

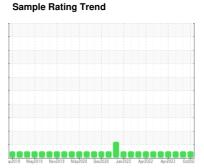
OIL ANALYSIS REPORT



OKLAHOMA/1151/EG - LOADER 46.87L [OKLAHOMA^1151^EG - LOADER]

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)







DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

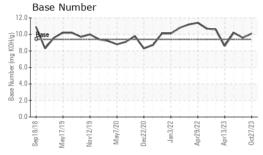
Fluid Condition

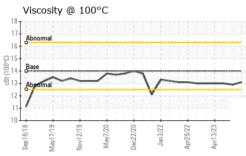
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0857416	WC0848910	WC0807929
Sample Date		Client Info		27 Oct 2023	28 Aug 2023	23 Jun 2023
Machine Age	hrs	Client Info		9545	9256	8841
Oil Age	hrs	Client Info		289	405	263
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	V	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	>100	6	9	8
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	2	3	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 50	history1	history2 51
	ppm					
Boron		ASTM D5185m	0	50	43	51
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	50 0	43	51 0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	50 0 39	43 2 42	51 0 42
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	50 0 39 <1 477 1585	43 2 42 <1 532 1710	51 0 42 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	50 0 39 <1 477 1585 662	43 2 42 <1 532 1710 764	51 0 42 <1 468
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	50 0 39 <1 477 1585	43 2 42 <1 532 1710 764 901	51 0 42 <1 468 1661 744 879
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	0 0 0	50 0 39 <1 477 1585 662	43 2 42 <1 532 1710 764	51 0 42 <1 468 1661 744
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 ASTM D5185m	0 0 0 0	50 0 39 <1 477 1585 662 857 2389	43 2 42 <1 532 1710 764 901 2876 history1	51 0 42 <1 468 1661 744 879 2606 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0	50 0 39 <1 477 1585 662 857 2389 current	43 2 42 <1 532 1710 764 901 2876 history1	51 0 42 <1 468 1661 744 879 2606 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base	50 0 39 <1 477 1585 662 857 2389 current 4	43 2 42 <1 532 1710 764 901 2876 history1 4	51 0 42 <1 468 1661 744 879 2606 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25 >20	50 0 39 <1 477 1585 662 857 2389 current	43 2 42 <1 532 1710 764 901 2876 history1	51 0 42 <1 468 1661 744 879 2606 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base	50 0 39 <1 477 1585 662 857 2389 current 4 0	43 2 42 <1 532 1710 764 901 2876 history1 4	51 0 42 <1 468 1661 744 879 2606 history2 3 0 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 limit/base >25 >20 limit/base >3	50 0 39 <1 477 1585 662 857 2389 current 4 0 current 0.1	43 2 42 <1 532 1710 764 901 2876 history1 4 3 <1 history1 0.2	51 0 42 <1 468 1661 744 879 2606 history2 3 0 2 history2 0.2
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	ASTM D5185m	0 0 0 0 0 limit/base >25 >20 limit/base >3	50 0 39 <1 477 1585 662 857 2389 current 4 0	43 2 42 <1 532 1710 764 901 2876 history1 4 3 <1 history1 0.2 7.2	51 0 42 <1 468 1661 744 879 2606 history2 3 0 2 history2 0.2 7.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 limit/base >25 >20 limit/base >3	50 0 39 <1 477 1585 662 857 2389 current 4 0 current 0.1	43 2 42 <1 532 1710 764 901 2876 history1 4 3 <1 history1 0.2	51 0 42 <1 468 1661 744 879 2606 history2 3 0 2 history2 0.2
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 method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3 >20	50 0 39 <1 477 1585 662 857 2389 current 4 0 current 0.1 6.3	43 2 42 <1 532 1710 764 901 2876 history1 4 3 <1 history1 0.2 7.2	51 0 42 <1 468 1661 744 879 2606 history2 3 0 2 history2 0.2 7.0
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 Method *ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20 >30	50 0 39 <1 477 1585 662 857 2389 current 4 0 current 0.1 6.3 22.0	43 2 42 <1 532 1710 764 901 2876 history1 4 3 <1 history1 0.2 7.2 22.2	51 0 42 <1 468 1661 744 879 2606 history2 3 0 2 history2 0.2 7.0 22.5



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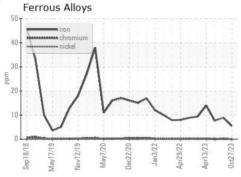


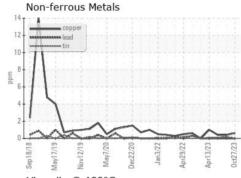


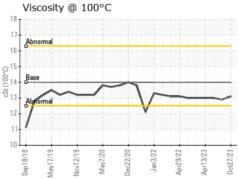
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

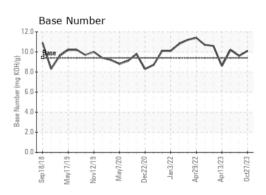
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	14	13.1	12.9	13.0

GRAPHS













Laboratory Sample No. Lab Number Unique Number : 10726119

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0857416 : 05997759

Received Diagnosed

: 06 Nov 2023 Diagnostician : Wes Davis

: 03 Nov 2023

Test Package : CONST (Additional Tests: TBN)

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.

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

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