

OIL ANALYSIS REPORT

OKLAHOMA/102 05.73 [OKLAHOMA^102] Component

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- 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.



Sample Rating Trend

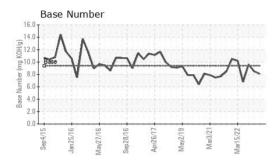


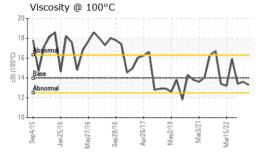
NORMAL

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0857420	WC0848857	WC0662437
Sample Date		Client Info		17 Oct 2023	15 Aug 2023	27 Jul 2022
Machine Age	hrs	Client Info		21954	21457	20608
Oil Age	hrs	Client Info		21954	325	272
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	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	>110	27	18	21
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>45	2	<1	3
Copper	ppm	ASTM D5185m	>85	2	1	2
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 44	history1 44	history2 49
	ppm ppm		0			
Boron		ASTM D5185m	0	44	44	49
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	44 0	44 2	49 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	44 0 46	44 2 42	49 0 43
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	44 0 46 0	44 2 42 <1	49 0 43 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	44 0 46 0 543 1816 805	44 2 42 <1 552	49 0 43 <1 485
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	44 0 46 0 543 1816	44 2 42 <1 552 1773	49 0 43 <1 485 1787
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	44 0 46 0 543 1816 805	44 2 42 <1 552 1773 767	49 0 43 <1 485 1787 766
Boron Barium 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 ASTM D5185m	0 0 0	44 0 46 0 543 1816 805 1002	44 2 42 <1 552 1773 767 923	49 0 43 <1 485 1787 766 958
Boron Barium 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 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 0 46 0 543 1816 805 1002 2681	44 2 42 <1 552 1773 767 923 2821	49 0 43 <1 485 1787 766 958 2816
Boron Barium Molybdenum Manganese 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 ASTM D5185m ASTM D5185m	0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 0 46 0 543 1816 805 1002 2681 current	44 2 42 <1 552 1773 767 923 2821 history1	49 0 43 <1 485 1787 766 958 2816 history2
Boron Barium Molybdenum 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 ASTM D5185m ASTM D5185m method	0 0 0 0 Imit/base >30	44 0 46 0 543 1816 805 1002 2681 <u>current</u> 5	44 2 42 <1 552 1773 767 923 2821 history1 5	49 0 43 <1 485 1787 766 958 2816 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 0 0 Imit/base >30	44 0 46 0 543 1816 805 1002 2681 <u>current</u> 5 <1 1	44 2 42 <1 552 1773 767 923 2821 history1 5 3	49 0 43 <1 485 1787 766 958 2816 bistory2 5 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 0 46 0 543 1816 805 1002 2681 <u>current</u> 5 < 1 1	44 2 42 <1 552 1773 767 923 2821 history1 5 3 <1	49 0 43 <1 485 1787 766 958 2816 history2 5 <1 1 history2 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	44 0 46 0 543 1816 805 1002 2681 <u>current</u> 5 <1 1	44 2 42 <1 552 1773 767 923 2821 history1 5 3 <1 history1	49 0 43 <1 485 1787 766 958 2816 history2 5 <1 1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 0 46 0 543 1816 805 1002 2681 <u>current</u> 5 <1 1 1 <u>current</u> 0.3	44 2 42 <1 552 1773 767 923 2821 history1 5 3 <1 5 3 <1 0.3	49 0 43 <1 485 1787 766 958 2816 history2 5 <1 1 history2 0.3
Boron Barium Molybdenum Manganese 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	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 0 46 0 543 1816 805 1002 2681 <u>current</u> 5 <1 1 1 <u>current</u> 0.3 11.9	44 2 42 <1 552 1773 767 923 2821 history1 5 3 <1 5 3 <1 history1 0.3 11.2	49 0 43 <1 485 1787 766 958 2816 history2 5 <1 1 1 history2 0.3 11.3
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	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	44 0 46 0 543 1816 805 1002 2681 <u>current</u> 5 <1 1 1 <u>current</u> 0.3 11.9 26.2	44 2 42 <1 552 1773 767 923 2821 history1 5 3 <1 5 3 <1 history1 0.3 11.2 24.9	49 0 43 <1 485 1787 766 958 2816 history2 5 <1 1 1 <u>history2</u> 0.3 11.3 27.2



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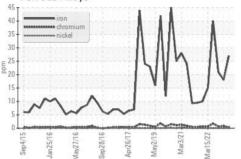




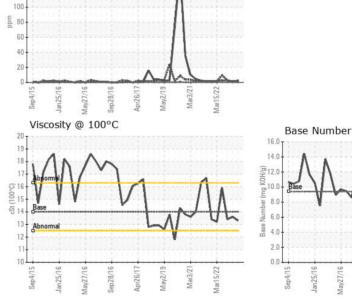
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	13.3	13.6	13.4
GRAPHS						

Ferrous Alloys

160 140 120









: 10729349 Unique Number Diagnostician : Don Baldridge Test Package : CONST (Additional Tests: TBN) Certificate L2367 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.

Laboratory

Sample No.

Lab Number

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

Received

Diagnosed

: 07 Nov 2023

: 09 Nov 2023

: WC0857420

: 06000989

