

OIL ANALYSIS REPORT

OKLAHOMA/102/EG - OTHER SERVICE 21.42L [OKLAHOMA^102^EG - OTHER SERVICE]

Diesel Engine

Fluid MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

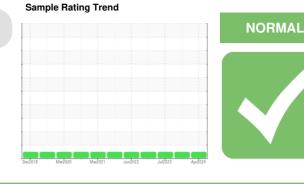
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

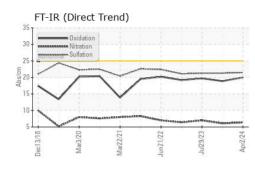
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

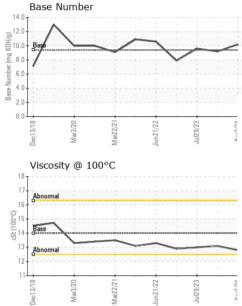


SAMPLE INFORM	IATION	method	limit/base	current		history2
Sample Number		Client Info		WC0914435	WC0857314	WC0819936
Sample Date		Client Info		02 Apr 2024	02 Oct 2023	29 Jul 2023
Machine Age	hrs	Client Info		6691	8644	6481
Oil Age	hrs	Client Info		300	224	6200
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	17	<1	12
Chromium	ppm	ASTM D5185m	>15	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	10	2
Lead	ppm	ASTM D5185m	>50	<1	0	0
Copper	ppm	ASTM D5185m	>170	1	<1	0
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current	history1 57	history2 50
	ppm ppm					
Boron	ppm	ASTM D5185m	0	66	57	50
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0	66 0	57 2	50 0
Boron Barium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	66 0 40	57 2 40	50 0 35
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	66 0 40 <1	57 2 40 <1	50 0 35 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	66 0 40 <1 500	57 2 40 <1 481	50 0 35 <1 468
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	66 0 40 <1 500 1599	57 2 40 <1 481 1540	50 0 35 <1 468 1546
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	66 0 40 <1 500 1599 759	57 2 40 <1 481 1540 718	50 0 35 <1 468 1546 704
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	66 0 40 <1 500 1599 759 912	57 2 40 <1 481 1540 718 866	50 0 35 <1 468 1546 704 858
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 0	66 0 40 <1 500 1599 759 912 2602	57 2 40 <1 481 1540 718 866 2556	50 0 35 <1 468 1546 704 858 2856
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 Imit/base	66 0 40 <1 500 1599 759 912 2602 current	57 2 40 <1 481 1540 718 866 2556 history1	50 0 35 <1 468 1546 704 858 2856 kistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS 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 method	0 0 0 0 Imit/base	66 0 40 <1 500 1599 759 912 2602 current 6	57 2 40 <1 481 1540 718 866 2556 history1 4	50 0 35 <1 468 1546 704 858 2856 kistory2 3
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 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	66 0 40 <1 500 1599 759 912 2602 <u>current</u> 6 2	57 2 40 <1 481 1540 718 866 2556 history1 4 3	50 0 35 <1 468 1546 704 858 2856 kistory2 3 2
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 0 1 1 1 1 1 1 1 1 1 2 5 2 5 2 0	66 0 40 <1 500 1599 759 912 2602 current 6 2 3	57 2 40 <1 481 1540 718 866 2556 history1 4 3 1	50 0 35 <1 468 1546 704 858 2856 history2 3 2 2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm 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	66 0 40 <1 500 1599 759 912 2602 <u>current</u> 6 2 3 <u>current</u> 0.1	57 2 40 <1 481 1540 718 866 2556 history1 4 3 1 1 history1	50 0 35 <1 468 1546 704 858 2856 history2 3 2 2 2 history2
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	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >20	66 0 40 <1 500 1599 759 912 2602 current 6 2 3 3	57 2 40 <1 481 1540 718 866 2556 history1 4 3 1 1 history1 0.4	50 0 35 <1 468 1546 704 858 2856 history2 3 2 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 ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	66 0 40 <1 500 1599 759 912 2602 <i>current</i> 6 2 3 <i>current</i> 0.1 6.4	57 2 40 <1 481 1540 718 866 2556 history1 4 3 1 4 3 1 history1 0.4 6.1	50 0 35 <1 468 1546 704 858 2856 history2 3 2 2 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 ASTM D7844 *ASTM D7844	0 0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	66 0 40 <1 500 1599 759 912 2602 Current 6 2 3 Current 0.1 6.4 21.5 Current	57 2 40 <1 481 1540 718 866 2556 history1 4 3 1 4 3 1 history1 0.4 6.1 21.3 history1	50 0 35 <1 468 1546 704 858 2856 history2 3 2 2 5 history2 0.2 7.0 21.3 history2
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	66 0 40 <1 500 1599 759 912 2602 <u>current</u> 6 2 3 <u>current</u> 0.1 6.4 21.5	57 2 40 <1 481 1540 718 866 2556 history1 4 3 1 1 history1 0.4 6.1 21.3	50 0 35 <1 468 1546 704 858 2856 history2 3 2 2 bistory2 0.2 7.0 21.3



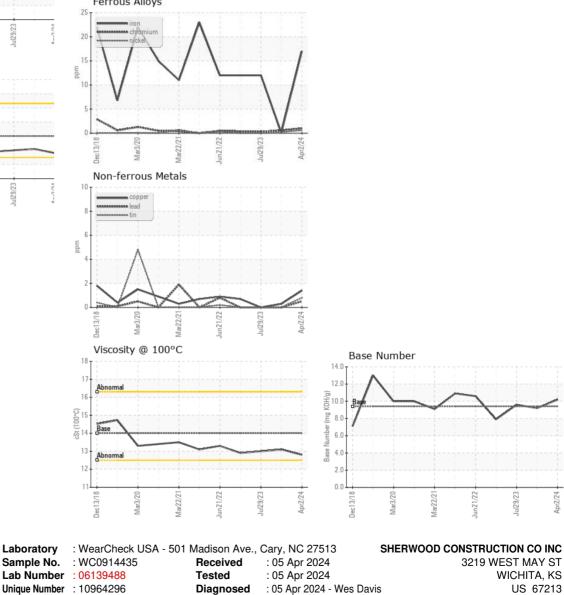
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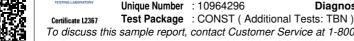




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	12.8	13.1	13.0

GRAPHS Ferrous Alloys





To discuss this sample report, contact Customer Service at 1-800-237-1369. do * - 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)

US 67213 Contact: DOUG KING doug.king@sherwood.net T: (316)617-3161 26:2012) F: x:

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Submitted By: SHAWN SOUTH

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