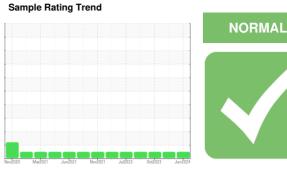


OIL ANALYSIS REPORT

OKLAHOMA/102/EG - OTHER SERVICE 68.14L [OKLAHOMA^102^EG - OTHER SERVICE] **Diesel Engine**

MOBIL DELVAC 1300 SUPER 15W40 (14 GAL)

SAMPLE INFORMATION meth





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: 2120 hours)

Area

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

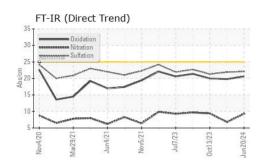
Fluid Condition

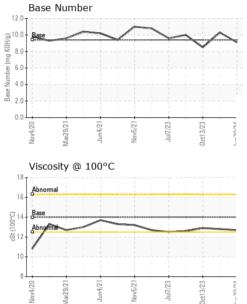
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	limit/base	current	nistory i	nistory2
Sample Number		Client Info		WC0925156	WC0864302	WC0834012
Sample Date		Client Info		20 Jun 2024	08 Dec 2023	13 Oct 2023
Machine Age	hrs	Client Info		2120	1877	1770
Oil Age	hrs	Client Info		2120	1877	255
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
				-	-	
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	nom	ASTM D5185m	>100	19	7	26
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
	ppm					
Nickel	ppm	ASTM D5185m ASTM D5185m	>2	<1	0	<1
Titanium	ppm			<1		0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m		3		
Lead	ppm	ASTM D5185m		2	0	1
Copper	ppm	ASTM D5185m		5	3	8
Tin	ppm	ASTM D5185m	>15	<1	<1	1
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	current 28	history1 47	history2 25
	ppm ppm		0			
Boron		ASTM D5185m	0	28	47	25
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	28 0	47 0	25 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0	28 0 41	47 0 38	25 0 43
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	28 0 41 1	47 0 38 <1	25 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	28 0 41 1 542	47 0 38 <1 519	25 0 43 <1 533
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	28 0 41 1 542 1948	47 0 38 <1 519 1616	25 0 43 <1 533 1754
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	28 0 41 1 542 1948 860	47 0 38 <1 519 1616 727	25 0 43 <1 533 1754 859
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	28 0 41 1 542 1948 860 1014	47 0 38 <1 519 1616 727 915 2427	25 0 43 <1 533 1754 859 1003 3163
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	0 0 0 0 limit/base	28 0 41 1 542 1948 860 1014 3149 current	47 0 38 <1 519 1616 727 915 2427 history1	25 0 43 <1 533 1754 859 1003 3163 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 ASTM D5185m	0 0 0 0 limit/base	28 0 41 1 542 1948 860 1014 3149 current 7	47 0 38 <1 519 1616 727 915 2427 history1 5	25 0 43 <1 533 1754 859 1003 3163 history2 8
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 ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25	28 0 41 542 1948 860 1014 3149 current 7 3	47 0 38 <1 519 1616 727 915 2427 history1 5 1	25 0 43 <1 533 1754 859 1003 3163 history2 8 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20	28 0 41 1 542 1948 860 1014 3149 current 7 3 4	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1	25 0 43 <1 533 1754 859 1003 3163 history2 8 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 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	28 0 41 1 542 1948 860 1014 3149 current 7 3 4 current	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1 <1 history1	25 0 43 <1 533 1754 859 1003 3163 history2 8 0 3 3 <i>h</i> istory2
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 ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	28 0 41 1 542 1948 860 1014 3149 <i>current</i> 7 3 4 <i>current</i> 0.5	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1 <1 +istory1 0.3	25 0 43 <1 533 1754 859 1003 3163 history2 8 0 3 history2 0.6
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 imit/base >25 >20 imit/base >3 >20	28 0 41 1 542 1948 860 1014 3149 <i>current</i> 7 3 4 <i>current</i> 0.5 9.3	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1 <1 history1 0.3 6.8	25 0 43 <1 533 1754 859 1003 3163 history2 8 0 3 history2 0.6 9.4
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 ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	28 0 41 1 542 1948 860 1014 3149 <i>current</i> 7 3 4 <i>current</i> 0.5	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1 <1 +istory1 0.3	25 0 43 <1 533 1754 859 1003 3163 history2 8 0 3 <u>history2</u> 0.6
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 imit/base >25 >20 imit/base >3 >20	28 0 41 1 542 1948 860 1014 3149 <i>current</i> 7 3 4 <i>current</i> 0.5 9.3	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1 <1 history1 0.3 6.8	25 0 43 <1 533 1754 859 1003 3163 history2 8 0 3 history2 0.6 9.4
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 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	28 0 41 1 542 1948 860 1014 3149 <i>current</i> 7 3 4 <i>current</i> 0.5 9.3 22.1 <i>current</i>	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1 <1 0.3 6.8 21.9 history1	25 0 43 <1 533 1754 859 1003 3163 history2 8 0 3 history2 0.6 9.4 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	28 0 41 1 542 1948 860 1014 3149 current 7 3 4 current 0.5 9.3 22.1	47 0 38 <1 519 1616 727 915 2427 history1 5 1 <1 history1 0.3 6.8 21.9	25 0 43 <1 533 1754 859 1003 3163 history2 8 0 3 history2 0.6 9.4 21.3



OIL ANALYSIS REPORT

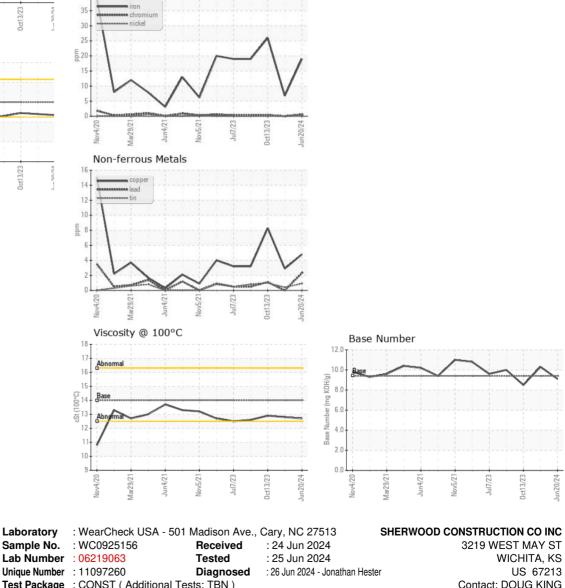




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	12.7	12.8	12.9
GRAPHS						

Ferrous Alloys

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Lab Number : 06219063 Unique Number : 11097260 Diagnosed : 25 Jun 2024 - Jonathan Hester Certificate 12367 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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Submitted By: LOUIS BRESHEARS

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