

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Area MIXERS Machine Id [MIXERS] M217 Component

#### Diesel Engine Fluid KENDALL 15W40 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

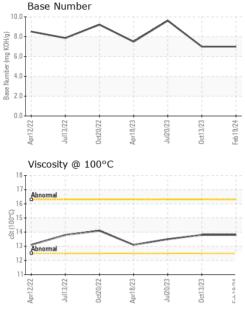
## Fluid Condition

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

		Apr2022	Jul2022 Oct2022	Apr2023 Jul2023 Oct2023	Feb2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0109789	LP0000663	LP0000190
Sample Date		Client Info		19 Feb 2024	13 Oct 2023	20 Jul 2023
Machine Age	hrs	Client Info		5882	5447	4903
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	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 METAL	.S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	3	6	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	1	1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	3	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	۰ <1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m	>15	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ррпі					
ADDITIVES		method	limit/base	current	history1	history2
Boron			<u> </u>	40	00	
	ppm	ASTM D5185m	6.3	48	38	35
Barium	ppm ppm	ASTM D5185m	0.6	0	0	0
Molybdenum		ASTM D5185m ASTM D5185m		0 78	0 85	0 79
Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4	0 78 <1	0 85 0	0 79 <1
Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4 277	0 78 <1 112	0 85 0 210	0 79 <1 305
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4	0 78 <1	0 85 0	0 79 <1
Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4 277 1514 634	0 78 <1 112	0 85 0 210 2001 966	0 79 <1 305 1990 1049
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4 277 1514	0 78 <1 112 1972	0 85 0 210 2001	0 79 <1 305 1990
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4 277 1514 634	0 78 <1 112 1972 1005	0 85 0 210 2001 966	0 79 <1 305 1990 1049
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4 277 1514 634 743	0 78 <1 112 1972 1005 1187	0 85 0 210 2001 966 1224	0 79 <1 305 1990 1049 1283
Molybdenum 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 ASTM D5185m	0.6 0.4 277 1514 634 743 2592	0 78 <1 112 1972 1005 1187 3551	0 85 0 210 2001 966 1224 3914	0 79 <1 305 1990 1049 1283 4374 <u>history2</u> 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4 277 1514 634 743 2592 <b>limit/base</b>	0 78 <1 112 1972 1005 1187 3551 current	0 85 0 210 2001 966 1224 3914 history1	0 79 <1 305 1990 1049 1283 4374 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0.6 0.4 2777 1514 634 743 2592 limit/base >25	0 78 <1 112 1972 1005 1187 3551 current 3	0 85 0 210 2001 966 1224 3914 <u>history1</u> 3	0 79 <1 305 1990 1049 1283 4374 <u>history2</u> 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	0.6 0.4 2777 1514 634 743 2592 limit/base >25	0 78 <1 112 1972 1005 1187 3551 current 3 2	0 85 0 210 2001 966 1224 3914 history1 3 2	0 79 <1 305 1990 1049 1283 4374 history2 2 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0.6 0.4 277 1514 634 743 2592 <b>limit/base</b> >25 >20	0 78 <1 112 1972 1005 1187 3551 current 3 2 1	0 85 0 210 2001 966 1224 3914 history1 3 2 2 2	0 79 <1 305 1990 1049 1283 4374 history2 2 4 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0.6 0.4 2777 1514 634 743 2592 limit/base >25 >20	0 78 <1 112 1972 1005 1187 3551 current 3 2 1 1 current	0 85 0 210 2001 966 1224 3914 history1 3 2 2 2 history1	0 79 <1 305 1990 1049 1283 4374 history2 2 4 4 2 4 5
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0.6 0.4 2777 1514 634 743 2592 limit/base >25 >20 limit/base >3	0 78 <1 112 1972 1005 1187 3551 current 3 2 1 2 1 0.4	0 85 0 210 2001 966 1224 3914 history1 3 2 2 2 history1 0.5	0 79 <1 305 1990 1049 1283 4374 history2 2 4 2 4 2 4 2 history2 0.7
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium NFRA-RED Soot % Nitration	<pre>ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm</pre>	ASTM D5185m ASTM D5185m	0.6 0.4 277 1514 634 743 2592 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	0 78 <1 112 1972 1005 1187 3551 <u>current</u> 3 2 1 1 <u>current</u> 0.4 8.4	0 85 0 210 2001 966 1224 3914 history1 3 2 2 2 history1 0.5 8.3	0 79 <1 305 1990 1049 1283 4374 history2 2 4 2 4 2 2 4 2 0.7 9.1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	<pre>ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm</pre>	ASTM D5185m ASTM D5185m	0.6 0.4 277 1514 634 743 2592 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20 >30	0 78 <1 112 1972 1005 1187 3551 current 3 2 1 current 0.4 8.4 18.2	0 85 0 210 2001 966 1224 3914 history1 3 2 2 history1 0.5 8.3 18.4	0 79 <1 305 1990 1049 1283 4374 history2 2 4 2 2 4 2 5 <i>history2</i> 0.7 9.1 19.9
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	0.6 0.4 0.4 277 1514 634 743 2592 <b>limit/base</b> >20 >20 >30 >30 <b>limit/base</b>	0 78 <1 112 1972 1005 1187 3551 <i>current</i> 3 2 1 <i>current</i> 0.4 8.4 18.2 <i>current</i>	0 85 0 210 2001 966 1224 3914 history1 3 2 2 2 history1 0.5 8.3 18.4 history1	0 79 <1 305 1990 1049 1283 4374 history2 2 4 2 4 2 4 2 0.7 9.1 19.9 history2



# **OIL ANALYSIS REPORT**





Certificate L2367

Laboratory

Sample No.

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