

# **OIL ANALYSIS REPORT**

Sample Rating Trend FUEL

NEW FLYER 1303 Component **Diesel Engine** 

## VALVOLINE 15W40 (--- GAL)

DIAGNOSIS	

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

### Wear

All component wear rates are normal.

#### Contamination

Light fuel dilution occurring. Test for glycol is negative. No other contaminants were detected in the oil.

### Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0875097	WC0875101	WC0858049
Sample Date		Client Info		09 Dec 2023	15 Nov 2023	18 Oct 2023
Machine Age	kms	Client Info		339897	503003	330551
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				MARGINAL	ABNORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	18	14	19
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	1	2	1
Lead	ppm	ASTM D5185(m)	>40	1	<1	0
Copper	ppm	ASTM D5185(m)	>330	36	1	2
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
			initia bacco			motory
Boron	ppm	ASTM D5185(m)	39	11	8	9
Boron Barium	ppm ppm		39			
		ASTM D5185(m)	39	11	8	9
Barium	ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49	11 <1	8 <1	9 <1
Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49	11 <1 10	8 <1 33	9 <1 9
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49 1	11 <1 10 0	8 <1 33 0	9 <1 9 0
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616	11 <1 10 0 57	8 <1 33 0 41	9 <1 9 0 36 2240 861
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554	11 <1 10 0 57 2172	8 <1 33 0 41 2112	9 <1 9 0 36 2240 861 1024
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899	11 <1 10 0 57 2172 848 985 2847	8 <1 33 0 41 2112 811	9 <1 9 0 36 2240 861 1024 2951
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069	11 <1 10 0 57 2172 848 985	8 <1 33 0 41 2112 811 945	9 <1 9 0 36 2240 861 1024
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069	11 <1 10 0 57 2172 848 985 2847 <1	8 <1 33 0 41 2112 811 945 2754	9 <1 9 0 36 2240 861 1024 2951
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624	11 <1 10 0 57 2172 848 985 2847 <1 current 6	8 <1 33 0 41 2112 811 945 2754 <1 kistory1 7	9 <1 9 0 36 2240 861 1024 2951 <1 <1 history2 4
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 <i>Limit/base</i>	11 <1 0 57 2172 848 985 2847 <1 2847 <1 6 4	8 <1 33 0 41 2112 811 945 2754 <1 ×1 history1 7 88	9 <1 9 0 36 2240 861 1024 2951 <1 <1 history2 4 4
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm   ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 <b>imit/base</b> >25 25	11 <1 0 57 2172 848 985 2847 <1 2847 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 <1 33 0 41 2112 811 945 2754 <1 history1 7 88 ▲ 310	9 <1 9 0 36 2240 861 1024 2951 <1 <1 history2 4 4 3
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm   ppm   ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 <b>imit/base</b> >25 25	11 <1 0 57 2172 848 985 2847 <1 2847 <1 6 4	8 <1 33 0 41 2112 811 945 2754 <1 history1 7 88 ▲ 310 <1.0	9 <1 9 0 36 2240 861 1024 2951 <1 kistory2 4 4 4 3 3 <1.0
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm   ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 <b>imit/base</b> >25 25	11 <1 0 57 2172 848 985 2847 <1 2847 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 <1 33 0 41 2112 811 945 2754 <1 history1 7 88 ▲ 310	9 <1 9 0 36 2240 861 1024 2951 <1 2951 <1 history2 4 4 3
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm   ppm   ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 <b>imit/base</b> >25 25	11 <1 10 0 57 2172 848 985 2847 <1 <u>current</u> 6 4 6 4 6 2.3 0.0	8 <1 33 0 41 2112 811 945 2754 <1 history1 7 88 ▲ 310 <1.0	9 <1 9 0 36 2240 861 1024 2951 <1 kistory2 4 4 4 3 3 <1.0
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel Glycol	ppm   ppm   ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 imit/base >25 >20 >5	11 <1 10 0 57 2172 848 985 2847 <1 <u>current</u> 6 4 6 4 6 2.3 0.0	8 <1 33 0 41 2112 811 945 2754 <1 history1 7 88 ▲ 310 <1.0 0.0	9 <1 9 0 36 2240 861 1024 2951 <1 history2 4 4 3 <1.0 NEG
Barium Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel Glycol INFRA-RED	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 //////////////////////////////////	11 <1 10 0 57 2172 848 985 2847 <1 current 6 4 6 4 6 2.3 0.0 current	8 <1 33 0 41 2112 811 945 2754 <1 history1 7 88 ▲ 310 <1.0 0.0 history1	9 <1 9 0 36 2240 861 1024 2951 <1 kistory2 4 4 3 <1.0 NEG history2



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