

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

#### NORMAL





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SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		KL0013250	KL0013259	KL0013241
Sample Date		Client Info		27 Dec 2023	06 Nov 2023	02 Oct 2023
Machine Age	hrs	Client Info		45272	45160	4182
Oil Age	hrs	Client Info		0	45160	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
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	4	7	8
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm		>20	2	3	4
Lead	ppm	ASTM D5185m	>40	= <1	0	1
Copper	ppm	ASTM D5185m	>330	<1	0	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m	210	0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	1-1-	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	403	334	290
Barium	ppm	ACTM DE10Em	10			
				0	0	()
Molvbdenum		ASTM D5185m ASTM D5185m		0 88	0 95	0
Molybdenum Manganese	ppm	ASTM D5185m	100	88	95	99
Manganese	ppm ppm	ASTM D5185m ASTM D5185m	100	88 <1	95 <1	99 <1
Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	100 450	88 <1 449	95 <1 437	99 <1 455
Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000	88 <1 449 1385	95 <1 437 1453	99 <1 455 1504
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000 1150	88 <1 449 1385 1033	95 <1 437 1453 912	99 <1 455 1504 883
Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000	88 <1 449 1385	95 <1 437 1453	99 <1 455 1504
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000 1150 1350	88 <1 449 1385 1033 1242	95 <1 437 1453 912 1090	99 <1 455 1504 883 1059
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000 1150 1350 4250	88 <1 449 1385 1033 1242 3638	95 <1 437 1453 912 1090 2984	99 <1 455 1504 883 1059 3106
Magnese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	100 450 3000 1150 1350 4250 limit/base	88 <1 449 1385 1033 1242 3638 current	95 <1 437 1453 912 1090 2984 history1	99 <1 455 1504 883 1059 3106 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>Method</b> ASTM D5185m	100 450 3000 1150 1350 4250 limit/base >25	88 <1 449 1385 1033 1242 3638 current 4	95 <1 437 1453 912 1090 2984 <u>history1</u> 5	99 <1 455 1504 883 1059 3106 history2 8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	100 450 3000 1150 1350 4250 imit/base >25 >216	88 <1 449 1385 1033 1242 3638 current 4 3	95 <1 437 1453 912 1090 2984 history1 5 0	99 <1 455 1504 883 1059 3106 history2 8 2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b>	88 <1 449 1385 1033 1242 3638 current 4 3 <1 current	95 <1 437 1453 912 1090 2984 history1 5 0 0 0	99 <1 455 1504 883 1059 3106 history2 8 2 2 kistory2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	100 450 3000 1150 1350 4250 <b>iimit/base</b> >25 >216 >20 <b>iimit/base</b> >3	88 <1 449 1385 1033 1242 3638 current 4 3 <1 current 0.1	95 <1 437 1453 912 1090 2984 history1 5 0 0 0 history1 0.4	99 <1 455 1504 883 1059 3106 history2 8 2 2 2 history2 0.3
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b>	88 <1 449 1385 1033 1242 3638 current 4 3 <1 current	95 <1 437 1453 912 1090 2984 history1 5 0 0 0	99 <1 455 1504 883 1059 3106 history2 8 2 2 kistory2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *ASTM D7844	100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >3 >20	88 <1 449 1385 1033 1242 3638 <u>current</u> 4 3 <1 <u>current</u> 0.1 5.7	95 <1 437 1453 912 1090 2984 <u>history1</u> 5 0 0 0 <u>history1</u> 0.4 7.9	99 <1 455 1504 883 1059 3106 history2 8 2 2 kistory2 0.3 7.0
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	100 450 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20 >30 imit/base	88 <1 449 1385 1033 1242 3638 current 4 3 <1 current 0.1 5.7 20.3 current	95 <1 437 1453 912 1090 2984 history1 5 0 0 history1 0.4 7.9 22.1 history1	99 <1 455 1504 883 1059 3106 history2 8 2 2 history2 0.3 7.0 20.9 history2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D51854 *ASTM D7844 *ASTM D7624	100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >216 >20 <b>imit/base</b> >3 >20 >30	88 <1 449 1385 1033 1242 3638 current 4 3 <1 current 0.1 5.7 20.3	95 <1 437 1453 912 1090 2984 history1 5 0 0 0 history1 0.4 7.9 22.1	99 <1 455 1504 883 1059 3106 history2 8 2 2 2 history2 0.3 7.0 20.9

#### Machine Io **IROCK RVS-20 ARTESIA CRUSHER** Component

**Diesel Engine** Fluid

DIESEL ENGINE OIL SAE 40 (--- GAL)

#### 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

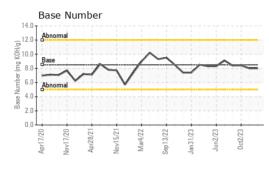
There is no indication of any contamination in the oil.

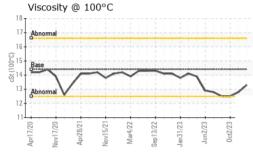
#### Fluid Condition

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



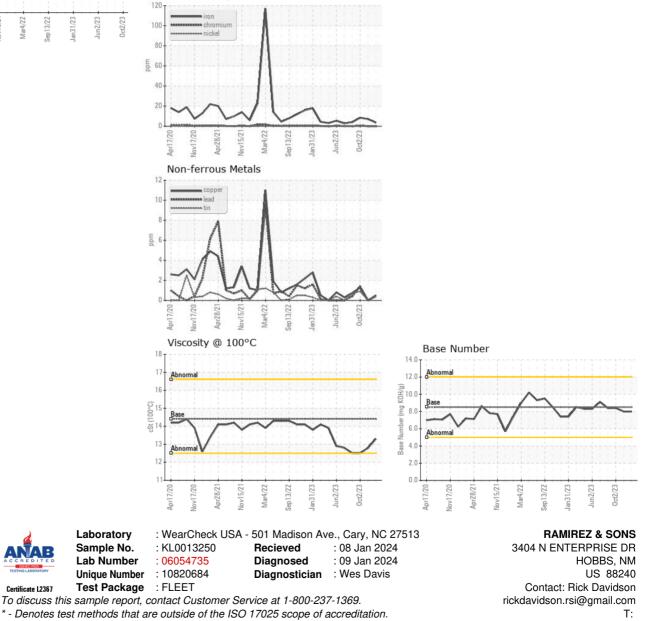
# **OIL ANALYSIS REPORT**





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
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
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.3	12.8	12.5
GRAPHS						

Ferrous Alloys



\* - 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)

Certificate L2367

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