



OIL ANALYSIS REPORT

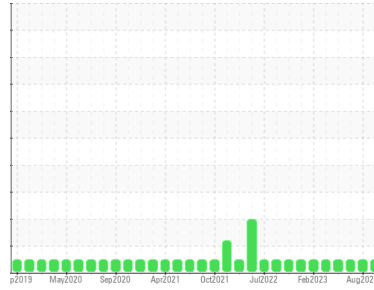


Machine Id
10

Component
Diesel Engine
Fluid

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

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 suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	KL0013225	KL0011634	KL0011663	
Sample Date	Client Info	30 Aug 2023	03 Aug 2023	08 Jun 2023	
Machine Age	mls	Client Info	715932	715721	715545
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A	
Sample Status		NORMAL	NORMAL	NORMAL	

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	34	26	24
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >2	0	0	0
Titanium	ppm ASTM D5185m >2	0	0	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >25	2	2	2
Lead	ppm ASTM D5185m >40	3	0	2
Copper	ppm ASTM D5185m >330	21	15	14
Tin	ppm ASTM D5185m >15	<1	<1	<1
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 250	105	81	87
Barium	ppm ASTM D5185m 10	0	0	0
Molybdenum	ppm ASTM D5185m 100	66	57	56
Manganese	ppm ASTM D5185m	1	<1	<1
Magnesium	ppm ASTM D5185m 450	66	68	59
Calcium	ppm ASTM D5185m 3000	2202	2076	2101
Phosphorus	ppm ASTM D5185m 1150	1019	916	945
Zinc	ppm ASTM D5185m 1350	1225	1116	1142
Sulfur	ppm ASTM D5185m 4250	4847	5074	5165

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	3	3
Sodium	ppm ASTM D5185m >158	7	2	3
Potassium	ppm ASTM D5185m >20	5	0	3

INFRA-RED

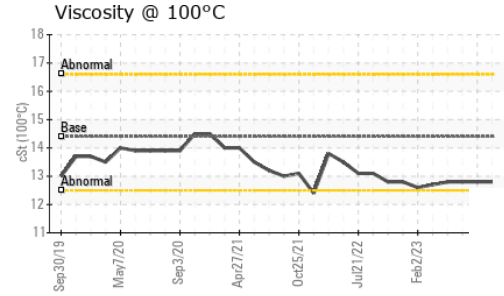
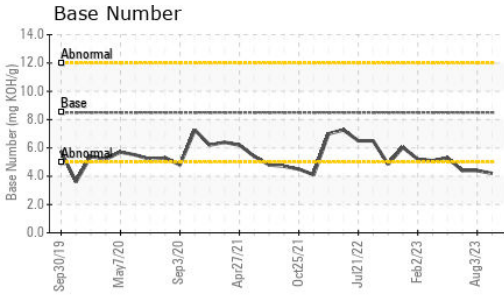
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.5	0.5	0.4
Nitration	Abs/cm *ASTM D7624 >20	8.9	9.2	9.0
Sulfation	Abs/.1mm *ASTM D7415 >30	22.2	22.7	22.6

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.1	17.0	17.7
Base Number (BN)	mg KOH/g ASTM D2896 8.5	4.2	4.4	4.4



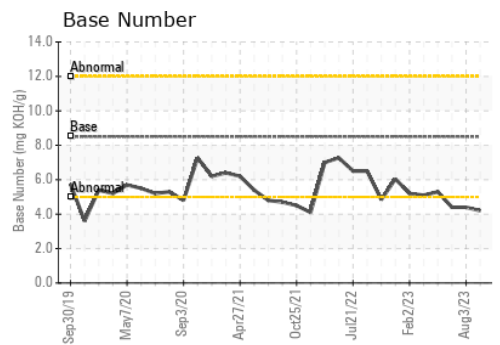
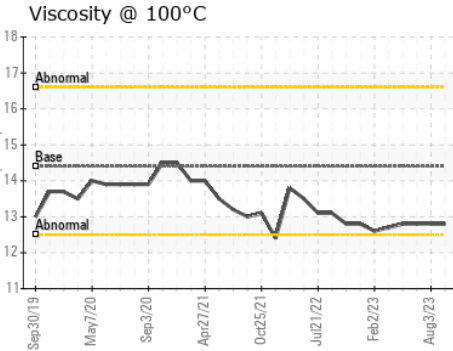
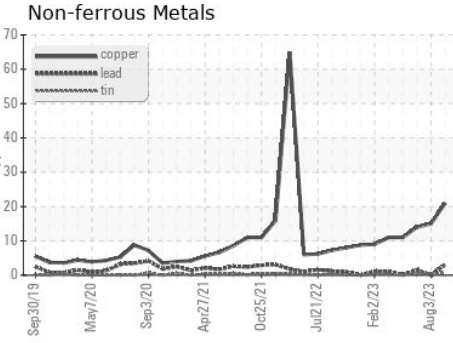
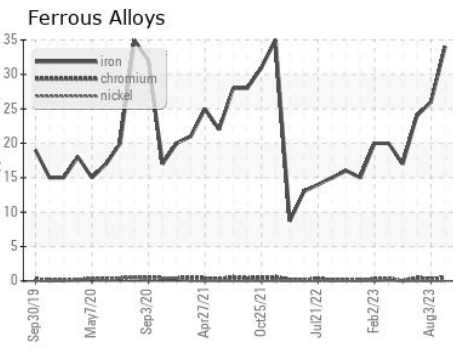
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VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
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	14.4	12.8	12.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013225 **Received** : 02 Oct 2023
Lab Number : **05966138** **Diagnosed** : 03 Oct 2023
Unique Number : 10672689 **Diagnostician** : Wes Davis
Test Package : FLEET

UNITED SALT
 1434 POTASH MINES RD
 CARLSBAD, NM
 US 88220
 Contact: GERALD GOAD
 ggoad@unitedsalt.com
 T:
 F:

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)