cm	*ASTM D7624	>20	8.0	8.5	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	23.1	23.5
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

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.

Sodium	ppm	ASTM D5185m		1	0	2
Boron	ppm	ASTM D5185m	0	<1	<1	0
Barium	ppm	ASTM D5185m	0	0	8	0
Molybdenum	ppm	ASTM D5185m	0	60	62	59
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	1021	953	955
Calcium	ppm	ASTM D5185m		1218	1104	1013
Phosphorus	ppm	ASTM D5185m		1101	930	1003
Zinc	ppm	ASTM D5185m		1337	1221	1239
Sulfur	ppm	ASTM D5185m		3727	2996	2962
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	14.2	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	7.3	7.0	6.2
Visc @ 100°C	cSt	ASTM D445	14	15.5	15.2	15.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0108632 **Received** : 08 Jul 2024
Lab Number : 06231032 **Tested** : 10 Jul 2024
Unique Number : 11114525 **Diagnosed** : 10 Jul 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: FuelDilution, TBN)

Kemp Quarries - River Valley - Backbone
 5600 S Hwy 253
 Huntington, AR
 US 72940
 Contact:
 backbone@rivervalleyquarries.com

Certificate L2367
 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)