

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

INTERNATIONAL CV7693

Diesel Engine Fluid VALVOLINE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

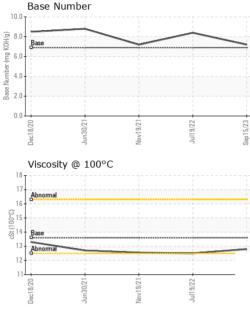
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0034289	IL05609964	IL05419762
Sample Date		Client Info		15 Sep 2023	19 Jul 2022	19 Nov 2021
Machine Age	mls	Client Info		67296	44057	30995
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>2.0	<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	22	23	25
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	4	4	4
Lead	ppm	ASTM D5185m	>40	<1	1	1
Copper	ppm	ASTM D5185m	>330	27	116	146
Tin	ppm		>15	<1	2	2
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm		limit/base 39			history2 66
ADDITIVES Boron Barium		method ASTM D5185m	39 1	current	history1 44 0	history2 66 0
ADDITIVES Boron	ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49	current 157	history1 44	history2 66 0 70
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1	current 157 0 72 <1	history1 44 0 62 <1	history2 66 0 70 <1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616	Current 157 0 72 <1 629	history1 44 0 62	history2 66 0 70 <1 696
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554	Current 157 0 72 <1 629 1291	history1 44 0 62 <1 696 1153	history2 66 0 70 <1 696 1212
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899	Current 157 0 72 <1 629 1291 900	history1 44 0 62 <1 696 1153 664	history2 66 0 70 <1 696 1212 802
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069	Current 157 0 72 <1 629 1291 900 1088	history1 44 0 62 <1 696 1153 664 833	history2 66 0 70 <1 696 1212 802 953
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899	Current 157 0 72 <1 629 1291 900	history1 44 0 62 <1 696 1153 664	history2 66 0 70 <1 696 1212 802
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069	Current 157 0 72 <1 629 1291 900 1088	history1 44 0 62 <1 696 1153 664 833	history2 66 0 70 <1 696 1212 802 953 1971 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	39 1 49 1 616 1554 899 1069 2624	current 157 0 72 <1 629 1291 900 1088 2741 current 7	history1 44 0 62 <1 696 1153 664 833 2259	history2 66 0 70 <1 696 1212 802 953 1971 history2 10
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 <i>limit/base</i> >25	Current 157 0 72 <1 629 1291 900 1088 2741 Current	history1 44 0 62 <1 696 1153 664 833 2259 history1	history2 66 0 70 <1 696 1212 802 953 1971 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	39 1 49 1 616 1554 899 1069 2624 <i>limit/base</i> >25	current 157 0 72 <1 629 1291 900 1088 2741 current 7	history1 44 0 62 <1 696 1153 664 833 2259 history1 8	history2 66 0 70 <1 696 1212 802 953 1971 history2 10
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 2624 2624 25 25 20 20 Iimit/base	current 157 0 72 <1 629 1291 900 1088 2741 current 7 2	history1 44 0 62 <1 696 1153 664 833 2259 history1 8 4 0 history1	history2 66 0 70 <1 696 1212 802 953 1971 history2 10 0 8 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 Imit/base >25 >20 Imit/base >3	current 157 0 72 <1 629 1291 900 1088 2741 current 7 2 2 current 0.4	history1 44 0 62 <1 696 1153 664 833 2259 history1 8 4 0 history1 0 history1 0.5	history2 66 0 70 <1 696 1212 802 953 1971 history2 10 0 8 history2 0.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 Imit/base >25 >20 Imit/base >3	Current 157 0 72 <1 629 1291 900 1088 2741 <i>current</i> 7 2 2 2 <i>current</i>	history1 44 0 62 <1 696 1153 664 833 2259 history1 8 4 0 history1	history2 66 0 70 <1 696 1212 802 953 1971 history2 10 0 8 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 Imit/base >25 >20 Imit/base >3	current 157 0 72 <1 629 1291 900 1088 2741 current 7 2 2 current 0.4	history1 44 0 62 <1 696 1153 664 833 2259 history1 8 4 0 history1 0 history1 0.5	history2 66 0 70 <1 696 1212 802 953 1971 history2 10 0 8 history2 0.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 ////////////////////////////////////	Current 157 0 72 <1 629 1291 900 1088 2741 Current 7 2 current 0.4 9.4	history1 44 0 62 <1 696 1153 664 833 2259 history1 8 4 0 history1 0 history1 0.5 12.1	history2 66 0 70 <1 696 1212 802 953 1971 history2 10 0 8 history2 0.6 11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 imit/base >25 imit/base >3 >20 imit/base	Current 157 0 72 <1 629 1291 900 1088 2741 current 7 2 current 0.4 9.4 20.6	history1 44 0 62 <1 696 1153 664 833 2259 history1 8 4 0 history1 0 12.1 22.0	history2 66 0 70 <1 696 1212 802 953 1971 history2 10 0 8 history2 0.6 11 22.3
ADDITIVES Boron Barium Molybdenum 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	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	39 1 49 1 616 1554 899 1069 2624 imit/base >25 imit/base >3 >20 >30 imit/base	Current 157 0 72 <1 629 1291 900 1088 2741 Current 7 2 2 Current 0.4 9.4 20.6 Current	history1 44 0 62 <1 696 1153 664 833 2259 history1 8 4 0 history1 0 12.1 22.0 history1	history2 66 0 70 <1 696 1212 802 953 1971 history2 10 0 8 history2 0.6 11 22.3 history2

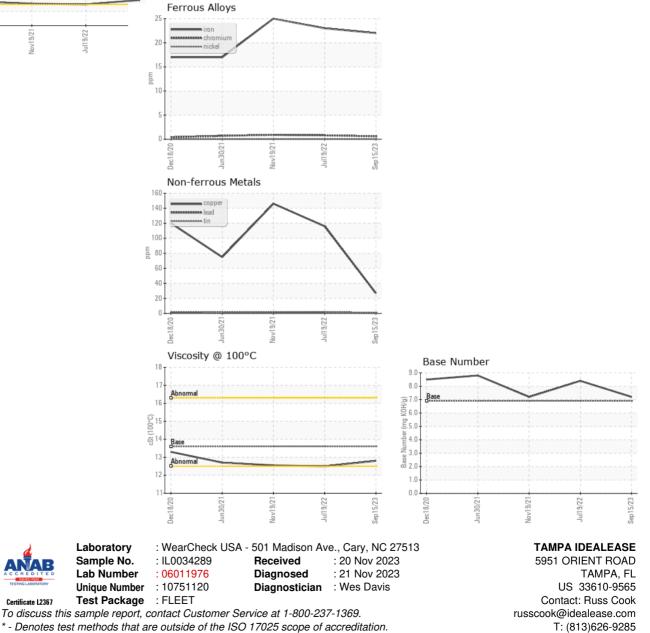
Contact/Location: Russ Cook - IDETAMFL



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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	ΓIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.6	12.8	12.5	12.55
GRAPHS						



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Contact/Location: Russ Cook - IDETAMFL

F: (844)270-1356